

AN ADMINISTRATIVE HISTORY OF
ARCHES
NATIONAL PARK

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Museum of Northern Arizona

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CONTENTS

List of Tables	viii
List of Figures	ix
List of Abbreviations	xv
Chapter 1: “Stupendous sandstone formations of very remarkable shapes”	
An Administrative History of Arches National Park	1
Timeline of Events Important in the History of Arches	3
Organization of this History	21
Acknowledgements	22
Chapter 2: Prelude: Movement to Preserve the Arches, 1922–1929	25
Prospectors and the 1872 Mining Law	25
“The Devil’s Garden”	28
Alex Ringhoffer and Frank A. Wadleigh	30
Knowing the Right People – Stephen T. Mather	37
The “Window Castles” and Other Advocates for a National Monument	40
Presidential Proclamation of the 33 rd National Monument	43
Chapter 3: Arches National Monument, 1929–1971	53
Custodians, Superintendents, and Unit Managers	53
Southwestern Monuments to Canyonlands Complex: Administrative Reorganizations	57
The Legacy of Bates Wilson	62
Surveys of the Monument and Early Development Plans	65
The Arches National Monument Scientific Expedition	65
Boundary Additions and Subtractions	73
The 1940 Master Plan and Early Interpretation at Arches	79
Roads to Nowhere	83
Civilian Conservation Corps	88
Post-War Road Construction Resumes	92
Sidebar: Visitor Comments on Roads	92
Horses to Hikers: Trails	108
Sidebar: Visitor Comments on Trails	117
Remote Rangers: Balanced Rock and Devils Garden	118
Park Infrastructure Development	119
Mission 66	122
Sidebar: Visitor Comments on Mission 66 Development	123
NPS Renaissance or the Car Culture Conquers All	123
Delicate Arch by Road and Trail	126
Devils Garden Campground	130
Sidebar: Visitor Comments on Campground	130
The First Visitor Center 1958–1960	135

Chapter 4: Grazing, Minerals, and Development Encroachments: A Pattern Established	157
Cattle, Sheep, and the Open Range	157
Sidebar: Visitor Comment on Cattle Trespass	161
Oil, Gas, and Potash: Prospects and Leases	163
Uranium – The New Gold Rush	170
The Cold War Uranium Boom	170
Atomic Legacy	173
Clearing the Air: From Radiological Monitoring to Regional Haze	179
Sidebar: Visitor Comments on Air Pollution from Atlas Mill	180
Atlas Tailings and Radiological Monitoring	180
Regional Haze	181
Sidebar: Visitor Comments on Regional Haze	181
Pipelines	183
1955 Pacific Northwest Pipeline Construction	183
1998 Williams Pipeline Explosion	186
Federal, State, and County Land Issues	192
The Riverway (Lions Club) Park	193
1969 Mining Trespass	194
US 191 and Highway Corridor Development	195
Utah State Lands and the Sagebrush Rebellion	200
Revised Statute 2477	203
Paleontological Resources and Sovereign State Lands	205
 Chapter 5: Arches National Park, 1971–1990	 221
Planning, Compliance, and Management	224
The Wilderness Act	227
Alphabet Soup	231
Sidebar: Visitor Comments on Environmentalism	233
Sidebar: Visitor Comments on Accessibility	238
Sidebar: Visitor Comment on Accessibility	239
National Park Service Planning	243
Canyonlands Complex to Southeast Utah Group: Further Reorganization	245
Research and Interpretation	247
Assessing Needs	247
The War on Tamarisk	247
NPS, NBS, and USGS Resource Programs	251
Outside Science	253
Interpretive Programs	256
Sidebar: Positive Visitor Comments on Interpretation	256
Sidebar: Negative Visitor Comments on Interpretation	257
Historic Preservation	262
Rock House Restoration	263
Wolfe Ranch Environmental Study Area	264
Vandalism	269

Search and Rescue	277
Sidebar: Visitor Comments on Search and Rescue	277
Chapter 6: Didn't See it Coming: Non-Conforming Activities at Arches	295
Rock Climbing	296
Landscape Arch and other Early Climbs	297
Sidebar: Visitor Comments on Rock Climbing	299
Protection in Sandstone: Bolting and Other Permanent Fixtures	299
Development of Climbing Rules	300
Sidebar: Visitor Comments on Rock Climbing	301
The Delicate Arch Climb	302
Climbing & Canyoneering Management Plan	303
Jeep Jamborees	305
Sidebar: Visitor Comments on Off Road Vehicles	305
Hang Gliding, Parapenting, and BASE Jumping	307
Mountain Biking	309
Bicycles and the NPS	310
Sidebar: Visitor Comments on Bicycles/Shuttle Buses	310
Kokopelli's Trail	312
Airspace Violations	313
Overflights	314
Sidebar: Visitor Comment on Military Overflights	314
Ultralights	316
Air Tours	317
Events and Special Use Permits	319
Sidebar: Visitor Comments on Interpretation Science	319
Artistic Performances	321
Chapter 7: Arches Discovered: Visitation, Resources, and Rockfalls in the Age of Political Gridlock, 1990–2018	335
Visitation, a Malthusian Curve	335
Carrying Capacity	338
Visitor Experience and Resource Protection (VERP)	340
Sidebar: Visitor Comments on Crowding	341
Sidebar: Visitor Comments on Soil Crusts	344
Sidebar: Visitor Comments – For Signs	346
Sidebar: Visitor Comments – Against Signs	347
How to Experience Delicate Arch: Trail versus Overlook	348
Reservations, Shuttle Buses, or More Parking Spaces	350
Sidebar: Visitor Comments on Shuttle System	351
Devils Garden Campground	353
Commercial Tours and Fiery Furnace	354
Sidebar: Visitor Comments on Fiery Furnace Fees	356
Polarized Partisan Politics	358

NPS Organization in an Era of Austerity	358
Government Shutdowns and the Closing of Arches	362
Terrorism and Safety	365
Resource Management	367
Bighorn Sheep Introduction	370
Exotic Plant Control	371
Northern Colorado Plateau Inventory and Monitoring Network (NCPN)	372
Colorado Plateau Cooperative Ecosystem Study Unit (CPCESU)	373
“Geologic Time Includes Now”	374
1991 Rockfalls	375
1995 Rockfalls	380
Lost Spring Canyon Addition	382
Revisiting the Visitor Center	385
 Chapter 8: Icons and Legacies: Hollywood, Edward Abbey, and Delicate Arch	 405
Sidebar: Visitor Comment on Photography	405
Movies in Moab	406
Sidebar: Visitor Comment on Filming	407
Edward Abbey, Arches, and the Environmental Movement	413
Sidebar: Visitor Comments on Rangers	413
Ranger Abbey	413
<i>Desert Solitaire</i>	415
Sidebar: Visitor Comment on Primitive Trail	416
Abbey’s Legacy	417
From “little known monument” to the Symbol of Utah: Delicate Arch	419
Stabilization of Delicate Arch	422
Delicate Arch on Fire: Michael Fatali	427
Winter Olympic Torch Relay	428
 Chapter 9: Arches National Park: Now and The Future	 443
2018: A House Divided Against Itself and All of the Usual Suspects	443
Air Quality	443
Atlas Tailings Pile.....	444
Boundaries	445
Encroachment/Oil and Gas Development	446
Government Shutdown	447
Livestock	447
National Park Service Centennial.....	447
Non-Conforming Uses.....	448
Public Lands Transfer.....	449
Research.....	449
Roads.....	450
Tamarisk.....	450
Vandalism.....	450

Visitation	451
Water Rights	451
Arches at 90 and Counting: The Future As It Might Have Happened	452
Demographic Trends.....	453
Visitation Trends	454
Coda	458
Bibliography	465
Index.....	507

LIST OF TABLES

3-1. Arches Superintendents, Custodians, and Unit Managers	56
3-2. Arches in the NPS Regional Structure.....	59
3-3. Historic Changes to Arches Organizational Structure.....	60
3-4. Boundary Adjustments to Arches National Monument and Arches National Park	76
3-5. The History of Primary Road Construction and Improvement in Arches National Park	85
3-6. Changes to Arches National Park Road System Designations	98
3-7. Trails Developed at Arches National Park.....	109
3-8. Known or Inferred Dates for Arches National Park Trails.....	111
3-9. Changes to Arches National Park Trail System Designations	113
4-1. History of Grazing Leases at Arches National Park	159
5.1. Search and Rescue Statistics 1977–2004	279
7-1. Arches National Park Visitation, 1929–Present.....	336
7-2. Collapsed Arches.....	377
7-3. Known Landscape Arch Rockfalls.....	378
8-1. Motion Pictures Filmed in Arches National Park	408

LIST OF FIGURES

2-1. Alex Ringhoffer, date unknown	26
2-2. Ringhoffer inscription, January 2017	29
2-3. View from within Tower Arch, with no “Ringhoefer” inscription visible, 1923	30
2-4. 1927 inscription by Hugh Bell beneath the northern end of Tower Arch (as it is now known), January 2017	31
2-5. From left to right: Frank A. Wadleigh, Denver and Rio Grande Passenger Traffic Manager; A. R. Stevens, Secretary; Mrs. Gertrude Wild; Fred Wild, Vice President of Traffic, ca 1924	32
2-6. A view of the La Sal Mountains on the road to Alexander Ringhoffer’s Devil’s Garden, 1923	33
2-7. The Devil’s Garden exploration party at the San Rafael River bridge in Emery County, Utah	34
2-8. Detail of the Devil’s Garden exploration party	35
2-9. Tower Arch, 1923	36
2-10. Arches National Monument Proclamation, April 12, 1929	44
2-11. Arches National Monument original boundaries 1929, as depicted in Presidential Proclamation No. 1875	46
3-1. “J. M. (Marv) Turnbow – First custodian of Arches (Natl. Monument) Son Bruce M. Turnbow – Age 10 yrs,” 1933	54
3-2. Custodian Henry G. Schmidt, ca. 1940	55
3-3. Bates Wilson in uniform, 1958	63
3-4. Bates Wilson (center, in cowboy hat) assisted visitors stranded by a flash flood in 1956	64
3-5. Memorial plaque dedicated to Bates Wilson July 7, 1986	66
3-6a. Image of original ink on velum drawing of Arches National Monument Proposed Development No. 1, April 24, 1934	67
3-6b. Image of original ink on velum drawing of Arches National Monument Proposed Development No. 2, April 24, 1934	68
3-7. The Beckwith Expedition camp, 1933–1934	69
3-8. Beckwith (standing, left) and company. The notation on the back of the photograph states “The coffee was so strong you couldn’t drive a fork in it”	70
3-9. GIS map of Arches changing boundaries	77
3-10. View towards the east of a White Motor tour bus crossing the 1912 Colorado River Bridge north of Moab, Utah, 1923	84

3-11. Aerial view of the Civilian Conservation Corps camp adjacent to the Colorado River, 1939–1941	89
3-12. Members of the CCC during construction of the entrance road culvert on Moab Wash, 1941	91
3-13. Reproduction of Page 11 of the report by Carl W. Alleman (1948): “Foot Trail Delicate Arch Area and Road Construction,” showing construction of the Arches Scenic Drive, ca. 1947/1948	93
3-14. Construction bulldozer at work on the Arches scenic drive, 1947/1948	94
3-15. Map of the roads and trails of Arches National Monument, from “Utah’s Incredible Arch of Stone,” <i>The Desert Magazine</i> , August 1948	95
3-16. View of Skyline Arch from the under-construction scenic drive, 1947	96
3-17. Willow Springs Road (State Route 93) in the aftermath of heavy rains, 1957	96
3-18a. Disassembly of the CCC-built entrance road culvert on Moab Wash, 1957	99
3-18b. The Moab Wash culvert masonry tailwall was separated from the headwall and moved downstream on rails to widen the road.....	99
3-19. 1958 rock slide onto the under-construction scenic drive slowed progress on its completion	100
3-20. Mrs. J. W. Williams cutting the ribbon at the scenic drive dedication ceremony, August 24, 1958	101
3-21. An automobile accident in Arches National Monument, August 2, 1969	102
3-22. Map showing the location of the recently completed scenic drive from headquarters to the Windows Section, proposed route across State land, and existing “temporary” route from Balanced Rock to Salt Valley, built 1947–1948	103
3-23. In 1975–1976 the entire Arches National Park As Maintained Roads and Trails system was mapped and tabulated, providing the first accurate and comprehensive overview of park transportation developments	105
3-24. Detail of a portion of Figure 3-23 showing the route numbers, route names, and road surface for the Arches National Park Roads System in 1976	106
3-25. View of flood damage to US 191 on Bloody Mary Wash, August 10, 1987	107
3-26. Delicate Arch Trail construction planning photograph, 1947	116
3-27a. The 1940–1960 Arches National Monument Headquarters, date unknown, but after May 1947 when the telephone line connected the headquarters and office	124
3-27b. The 1940–1960 Arches National Monument Headquarters, no date but taken before August 1945 when a flagpole was erected	125
3-28. Many current visitors to Arches haul camping trailers larger than the residence trailers occupied by park personnel in the 1950s	126
3-29. Construction of the park water tank in progress, 1959	127
3-30. Visitor cars parked at the Devils Garden Trailhead, ca 1968	128

3-31. Page 6 of Landscape Architect Carl Alleman’s 1948 report on the Delicate Arch trail and road, with the alternate trail routes mapped and photo points illustrated	129
3-32. Page 5 of Alleman’s report illustrating the proposed locations of cuts and handrails	131
3-33. Before the Devils Garden Campground was completed, visitors camped near Balanced Rock, as seen in this vacation photo from 1956	132
3-34. To save money and reduce the footprint of the park developments, the NPS built a single campground of 60 spaces, rather than two much larger campgrounds	133
3-35a. The new Mission 66 visitor center was completed in 1960	134
3-35b. A view of the new visitor center in the summer of 1960, before the site was landscaped	135
3-36. 1959 view of the headquarters area from the Moab Fault overlook	136
3-37. The new entrance station in 1960	137
4-1. Grazing allotments shortly after the creation of Arches National Park, December 1973	160
4-2. Cattle drive in Arches, circa 1939–1941	162
4-3. The aftermath of oil and gas exploration in 1974	166
4-4. Oil and Gas Leases brought within the new boundaries of Arches National Park, December 1973	167
4-5. Preparation of Boundary Line property signs in the sign shop, 1964	175
4-6. (Top) The Atlas Minerals Uranium Mill in operation, circa late 1960s (Bottom) The Atlas Minerals Uranium Mill before dismantling in 1988	176
4-7. View of the Atlas tailings pile remediation, January 2017, following removal of approximately half of the tailings (8 million tons)	177
4-8a. Department of Energy nuclear waste test site in Salt Valley, 1978	178
4-8b. Alternate view of Department of Energy nuclear waste test site in Salt Valley, 1978. Panorama of two Polaroid images.	179
4-9. Construction of the Pacific Northwest Pipeline across Arches National Monument, 1955–1956	185
4-10. Following the explosion of the NGL vapor cloud on December 3, 1998, the damaged section of pipeline was closed, and the fire burned for more than 6 hours before consuming the remaining contents of the pipeline	187
4-11. A semi truck carrying a load of diesel fuel headed north on US 191 encountered the vapor cloud at 9:50 AM, igniting the escaping NGL into a fireball that burned 21 acres	188
4-12. The explosion and fire destroyed eight vehicles parked nearby and the bulldozer that ruptured the pipeline	189
4-13. The pipeline fire burned 21 acres of natural vegetation and portions of five archaeological sites, three of which are partially within Arches National Park, including the old alignment of US 450/160/163	190

4-14. Lions Park north of the Colorado has not been further developed since 1962, other than the construction of a new pedestrian/bicyclist bridge	194
4-15. Panorama of the Lions Park from the southern end of the bridge across the Colorado River, July 1, 2016	195
4-16. Damage from an illegally constructed road along the right bank of the Colorado River in Arches National Park, 1970.....	196
4-17. View along US 191 at the Arches National Park entrance, May 28, 2016	197
4-18. The Windows, as viewed from US 191 near the Bar-M Chuckwagon entrance road, July 1, 2016	198
4-19. The now-defunct Bar-M Chuckwagon from “boot hill,” July 1, 2016	200
4-20. 1972 Utah state land inholdings within Arches National Park	202
4-21. The Moab Giants Dinosaur Museum and Trail at the southwestern corner of US 191 and U 313, July 1, 2016	207
5-1. The Arches Golden Jubilee was celebrated in 1979 with a week of events, culminating in a gala ceremony April 12 at the Windows section, with a keynote address by Utah Governor Scott Matheson	225
5-2. The Arches National Park Wilderness Plan, July 1984	230
5-3. The Moab Panel, also known as the Courthouse Wash Rock Art Panel, as it appeared in 1976	237
5-4. Postcard from Edward Abbey to Superintendent Harvey Wickware, July 1, 1987, regarding the plans to burn invasive tamarisk at Salt Valley Spring	249
5-5. Historian John F. Hoffman signs copies of his <i>Arches National Park: An Illustrated Guide</i> in the visitor center, October 25, 1981	259
5-6a. Grade school students pose with a dairy can in front of the dugout at Wolfe Cabin, 1969	265
5-6b. The Turnbow Cabin Environmental Study Area (renamed Wolfe Cabin ESA in 1971) taught Moab school kids about the natural and cultural history of Arches National Monument	266
5-7. Esther Rison (center, in white) at the Wolfe Ranch Environmental Study Area dedication, May 18, 1971	267
5-8. Daughters of the Utah Pioneers display a sheet cake and cookies marked with John Wolfe’s DX brand for the July 24, 1978 celebration of the 90 th anniversary of Wolfe Ranch (later discovered to be the 80 th anniversary).....	268
5-9. Vandalism to Delicate Arch in 1968	269
5-10. Cub scouts scrubbing off graffiti in 1963	270
5-11. The Moab Panel following 1980 vandalism	271
5-12. The pictographs of the Moab Panel as they appeared in March 1964.	272
5-13. The pictographs of the Moab Panel as they appeared in January 2017	275

5-14. Search and Rescue demonstration of rappelling with the Stokes Basket by R. Pennie for a troop of Explorer Scouts from New York, 1979	278
6-1. 1958 climb of Landscape Arch. Three photographs from the Cecil M. Ouellette article "Over the Top of Landscape Arch," <i>The Desert Magazine</i> , March 1958	298
6-2. Bates Wilson rappelling as part of training for the Arches National Monument Search and Rescue, 1961	300
6-3. Bates Wilson and his family shared a picnic lunch with Willys Jeep CJ3-B (manufactured 1953–1968)	306
6-4. Aerial view of the fins in the Fiery Furnace, used in the Self Guiding Auto Tour brochure, circa 1952–1957	317
6-5. 1964 Easter Sunrise Service at La Sal Mountains Viewpoint	320
6-6. View of the Utah Symphony Orchestra performing August 7, 1981, near the Devils Garden Trailhead	322
6-7. Even with shuttle buses, Devils Garden loop was still densely packed with vehicles for the 1984 concert, with some serving as elevated viewing platforms	323
6-8. The view from the fins above the orchestra was the best seat in the house in 1981, but park staff saw a potential safety hazard and banned climbing on the fins for the performances in 1982–1984	324
7-1. Bill and Arlene Ahles, the 8-millionth visitors to Arches National Park, after being awarded a plaque and other prizes	338
7-2. Images of the Devils Garden Trail prepared for VERP visitor surveys of crowding	343
7-3. A large rockfall along the Windows Road was caught on film as it happened in 1962 by geologist Gordon C. Grender	376
7-4. 1938 image of Landscape Arch, one of the few images of the arch before a massive rock fall in 1940–1941	377
7-5. The first rockfall in 1991 from Landscape Arch, captured as it happened by visitor Royce Morrison, September 1, 1991	379
7-6. Landscape Arch after the 1991 rock fall	380
7-7a. Wall Arch, a popular hiking destination near Landscape Arch (adjacent to the Double O Arch Trail) as it appeared in 1959	381
7-7b. Wall Arch August 5, 2008 after collapsing	382
7-8. The Mission 66 Visitor Center, summer 1993, as documented in the Historic American Engineering Record by historian Christine L. Madrid	386
7-9a. Arches National Monument entrance from the cliff above the NPS residences, 1964	388
7-9b. Arches National Monument entrance from the slope south of US 160, 1964	389
7-10. The 2004 park entrance station, January 2017	390

7-11. The 2005 Visitor Center provides spectacular views of the Moab Fault and the Three Penguins from within the building, but blends harmoniously with the sandstone cliffs on the exterior, January 2017	391
8-1. Filming Warner Brothers movie “Gold of the Seven Saints” in 1961	409
8-2. Filming Walt Disney Studio’s movie “Ten Who Dared” in 1959	410
8-3. Filming Walt Disney Studio’s movie “Ten Who Dared” in 1959	411
8-4. Photograph of the Balanced Rock Wayside Exhibit, 1953	414
8-5. Opening to the Abbey Trailer septic tank that was constructed of corrugated sheet metal in 1954 by Ranger Bob Morris	415
8-6. The oldest known image of Delicate Arch, circa 1907	420
8-7. Rare full-color cover of <i>Life</i> magazine, April 13, 1953	421
8-8. Utah State welcome sign at Colorado state line on US 491, east of Monticello, Utah, July 2016	422
8-9. Contemporary use of Delicate Arch by Moab-area businesses	423
8-10. The “weak” leg of Delicate Arch, 1953.	424
8-11. Frank B. Arrowchis, Northern Ute tribal elder, performing the Northern Ute sunrise ceremony as Lakota flute player Nagi Nupa (center) and runner Stephanie LaRee Spann (right) look on	429
8-12. Sixteen-year-old Stephanie LaRee Spann was the first torch bearer, departing from Delicate Arch after being blessed by her grandfather Frank B. Arrowchis	430
8-13. NPS Torchbearer Gary Haynes at Delicate Arch, before the 2002 Winter Olympic torch relay.	431
8-14. Dan Greenblatt relays the Olympic Torch by mountain bike on the Arches National Park scenic drive	432
8-15. NPS Director Fran Mainella (left) presided over a ceremony for the torchbearers and other organizers after the relay on February 4, 2002	433
9-1. Memorial Day 2015 on the Devils Garden Trail.....	456

LIST OF ABBREVIATIONS

ADA – Americans with Disabilities Act
AEC – Atomic Energy Commission
ARCH – Arches
ARPA – Archaeological Resource Protection Act
BART – Best available retrofit technology
BLM – Bureau of Land Management
BOP – Basic Operation Plan
BOR – United States Bureau of Reclamation
CANY – Canyonlands
CCC – Civilian Conservation Corps
CESU – Cooperative Ecosystem Study Unit
CNHA – Canyonlands Natural History Association
CPCESU – Colorado Plateau Cooperative Ecosystem Study Unit
CSAPR – Cross-State Air Pollution Rule
DOI – U.S. Department of the Interior
EPA – Environmental Protection Agency
FAA – Federal Aviation Administration
FOIA – Freedom of Information Act
GCVTC – Grand Canyon Visibility Transport Commission
GLO – General Land Office
GPRA – Government Performance and Results Act
HOVE – Hovenweep National Monument
MAPCO – Mid-America Pipeline Company
MNA – Museum of Northern Arizona
NABR – Natural Bridges National Monument
NAGPRA – Native American Graves Protection and Repatriation Act
NBS – National Biological Survey/Service
NCPN – Northern Colorado Plateau Inventory and Monitoring Network
NEPA – National Environmental Policy Act
NHPA – National Historic Preservation Act
NPATMA – National Parks Air Tour Management Act
NPCA – National Parks Conservation Association
NPS – National Park Service
NRDAR – Natural Resource Damage Assessment and Restoration Fund
NRHP – National Register of Historic Places
OSHA – Occupational Safety and Health Administration
PLPCO – Public Lands Policy Coordinating Office
SAR – Arches Search and Rescue
SEUG – Southeast Utah Group
SUWA – Southern Utah Wilderness Alliance
UMTRA – Uranium Mill Tailings Radiation Control Act
USGS – U.S. Geological Survey
USGS-BRD – USGS Biological Resources Division
VERP – Visitor Experience and Resource Protection

1 *“Stupendous sandstone formations of very remarkable shapes”¹*

An Administrative History of Arches National Park

Arches National Park, the 33rd of 418 units of the national park system, was established by Presidential Proclamation in 1929 as Arches National Monument.² Although it is not one of the “crown jewels” (Yosemite, Grand Canyon, and Yellowstone), it is to many the “greatest piece of natural scenery on the face of the earth,”³ and one of only 60 currently recognized as a national park, having been elevated from national monument status in 1971. The story of Arches National Park reflects the struggle to develop and manage a park unit created scant months before the deepest and most prolonged economic setback in our nation’s history: the Great Depression. Arches’ is the story of a park literally created by photography, which has been a prime driver of ever-increasing visitation; and it is the story of innovation, where numerous projects, programs, and plans have been piloted, including library accession procedures, the first female superintendent of a national park, Visitor Experience and Resource Protection (VERP), and Business Operations/Operating Plan (BOP). Arches is, therefore, as much about the process of creating and managing a protected area as it is about the landscape, environment, and cultural history that is protected. Because of the thoughtful management that Arches has enjoyed, the story of Arches also tells much about the story of the National Park Service (NPS or the Park Service). Arches staff members have maintained thorough, detailed records pertaining to almost every facet of Arches operations, and thanks to it also being a pilot for the development of park archives in the NPS, the preparation of this administrative history has mostly been an exercise in selective inclusion, rather than a quest for basic information.⁴

From this abundance, four themes emerge that broadly define the story of Arches, and are reprised repeatedly throughout this narrative: the struggle to provide basic infrastructure for visitors and staff; dramatically escalating visitation and Arches’ role as the pilot unit for addressing this issue in the NPS; navigation of the ever-changing requirements of NPS policy and federal environmental, cultural, and land management law; and ongoing conflict between NPS management and non-conforming users of the park. Once one of the most remote and undeveloped areas of the continental United States, Arches is now an international icon, with Delicate Arch now featured on a Utah license plate, state welcome signs, and the cover of many travel guides for Utah, the Colorado Plateau, and the national park system. Every demographic trend, nearly every new recreational activity, and every attempt by the National Park Service to navigate between accommodation and preservation is witnessed in the records of Arches National Park. Arches also supplied the inspiration for the writings of Edward Abbey, a seasonal park ranger at Arches in the late 1950s. Abbey’s experiences and observations, distilled as *Desert Solitaire* and published in 1968,⁵ unquestionably inspired early factions of the environmental movement concerned with the preservation of wilderness. Abbey’s book still draws many visitors to the park, seeking beauty and solitude in the high desert.⁶ Most of the lands in Arches initially identified as potentially of Wilderness status remain managed as such, pending congressional action to formally designate Wilderness in Arches under the 1964 Wilderness Act. While the notoriety of more radical splinter groups such as Earth First! and the Earth Liberation Front has subsequently tarnished Abbey’s

legacy with the shadow of terrorism in some quarters, Abbey remains crucial to understanding the changes to the National Park Service in the mid-twentieth century, as conservation became environmentalism.⁷ Under the new paradigm, national parks shifted from being recreational playgrounds to refuges of the remaining wilderness of North America.

In his administrative history of Canyonlands National Park,⁸ Dr. Samuel J. Schmieding describes much of the setting and context for the units of the Southeastern Utah Group (SEUG), the informal administrative unit that currently includes Arches, Canyonlands, Natural Bridges National Monument, and Hovenweep National Monument (or ARCH, CANY, NABR, and HOVE in the NPS system of designation). The creation of Canyonlands was controversial, and the park remains a point of friction locally and at the state level. To avoid reprising Dr. Schmieding's observations, and because the relationship of Arches to local communities and the state of Utah is very different, this document focuses on the evolution of National Park Service planning and management and how those have played out at Arches, and how local management issues have in turn influenced the larger NPS organization. The staff of Arches has been asked repeatedly to mitigate between the national park experience as set forth by the most recent NPS management plan, and the national park experience as imagined and re-imagined by park visitors, not all of whom want to be guided, or directed, or recipients of formal interpretation. Furthermore, the explosion of commercial filming in Arches reveals a third orientation to NPS landscapes: non-visitor users. Whether as the backdrop for weddings, symphony orchestra performances, or advertisements for diverse products, or as the arena for bicycle races, jeep jamborees, or rock climbing, Arches National Park is now a destination for disparate people and organizations who seek a beautiful location for their activities. These activities may use the park as literally a backdrop or stage, or represent new recreational approaches to the same geological setting (for instance bouldering), but are generally not constrained only to hiking, sightseeing, or casual photography. The current policy on rock climbing and canyoneering in Arches National Park, which has evolved over several decades, is an example of the current negotiated park experience of non-traditional park users.

Because Arches National Park is at the forefront of many trends affecting the National Park Service in general, its history has much to inform about the future. With the aging of the Baby Boom generation, and increasingly polarized political parties, other generations and groups are poised to influence Arches and the National Park Service through their actions.⁹ These can include not only visitors' activities and non-visitor undertakings, but the attitudes of Park Service employees themselves. Superintendent Noel R. Poe expressed this best in 1991, when he requested summations from his supervisory staff for the superintendent's annual narrative report:¹⁰

*As you are writing your sections, remember the purpose of the report. It is **NOT**
to make us look good,
to boost our ego,
to prove to Region that Arches really exists,
that we are busier than hell,
or that we need more money.*

The real purpose is that 60 years from now, when we are dead and/or retired, the person that finally receives the contract for an Administrative History will have a good document of major, important stuff that happened at Arches in 1990. This is the place to document most consequential concerns, problems, events, and decisions affecting park management. Also can record new trends and major statistics.

Poe's era of administration at Arches is notable for its record keeping (and record retention), as well as the many accomplishments that occurred under his leadership. For that reason, an oral history interview with Poe and other long-term supervisors was part of this administrative history. And, indeed, the final chapter of this history builds upon Poe's recommendations, and examines some emerging trends that may affect the management of Arches National Park over the coming several generations.

Timeline of Events Important in the History of Arches

In the following timeline, the events relevant to the administrative history of Arches National Park are summarized in chronological order, to better place them in context. Each of these topics enjoys expanded discussion with greater detail in subsequent chapters. Major world and national events that had a measurable impact on Arches are shown by entries in bold italics. Federal legislation that affected the management of Arches is also part of this timeline, shown in italics. Other events, typically social trends, are discussed in the respective chapters, but are not included here. Some important events, such as the Gulf War, are not included. Although this conflict and subsequent actions in Iraq and Afghanistan profoundly influenced a generation, it did not directly affect Arches or its management in any way that is reflected in the records of park management retained in the Southeast Utah Group Archives, National Park Service (SEUG Archives, NPS or just the Archives). World War II, on the other hand, ended the Civilian Conservation Corps (CCC) program, halted development of park infrastructure, and reduced visitation to a few hundred visitors per year. Nor does this timeline include historical events that preceded the discovery and proclaiming of the Arches National Monument, such as the Old Spanish Trail or the building of Wolfe Ranch, as these are thoroughly described by historian John F. Hoffman in *Arches National Park: An Illustrated Guide*. Almost every topic of importance in the history of Arches National Park remains important and active as this administrative history is being completed: Chapter 9 provides the latest word on each of these issues. The timeline traces the appearance or resurgence of these topics throughout the decades. Chapter 4 is dedicated to the most persistent of these topics: petroleum and mineral exploration and extraction; grazing and animal trespass; encroachment; and land conflicts with the state of Utah.

August 25, 1916: Passage of the Organic Act creates the National Park Service.

December 24, 1922: Klondike Bluffs (named "The Devil's Garden") is discovered by Alex Ringhoffer and sons (but may have been earlier in 1922 according to son Arpod in May 14, 1970 interview).

July 1923: Alex Ringhoffer writes a letter about the discovery to F. A. Wadleigh, Passenger Traffic Manager, at the Denver and Rio Grande Western Railroad System (the original letter has yet to be found, despite reviews of many archives and collections).

September 1923: Ringhoffer takes Wadleigh and photographer George L. Beam to visit "The Devil's Garden."

November 2, 1923: Wadleigh writes to National Park Service Director Stephen T. Mather urging him to make "The Devil's Garden" a national monument. Beam's photographs accompany the letter.

June 1924: The first survey of the proposed national monument is conducted by T. W. McKinley, who is guided to "The Castle Windows" (now known as The Windows) instead of the area viewed by Ringhoffer.

February 9, 1925: Geologist L. M. Gould of the Department of Geology, University of Michigan, writes to Utah Senator Reed Smoot regarding The Windows, urging that it be made a national monument.

June 11–14, 1925: F. J. Safley conducts second survey for national monument, and discovers the area now known as Devils Garden (a location different from Ringhoffer's "The Devil's Garden"). Dr. Frank R. Oastler visits and photographs at Arches and meets Safley in the field; he is shown the original "The Devil's Garden" by Alex Ringhoffer but the discrepancy in locations is not discovered until later.

July 24, 1925: Superintendent of the Southwestern National Monuments Frank Pinkley is the first to call the proposed new monument "The Arches National Monument."

May 9, 1926: Illustrated article appears in the *New York Times* with Oastler's photographs and an interview with Stephen Mather in which he urges the creation of a national monument that includes The Windows and Devils Garden (the newly discovered area, although the photographs featured some of the original area named by Ringhoffer).

1927: Hugh S. Bell visits, names, photographs, and adds inscriptions to Minaret Bridge (now known as Tower Arch), Double Arch, and Double O Arch.

April 12, 1929: President of the United States Herbert Hoover signs the revised proclamation for Arches National Monument, withdrawing 4,520 acres in two areas. An estimated 500 people visit the monument in 1929.¹¹

October 24–29, 1929: Crash of the New York Stock Exchange triggers the Great Depression (1929–1941).

1933: NPS reorganization adds parks and monuments formerly administered by the War Department and Forest Service, and the National Capitol monuments. The New Deal creates relief programs for the unemployed, including the Civilian Conservation Corps (CCC), which provides labor for hundreds of NPS projects nationwide. James M. Turnbow, local cattle rancher and owner of the Wolfe Cabin, is appointed as the first custodian of Arches National Monument.

December 1933 to March 1934: The Arches National Monument Scientific Expedition, A Civilian Works Administration Project, directed by Frank A. Beckwith, documents natural and archaeological resources; Beckwith is the first to describe Delicate Arch in print (1934) and is the first to use this name. Enrollees in the camp start improvements to Willow Springs Road.

1934: Arches' annual visitation is 275 people, its historic low. First NPS planning document mistakenly includes the Yellow Cat area as part of the monument. It proposes a visitor center at Willow Springs or Turnbow's Cabin, with trails to The Windows and Devils Garden.

1934: Passage of the Taylor Grazing Act regulates livestock on public lands.

September 22, 1936: Secretary of the Interior Harold Ickes announces that existing oil and gas permits will be cancelled on December 31, 1937 unless oil or gas has actually been discovered on the permit area, the permit area is included in an approved unit plan, or the permit area has been converted into a lease (extended to December 31, 1938 by the U.S. Solicitor General).

1936: Grand County, Utah, constructs a road from Willow Springs into Arches National Monument along Courthouse Wash. Harry Goulding is the first to drive an automobile into the monument. J. Harry Reed becomes acting custodian of Arches. Color photographs of Double Arch and Double O Arch by Hugh S. Bell are published in *National Geographic Magazine* in 1936, inspiring frequent visits by photographers. **Radium mines in southeastern Utah became the focus of a vanadium boom. The Wilderness Society survey of roadless areas in the United States identifies the canyon country of southeastern Utah as the largest.**

1937: NPS regional offices are created, and Arches moves from the Southwest Monuments (headquartered in Coolidge, Arizona) to Region III (headquartered in Oklahoma City, Oklahoma). A thousand people visit Arches, marking the first year in which visitation exceeds the 1929 total.

1938: Proposal to create a new Escalante National Monument, which would include almost all of the lands in Utah adjacent to the Colorado River and south of the Green River confluence, infuriates state and local interests who ultimately force the NPS to abandon the plan, leaving a legacy of animosity that affects Arches.

November 25, 1938: President Franklin D. Roosevelt issues Proclamation 2312, expanding Arches by 29,160 acres to 33,680 acres, including the addition of Delicate Arch.

1939: Reconnaissance is conducted for a new entrance road that follows the same basic alignment as the current park scenic drive. Philip S. Miner makes the first climb of Landscape Arch. Ribbon Arch is discovered. Henry Schmidt is named first on-site custodian of Arches. *NPS Region III offices move to Santa Fe, New Mexico and become Region Three.*

December 1939: Custodian Henry Schmidt constructs a 12 by 14 foot frame entrance station near Willow Springs on State Highway 93 (now Willow Springs Road), the first actual piece of Arches National Monument infrastructure.

1940: The Moab Civilian Conservation Corps (CCC) camp for 200 men is constructed. First Development Plan for Arches National Monument is drafted. In April, Custodian Harry Reed identifies Arch No. 81 (not named). Superintendent Frank Pinkley dies suddenly and Hugh M. Miller assumes the position.

November 1940: A massive rock falls from Arch-in-the-Making (also known as Fallen Rock Arch), doubling the size of the opening to create what has since been called Skyline Arch.

1940–1941: During the winter, a slab estimated to have been 95 feet in length detaches from the western face of the inside span of Landscape Arch and falls to the ground. CCC enrollees who participated in a December 1940 strike are demoted, leading to sabotage of telephone lines and resignation of Commanding Officer Pressley in 1941.

1941: CCC crews begin construction of a new entrance road and build the custodian's residence (the Rock House) and 20,000-gallon headquarters water system. Reconnaissance surveys are conducted of monument geology and flora and fauna. Miner Jack Owens is denied authorization to open a vanadium mine he claimed inside Arches after the lands had already been withdrawn for the monument.

March 1941: Owl (or Eagle) Rock falls.

December 7, 1941 – September 2, 1945: The United States is formally involved in World War II.

1942: The CCC camp closes May 31 and is dismantled; the entrance road ends 3 miles from the new monument entrance. Headquarters is a CCC-built frame building that also houses the administrative office, museum, and patrol horse. Lewis T. McKinney replaces Henry Schmidt as Arches Custodian and Charles A. Richey replaces Hugh Miller as superintendent.

1944: Russell L. Mahan becomes the custodian of Arches National Monument. *The Surplus Property Act transfers war surplus equipment to NPS.* Visitation plummets to 642 people.

August 1946 – December 1991: The United States is involved in the Cold War, including the 1946–1980 Uranium Boom.

1946: Grand County adopts Ordinance No. 39, requiring landowners to fence their property against livestock. The NPS lacks the funds to fence Arches boundaries, and much of the area to be fenced is slickrock. Cattle trespass remains a persistent problem.

1947: Director John Ford films scenes for *Fort Apache* in Arches, the first of many motion pictures. The first latrines are built at The Windows.

August 1947: Landscape Architect Carl W. Alleman surveys temporary spur roads to Wolfe Cabin and Delicate Arch, Fiery Furnace, and Devils Garden, originating from the terminus of the Willow Springs Road near Balanced Rock. Alleman also designs the Delicate Arch Trail.

1948: The graded dirt park road to The Windows is completed; a spur road is built to Devils Garden and the spur road to Wolfe Cabin is partly completed. The Courthouse Towers Trail is constructed, the first formal trail in the monument, and four other trails are signed for the first time. First effort is made to upgrade Arches to National Park status. The first documented apprehension of visitors for graffiti occurs, at Double Arch. Russell L. Mahan is reclassified as Superintendent of Arches National Monument and initiates an agency-wide discussion about stabilizing the “weak” leg of Delicate Arch.

September 1948: Oras Krumbolts falls approximately 30 feet from Wall Arch, the first serious injury documented in Arches.

1949: First pack and saddle concession is issued to Ross Musselman. Emmett Elizondo sells the Turnbow homestead to the NPS. Fred and Irene Ayers make the second climb of Landscape Arch. Visitation tops 10,000 for the first time.

March 1949: Bates E. Wilson is appointed Arches Superintendent, a position he holds until 1972. Wilson oversees the completion of all Arches infrastructure, including the scenic drive, campground, trails, visitor center, and headquarters facilities.

1950: Nevada Proving Ground is created west of Las Vegas, Nevada, to test nuclear weapons. Frederick Semisch is the first fatality when he falls 200 feet from the fin above Landscape Arch. The Cove Nature Trail is constructed. Brigham Young University starts a natural history survey. Construction of the Wayside Exhibit near Balanced Rock begins, and is completed in 1951.

1951: Grand County assists Bates Wilson in building a road in Cache Valley to provide a view of Delicate Arch. A ranger trailer is installed at Balanced Rock, which is the camping area for the monument.

1951–1956: Research and further discussion continues about the stabilization of Delicate Arch.

January 21, 1951 to October 31, 1958, and June 30, 1962 to July 31, 1962: Atmospheric tests of nuclear weapons are conducted at the Nevada Proving Ground (renamed Nevada Test Site in 1954). Arches National Monument, like the rest of Utah, receives fallout that the government insists is safe.

1952: Prospector Charlie Steen strikes pure pitchblende uranium ore in his Mi Vida claims south of La Sal, Utah, southeast of Moab; total uranium ore in the district is later estimated at 1 million tons.

April 13, 1953: Full color image of Delicate Arch makes the cover of *Life* magazine.

1954: Construction of trails to Delicate Arch Viewpoint and Devils Garden starts, the Delicate Arch Viewpoint Trail is finished in 1956, and the Devils Garden Trail is completed in 1957.

February 1954: Due to an influx of uranium and oil prospectors in Moab, 29 miles of the boundaries of Arches National Monument are marked for the first time since its declaration.

October 28, 1954: Headquarters area is connected to the electrical grid, retiring unreliable generators.

June 1955: The Uranium Reduction Company breaks ground on a mill near Moab, storing waste slurry in an open pond adjacent to the Colorado River, across from the entrance to Arches. The mill begins operations on October 4, 1956, after Steen and his partners sell the mill and their mine holdings, including Mi Vida, to Atlas Corporation.

July 1, 1955: A special use permit is issued to the Northwest Pipeline Company for construction of a natural gas pipeline across Arches National Monument. Construction begins immediately, and may be the only time that this has taken place in an NPS unit.

1955: The Air Pollution Control Act of 1955 is passed. NPS Director Conrad Wirth proposes the Mission 66 Program, a billion-dollar overhaul of the national park system, to be completed over 10 years. Arches National Monument is one of the first units funded due to the near complete lack of infrastructure.

April 1956: A section of the newly constructed pipeline explodes and burns just outside the monument.

1956–1957: Edward Abbey is hired as a seasonal ranger at Arches, and lives in a trailer near Balanced Rock. He keeps a journal of his experiences. The trailer is moved in 1960 to the headquarters area as an employee residence.

1957: The Moab Wash culvert is widened during reconstruction of the entrance road, the first Mission 66 project undertaken at Arches. Willow Springs Road and the scenic drive are washed out, causing the monument to close for 30 days. Major reconstruction of Delicate Arch and Devils Garden trails is completed.

1957–1958: US Highway 160 (originally Utah 9, then US 450, US 160, US 163, and currently designated US 191) is realigned, orphaning six narrow parcels of private land along the southern boundary. Canyonlands Natural History Association donates one parcel to Arches National Park in 2003, but the other five remain unresolved.

1958: The Federal Aviation Administration (FAA) is created; it has exclusive control of the airspace and aircraft in the United States. The first Easter Sunrise Worship Service is held at The Windows. Originally an “all Protestant” service, it is now open to all denominations. It was moved in 1960 to the La Sal

Mountains Overlook. The third known climb of Landscape Arch is documented for an article in *Desert Magazine*.

February 1958: A rockslide near the Three Penguins temporarily stops construction of the scenic drive.

August 24, 1958: The new 9.3-mile-long oil-surfaced road to Balanced Rock is dedicated; the first automobile accidents happen shortly after the road is opened. The old Willow Springs entrance road is closed and blocked (unsuccessfully) and the Wayside Exhibit is moved to the new road intersection.

October 31, 1958: A moratorium on nuclear testing is implemented. Uranium prospecting in Utah declines sharply until 1961, when the Soviet Union violates the ban and testing resumes.

1959: The new headquarters water system is completed with a 50,000-gallon tank. The park's entrance is closed at night due to vandalism, littering, and rowdy parties, which remain problems through the mid-1970s.

1959–1960: An oil boom in southeastern Utah results in a shortage of accommodations for visitors.

January 22, 1960: Final inspection is made of the new visitor center. With its completion, the entrance road now extends from Highway 160 to the visitor center, and the remaining paved park roads become the scenic drive.

July 26, 1960: President Dwight D. Eisenhower signs Proclamation 3360, which deletes 720 acres and adds 480 acres to the monument, which now encompasses 33,440 acres. The expansion provides room for the permanent scenic drive.

1961: Texas Gulf Sulphur builds an underground potash mine along the Colorado River below Dead Horse Point, accessed by a new state highway and a railroad spur from Crescent Junction. The railroad involved construction of a tunnel that is across US 191 from the Arches Visitor Center.

1962: A land exchange with the state of Utah brings the entire scenic drive right-of-way into NPS ownership. *NPS Region Three is re-designated as the Southwest Region, but remains headquartered in Santa Fe.* Plans for a second campground and an additional 60 spaces in the Devils Garden Campground are dropped as a cost-saving measure. Visitation exceeds 100,000 in a single year for the first time.

May 5, 1962: The Arches Visitor Center, the newly completed Windows Loop road, three park residences, and a bust of Dr. J. W. Williams are dedicated.

1963: The Clean Air Act of 1963 is passed. Grand County obtains a patent on public lands on both sides of the Colorado River, totaling 155 acres, for the purpose of building a park adjacent to the river bridge; the portion north of the river is inadvertently included within the boundaries of Arches National Park in 1971. Surprise Arch is discovered by Superintendent Bates Wilson during survey of a trail in Fiery Furnace on December 13, 1963.

1963–1965: The Arches scenic drive is completed from Balanced Rock to a new Devils Garden Picnic Loop. The Windows spur is completely realigned, and the whole road is surfaced with asphalt and improved with the addition of pullouts, parking areas, gutters, and asphalt curbing.

August 2, 1964 to April 30, 1975: The United States is involved in the Indochina War (the Vietnam War).

1964: NPS reorganization results in its division into natural, historic, and recreational branches. Canyonlands National Park is created, and along with Arches and Natural Bridges it is administered through the Canyonlands Complex by Superintendent Bates Wilson. A formal trail in Fiery Furnace is completed and daily ranger-guided tours begin. Naturalist Dennis L. Carter begins a survey of bird species.

June 18, 1964: Construction of the Devils Garden Campground is completed, including a ranger trailer. Designed with 60 spaces, it is filled every night, and becomes a perennial source of complaints by visitors who do not obtain a camping space.

September 3, 1964: Passage of the Wilderness Act requires that all blocks of roadless federal lands that are substantially undisturbed and encompass more than 5,000 acres be evaluated within 10 years for designation as part of the Wilderness Preserve System. Congress has yet to approve Arches proposed Wilderness areas.

December 22, 1964: The first annual Arches National Monument Christmas Bird Count observes 782 individual birds of 23 species.

1965: Arches is chosen as a pilot library for accessioning procedures. The 294 items are finalized by April of that year. Edward Abbey returns for a final season as seasonal ranger at Canyonlands National Park. *The Concession Policy Act prescribes how the NPS will handle outside business concessions.*

1966: The National Historic Preservation Act is passed. Arches National Monument begins to collect entrance fees, now that it can control access to the park through the new entrance station. The entrance station is open April 15 to October 15. The Balanced Rock Wayside Exhibit is demolished and most park signs are replaced. To combat decades of social trails, Arches constructs the Landscape Arch Loop Trail beneath the arch.

1967: The Arches National Monument Master Plan is approved. The first Easter Jeep Safari is sponsored by the Moab Chamber of Commerce (now run by the Red Rock 4-Wheelers club). The Canyonlands Natural History Association (CNHA) is founded to assist the BLM, Forest Service, and NPS in their educational and scientific efforts. Bates Wilson is appointed NPS Utah state director; he splits his time between Moab and Salt Lake City.

1968–1972: NPS funding is strained due to the addition of more park units than at any other period in the agency's history, and severe budget cutbacks are used to fund an escalation of the Vietnam War. The U.S. Air Force gradually expands low-level, supersonic military training flights throughout the West. The resulting sonic booms damage archaeological sites and NPS facilities, and upset visitors.

1968: Edward Abbey's *Desert Solitaire* is published, dramatically retelling his two seasons as a ranger at Arches National Monument. The book is widely acclaimed and brings more public attention to Arches.

November 8, 1968: Arches National Monument formally proposes to designate the Turnbow Cabin Environmental Study Area, one of the first in the United States. The first classes are held in the spring of 1969.

January 20, 1969: President Lyndon B. Johnson issues Proclamation 3887, expanding Arches by 48,943 acres, just 90 minutes before the close of his term. The increase to 82,953 acres is part of a massive expansion of the NPS using the Antiquities Act. Although it is only a fraction of the 7 million acres that Secretary of the Interior Stuart Udall wanted to conserve, it is far too much for many rural Utah voters. The Utah Geological and Mineralogical Survey conducts an assessment of the mineral content of Capitol Reef and Arches National Monuments as part of a state campaign to overturn the Johnson additions. *The National Environmental Policy Act is passed.* Lessees of a placer mining claim on the Colorado River cut 2,000 feet of road into Arches National Park before they are stopped by a restraining order. The mine developer fights in court until 1971, before finally abandoning the project.

1970: The Clean Air Act of 1970 is passed, establishing the standards by which clean air is determined—the National Ambient Air Quality Standards (NAAQS). Arches remained within Class 1 air (the highest quality) until the 1980s, when concerns are raised about the Atlas Mill tailings. Twelve University of Utah dance students pioneer artistic performances in Arches with recitals at Wolfe Ranch, the swinging bridge, and Delicate Arch.

November 12, 1971: President Richard M. Nixon signs Public Law 92-155, making Arches a National Park and reducing its boundaries to 73,379 acres, with removal of the 1938/1969 block for the final time.

1971: The Turnbow Cabin ESA is renamed Wolfe Cabin ESA when the true origin of the cabin is discovered by Maxine Newell. A sonic boom triggers a landslide that temporarily blocks the scenic drive. *NPS regions are reorganized; Arches is now part of the Midwest Region, headquartered in Omaha, Nebraska.*

1972: The 1948 Federal Water Pollution Control Act is revised as the Clean Water Act. Bates Wilson retires and is replaced by Robert Kerr. Canyonlands Complex headquarters moves to a shared multi-agency building in Moab in October. Canyonlands Complex contracts for a complex-wide master transportation plan that is deemed inadequate upon completion and never used. Arches experiences almost daily sonic booms from military overflights. *After NPS Director George Hartzog testifies about the more than 5,000 sonic booms recorded by the NPS during this period, President Richard M. Nixon signs an executive order requiring the Air Force to avoid NPS units.*

May 13, 1972: Arches National Park is formally dedicated, confusing some people about the year in which it is actually established.

1973: Administration of Arches National Park moves to the Rocky Mountain Region, which is based in Denver, Colorado.

1973–1974: The Arab Oil Embargo leads to gasoline shortages and spikes in fuel prices. Although visitation is up 22 percent in 1973, the following year visitation drops 39 percent, the largest decrease since 1942.

1974: The Primitive Loop Trail is constructed to provide a backcountry experience for experienced hikers, between Double O Arch and Landscape Arch. Arches' first Unit Manager, Larry Reed, assumes the job. Arches' first Wilderness proposal recommends 54,450 acres for inclusion.

1975: First interpretive prospectus is created for Arches National Park and Peter L. Parry assumes the role of Superintendent of the Canyonlands Complex. Brigham Young University begins paleontological

excavations in a rich deposit near Dalton Wells, northwest of the current park boundary. The Wolfe Ranch Historic District and the Courthouse Wash Pictographs are listed in the National Register of Historic Places.

December 11, 1975: Proposed Powerless Flight Regulation is published in the Federal Register, permitting park superintendents to authorize hang-gliding through a permit system, or ban it from an individual park. Hang gliding and parachuting are banned in Arches.

1975–1976: Chip-off-the-Old-Block near Balanced Rock falls.

1976: Revised Statute 2477 (RS 2477) of the 1866 Mining Act is repealed under the Federal Land Policy and Management Act (FLPMA). Public Law 94-429 invalidates all mining claims in national park lands (except for six parks) that were not identified and registered by 1977. The General Authorities Act is amended to authorize law enforcement personnel within units of the national park system, creating the position of Protection Ranger. Arches hosts a series of artistic performances for the United States Bicentennial celebration, including concerts, poetry readings, dance recitals, and theatrical performances.

1977: The Clean Air Act is passed; it attempts to address the deteriorating quality of the air in national parks by setting a goal of “remedying any existing and preventing any future human-caused visibility impairment in most of our largest national parks.” An Air Clarity Research Station is installed in February 1978 at Island in the Sky in Canyonlands National Park. Firewood collecting is banned in the park. Firewood is available for purchase from a concessionaire in the campground for \$2 per bundle. The Arches Wilderness proposal is submitted to Congress by President Jimmy Carter; it is not implemented.

July 27, 1977: National Park Service Chief Historian Harry W. Pfanz rediscovers Alex Ringhoffer’s letter to Frank A. Wadleigh and sends it to Arches National Park for display at the 50th Jubilee in 1979.

1978: The General Authorities Act is passed; it requires each NPS unit to have a General Management Plan, including a consideration of the “carrying capacity” of the park. Final recommendation of Wilderness status for park lands is submitted to Congress, which has never acted on the recommendation. The Department of Energy identifies salt dome beneath Salt Valley as potential nuclear waste dump and undertakes a test drilling program during 1978–1980, but concludes that Salt Valley is not suitable. Reubin Scolnik donates his photograph collection of 125 known arches to the park.

July 24, 1978: Arches National Park celebrates what was then believed to be the 90th anniversary of Wolfe Ranch.

1979–1984: The Sagebrush Rebellion occurs.

*1979: The Archaeological Resource Protection Act (ARPA) is passed. **The mountain bike is invented.** With the **Second Energy Crisis (1979–1980)**, visitation to Arches visitation drops by 17.5 percent. Arches National Park issues a special use permit to Atlas Minerals to operate a continuous air sampler for emissions from the mill and tailings. It records monthly or quarterly measurements for airborne radiologic contamination until 1988. One hundred people attend a special astronomical event to view the Perseid Meteor Shower, the first of many astronomical outreach programs at Arches.*

April 12, 1979: A speech by Utah Governor Scott Matheson is the keynote event of Arches’ 50th Jubilee Celebration, part of a week-long schedule of special events.

October 3, 1979: Arches welcomes the 4-millionth cumulative visitor to the park, Mr. and Mrs. Richard Beauvais of San Antonio, Texas.

1980: The Moab Pictograph Panel is vandalized. It is successfully restored later in the year, unexpectedly revealing new Barrier Canyon Style figures beneath the shields. The restoration is the first undertaken on aboriginal rock art by a fine-arts conservator. ***Utah files a lawsuit claiming all federal lands within its borders. The Election of Ronald Reagan as President signals a major political shift to the right; James Watt is appointed Secretary of the Interior, with a strongly pro-business and privatization of public lands agenda. Influenced by the writings of Edward Abbey, the environmental activist group Earth First! is formed by Dave Foreman (and others).***

1981: A public meeting is held in Moab in February regarding EPA designation of “integral vistas” to combat increasing regional haze. A special use permit is issued to the Society for Creative Anachronism for a medieval re-enactment meeting, one of the first outside events held in the park.

July 4, 1981: Earth First! holds a rally at Panorama Point in Arches National Park.

August 7, 1981: The first Utah Symphony Orchestra performances occur at Devils Garden. Additional concerts are performed during 1982–1984.

October 1981: Arches hosts a book signing party for John Hoffman’s *Arches National Park: An Illustrated Guide*; 250 people attend the event in the visitor center.

1982: Sherma E. Bierhaus becomes the new unit manager for Arches National Park, and the first woman to manage a national park. The Arches Wilderness proposal is revised to 62,947 acres, including formerly private inholdings and expired mineral leases. Ranger and arch-hunter Ed McCarrick discovers Highway Arch, the 200th known arch.

May 31, 1982: The final six grazing permits in Arches National Park are revoked; all grazing has been banned since then, but trespass cattle remain a problem.

September 1982: The FAA publishes their final rule on ultralight aircraft, removing them from FAA regulation if they meet several criteria of weight, fuel capacity, maximum speed, and single-occupancy.

1983: SEUG Resource staff initiate a water quality monitoring program for springs and streams in response to a proposal for a nuclear waste dump adjacent to Canyonlands National Park. The proposal is eventually dropped, but the monitoring program continues to the present day.

February 25, 1983: Bates Wilson dies of a heart attack; 300 family, friends and well-wishers attend a memorial service in Devils Garden.

May 21, 1983: Secretary of the Interior James Watt visits Arches National Park and is greeted with opposition graffiti on park signs.

1984: Atlas Minerals files for bankruptcy and closes the Moab Uranium Mill. Final Wilderness proposal of 62,947 acres is completed and submitted to the President.

1985: The first bicycle race is held on the park’s scenic drive. Dark Angel State bicycle races are held annually until 1991, when a special use permit is denied.

1986: Paul D. Guraedy replaces Sherma Bierhaus as Arches unit manager. Park interpretive staff members conduct a detailed survey of visitor use and impacts along the Landscape Arch Loop Trail.

July 7, 1986: A memorial plaque honoring Bates Wilson is dedicated with a ceremony at the visitor center. Although NPS regulations require that 20 years elapse before memorializing employees, Wilson's contributions are deemed to be exceptional.

1987: As required under Sections 106 and 110 of the NHPA, 1,160 acres of frontcountry and developed park areas are subjected to comprehensive archeological inventory, resulting in the location of 26 sites. Arches proposes a pilot program to control invasive tamarisk by burning 4 acres around Salt Valley Spring. The plan is bitterly opposed by former park rangers Jim Stiles, Edward Abbey, and Lloyd Pierson, and is finally abandoned amidst public controversy when all use of prescribed burns is banned by the NPS. Harvey Wickware becomes the new Superintendent of the Canyonlands Complex, and Paul Guraedy is reclassified as superintendent of Arches National Park. Research ecologist Jayne Belnap joins SEUG and implements a research and monitoring program, beginning with long-term vegetation and biological soil crust studies, which are damaged by livestock and off-trail walking. Visitor Carin Dehne is injured in a fall from North Window. Her family sues the NPS for \$500,000, but the suit is dismissed in 1991 because the family chose not to read the warning posted on the trailhead bulletin board, which warned about the dangers of climbing.

August 7, 1987: A severe thunderstorm in Moab Canyon washes out the entrance road culvert on Bloody Mary Wash and the portion of US 191 adjacent to the wash, necessitating major repairs which lasted into 1988.

October 1987: Canyonlands Complex is disbanded and reorganized as the Southeast Utah Group, beginning in fiscal year 1988.

1988: The Natural Arch and Bridge Society is founded to promote "arch hunting" and research on arch formation. Annual visitation passes 500,000 for the first time. The Julien Inscription Panel, Old Spanish Trail, the Ringhoffer Inscription, and the Rock House–Custodian's Residence are listed in the National Register.

1989: The *Arches National Park General Management Plan* is completed and approved. A *Tamarisk Management Plan* is completed and a control program using cutting and herbicide is implemented. Director Steven Spielberg releases *Indiana Jones and the Last Crusade*, which features a lengthy opening flashback scene that is filmed and set in Arches National Park and Moab, including south Park Avenue and Double Arch. It is the highest grossing film of 1989. The 1000th arch is discovered and named One Thousand Arch. Double Arch and the North Window are used as the settings for an Environmental Dance and Poetry Performance in March, and the University of Utah Classical Greek Festival performs Euripides' comedy *Helen* at Double Arch in October.

May 1989: Visitor Joyce Drake witnesses and photographs a significant rock fall at Baby Arch, an event that produces a large cloud of dust, visible from the park road. Kokopelli's Trail mountain bike route between Grand Junction, Colorado and Moab is dedicated; a spur enters the park in Cache Valley.

May 21, 1989: Following his death on March 14, Edward Abbey's life is celebrated by 500 people at a memorial overlooking Arches National Park.

1990: *The Americans with Disabilities Act is passed*. Arches has no ADA compliant facilities. Noel R. Poe becomes the Superintendent of Arches National Park. The 1,500th arch is reported. An ARPA Monitoring Program is first established. *The Native American Graves and Repatriation Act (NAGPRA) and the Clean Air Act of 1990 are passed*.

April 26, 1990: The 8-millionth visitors to Arches are Bill and Arlene Ahles.

October 6–9, 1990: A government shutdown closes Arches. Fee collection is halted, the visitor center is closed, and the entrance gate is closed on the first day, although no barricades are placed on Willow Springs or Salt Valley roads. The campground is closed on October 7 at noon.

1991: *FAA Advisory Circular 91-36C is issued in response to mounting concerns about aircraft overflights, recommending minimum safe altitudes for aircraft operation over or near Noise Sensitive Areas (such as National Parks)*. *On the 75th anniversary of the NPS the Vail Agenda is issued, providing a review of current policy and roadmap for the NPS in the twenty-first century*. The Arches Visitor Center is expanded with funds donated by CNHA, which moves from the Rock House into the visitor center. The Rock House is restored and houses the superintendent and other administrative offices. Primitive Loop Trail is partially re-routed due to persistent visitor complaints, injuries, and lost hikers. Walter D. Dabney takes control as superintendent of SEUG. Director Ridley Scott releases *Thelma & Louise*, a blockbuster partly filmed in Arches National Park. To mitigate steep cuts to the NPS budget, outside volunteer organizations begin work projects in Arches, including trail maintenance. The BLM completes a statewide study of potential Wilderness and submits the plan to the Utah governor and congressional delegation. SEUG hires Nancy Coulam as the first group archaeologist.

September 1, 1991: A 73-foot-long slab of rock falls from the bottom of Landscape Arch. Smaller rockfalls are documented on September 4, between September 17 and 20, and on September 26.

1992: The *Draft Rock Climbing Management Plan* is completed but never implemented. A special use permit is issued to the Salt Lake Astronomical Society for a public star party at Panorama Point. The International Society for Krishna Consciousness of Colorado, Inc. (the Hare Krishna Movement) seeks a location at Arches for proselytizing and distribution of literature, resulting in the creation of a First Amendment Forum near the visitor center. *NPS initiates an Inventory and Monitoring Program to provide baseline data for impacts of encroaching development*. BYU opens a new paleontological excavation on state land at Dalton Wells, at which a new carnivorous dinosaur species is discovered and named for the area—*Utahraptor*. The air quality monitoring station moves from Arches to Island in the Sky at Canyonlands. Ute tribal elders contact Arches, concerned about the disposition of a stand of purple sage growing in the area of the proposed new entrance road. The plants are moved prior to road construction in 2003–2004. SEUG completes a Summary of Human Remains and Funerary Objects as required by NAGPRA.

1992–1995: Arches is the pilot NPS unit for the Visitor Experience and Resource Protection (VERP) program, to measure the visitor experience and carrying capacity of the park, culminating in the June 1995 publication of the *Visitor Experience and Resource Protection (VERP) Implementation Plan, Arches National Park*. The required ongoing monitoring of conditions has not been implemented since 2004.

1993: *The Government Performance and Results Act requires strict accounting of agency budgets and job positions.* Superintendent Walt Dabney and others create the Canyon Country Partnership to improve relationships with local business interests, county and state government, and environmental advocates. The visitor center is expanded to include more room for the CNHA sales area. A reservation system for Devils Garden Campground is implemented after decades of complaints by visitors. NPS Historic American Engineering Record Historian Christine L. Madrid performs HABS/HAER documentation of the entrance road, culvert, and visitor center in anticipation of their replacement. The National Biological Survey (NBS) is created, transferring most biological scientists in the Department of the Interior to the new agency, including Jayne Belnap.

August 25, 1993: A commercial filming cost recovery program is implemented for SEUG, led by Arches staff.

1994: **Conservative Republicans win both houses of Congress in midterm elections and immediately begin to implement the “Contract with America,” a legislative program to reduce the size and scope of the federal government.** SEUG moves from a multi-agency office in Moab to dedicated headquarters south of town along Highway 191 (which it later shares with the USGS and Northern Colorado Plateau Inventory and Monitoring Program). Gift shop and information center (established 1993) remains with the multi-agency building and is run by the CNHA as the Moab Information Center after 2002. BYU resumes excavations at the Dalton Wells dinosaur quarry when specimens of *Utahraptor* are discovered among the unanalyzed collection from 1975. Sixteen new NPS wayside interpretive signs are installed by staff and volunteers. The Devils Garden ranger trailer is demolished due to fears of Hantavirus, and it is replaced with a site-built visitor contact station.

March 1, 1994: The new Fiery Furnace permit and fee system is implemented, and is monitored by the volunteer Fiery Furnace Corps.

May 19, 1994: The Utah Division of Lands and Forestry issues a record of decision to convert 5,359 acres of state land containing paleontological resources west of Arches to sovereign status to protect it from development.

1995: *Rocky Mountain Region is renamed the Intermountain Field Area, but remains in Denver, Colorado.* 2,000th Arch is documented, named for being the 2000th known in the park. Superintendent Noel R. Poe transfers late in the year, and the position is vacant until Rock Smith is detailed to the position from Utah State Parks in 2001. Delicate Arch is depicted on a U.S. Postal Service stamp and a Utah license plate in honor of Utah’s Centennial. A photovoltaic system installed in Devils Garden Campground significantly reduces the use of generators.

May 16, 1995: A piece of sandstone less than 6 feet in length falls from the thinnest part of Landscape Arch, and is witnessed by 12 visitors. This is followed by additional rockfalls on June 5, June 13, and June 21, all from the same part of the arch. The Landscape Arch Loop Trail is permanently closed to protect visitors from falling rocks.

September 16, 1995: The new Delicate Arch road, overlook, and parking lot is dedicated under the direction of Superintendent Noel Poe, with speeches by Utah Governor Michael Leavitt and Senator Robert Bennett; this is the first event celebrating the Grand County Centennial.

October 3, 1995: Pilot David Kelsey violates the FAA minimum altitude advisory over Arches. He is subsequently stripped of his pilot's license (1996) after denying that he was the operator of the aircraft, refusing to cooperate in the investigation, and demonstrating a belligerent attitude during hearings.

November 14–20, 1995: Government shutdown closes Arches and all NPS units; the closures begin with a “soft-closedown” during which the inbound gate is closed, but visitors already in the park remain until the advent of a “hard-closedown” the following day, during which all visitors are required to leave and the entrance gate is locked. Willow Springs and Salt Valley roads are barricaded and signed as closed.

December 18, 1995 to January 6, 1996: Government shutdown occurs again. Procedures are the same as in November, but public reaction is much stronger, with more incidences of visitors violating the closure and some vandalism.

1996: *President William J. Clinton declares the Grand Staircase–Escalante National Monument, further enflaming local anti-government sentiments in southern Utah.* Despite changing the name of the NBS to National Biological Service in 1995, conservative politicians continue to target the agency in an attempt to dismantle the Endangered Species Act, so it is merged into the U.S. Geological Survey as the Biological Resources Division. Jayne Belnap remains with the agency, which shares office space with SEUG, and continues to assist SEUG with research and monitoring projects.

1997: *The NPS re-designates the Intermountain Field Area as the Intermountain Region. The Fee Demonstration Program begins, allowing federal agencies to keep up to 80 percent of fees collected to pay for authorized projects.* Leaks in the visitor center damage some of the exhibits; the visitor center is re-roofed over the winter of 1997–1998. The Grand County Sheriff grants SEUG rangers misdemeanor-level law enforcement jurisdiction to assist investigations of paleontological looting on adjacent state lands. The Delicate Arch Trail suspension bridge is replaced with a fixed span. Fat Tire Festival sponsors ride on the roads through Arches. Utah grants permit for an air tour operation on state lands in Arches, apparently as a bargaining ploy in the state lands exchange with the NPS.

1998: *The National Parks Omnibus Management Act is passed.* The Utah Schools and Land Exchange Act of 1998 (PL 105-335) exchanges 6,902.44 acres of state lands within Arches, and 320 acres of mineral rights, for BLM lands, coal royalties, and cash, resolving an issue that dated from the 1971 creation of Arches National Park and had been actively negotiated since 1980. Dr. Jeffrey J. Cain is denied a special use permit to use a mountain bike on trails in Rocky Mountain and Arches National Parks when he requests permission to use trails in Wilderness or Wilderness Study areas. Administration of Hovenweep National Monument is transferred from Mesa Verde National Park to SEUG.

January 7, 1998: Grand County passes a resolution restricting visual impacts along US 191, U128, U212, and U313. This is later codified in the Grand County Building Codes.

May 29, 1998: Regional manhunt begins for three survivalists who murdered a Cortez, Colorado police officer. After injuring other law enforcement personnel and firing at Hovenweep National Monument Superintendent Art Hutchinson and visitors, the monument is closed and all SEUG law enforcement personnel are detailed to the search. One suspect commits suicide on June 4 after a shootout with police near Bluff; 500 law enforcement as well as bounty hunters scour the Four Corners until July. The remains of the other two suspects are found in Colorado in 1999 and 2007.

October 30, 1998: President William J. Clinton signs Public Law 105-329, adding the 3,140 acres of Lost Spring Canyon to Arches

November 6, 1998: The Lost Spring Canyon addition to Arches National Park is dedicated at an event attended by SEUG Superintendent Walter Dabney, Representative Chris Cannon, and NPS officials.

December 3, 1998: A pipeline construction crew accidentally ruptures an existing 10-inch natural gas pipeline in Moab Canyon. There are no fatalities and only minor injuries, but the explosion and flames burn adjacent overhead power poles, scorch 200 feet of US 191, and damage three archaeological sites in Arches National Park. The park is evacuated and closed for several days. Another near miss along the same segment of pipe follows on February 26, 1999.

1999: Jerry Banta is named the new superintendent of SEUG. *Executive Order 13112 on Invasive Species directs all agencies to prevent the spread of non-native plants and animals, remove infestations, and restore landscape to natural conditions. Inventory and Monitoring and Cooperative Ecosystem Study Unit programs begin, providing scientific research and monitoring for projects in national park system units and other federal lands.* Congress reviews pending Wilderness designations but as of this date, has yet to act on those in Utah, due in part to opposition from the Utah congressional delegation and state government.

July 1, 1999: *The EPA publishes the final rule on Regional Haze Regulations to address the deteriorating air quality conditions in the 156 Class I Areas, including Arches National Park.*

2000: *The National Parks Air Tour Management Act (NPATMA) (14 CFR 136) is passed. It directs the FAA to develop Air Tour Management Plans (ATMPs) for parks that are not exempt from the requirement.* A survey of the paleontological resources of Arches National Park is undertaken during the summer. A complete refurbishment of Devils Garden Campground, including the entire water system, is completed. SEUG implements a Night Sky Preservation Program and helps the International Dark-Sky Association and local advocates get Grand County to implement a dark sky lighting ordinance.

September 18–19, 2000: Professional photographer Michael Fatali damages Delicate Arch by setting fires to provide light for night-time photography.

2001: *The National Parks Overflights Advisory Group is created to initiate and manage Air Tour Management Plans.* J. Rockford “Rock” Smith is the new Arches National Park Superintendent, on a 2-year exchange with Utah State Parks. The U.S. Department of Energy takes control of the Atlas Minerals mill site for remediation, under Title 1 of the Uranium Mill Tailings Radiation Control Act (UMTRA). The National Park Service files a claim against Williams Energy under the Park System Resources Protection Act, 16 U.S.C. § 19jj, for damages resulting from the 1998 pipeline explosion, one of the first such claims filed under this act. The final report on VERP is completed. The NPS Northern Colorado Plateau Inventory and Monitoring Network (NCPN) is instigated as the pilot for the I&M program, and is initially based in Moab in the same building as SEUG and USGS, later moving to the Arches entrance complex. The NCPN begins by inventorying existing datasets to determine current and future data requirements, and monitoring night sky conditions at SEUG units.

September 11, 2001: Saudi Arabian terrorists crash occupied passenger jets in New York City, Washington D.C., and rural Pennsylvania in a coordinated attack that kills 2,996 and leads to the creation of the Travel Safety Administration (TSA). Visitation at Arches actually drops 9.7 percent from

1999 to 2000, but only decreases slightly (4.2%) in 2001 over the previous year; visitation continues a modest decrease through 2004 to 733,131, before beginning a dramatic increase in 2005. However, over the same period, NPS budgets are diverted to the undeclared “War on Terror,” resulting in deferred maintenance, diminished staff, and low morale.

September 19–20, 2001: Practice run of the Olympic torch in Moab occurs. Because of the 9/11 terror attacks, planning for the Salt Lake City Olympics shifts from logistical issues to security.

2002: Williams Pipeline Company settles with the NPS for \$62,575 for damages from the 1998 pipeline explosion. The George L. Beam photographs are rediscovered as part of a 2002–2004 project directed by SEUG Ecologist Charlie Schelz to collect historic photos from regional museums and depositories, and then re-photograph selected locations. Former Canyonlands Ranger Anthony J. Schetzle returns to SEUG as the new superintendent.

February 1, 2002: Michael Fatali sentenced to 2 years of probation, 150 hours of community service, and \$10,900 in restitution for the Delicate Arch fires.

February 4, 2002: The Olympic torch debuts in Utah and is carried beneath Delicate Arch by Stephanie LaRee Spann, as the morning sun first touches the La Sal Mountains, on its way to the Winter Olympics in Salt Lake City. Three of the torchbearers are NPS employees, including Arches Ranger Gary Haynes, who is selected for his role in organizing the event.

2003: The Devils Garden Campground reservation system is revised to combine some reserved spaces with some available on a first-come, first-served basis, to mixed results.

2004: Laura E. Joss is chosen as the superintendent of Arches National Park. *Core Operations Analysis is instituted by region; it later becomes a national program designed to further reduce the size of the NPS.* The SEUG Trails Crew is reconstituted under Greg Kosa.

July 1, 2004: The newly reconstructed entrance road, which is extended a quarter mile east to avoid a dangerous blind curve on US 191, and new entrance station are dedicated. The entrance road is constructed by the Utah Department of Transportation as part of a major reconstruction of US 191, which is widened to four lanes and realigned.

July 14, 2004: The final rule making permanent the closure of part of Salt Creek Road in Canyonlands National Park to vehicular traffic is published in the Federal Register in 2003, becoming final on this date.

August 10, 2004: After a family fight, intoxicated James Ricky Cunningham of Richwood, Texas, rams his car into his girlfriend Rhonda A. Rosenbalm at the Moab Fault Overlook, killing her, setting his car afire, and driving a third vehicle over the embankment edge, slightly injuring three others in the 20-foot drop. Cunningham is sentenced to two consecutive sentences of 5 years to life for murder and DUI in 2005.

2005: *The Federal Land Recreation Act* replaces and extends the Fee Demonstration program for an additional 10 years. By June 17, all employees with access to secure buildings or computers have to submit to a background check and are provided with a Smart Card for access.

September 17, 2005: Arches holds a ribbon-cutting ceremony attended by 300 for the new 18,000-square-foot visitor center. Participants include NPS Director Fran Mainella, local elected officials, and members of the National Park Foundation board of directors. Two of George L. Beam’s photographs

from 1923 are part of a permanent exhibition about the founding of Arches, the first public display of any of Beam's photos in the context of the monument creation, although they have been available to view and purchase for some time prior at the Denver Public Library website.

2006: Kate Cannon becomes the superintendent of SEUG. Jay Wilbur measures the span of Kolob Arch in Zion National Park using laser equipment; the result of 287.4 ± 2.0 feet is shorter than the distance of 290.1 ± 0.8 feet that he had obtained in 2004 for Landscape Arch, verifying the latter as the longest in the world. The transportation Implementation Management Plan for Arches National Park is completed; it recommends expanded parking throughout the park, but fails to address the issue of alternative transportation systems.

May 7–8, 2006: Dean Potter illegally climbs Delicate Arch and posts video to social media.

December 2007: Collapse of the sub-prime mortgage market triggers the Great Recession (2007–2009).¹² Visitation increases dramatically during this period due to very low gasoline prices, ongoing uncertainty and difficulty involved in international travel, and increased travel to the United States from other countries, especially China.

2008: SEUG Superintendent Kate Cannon assumes the position of Superintendent of Arches when Laura Joss transfers. The BLM initiates a massive sale of oil and gas leases in direct proximity to Arches National Park and Moab. After lawsuits and public outcry over the sale and its lack of transparency, the BLM reduces the original auction from 360,000 acres to 164,000. U.S. District Judge Ricardo M. Urbina issues a restraining order on the auction, suspending the process. Utah submits its state plan for reducing regional haze as one of the Grand Canyon Visibility Transport Commission (GCVTC) states under the EPA Regional Haze Regulations, 4 years after the mandated deadline.

August 4–5, 2008: Wall Arch collapses.

2009: Removal of the Atlas Uranium Mill tailings pile begins, intended to be completed by 2025. Archaeological survey of the natural gas pipeline right-of-way through Arches is undertaken prior to a major maintenance project, followed by a revegetation program.

February 4, 2009: New Interior Secretary Ken Salazar cancels 77 of the BLM oil and gas leases for further review.

2010: Victoria Carlson is honored by becoming the first 1-millionth visitor in a single year.

2011: The Arches National Park Alternative Transportation System and Congestion Management Study is completed, but concludes that a shuttle system would not be cost-effective for the park. A timed-entry/reservation system is determined to be the preferred approach. One campground space is replaced with additional photovoltaic panels.

2012: The Utah legislature passes the *Transfer of Public Lands Act*, which demands the surrender of all federal lands in Utah to the state, except for parks and Department of Defense installations (but Grand Staircase–Escalante National Monument is to be included in the transfer) and reorganizes several state agencies to create the Public Lands Policy Coordinating Office under the Governor's office, to litigate claims. Twenty-five lawsuits are filed claiming almost 36,000 miles of roads under RS 2477 claims, including lands adjacent to Arches. *NPS begins development of a system-wide program to improve accessibility, titled "All In! Accessibility in the National Park Service, 2015–2020," and issues final rule for*

Vehicles and Traffic Safety – Bicycles. The EPA rejects Utah’s proposed approach to reducing nitrogen oxide and particulates at two coal-burning power plants located in Emery County in their final review of the state plan of the Regional Haze Regulations.

June 5, 2012: Arches rangers host observation of the Transit of Venus from the Panorama Point and Sand Dune Arch parking lots.

August 2013: Approval of the *Rock Climbing & Canyoneering Management Plan*; BASE jumping remains banned from Arches.

April 8, 2014: Superintendent Kate Cannon closes the area around Sand Dune Arch after extensive, deeply carved graffiti is discovered in 2013.

April 28, 2014: The 10th Circuit Court of Appeals rules against PLPCO’s attempt to claim Salt Creek Canyon Road in Canyonlands under RS 2477.

May 31, 2014: Grand opening of the Lions Park Transit Hub on the southside of Utah Route 128. Bike paths now extend along U 128 and US 191 as far as the U 313 junction.

June 2014: Beginning of the Arches National Park Administrative History project, with a visit to the SEUG Archives in Moab. The U.S. Mint holds an event at the visitor center on June 6 to release a special “America the Beautiful” quarter depicting Delicate Arch as the symbol of Utah.

2015: On Memorial Day, the NPS and the Utah Highway Patrol close the Arches Entrance gate after traffic backs up more than a mile on US 191. The Moab Giants Dinosaur Museum and Park opens September 1 at the intersection of US 191 and U313.

July 31, 2015: The Federal District Court for the District of Utah ordered the establishment of a “bellwether” process to streamline the 12,500 RS 2477 rights-of-way throughout Utah.

August 13, 2015: *The BLM releases the Moab Master Leasing Plan as a draft Environmental Impact Statement, which recommends prohibiting leases on 145,000 acres adjacent to national parks and prohibiting surface occupancy on an additional 306,000 acres, but does offer up 59,000 acres for potash mining in some areas barred from oil and gas leases.* SEUG Resource Stewardship and Science Chief Mark Miller was a major contributor to this interagency planning effort, the first of its kind in the United States.

2016: Eight million tons of tailings (50%) from the Atlas mill have been removed and buried by January. By the end of the year, visitation exceeds 1.5 million for the first time.

March 11, 2016: The redeveloped Lions Park reopens to the public north of U128, including a pedestrian bridge across the Colorado River to the portion of the park within Arches boundaries, which remains unchanged.

April 2016: Frame Arch is vandalized with deeply carved graffiti.

June 2016: *The EPA orders the installation of scrubbers at the Hunter and Huntington power plants within 5 years.*

July 26, 2016: *The BLM Master Leasing Plan Final EIS is published.*

August 2016: The National Park Service Centennial is celebrated nationwide. Arches events include Art in the Parks on August 12 and the Founders Day Celebration on August 25 at the Moab Information Center.¹³

December 28, 2016: With strong support from regional tribes and archaeological organizations, President Barack Obama declares the 1.3-million-acre Bears Ears National Monument over strenuous objections from state and local officials in Utah.

2017: SEUG enters into NAGPRA consultation over the disposition of human remains that are discovered inadvertently. The entire 26-mile paved road system in Arches National Park is completely resurfaced and UDOT installs a “smart” traffic light and median dividers on US 191. The scope of the Traffic Congestion Management EA is narrowed to just Arches National Park and an additional public comment period is opened from November 1 to December 18, 2017. The preferred alternative is the use of reservations and a timed entry system to better distribute visitors throughout the day.

January 1, 2017: Arches National Park discontinues commercial guide service to Fiery Furnace.

February 2017: The owners of coal-fired Navajo Generating Station in Page, Arizona, announce that it will close by December 31, 2019, removing a major source of regional haze on the Colorado Plateau.

March 2017: A new native plant trail opens behind the Arches visitor center.

September 2017: Ruling in a suit filed by Utah, U.S. 10th Circuit Court of Appeals stays the final EPA order requiring scrubber installations to the Hunter and Huntington coal-fired power plants.

2018: The Community Vision Update plan for the former Atlas Mill tailings pile is opened for public comment from May 15 to June 15. **Two brief government shutdowns over spending resolutions in March and September have little effect on Arches.**

January 31, 2018: The Administration of President Donald J. Trump voids the entire Master Leasing Plan program in an instructional memorandum and reduces the public comment opportunities.

July 2018: The BLM Utah state office announces plans to open more than a half-million acres of energy leases, but none are located near Arches.

September 2018: Administrators of the Atlas Mill tailings pile cleanup declare the remediation project is 57 percent complete, but that only about 114 acres of the site would be usable for future development.

December 22, 2018: Beginning of a five-week-long government shutdown involving eight departments including Interior. Utah Governor Gary Herbert authorizes the expenditure of \$80,000 to keep Arches, Zion, and Bryce Canyon open through the winter holidays.

Organization of this History

Writing the administrative history of Arches National Park was challenging, and not just because of the staggering amount of material to evaluate, read, copy, scan, and incorporate (or not). Many of the issues that have confronted the very first custodians and superintendents of Arches National Monument remain active management topics today. This makes a strictly chronological approach to the story difficult to render, as the first major draft demonstrated. However, the second draft showed that a purely thematic approach also produced problems with flow and focus. In its final form, the

administrative history of Arches National Park merges the two approaches into what I hope is a successful blend.

After providing this overview and timeline of the important events relevant to Arches (above), the remaining eight chapters alternate between being mostly chronological and thematic: Chapter 2 describes the process by which Arches was declared a national monument, Chapter 3 relates the period of initial development (1929–1971), Chapter 5 examines the establishment and management of Arches National Park (1971–1990), and Chapter 7 describes more recent developments in Arches, focusing on visitation and VERP (1990–2018). Lands issues and encroachment problems are approached thematically in Chapter 4, Chapter 6 examines the shift from contemplative visitation to active non-conformity among visitors to Arches, and Chapter 8 looks at the synergy between exposure in movies, Edward Abbey’s writings, and Delicate Arch as an iconic emblem. Chapter 9 concludes the story thus far with a review of the many very active issues relating to Arches management as the administrative history was being written, and takes a speculative look ahead to 2060.

This report was completed in a period of acute political and social uncertainty, with the year-long celebration of the National Park Service Centennial juxtaposed against a political wave of populism, social conservatism, and anti-environmentalism; unavoidably, this document reflects these discordant tones.

Acknowledgements

The creation of this history was a collaboration between the Museum of Northern Arizona and the National Park Service (Colorado Plateau Cooperative Ecosystem Studies Unit Cooperative Agreement No. H1200-09-0005, Task Agreement No. P14AC01011, Project No. MNA-69). Kimberly Spurr, MNA Archaeology Division Director, guided the administration of this project and actively participated in collecting documents at the SEUG Archives. We are indebted to the dedicated and forward-thinking custodians, superintendents, and unit managers of Arches for saving so many documents; in particular, Bates E. Wilson and Noel R. Poe. The detailed finding guides prepared by retired SEUG Archivist Vicki Webster have been instrumental in making informed choices about what records to consult. Her comments as a reviewer of an early draft pointed us to a number of topics we had overlooked. Chris Goetze (SEUG Cultural Resource Program Manager, retired) and Mark Miller (former SEUG Chief, Resource Stewardship & Science) each provided valuable assistance during our many trips to Moab, by email, and as reviewers (Mark of the earliest drafts and Chris of the final draft). Lastly, SEUG’s current Archivist and all-round information specialist Peekay Briggs has helped us locate those frustrating little bits of information needed to finish our research. Peekay, we wish you had been here since the beginning of the project! I am glad to have had the opportunity to immerse myself in the story of one of my favorite places in the world—Arches National Park. Not only have we been able to visit the park in many seasons, we have also gotten to know Moab and its surroundings better. Moab is no longer just a “gas-and-bathroom” stop for us driving between Flagstaff and Grand Junction. We hope to visit again many times after this project has ended.

Notes

¹ F. A. Wadleigh, Passenger Traffic Manager, Denver & Rio Grande Western Railroad System, to Hon. Stephen T. Mather, Director, National Park Service, November 2, 1923. (Copy from the National Archives, Record No. 79,

Central Files, Arches National Monument, General 1923-32). Arches National Park Records, ARCH 101/004-006, Southeast Utah Group (SEUG) Archives, National Park Service (NPS). The ARCH 101 collection was formerly known as the Arches National Park Administrative Collection, for which a finding guide is available: Vicki B. Webster, Finding Aid: Arches National Park Administrative Collection, 1929–2008 (Bulk Dates 1940–2000). (Moab: National Park Service, 2012).

² As of December 21, 2018 (<https://www.nps.gov/aboutus/national-park-system.htm>). Electronic document <https://www.nps.gov/aboutus/upload/site-Designations-01-13-17-1.pdf> lists 417 of the units in existence by January 13, 2017. Congress and the President may add units to the national park system. However, 23 units were removed from the national park system between 1930 and 1994, and were transferred to other federal agencies or states. Barry Mackintosh, Former National Park System Units: An Analysis, National Park Service, 1995 (Electronic document <http://www.nps.gov/history/history/hisnps/NPSHistory/formerparks.htm>, viewed August 7, 2014).

³ Bates E. Wilson, Monthly Narrative Report for April 1964, May 8, 1964. ARCH 101/001-025, SEUG Archives. Wilson noted under a miscellaneous news item: “As a special note of interest we read with pride a note in the register at the Balanced Rock which described Arches as the ‘greatest piece of natural scenery on the face of the earth.’”

⁴ Vicki B. Webster, “Finding Aid: Arches National Park Administrative Collection, 1929–2008 (Bulk Dates 1940–2000), Collection Number ARCH 101,” National Park Service, 2012. (Electronic document <https://www.nps.gov/arch/learn/history/culture/upload/ARCH101.xml>). Many Resource and Science Stewardship projects undertaken at Arches over the past 20 years are of a long-term nature, often involving lengthy periods of monitoring to establish baseline conditions or changes to established parameters. Consequently, these active programs have yet to be archived and are somewhat under-represented by this document-focused administrative history.

⁵ Edward Abbey, *Desert Solitaire: A Season in the Wilderness*. (New York: Ballantine, 1968).

⁶ John F. Hoffman, *Arches National Park: An Illustrated Guide*. (San Diego: Western Recreation Publications, 1985). Hoffman lists *Desert Solitaire* as recommended reading in his guidebook, but does not mention Abbey in the text, or evaluate his contributions to increasing Arches visitation. Abbey’s work is still cited by visitors as a reason for their visit to Arches, and more important, his ethos informs many of those who participate in “non-conforming” activities at Arches. Abbey falls very much on the wilderness end of the conservation-environmentalism spectrum of beliefs, and his views still greatly influence the debates about visitation, access, and overuse that are current as this history is being finalized.

⁷ Samuel P. Hays, *From Conservation to Environment: Environmental Politics in the United States Since World War II*. In *Out of the Woods: Essays in Environmental History*, edited by Char Miller and Hal Rothman, pp. 101-126. (Pittsburg: University of Pittsburg Press, 1997).

⁸ Samuel J. Schmieding, *From Controversy to Compromise to Cooperation: The Administrative History of Canyonlands National Park*. (National Park Service, 2008).

⁹ Peter Laslett and James S. Fishkin, Introduction: Processional Justice. In *Justice between Age Groups and Generations*, edited by Peter Laslett and James S. Fishkin, pp. 1–23. (New Haven and London: Yale University Press, 1992). Although this book is primarily a critique of the welfare state from a conservative, free-market perspective, the focus on political and economic struggle among age cohorts lends insight into the motivations of groups such as the “Tea Party,” which largely represent the viewpoints of the oldest current generation.

¹⁰ Noel Poe, Memorandum: Annual Supt Report, January 18, 1991. Arches National Park Administrative Collection, ARCH 101/001-035, SEUG Archives.

¹¹ The many additions and subtractions to Arches are described in detail in Chapter 3, including the proclamation numbers, acreages, and signatories.

¹² Timeline for the Great Recession, CS Monitor, September 8, 2013. (Electronic document <http://www.csmonitor.com/Business/2013/0908/Timeline-on-the-Great-Recession>, viewed August 11, 2016).

¹³ National Park Service, Arches National Park – Centennial Events. (Electronic document <https://www.nps.gov/arch/getinvolved/centennial-events.htm>, viewed August 10, 2016).

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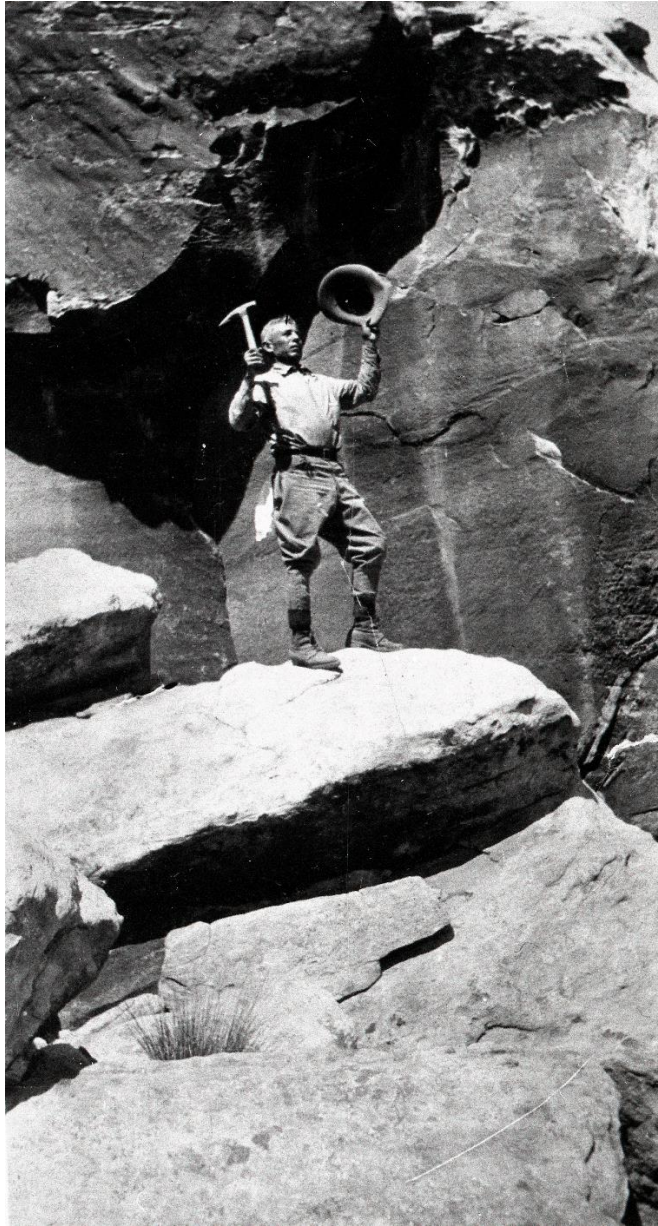
Prelude: Movement to Preserve the Arches, 1922–1929

For many years, newspaper and magazine articles promoted Dr. J. W. “Doc” Williams (1853–1956) and Moab’s *Times-Independent* newspaper editor Loren L. “Bish” Taylor (1892–1972) as the “Fathers of Arches.”¹ In *Arches National Park: An Illustrated Guide*, John F. Hoffman examined in depth the issue of credit for the “discovery” and promotion of Arches as a national monument, concluding that prospector Alex Ringhoffer was the actual “Father of Arches” (Figure 2-1).² The *Times-Independent* newspaper of Moab had already come to the same conclusion in 1955, giving due credit to Dr. Williams for helping to enlarge, not found, the monument.³ Hoffman’s analysis was very thorough, but the idea of “fathering” a national monument now seems sexist and outdated. But, a surprising number of people were exploring southeastern Utah in the 1920s, and several of them added their voices to the call for greater protection for Arches. Photographs by these advocates, especially those of George L. Beam and Frank R. Oastler, vividly portrayed the beauty and significance of the landscape, helping to build the political capital for a Presidential Proclamation, and establishing a perpetual dialectic between photography and visitation. The story of how Arches came into the national park system has been revisited for three reasons: it is the logical point at which to begin the administrative history of Arches as a national park unit; it establishes many of the issues important to NPS management of Arches such as photography, mineral prospecting, and boundary problems; and it facilitates further exploration of some details of the relationships and interactions among the people seeking to have the landscape proclaimed as Arches National Monument.

Some of the issues raised in the proposal of a national monument remain relevant to the interactions of the National Park Service and Utah today, in the aftermath of the Bears Ears National Monument proclamation in 2016. Likewise, the idea of “discovering” places for which there is abundant evidence of Native American occupation is also a relic of Eurocentric approaches to history and claims to property. As Hoffman describes, Arches has been visited since Paleoindian times by Native People.⁴ However, these visits did not lead to the creation of a unit of the National Park Service, nor did exploring parties of the historic period.⁵ More recent visits and even settlement (Wolfe Ranch) are part of the historic record and did, in the case of Ringhoffer, lead directly to the creation of Arches National Monument. Although Landscape Arch had been described in an 1898 article in *Science*, and a photograph of Delicate Arch was published in a Latter Day Saints (LDS) magazine in 1909, most of the visitors to this landscape prior to 1923 were inspired to graze livestock or stake mineral claims, not seek National Park Service protection.⁶

Prospectors and the 1872 Mining Law

An act to promote the Development of the Mining Resources of the United States was signed into law by President Ulysses S. Grant on May 10, 1872.⁷ Known more commonly as the General Mining Act of 1872, the law was not an attempt by Congress to encourage prospecting and mining on public lands (as it is currently viewed by many environmental groups),⁸ but rather was an act to control and regulate the mining activity that was already taking place.⁹ Mining of lands in the West had been happening since Spaniards established a major copper mine at Santa Rita, New Mexico, in the seventeenth century. The Spanish had developed a legal system for regulating mineral resources that was in use throughout New Spain. When the United States acquired Texas, New Mexico Territory, and California Alto in the Mexican



2-1. Alex Ringhoffer, date unknown. Arches National Park Black-and-White Photographic Collection, ARCH 3322.000321, SEUG Archives. (Photographer unknown).

War, Americans began to prospect for minerals in these territories. When gold was discovered at Sutter's Mill, California, in 1849, the governments of California and the United States lacked the legislative frameworks to regulate, tax, or adjudicate disputes involving miners or their camps. During this period of uncertainty, miners organized themselves by mining districts, establishing rules for discovery of minerals, claims and claim marking, and ore recovery that derived from the mining laws of the Spanish colonial period. This system was spread from camp to camp, district to district, and strike to strike throughout the western territories and states. As almost all of the land in the western territories

was owned by the federal government (or was land for which ownership had yet to be resolved), most of the prospecting and mining took place on public lands. Local and state governments supported this system, deriving revenue from sales taxes on goods sold to miners and on the mineral products of mines. Yet, the mining and prospecting was illegal under the existing federal laws. After the Civil War, some congressional delegates from eastern states came to view this situation as a significant problem. The miners were regarded as stealing public resources that could be used to pay the enormous debt accrued from the Civil War and Reconstruction. Some congressmen advocated for seizing mines on public lands and selling them at auction, or authorizing the federal government to work the mines to directly enrich the Treasury.¹⁰

Between 1865 and 1870, Congress enacted a series of mining laws, or public lands laws with appended mining laws, to forestall this possibility. The Chaffee amendment of 1866 and the “placer law” of 1870 were combined in 1872 as 30 U.S.C. §§22-42, the General Mining Act.¹¹ The law addressed both hard rock and placer lodes, expanded the scope of the law to include “other valuable minerals” in addition to gold, silver, cinnabar and copper, granted miners the right to follow mineral veins (“extralateral rights”), and fixed the size and price of patented lode claims. Additionally, this act provided rights-of-way across public lands for roads to facilitate the extraction and processing of mineral strikes. Since 1872, the government has been paid \$2.50 to \$5.00 per acre for patented mineral claims on federal land, and is not paid royalties on the extracted minerals. The lack of compensation to the federal government and the absence of any requirements for environmental protection or reclamation of mine sites remain points of controversy to the present day, despite numerous amendments to the basic law, and the passage of other environmental and land management laws that supersede portions of the 1872 act (such as the Federal Land Policy and Management Act of 1976 that rescinded the road right-of-way portion, as discussed in Chapter 4). At its heart, the 1872 law gives any United States citizen over the age of 18 years the right to locate and claim deposits of valuable minerals on federal lands that are open to mineral exploration, which are all lands that have not been withdrawn from mineral entry for some other purpose, such as lands set aside for national parks, monuments, and Wilderness areas. Furthermore, the Mineral Leasing Act of 1920 excluded certain non-metal minerals such as oil, gas, and petroleum, from claiming under the 1872 law.¹² Prospecting for minerals has swept across the West in waves, driven by peaks in commodity market prices responding to new technologies or the material needs of wars. Copper achieved new value during the early decades of the twentieth century through rapid industrialization and the spread of the electrical grid and telephone networks, and the onset of World War I, instigating a fresh round of prospecting.

From 1917 to 1941, Alexander Ringhoffer (1869 or 1870 to 1941) prospected for copper and silver ore around Moab.¹³ Alex, as he was known, was a native of Hungary who had originally settled in southern Texas when he immigrated to the United States.¹⁴ According to the recollections of his son, Arpod Ringhoffer (sometimes referred to as Arpad, 1897–1973),¹⁵ Alex Ringhoffer was joined in his prospecting in 1922 by his sons, including Arpod and “a couple or three” brothers. Ringhoffer and his family filed at least 129 claims in southeastern Utah between May 27, 1922 and August 2, 1930.¹⁶ These include two claims for “Devils Pocket” in 1922, and numerous claims that reference the family’s previous association with southern Texas: “Texas,” “Texas Ranger,” “San Angelo,” “San Saba,” “San Antonio,” and “Texas Rider.” Alex filed most of the claims, 96 in all, although Evalon Ringhoffer is listed on eight claims and Mrs. Alexander Ringhoffer took the lead on thirteen. F. D. Lewis claimed “Ringhoffer 1-12” on June 25, 1924, following Alex Ringhoffer’s claims of “Lewis 1-13” and “Ringhoffer 1-12” (among others) on March

14, 1923. The nature of the association between Lewis and Ringhoffer is undocumented. According to the oral record of Arpod the Ringhoffers lived in Thompson at the beginning of the prospecting, with various sons and a daughter joining, then leaving Alex for varying lengths of time. At the time of his death in 1941, Alex Ringhoffer was living in a cabin in Salt Valley (according to Arpod) or at Thompson.¹⁷

“The Devil’s Garden”

Alex and Arpod Ringhoffer were the first documented Euroamerican visitors to some of the formations of Arches, although there are differing accounts as to why and when. According to a letter dated February 2, 1977, the Ringhoffers were prospecting on December 24, 1922, when they stumbled into the area that Alex named “The Devil’s Garden.”¹⁸ They returned with additional family members the next day (Christmas) to further explore the area. This account was disputed by Arpod Ringhoffer, who stated in 1970 that it was during a deer hunting trip that took place in 1922 or 1923 that Arpod and an unnamed brother first observed part of the monumental landscape of Arches. They returned with Alex, who named the area “The Devil’s Garden.”¹⁹ The Ringhoffers are also reported to have made two additional explorations of “Devil’s Garden” after Christmas, including “once with an engineer from Los Angeles who was doing some surveying in the vicinity.”²⁰ Hoffman provides an account of the discovery in his history of early exploration in Arches, and notes that the area named “The Devil’s Garden” by Ringhoffer is not the area currently known as Devils Garden.²¹ It was the Klondike Bluffs, Marching Men, and Tower Arch formations that the Ringhoffers first viewed.²²

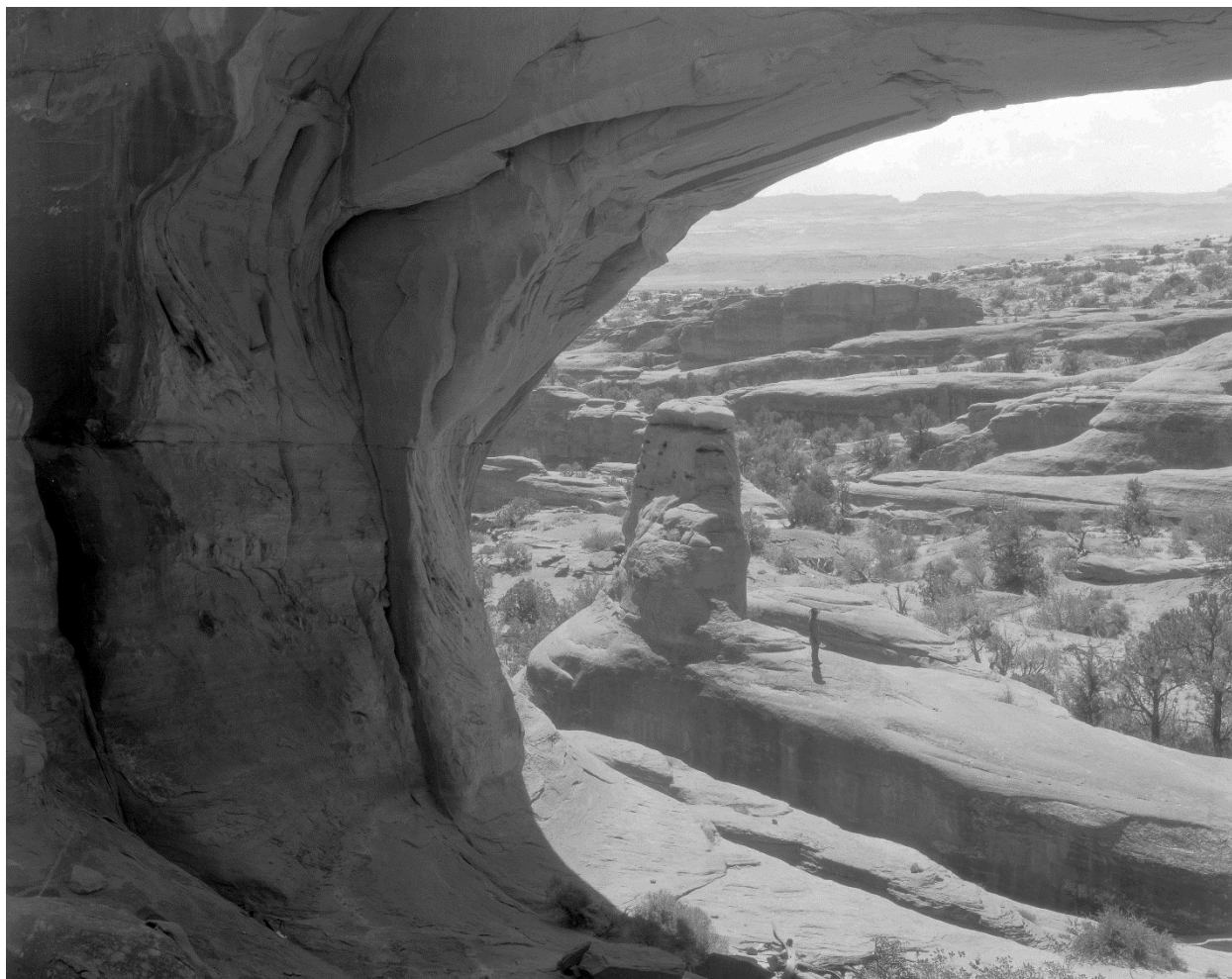
Hoffman attributes the name “Klondike Bluffs” to its cold winter weather, a premise related to Hoffman by Samuel J. Taylor (1933–2010), editor and publisher of *The Times-Independent* newspaper in Moab,²³ and son of “Bish” Taylor.²⁴ Hoffman equated the conditions of this part of Arches to the Klondike region of Canada, in the Yukon Territory, but it is more likely the association with a potentially rich strike, rather than weather, for which Klondike Bluffs was named. The Alaska Gold Rush (also known as the Klondike Gold Rush) of 1896–1899 would have been fresh on the minds of any prospectors of the era, including Alex Ringhoffer; one of his claims (July 31, 1922) was named “Clondike Unorganized.”²⁵ Klondyke, Arizona, located in the southeastern part of that state in the hot Sonoran desert, was settled in 1900 by miners who had actually participated in the Alaska Gold Rush.²⁶ Archival sources do not indicate in what year the area was first called Klondike Bluffs, or by whom, but it was clearly after the name Devils Garden had moved in 1925 to the landscape feature that now bears that name. Given that Alex Ringhoffer had already named the area “The Devil’s Garden,” the 1925 release of Charlie Chaplin’s movie *The Gold Rush*, which was set in the Klondike, is another and more likely inspiration for the name.²⁷ As Hoffman correctly points out throughout his Arches guidebook, an important facet of the story of Arches is the issue of place names, many of which have changed through the years, including Devils Garden.²⁸ Marching Men is also a later sobriquet, replacing “The Fingers,” another short-lived place name for which no record remains of its namer.²⁹

On the base of Tower Arch is carved this inscription: DISCOV-D. / BY M. AND / MRS. / ALEX RINGHOFER / AND SONS / 1922-3 (Figure 2-2).³⁰ Although the date of the inscription is the interval during which the Ringhoffers first explored the area, Hoffman questions the authenticity of this carving in his lengthy analysis of the naming of Tower Arch by Beckwith in 1934.³¹ Based on the apparent misspelling of Ringhoffer’s name, the presence of another inscription by Hugh S. Bell from 1927, and various circumstantial lines of evidence, Hoffman suggests, but does not conclusively state, that the “Ringhoefer” inscription was a later addition, and that it was not inscribed by Alex Ringhoffer in 1922 or



2-2. Ringhoffer inscription, January 2017. High dynamic monochrome digital image. (Photo credit: David E. Purcell).

1923. The inscription is not visible in a photograph of Tower Arch taken by George L. Beam during the visit to the area by Wadleigh and Beam in September 1923, although the lighting conditions could have obscured it, if it was present (Figure 2-3). Bell visited Tower Arch in 1927 and took large format photographs of landscape features in the Arches area, including Double Arch, Tower Arch, and Double O Arch (originally Double-O Arch,³² the National Park Service now spells it without a hyphen). Bell named the feature now known as Tower Arch “Minaret Bridge” as demonstrated by his inscription at its base: MINARET BRIDGE / H. S. BELL / 1927 (Figure 2-4).³³ Bell also added inscriptions to Double Arch (which he called “Twinbow Bridge”) and Double O Arch. In 1985 Bell stated in an interview that the “Ringhoefer” inscription did not exist at the time that he visited Tower Arch. Hoffman does not identify who might have carved the “Ringhoefer” inscription, but does suggest that it was done after Frank Oastler’s visit in 1925 and Bell’s in 1927, and before Frank Beckwith observed it in 1934.³⁴ Hoffman also dismisses the idea that the “Ringhoefer” or Bell inscriptions were later altered by the National Park Service, an idea that had been suggested by arch hunter Robert Vreeland.³⁵



2-3. View from within Tower Arch, with no “Ringhoefer” inscription visible, 1923. James Ozment collection of George Beam photographs, “Arches Nat’l Mon. – Utah,” GB-5731, Denver Public Library. (Photo credit: George L. Beam). © Denver Public Library. Used with permission.

Alex Ringhoffer and Frank A. Wadleigh

The effect of the discovery of “The Devil’s Garden” on Alex Ringhoffer was so profound that in July 1923 he wrote a letter about the find to Frank A. Wadleigh (1857–1933³⁶), passenger traffic manager at the Denver and Rio Grande Western Railroad System (D&RGW; Figure 2-5).³⁷ This letter has not yet been located in any archive,³⁸ but is referenced in Wadleigh’s letter to Stephen Mather, as described below. Ringhoffer apparently believed that the D&RGW would be interested in developing “The Devil’s Garden” as a tourist center, and that “the tourists could come in and look it over and come in on the D&RGW.”³⁹ Whether out of curiosity, or more likely, intrigued by the real potential of a major new tourist destination, Wadleigh and D&RGW photographer George L. Beam (1868–1935) traveled from Denver to Thompson, Utah, in September 1923, where they were met by Alex Ringhoffer, who drove them in his automobile approximately 18 miles southeast (Figure 2-6).⁴⁰ The party, which also included Arpod Ringhoffer, Henry Ringhoffer (son), and Lonnie Gray (Alex’s son-in-law),⁴¹ then hiked 2–3 miles, involving “heavy climbing,” to “The Devil’s Garden” (Figures 2-7 and 2-8), as described by Wadleigh:

There are no trails and there is no way to get into this “garden” except over the rocky ridge referred to. Arriving, we found some stupendous sandstone formations of very remarkable shapes and unlike anything I have ever seen in the Rocky Mountain region. The monoliths are greater than those in the Garden of the Gods, the Colorado National Monument near Grand Junction, or in any of the southern Utah regions that I have visited—excepting Zion.

We found what undoubtedly is the fifth in size of the known natural bridges. We had but two days at our disposal and could only cover a small part of the district in that time, but Beam managed to make forty or fifty exposures, and his pictures will convey some idea of the freakishness of the region.⁴²



2-4. 1927 inscription by Hugh Bell beneath the northern end of Tower Arch (as it is now known), January 2017. High dynamic monochrome digital image. (Photo credit: David E. Purcell).



2-5. From left to right: Frank A. Wadleigh, Denver and Rio Grande Passenger Traffic Manager; A. R. Stevens, Secretary; Mrs. Gertrude Wild; Fred Wild, Vice President of Traffic, ca 1924. "D&RGW business car A-1 at Salt Lake City Union Depot, Utah," GB-8193, Denver Public Library. (Photo credit: George L. Beam). © Denver Public Library. Used with permission.



2-6. A view of the La Sal Mountains on the road to Alexander Ringhoffer's Devil's Garden, 1923. This image may have been staged by Beam at the end of their 2 days of exploration. The images of Tower Arch and the vicinity were clearly taken around noon, and the view above is late afternoon to early evening. "Devil's Garden section of Arches Nat'l Monument," GB-8376, Denver Public Library. (Photo credit: George L. Beam). © Denver Public Library. Used with permission.



2-7. The Devil's Garden exploration party at the San Rafael River bridge in Emery County, Utah (the two unidentified men with the wagon are not part of the group). "Five man party involved in early exploration of Devils Garden section of ultimate Arches National Park northeast of Moab, Utah," GB-8372, Denver Public Library. (Photo credit: George L. Beam). © Denver Public Library. Used with permission.



2-8. Detail of the Devil's Garden exploration party. From left to right "Alexander Ringhoffer, discoverer of Devils garden [sic], and party leader, Arpad Ringhoffer, son, Frank A. Wadleigh, pass. traffic mgr, D&RGWRR, Lonnie Gray, Ringhoffer son-in-law, Henry Ringhoffer, son, driving car," GB-8372, Denver Public Library. (Photo credit: George L. Beam). © Denver Public Library. Used with permission.

The natural bridge observed by Wadleigh and the others is now known as Tower Arch, the same feature at which the "Ringhoefer" inscription is located (Figure 2-9). Wadleigh's familiarity with other significant landscapes of the region suggests that he was aware of the sort of places that might still be undiscovered, and the sort of attention that they could attract from tourists. Garden of the Gods has been a major destination since the 1870s, and would have been well known to anyone living in Denver in the 1920s.⁴³ Furthermore, nearby Colorado Springs was founded by General William Jackson Palmer, the president and founder of the Denver and Rio Grande Railroad. Frank A. Wadleigh worked in the railroad business for 45 years,⁴⁴ during which he actively promoted both the settlement of railroad lands and the growth of passenger traffic.⁴⁵ Wadleigh was born November 15, 1857, in Clinton, Iowa, and began his railroad career as a ticket seller in Clinton with the Chicago & Northwestern Railroad.⁴⁶ He moved to Pueblo, Colorado in 1882 and joined the Denver & Rio Grande, working in the ticket office. He was promoted in 1887 to chief clerk of the general passenger office in Denver, then promoted again in 1889 to assistant general passenger and ticket agent. In 1895, Wadleigh became the general passenger agent of the Rio Grande Western Railroad, relocating his office to Salt Lake City in the same year. Wadleigh quickly moved up in railroading circles, with many newspapers commenting that he was outgoing, well-liked, and a hard worker.⁴⁷ In 1900, Wadleigh married Mrs. Harriet L. Keller in New York City, where he moved to become the commissioner of the immigrant bureau of the Western Passenger Association.⁴⁸ He returned to Denver to resume his job as assistant general passenger agent in 1904 upon the resignation of T. E. Swann.⁴⁹ In 1910, Wadleigh moved his offices to San Francisco after being promoted to general passenger agent for the Western Pacific Railroad.⁵⁰ By 1913, he was the general passenger agent of the Denver & Rio Grande railroad, possibly through mergers, and was making big plans to improve rail traffic in Utah.⁵¹ During the late 1890s and early decades of the twentieth century, the Passenger Department of the D&RGW periodically published "Tourists' hand-book" guides to Colorado, New Mexico, and Utah as a means of promoting ticket sales and development of railroad lands.⁵² As passenger traffic manager, Wadleigh was directly involved in the production of these books.



2-9. Tower Arch, 1923. James Ozment collection of George Beam photographs, "Sandstone spires," GB-5744, Denver Public Library. (Photo credit: George L. Beam). © Denver Public Library. Used with permission.

Wadleigh's next step regarding "The Devil's Garden" was to write to Stephen T. Mather (1867–1930), founding director of the National Park Service,⁵³ urging him to "have the section surveyed with the view of setting it apart as a National Monument." But, Wadleigh was clearly aware of the sorts of issues that could impede such a withdrawal of federal lands:

*This man Ringhoffer has a mine prospect about four miles from the "Devil's Garden," and he is of the opinion that there are ore deposits in that section, although not in the "garden." With the exception of this one prospect, there is nothing in the region. Some cattle and sheep range there during the winter, but there are no settlers thereabouts and no one could possibly be injured, as I see it, by making a National Monument out of the region.*⁵⁴

Wadleigh added a postscript that clarified the specific source of his concerns: "It is possible that there are mineral locations on some portions of this tract, but I have no definite knowledge as to this."⁵⁵ Beam's photographs accompanied the letter. (Copies of most or all of these were discovered during the research for this document in the James L. Ozment Collection of George Beam Photographs at the

Denver Public Library.)⁵⁶ The letter was filed as the first correspondence relating to Arches National Monument in the National Archives, but not in the records of Arches National Monument itself. Arches staff actively sought a copy of this letter to display at the park's 50th anniversary in 1979; they contacted the Moab Lions Club, the D&RGW (which responded that they had no record of Wadleigh's employment!),⁵⁷ as well as the director and associate director of the Preservation of Historic Properties Division of the National Park Service.⁵⁸ The letter was finally located by National Park Service Chief Historian Harry W. Pfanz, and was sent to Arches National Park on July 27, 1977.⁵⁹ Pfanz notes in his cover letter that Wadleigh's letter documents Ringhoffer as the discoverer of Arches. Wadleigh relates the story of Ringhoffer and other family members first seeing "Devil's Garden" on Christmas Eve, 1922, substantiating this account. Pfanz also notes that other documents credit Wadleigh with having brought "Devil's Garden" to the attention of the National Park Service and Department of the Interior (Wadleigh's letter to Mather shortened "The Devil's Garden" to "Devil's Garden").⁶⁰ Although Hoffman briefly evaluates Wadleigh as a possible "Father of Arches" for his promotion of the idea of a national monument, he assigns this title to Ringhoffer for his discovery of Klondike Bluffs.⁶¹ Hoffman obtained copies of the complete National Archive holdings for Arches National Park during the research for his book, and subsequently donated a copy of the collection to the SEUG Archives.⁶²

Knowing the Right People – Stephen T. Mather

Frank A. Wadleigh probably first met Stephen T. Mather during a 2-week tour of southern Utah and northern Arizona that was designed to promote Mather's vision of a highway linking the major parks of the West—the Golden Circle.⁶³ Mather arranged for a Yellowstone National Park touring car to be delivered to Marysville, Utah, which was used to visit Bryce Canyon, Zion, and the north rim of Grand Canyon. The tour started in Salt Lake City, where a special railroad car carried the group to Marysville on the Denver & Rio Grande. Mather was accompanied from Washington by "prominent men," including Emerson Hough, editor of the *Saturday Evening Post*, and naturalists Thomas Thorkildsen and Edmund Heller.⁶⁴ They were met in Salt Lake City by Wadleigh, George Beam, and I. H. Luke, the general superintendent of the railroad. Chief Ranger O. J. Smith of the Kaibab National Forest joined the group for their tour when they arrived at the Arizona Strip.⁶⁵ At the conclusion of the trip, the group met with local good roads advocates and tourism boosters on the lawn of the Reeve Hotel in Hurricane, Utah. Mather, Hough, Wadleigh, Smith, and some of the local leaders spoke to the people. Mather endorsed road improvements, and wrote a personal check for \$250 towards the upgrade of the road from Hurricane to Fredonia so that tourists could drive a loop that included Grand Canyon, Cedar Breaks, Bryce Canyon, and Zion. Hough reaffirmed Mather's remarks, then Wadleigh spoke:

Mr. Wadleigh said that this was his first visit to this part of Utah's scenic wonderland⁶⁶ and he was deeply impressed with the wonderful beauty of it all. He predicted an immense tourist travel to those wonderful scenic points and said that his railroad would work with the Union Pacific to bring this travel. He said there had been some talk about railroad extensions toward these points but advised the people not to place too much reliance on this as he did not believe there would soon be any railroad extension. "Auto travel will bring the main part of the tourist travel to you and to get this travel you must have good roads. It means a great deal to you people and you cannot afford to miss it. You must set to work and improve the road so that passengers may travel over it in comfort or they will not go over it at all." Strong applause greeted Mr. Wadleigh's remarks. [Quotation marks added for clarity.]⁶⁷

The Frank A. Wadleigh Collection at History Colorado contains a detailed map of southwestern Utah that depicts Mather's circle route of roads and the nearest railroad stations, an indication that the D&RGW was seriously interested in the promotion of tourism to national park system units.⁶⁸ Wadleigh's appeal directly to Mather regarding Ringhoffer's discovery therefore makes sense in light of this tour. Mather cooperated with major railroads as a means of increasing visitation to remote NPS units,⁶⁹ and, as noted above, railroads were eager to increase ticket sales. Wadleigh probably also traveled in the same well-heeled circles as Mather, perhaps in Chicago, where Mather lived from 1894–1917 and Wadleigh sometimes traveled on business.⁷⁰ Wadleigh also knew other officials of the National Park Service: "I learn from Mr. Nusbaum that you are expected in Denver the latter part of next week. Unfortunately, I am obliged to leave for Chicago on Sunday, and it is possible that I will not be able to get back to Denver before Saturday or Sunday, and I am fearful that by that time you will have departed. I wanted to take up with you personally the matter of making a National Monument out of a new beauty spot recently brought to my attention and explored by Mr. Beam and myself in September."⁷¹ Mr. Nusbaum was undoubtedly National Park Service Archaeologist Jesse L. Nusbaum (1887–1975). In 1921, Mather and Assistant Director of the National Park Service Arno Cammerer (1883–1941)⁷² had selected Nusbaum to become the new superintendent of Mesa Verde National Park, a position he would hold until 1946.⁷³ Wadleigh may have known Nusbaum personally, although the finding guide to Nusbaum's papers do not list Wadleigh by name, and a review of 1921–1927 correspondence files in this collection did not locate any documents from or relating to Wadleigh or Ringhoffer.⁷⁴

Despite his concerns regarding schedule, Wadleigh was able to meet Mather in Denver and deliver his letter personally as he had intended. Pfanz notes that Mather was so enthusiastic that he had Wadleigh write to Acting Director Arthur E. Demaray (1887–1958) on November 11, 1923:

*Mr. Mather, who is now in Denver and to whom the enclosed letter [of November 2 from Wadleigh to Mather] was handed, has suggested that the communication and the "Devil's Garden" photographs referred to therein be forwarded to you in advance of his arrival in Washington.... He is very favorable to my suggestion that this tract be made a National Monument and thought that you might take preliminary steps toward having a survey made.*⁷⁵

Mather followed through on November 22, 1923, with a letter to William Spry, Commissioner of the General Land Office (GLO), requesting a survey of Township 23 South, Ranges 22 and 23 West.⁷⁶ Mather copied Wadleigh on this letter, with a cover letter by Demaray. All of the parties agreed through these communications to restrict access to the photographs of the proposed monument until after the GLO had completed its survey and assessed the area for its potential inclusion in the national park system. Spry soon directed his Utah field staff to begin the survey, and Wadleigh was again advised on the progress. By July 9 of the following year, no report had been made on the progress of the survey, instigating Wadleigh to write to Cammerer, seeking a status report. On August 21, 1924, Wadleigh wrote to Mather in response to an article of July 17 in *The Times-Independent* of Moab. The article was titled "Government Engineer Here to Make Examination and to Locate Feasible Road Site: Proposed Park Situated Ten Miles Due North of Moab," and it included six photographs from an area identified as "The Windows":

The unique scenic attractions in the section known locally as "The Windows," situated some ten miles north of Moab, will probably be set aside by the department of the interior [sic] as a national monument, as the result of a movement by the Denver & Rio Grande railroad. On the request of the railroad, the

*interior department [sic] has sent T. W. McKinley, of the field corps of the general land office [sic], to Moab to examine "The Windows" section and submit a report with his recommendations concerning the plan to designate the locality as a national monument.*⁷⁷

Wadleigh read the article, and recognized that the General Land Office had surveyed a landscape other than "Devil's Garden," which was located 37 miles by road from Moab, not the 10 miles identified in the article. Wadleigh wrote to Mather, expressing his concerns on this point: "It has occurred to me that some mistake may have been made after leaving Thompson, especially as there is no one living in the immediate vicinity of the "Devil's Garden" and so far as I know very few people at either Thompson or Moab know of its existence."⁷⁸

Hoffman provides a wonderful narrative of what transpired next, a true comedy of errors regarding the survey.⁷⁹ McKinley had been unable to find anyone in Thompson or Salt Valley who knew of a "Devil's Garden," as Wadleigh had surmised, so he traveled to Moab where Heber Christensen guided him to "The Windows." Wadleigh and Beam reviewed the survey report, when it was finally available, and concluded that the area examined by McKinley was indeed not "Devil's Garden." The National Park Service then delegated the General Land Office to conduct a second survey, undertaken by F. J. Safley, June 11–14, 1925. Wadleigh had requested that he or Beam be present to guide Safley to the Devil's Garden, but evidently this did not take place.⁸⁰ Safley investigated an area of sandstone fins and arches that he believed to be "Devil's Garden," located on the eastern side of Salt Valley. This location was also not the area named by Ringhoffer and visited by Wadleigh and Beam, but has been known by that name ever since. Safley recommended that this area, like "The Windows," was eligible for designation as a national monument. Mather came to the conclusion that both areas should be designated as a single monument.

Unaware of the existence of either "Devil's Garden" location, Southwestern Monuments Superintendent Frank Pinkley (1881–1940) visited "The Windows" while traveling between southwestern Colorado and Pipe Spring National Monument in northwestern Arizona.⁸¹ During his visit, Pinkley took photographs, and noted that the formations are arches, not natural bridges, referring to the area by the local name of "The Castle Windows," although Pinkley did not care for that name. In his letter to Stephen Mather on July 24, 1925, he urged him to designate "The Arches National Monument," the first use of this name. But the political tide had turned against further expansion of the Park Service, with Secretary of the Interior Hubert Work (1860–1942) having placed a moratorium on any additional monuments while he investigated the possibility of transferring all of the national monuments and some existing park units to the states as state parks.

Pfanz noted that this reversal in political fortune did not deter Mather: "Among other things, it illustrates Mather's typical method of operation when faced with internal obstacles and the power of the bureaucracy to ultimately triumph over whoever happens to be Secretary of the Interior at a particular period."⁸² During the second GLO survey, Dr. Frank Richard Oastler (1871–1936) of New York City visited the Moab area and was guided through the first "The Devil's Garden" by Alex Ringhoffer.⁸³ Although Oastler met the GLO survey crew, the two parties apparently did not realize that the name "Devil's Garden" was being applied to ridges on opposite sides of Salt Valley. Oastler took photographs of the original "The Devil's Garden" area⁸⁴ and contacted Mather, urging him to make the area a national monument.⁸⁵ Mather worked with Oastler and John H. McNeely to develop an illustrated article for the May 9, 1926, issue of the *New York Times Magazine* to promote the creation of a national

monument that would incorporate “The Windows” and “Devil’s Garden” areas.⁸⁶ Two views of Tower Arch and one image of some of the Marching Men were depicted. Alexander Ringhoffer is given credit in the article as discoverer of both landscapes, which Oastler describes in florid detail in the form of a travelogue. No mention is made of the earlier expedition of Wadleigh. Mather was “interviewed” for the article, in which he was quoted as follows: “The national park system contains many marvelous prodigies, yet none of them exceeds in interest the extraordinary specimens of natural sculpture and architecture found in these two small areas in Utah.”⁸⁷ The article was published less than 2 weeks after Secretary Work had overturned a draft executive order to create Arches, but following its publication, Work agreed to reserve no more than 80 acres around each of the areas of interest. Pfanz put it this way:

*The [National Park] Service recognized that this compromise was unworkable and made no effort to expedite the necessary survey while Work and Roy West, the following Interior Secretary under President Coolidge, remained in office. But the month after Herbert Hoover became President, the new Secretary, Ray Lyman Wilbur, sent up for the President’s signature an executive order reserving 4520 acres.*⁸⁸

The significance of Wadleigh’s role in the creation of Arches National Monument is evidenced by the eight letters—of the 77 letters and reports that constitute the original Arches collection at the National Archives—which are correspondence from the National Park Service to Frank Wadleigh.⁸⁹ Although some of these are direct responses to letters from Wadleigh, others are of an informative nature, keeping him apprised of the current status of the effort to create a new national monument. Although Frank Oastler and George Beam were also provided updates on the monument, that correspondence took place after Arches National Monument was proclaimed, and in direct response to letters of inquiry that they had sent to the National Park Service.

The “Window Castles” and Other Advocates for a National Monument

Alex Ringhoffer also remained interested in the ultimate disposition of “The Devil’s Garden.” In 1925, Ringhoffer apparently wrote again to Wadleigh on January 13, a point referenced by Wadleigh in his response to Ringhoffer of January 29:⁹⁰ “I have no doubt that the Devil’s Garden looks very attractive in its winter garb. I certainly would like very much to go there again and have more time to spend exploring the region.” Wadleigh notes that he will be glad to continue promoting the area, and that Ringhoffer should feel free to refer interested parties to contact him. Apparently the letter from Ringhoffer, a copy of which has not been located, was largely instigated by the discovery of another area of fantastic scenery, which Ringhoffer called the “Window Castles.” In his reply to Wadleigh, Ringhoffer describes these formations:

In reference to the Window Castles, I beg to state that they are almost east, a little south of east, from where we have been, about 10 miles, with an extent of probably 10,000 of more acres. [sic] of various kinds of wonderful natural wonders besides the Castles. The main castle is an immense sand rock with doors and windows. It has to be determined if it was formed by nature or built by hand and age wore it to seemingly a natural ruin.

*I suspect that there are several closed-up caves which hold the mummies, as the earmarks show them to be such. I haven’t had time enough to explore that part to open up the caves, but I am sure there is a great surprise for us closed up there.*⁹¹

It is difficult to tell whether Ringhoffer is being facetious in suggesting that the castles are ruined buildings containing mummies or not.⁹² This is probably the formation now known as Cove of Caves, located in The Windows north of Double Arch. Regardless, Wadleigh forwarded a copy of this letter to Demaray on February 9, 1925, with a cover letter that reiterated his concern that the General Land Office had surveyed the wrong section of land, and not observed the “Devil’s Garden.”⁹³ Wadleigh quoted his own letter of November 24, 1924, in pointing out that the location of Ringhoffer’s “Window Castles” matches the location of the “Windows” inventoried by McKinley.

By strange coincidence, on the same date, February 9, 1925, Geologist L. M. Gould (1896–1995)⁹⁴ of the Department of Geology, University of Michigan, wrote a letter to Utah Senator Reed Smoot, Chairman, Committee on Finance, regarding “The Windows.”⁹⁵ Gould had conducted his dissertation research on the La Sal Mountains during 1924 to 1925. He noted that he had also recently visited Natural Bridges National Monument, and took a side trip to visit “what the people of Moab call ‘The Windows.’”⁹⁶ Gould made the following statement, presaging National Park Service interpretive literature:

*Whereas the bridges represent the grandest examples known illustrating a type of natural feature resulting from stream erosion,. [sic] “The Windows” show equally well the fantastic and bizarre effects produced only by the wind. I know of no place which is such a veritable museum showing the work of the wind as this little known locality. Here one may see most superb examples of caves, arches, chimneys, bridges and the like all carved from a massive red sandstone.*⁹⁷

Gould recommended that the “Windows” be made a national monument, and noted that he had taken a number of photographs during his explorations.⁹⁸ Smoot immediately forwarded this letter to Stephen Mather with the request that Mather “make an examination with a view of recommending, if you think proper, legislation making that part of the State a national monument.”⁹⁹ Mather replied to Smoot the next day with a synopsis of the efforts to make a national monument of the area, beginning with Wadleigh’s letter and concluding with the observation that two adjacent areas were being considered for inclusion in the monument, including the “Windows.” At the same time, Demaray wrote to Wadleigh acknowledging receipt of his letter of February 9, and acquiescing that “Devil’s Garden” and the “Windows” are separate areas, both of which would now be investigated for inclusion in a single national monument. He also mentioned Gould’s letter, and included a copy for Wadleigh’s use. Momentum to create a new national monument was clearly reaching critical mass in early 1925.

In addition to the efforts of Ringhoffer, Wadleigh, Oastler, Pinkley, and Gould to create a national monument, at least one other individual visited the area with the idea of promoting the landscape for tourism. Hugh S. Bell was a Presbyterian Sunday School teacher, reporter and photographer, and lecturer based in Willoughby, Ohio.¹⁰⁰ In 1927, he obtained financing from the *Cleveland Plain Dealer* newspaper for an expedition to the Southwest, which would be the genesis of illustrated articles about the region.¹⁰¹ According to Hoffman, Bell traveled to Mesa Verde National Park, where he met Jesse L. Nusbaum. Nusbaum showed Bell a letter that he had received describing a little-known landscape called “Devil’s Garden” near Moab, Utah. When Hoffman interviewed Bell, he recollected that Alex Ringhoffer had been the author of the letter.¹⁰² Whether this letter was a copy of the letter Ringhoffer sent to Wadleigh, was a copy of the letter Wadleigh sent to Mather, or was a different document altogether is unknown, but the fact that Nusbaum was aware of “The Devil’s Garden” provides additional circumstantial evidence that Nusbaum and Wadleigh were acquaintances. Bell drove to Moab from Mesa Verde and reportedly spent about a week hiking around the Arches area, documenting his finds with a large format (5 x 7 inch) camera; he was assisted by two young men from his Sunday School class,

who had accompanied him from Ohio. Bell published his color photographs of Double Arch and Double O Arch in *National Geographic Magazine* in 1936.¹⁰³ Bell did not advocate for the establishment of a national monument for this landscape, but as described in Chapter 8, the publication of his photographs in 1936 set off a veritable stampede of photographers to visit and photograph Arches, which had the corresponding and immediate effect of increasing visitation.

Prior to the creation of Arches National Monument, the residents of Moab had little to say on behalf of or against the proposal, due in no small part to the fact that all of the people involved in its creation were outsiders, including Alex Ringhoffer. Ringhoffer lived in Thompson, over 30 miles from Moab, at the time of his discovery of Klondike Bluffs. During the years in which the monument proposal was advancing in the National Park Service and Department of the Interior, Ringhoffer also lived in Sego, Utah, and Cedar Edge, Colorado. He was not a resident of Moab. All of the other advocates lived in other states, and the GLO surveyors worked out of Salt Lake City. The first GLO survey of Arches was guided by Moab resident Heber Christensen, who referred to the area as “The Windows.” Although the area was known to residents of Moab, including “Doc” Williams and “Bish” Taylor, none had contacted the National Park Service or congressional representatives seeking protection. The numerous applications for oil, gas, and potash leases across the area suggest that the mineral wealth of the area was initially a bigger draw for local residents than was the scenery.

The arrival of McKinley to conduct the first survey in 1924 was, therefore, front page news in *The Times-Independent* newspaper, which included six photographs from “The Windows.” In response, John Bristol, a local resident and occasional journalist, wrote to Stephen Mather in March of 1925, seeking to obtain copies of photographs of “The Windows” that he could use to illustrate articles for eastern newspapers and for the *Salt Lake Tribune*, for which he was the local correspondent. “It seems to me that an article on “The Windows,” with a mention of the probability of the same being made into a National Monument would be of value to you and the tourists, as well as to this section of the state.”¹⁰⁴ In keeping with Mather’s original plan to circulate photographs of the potential monument only in select circles, Mather replied to Bristol that “all of the pictures we have of this area are those in connection with the reports about the area and must be retained for official references. For that reason I cannot furnish you with any.”¹⁰⁵ Mather did provide Bristol a synopsis of the plans to create a national monument, however, and noted that another survey of the area would be made when the weather improved. Although Mather acknowledged that two areas were under consideration, and might be included in a single monument, “the entire matter is so indefinite that the idea of its being made a national monument is still hazy.” Mather’s tone and equivocation about whether a national monument might happen or not seems intended to dissuade Bristol from further correspondence, if not further writing, on the subject. Given Mather’s problems with the Coolidge Administration, he probably feared stirring up interest and possible opposition at the state level in Utah.

The GLO surveys of July 1924 and June 1925 by McKinley and Safley were undertaken with two primary goals. First, to identify in a legal sense where the lands in question were located by reference to legal land subdivisions, maps, and land ownership, and second, to assess the presence and nature of existing uses. McKinley noted that the area he inventoried (“The Windows”) was known only to cattlemen and sheepmen, and he observed cattle in Salt Wash and three horses in what he thought was “Devil’s Garden” (actually “The Windows”). He was careful to note that the land contained no rights-of-way or reservoirs and was marginal grazing for livestock. Safley went further, noting that no habitations of occasional prospectors and ranchers, and no mineral claims were found but that numerous oil, gas, and

potassium (potash) applications were on file for the area under the names of 18 different people, all filed between 1920 and 1925.¹⁰⁶ Despite the existing applications, Safley recommended that the two areas of “Devil’s Garden” and “The Windows” be set aside for a national monument.

First Assistant Secretary of the Interior Edward C. Finney, however, was not convinced of either the scenic value of the areas proposed for withdrawal, or that the existing mineral applications were not a potential problem. Finney wrote to the Department of the Interior Solicitor March 31, 1926, seeking a review of the matter of the applications “on account of alleged natural curiosities”:

*While I am in sympathy with the preservation of natural curiosities, I do not like to see large areas of the public domain withdrawn so as to preclude development of their mineral and other natural resources necessary and useful.*¹⁰⁷

Mineral applications did prove to be problematic, particularly those for potash. In 1926, the Office of the Solicitor, Department of the Interior reviewed the proposed withdrawal, and suggested to Finney that “if the last paragraph of the proposed withdrawal were changed to read substantially as below set out, would it not permit development without interfering with the purpose of the withdrawal.”¹⁰⁸

That there shall be excepted from the force and effect of this withdrawal all prior existing or pending valid applications or filings which do not require the ultimate disposition of the title of the United States to the land or any part thereof, under any of the public land laws. Such claims may be perfected and completed in accordance with the terms, provisions, conditions and limitations of the laws under which initiated and consistent with the purposes hereof.

Mather reviewed Finney’s and Patterson’s comments and accepted the amendments on April 8, 1926.¹⁰⁹ The issue was therefore not so much resolved, as sidestepped, to be dealt with at a later date. During a supplemental survey of the proposed monument in 1928, Inspector A. D. Ryan observed active well-drilling on the prospecting permit of Charles M. Rath, adjoining the Devils Garden to the west.¹¹⁰ Mineral and petroleum deposits are a persistent theme throughout Arches history (see Chapter 4).

Presidential Proclamation of the 33rd National Monument

On April 10, 1929, Secretary of the Interior Ray Lyman Wilbur transmitted to the President of the United States, Herbert Hoover, the revised proclamation for Arches National Monument (Figure 2-10), which now withdrew 4,520 acres in two areas (mistakenly identified as 4,500 square miles, but corrected by “G. J. B” on April 18 in a marginal note).¹¹¹ Hoover signed the proclamation on April 12, which was described for the public in an official press release of April 22, 1929:

A new national monument, known as the Arches, in Grand County, Utah, has just been established by presidential proclamation upon recommendation of the Secretary of the Interior.

The new monument consists of two areas, known locally as the “Devil’s Garden” and the “Windows,” containing approximately 2,600 acres and 1,920 acres, respectively. Within these areas are extraordinary examples of wind erosion in the shape of gigantic arches, natural bridges, “windows,” spires, balanced rocks, and other unique wind-worn sandstone formations, the preservation of which is desirable because of their educational and scenic value.

*With this addition there are now 33 national monuments under the jurisdiction of the National Park Service of the Department of the Interior.*¹¹²

ARCHES NATIONAL MONUMENT
UTAH

By the President of the United States of America
A Proclamation

WHEREAS, there are located in unsurveyed townships twenty-three and twenty-four south, range twenty-one east, and twenty-four south, range twenty-two east of the Salt Lake meridian, in Grand County, Utah, two areas, known locally as the "Devil's Garden" and the "Windows," containing approximately 2,600 acres and 1,920 acres, respectively;

WHEREAS, these areas contain extraordinary examples of wind erosion in the shape of gigantic arches, natural bridges, "windows," spires, balanced rocks, and other unique wind-worn sandstone formations, the preservation of which is desirable because of their educational and scenic value; and

WHEREAS, it appears that the public interest would be promoted by reserving these features as a national monument, together with such land as may be needed for the protection thereof;

NOW, THEREFORE, I, HERBERT HOOVER, President of the United States of America, by virtue of the power in me vested by section two of the act of Congress entitled, "An Act for the Preservation of American Antiquities," approved June 8, 1906 (34 Stat. 225), do proclaim that there are hereby reserved from all forms of appropriation under the public land laws and set apart as a national monument all those pieces and parcels of land in Grand County, State of Utah, shown as the Arches National Monument upon the diagram hereto annexed and made a part hereof, subject to prior valid claims and pending applications for permits to prospect for potassium under the act of Congress approved October 2, 1917 (40 Stat. 297), provided that they do not involve the ultimate disposition of the title of the United States to any lands within the area hereby reserved.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy or remove any feature of this Monument and not to locate or settle upon any of the lands thereof.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this Monument as provided in the act of Congress entitled, "An Act to establish a National Park Service and for other purposes," approved August 25, 1916 (39 Stat. 535), and acts additional thereto or amendatory thereof.

~~In Witness Whereof~~ In Witness Whereof, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington this 12th day of April in the year of our Lord one thousand nine hundred and twenty-nine and of the
[SEAL] Independence of the United States of America the one hundred and fifty-third.

HERBERT HOOVER

By the President:
HENRY L. STIMSON
Secretary of State.

[No. 1875]

Because Mather and Demaray had been keeping their final efforts to create Arches National Monument quiet, the proclamation caught many of the monument's early advocates by surprise. In short order, Frank Oastler, Frank Pinkley, and George Beam contacted Mather or his assistants to express their surprise and excitement that their efforts to preserve the landscape of Arches had at last come to fruition. Oastler went further, however, and requested national monument status for "a Canyon that we named Arch Canyon, not far from the White Canyon Bridges in Southern Utah."¹¹³ Cammerer responded to Oastler May 14, 1929. In his letter, Cammerer identifies Ringhoffer and Wadleigh as the men who instigated the creation of Arches National Monument, and briefly describes the many GLO surveys and political obstacles that were finally overcome with the presidential proclamation of April 12, 1929. Cammerer also commented on the situation of Arch Canyon:

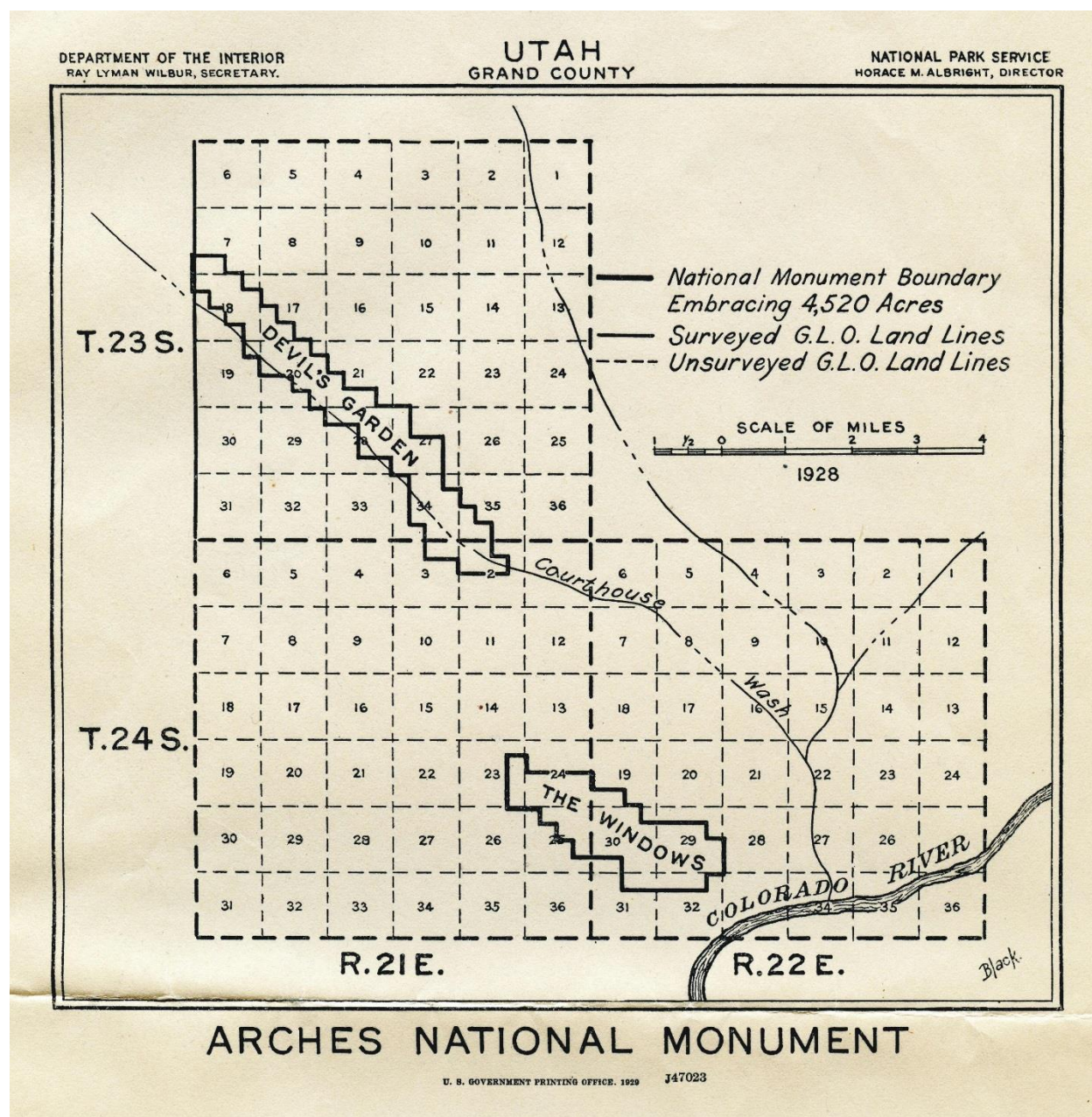
*Arch Canyon was first brought to the attention of the Service in 1923 when Mr. Demaray accompanied Congressmen Cramton and Anthony on a pack trip across Southern Utah. This party saw Arch Canyon and remarked on its beauty. Later on their return the location of the area was looked up and it was found to be within the La Sal National Forest. As the area if further withdrawn as a national monument would have been under the administration of the Forest Service, no further steps were taken by the Service. Arch Canyon still remains in the La Sal Forest.*¹¹⁴

It was thus that Arches National Monument began life with no road access beyond the two-track wagon road in Salt Valley, virtually no infrastructure (Wolfe Ranch, then known as "Turnbow Cabin" for the owner from 1916–1946, was the only habitation near the monument, as documented on the 1928 GLO survey map),¹¹⁵ and without either Delicate Arch or the "Devil's Garden" viewed by Ringhoffer, Wadleigh, and Beam included within the monument boundaries (Figure 2-11). Although "The Windows" had been visited by residents of Moab (and by Ringhoffer), the new "Devil's Garden" section had only been viewed in person by Oastler, Safley, and Gould.

Following the Proclamation of Arches National Monument, the documents and photographs so instrumental in its founding began a lengthy odyssey through various repositories. Following Pfanz's research in 1977, historian John F. Hoffman found most of the 1923–1929 correspondence that led to Arches' creation in the files of the National Archives,¹¹⁶ but Ringhoffer's first letter to Wadleigh¹¹⁷ and the George L. Beam photographs were not among the collection. In fact, Hoffman noted that Beam had taken photographs, but did not explore the central role that these images played in the creation of Arches National Monument. Hoffman used these documents to set straight the story of how Arches came to be, noting that Moab residents L. L. "Bish" Taylor and John W. "Doc" Williams were instrumental in the expansion of Arches in 1938, but not its creation, as had long been believed.¹¹⁸

The first Ringhoffer letter to Wadleigh has yet to be rediscovered. The Beam photographs have resurfaced to public view a few times in the decades since. The Southeast Utah Group (SEUG) instituted their Historic Photograph Project in 2002, searching local and regional museums and repositories for historic images of the group's parks for use in monitoring changes to vegetation.¹¹⁹ Beam's photographs were discovered and several images were used as baseline photos for repeat photography at Arches.¹²⁰ Two of Beam's images were incorporated into an exhibit on the creation of Arches that was installed in the new visitor center in 2005. During the course of preparing this administrative history of Arches National Park the entire surviving collection of Beam's images from 1923 was found at the Denver Public Library. In addition to his work with the railroad as photographer and Wadleigh's secretary, Beam was a well-known photographer in his day, and operated a private studio in Denver. His images are actively

collected. James L. Ozment made a collection of many Beam photographs, particularly those that depicted the railroad and its construction and operation. He lent his collection to the Denver Public Library, which scanned them, with permission. Research on Frank Wadleigh and his relationship with Stephen Mather led us to an image by Beam of Wadleigh's Victorian mansion in Denver—and the rest of the “lost” images. These photographs were instrumental in the successful creation of Arches National Monument but this link remained unrecognized and unacknowledged until the installation of the 2005 visitor center exhibition.



2-11. Arches National Monument original boundaries 1929, as depicted in Presidential Proclamation No. 1875 (note the confusion of Court House Wash with Salt Valley Wash). Arches National Park Administrative Collection, ARCH 101/006-010. SEUG Archives, NPS.

Notes

- ¹ Robert L. Morris, Superintendent's Monthly Narrative Report-1 M1 for August 1956, August 23, 1956. Arches National Park Records, ARCH 101/001-017, Southeast Utah Group (SEUG) Archives, National Park Service (NPS). Even the NPS believed that Taylor and Williams were responsible for the creation of Arches. Morris related the following Miscellaneous news in the Monthly Narrative Report: "On August 13 Dr. J. W. Williams, called The Father of the Arches died of a heart attack. He was 103 years of age. Dr. Williams was instrumental in starting the movement to create Arches National Monument and the proclamation was signed April 12, 1929 by President Hoover with his favorite fountain pen." Williams's pen was used by President Franklin D. Roosevelt to sign the Proclamation *expanding* Arches in 1938, and Williams and Taylor were actively consulted by the National Park Service during planning for Arches' development in the late 1930s and early 1940s. Charles A. Richey, Associate Landscape Architect, Field Report Plans and Design Division, Arches National Monument, November 5–8, 1939. 8NS-079-94-139, Folder 660.05, National Archives and Records Administration, Broomfield Colorado.
- ² John F. Hoffman, *Arches National Park: An Illustrated Guide*. (San Diego: Western Recreation Publications, 1985), pp. 62–68. In particular, Hoffman noted that an article by NPS Naturalist Natt N. Dodge in the April 1947 *Arizona Highways* magazine incorrectly credited Williams and Taylor with helping to create Arches.
- ³ "The Arches, Top Lure for Tourists, Are Bringing More Here Each Year," *The Times-Independent*, Moab, September 29, 1955. Arches National Park Administrative Collection, ARCH 101/005-066, Southeast Utah Group (SEUG) Archives, National Park Service (NPS).
- ⁴ Hoffman (1985), pp. 47–51.
- ⁵ Hoffman (1985), pp. 52–60.
- ⁶ Hoffman (1985), pp. 53, 77.
- ⁷ Wikipedia, General Mining Act of 1872. (Electronic document http://en.wikipedia.org/wiki/General_Mining_Act_of_1872, viewed January 29, 2015).
- ⁸ Robert M. Hughes and Carol Ann Woody, "A Mining Law Whose Time Has Passed," *The New York Times*, January 11, 2012. (Electronic document <http://www.nytimes.com/2012/01/12/opinion/a-mining-law-whose-time-has-passed.html?>, viewed January 29, 2015).
- ⁹ U.S. Department of the Interior, Bureau of Land Management, "Mining Laws." (Electronic document http://www.blm.gov/wo/st/en/info/regulations/mining_claims.print.html, viewed January 29, 2015).
- ¹⁰ Wikipedia, General Mining Act.
- ¹¹ Act of May 10, 1872 (Mining Law of 1872) [As Amended Through P.L. 103–66, Enacted August 10, 1993]. This title is not an official short title, but merely a popular name. The act has no official short title. The Mining Law of 1872 consists of the act of May 10, 1872 (R.S. § 2319 et seq.; 30 U.S.C. 22 et seq.).
- ¹² Mineral Leasing Act (Act of February 25, 1920) As Amended Through PL 113–67, Enacted December 26, 2013.
- ¹³ Maxine Newell, "Transcription of taped interview with Arpod Ringhoffer, son of the Alex Ringhoffer who is credited with naming Devils Garden in Arches National Park," May 14, 1970. ARCH 101/004-006, SEUG Archives.
- ¹⁴ Mozelle Gray Tonne, *From Ikevar to Devil's Garden: The Saga of Alexander Ringhoffer*. (San Angelo, Texas: Anchor Publishing, 1992).
- ¹⁵ Findagrave.com, Arpad Ringhoffer. (Electronic document <http://www.findagrave.com/cgi-bin/fg.cgi?page=gr&GRid=50514045>, viewed August 10, 2016).
- ¹⁶ Anonymous, "Early Day Mining Activity Alex Ringhoffer et al.," n.d. ARCH 101/004-006, SEUG Archives.
- ¹⁷ Hoffman (1985), p. 62.
- ¹⁸ Gerald W. Epperson, Acting Unit Manager, Arches National Park to Mr. James H. Knipmeyer, February 2, 1977. ARCH 101/004-006, SEUG Archives.
- ¹⁹ Newell, "Interview with Arpod Ringhoffer," p. 2.
- ²⁰ F. A. Wadleigh, Passenger Traffic Manager, Denver & Rio Grande Western Railway System, to Hon. Stephen T. Mather, Director, National Park Service, November 2, 1923. (Copy from The National Archives, Record No. 79, Central Files, Arches National Monument, General 1923-32). ARCH 101/004-006, SEUG Archives.
- ²¹ Hoffman (1985), pp. 62–63.
- ²² Sherma E. Bierhaus, Unit Manager, Arches National Park, to Mrs. Gilbert P. Tonne, April 20, 1983. ARCH 101/004-006, SEUG Archives.
- ²³ Hoffman (1985), p. 122.

²⁴ "Samuel J. Taylor (1933–2010)," Moab Times-Independent, November 16, 2010. (Electronic document http://www.moabtimes.com/pages/full_story/push?article=obituary--Samuel+J+Taylor-1933-2010, viewed August 10, 2016).

²⁵ Wikipedia, "Klondike Gold Rush." (Electronic document http://en.wikipedia.org/wiki/Klondike_Gold_Rush, viewed March 10, 2015).

²⁶ Philip Varney, *Arizona Ghost Towns and Mining Camps*. Arizona Highways Book. (Phoenix: Arizona Department of Transportation, 1994), p. 89.

²⁷ Wikipedia, "Klondike Gold Rush." Frank A. Wadleigh also had links to the Klondike Gold Rush. In 1897, Wadleigh was the general passenger agent for the Rio Grande Western Railroad, operating from San Francisco. He was interviewed in a short newspaper article about expected increases in rail traffic throughout the United States, in response to an estimated movement of 100,000 Klondike gold-rush prospectors in the summer of 1898 ("Travel to Klondike, Frank Wadleigh in San Francisco Studying the Situation," Salt Lake Herald, November 14, 1897, p. 5.)

²⁸ Hoffman (1985), pp. 74–82.

²⁹ Harry Reed, *Arches National Monument, Moab, Utah*, Report for February 1938, page 3. 8NS-079-94-139, NARA, Bloomfield, Colorado. In describing the Klondike Bluffs, Reed noted: "Outstanding among the attractions are the Tower Arch and the Fingers. Tower Arch is all that it's [sic] name implies. A lofty tower at the base of which is a beautiful arch of massive proportions. The Fingers are well named. They stand out boldly against the sky atop a narrow ridge of sandstone."

³⁰ Larry D. Reed, Unit Manager, Arches National Park, to Mr. William F. Linton, May 28, 1975. ARCH 101/004-006, SEUG Archives.

³¹ Hoffman (1985), pp. 77–81.

³² Hoffman (1985), p. 79.

³³ Hoffman (1985), pp. 78–79.

³⁴ Hoffman (1985), p. 78.

³⁵ Hoffman (1985), pp. 78–81. Interpretive staff discussed this idea in a Canyonlands Complex Staff Meeting in 1978. "In one of his books [not identified], Bob Vreeland accuses the NPS of modifying an historic inscription because employees didn't know the meaning of "Minaret" so chipped it off. An Arches employee investigated the arch and she found no evidence of the vandalism and also found the name on the rock was spelled "Ringhoffer" which was different from what had previously been recorded." Marjorie E. Foy, Canyonlands Complex Staff Meeting Minutes, November 8, 1978. Canyonlands National Park Administrative Collection, CANY 339/053, SEUG Archives. What is unclear from this discussion is whether the Ringhoffer inscription had been incorrectly described in the previous recording, or had been modified (from Ringhoffer to Ringhoefer) in the undescribed interval since first being recorded. The inscription is in block capital letters, so a change from 'F' to 'E' would be easy to accomplish. In its current, weathered condition, the entire inscription is difficult to discern (see Figure 2-2).

³⁶ "Veteran Railroader Dies," The Times-Independent, August 8, 1933, p. 1.

³⁷ A. E. Rinehart, "Denver and Rio Grande Department of Subordinates" (Photograph), Western History, Denver Public Library, Denver and Rio Grande Railroad Company – People-1890-1900, Call No. Z-11612. (Electronic document <http://digital.denverlibrary.org/cdm/singleitem/collection/p15330coll22/id/88676/rec/1>, viewed February 4, 2015).

³⁸ Frank A. Wadleigh Collection, Mss 652, Stephen H. Hart Library and Research Center, History Colorado, Denver. This collection contains abundant correspondence by and to Wadleigh, but only on the topic of oil shale; none of Wadleigh's correspondence regarding his job as passenger traffic manager at the Denver and Rio Grande Western Railroad, nor any of the correspondence regarding "The Devil's Garden" are part of this collection. Box 4, File Folder 38 "Utah Tourism" did contain a detailed map of Utah dated 1921 that was drafted for Wadleigh's use (his name appears at the bottom of the map, and on the reverse as "Map of State of Utah, Frank A. Wadleigh, March 1921"). "Map of the State of Utah issued by the Denver & Rio Grande R. R." identified the locations of all national parks and monuments in Utah, and all known oil fields, including Moab. The area that will become Arches National Monument is depicted as a dome, a type of formation likely to contain oil or gas. Wadleigh's trip to visit "The Devil's Garden" may have been motivated as much by the location's mineral potential as its tourist value.

³⁹ Newell, "Interview with Arpod Ringhoffer," p. 2.

⁴⁰ George L. Beam's images of the 1923 expedition also include two views of the steel-truss bridge over the Colorado River north of Moab (GB-8373 and 8374, James Ozment Collection of Photographs by George L. Beam, Denver Public Library), a view across the floodplain in the future location of the CCC camp and Atlas Minerals uranium mill (GB-8375), and a portrait of the expedition party on a bridge over the San Rafael River in Emery County, Utah, more than 35 miles from Thompson (GB-8372). Although visits to other areas in southeastern Utah are not mentioned in Wadleigh's letter to Steven T. Mather on November 2, 1923, the expedition clearly was broader in scope than just the visit to "The Devil's Garden."

⁴¹ George L. Beam, "Five man party involved in early exploration of Devils Garden section of ultimate Arches National Park northeast of Moab, Utah" (Photograph), September 1923, GB-8372, James Ozment Collection of George Beam Photographs, Arches National Park (Utah), 1920–1930 (most are dated September 1923), Western History, Denver Public Library. (Electronic document [http://digital.denverlibrary.org/cdm/search/searchterm/Arches%20National%20Park%20\(Utah\)--1920-1930/mode/exact](http://digital.denverlibrary.org/cdm/search/searchterm/Arches%20National%20Park%20(Utah)--1920-1930/mode/exact), viewed February 4, 2015). This image actually shows a bridge over the San Rafael River in Emery County, southwest of Thompson, and not on the road to "The Devil's Garden." Images by Beam of Moab (discussed above) suggest that the expedition was more far-ranging than just "The Devil's Garden." Perplexing, in light of the subsequent narrative of events involving The Windows section, is an image in the same collection of the Parade of Elephants (GB-5733). The curated print has been overdrawn with dark pencil or ink to enhance the shadows. Although this image is part of the same collection, Beam may have made it at a later date, as he often revisited favorite landscapes during his career.

⁴² F. A. Wadleigh to Stephen T. Mather, November 2, 1923. ARCH 101/004-006, SEUG Archives.

⁴³ Garden of the Gods Visitor and Nature Center, "Park History." (Electronic document http://www.gardenofgods.com/education/index_175.cfm, viewed February 4, 2015). Palmer encouraged close friend Charles Elliot Perkins to extend his railroad, the Burlington Railroad, from Chicago to Colorado Springs, and to build himself a house in Garden of the Gods. Perkins purchased lands in Garden of the Gods, beginning with 240 acres in 1879. Perkins added to the property, which eventually reached 480 acres, but never built a house. In 1909, Perkins' children donated the Garden of the Gods to the City of Colorado Springs as a park, to remain in the natural state the Perkins had enjoyed.

⁴⁴ "Frank A. Wadleigh Retired," *The Times-Independent*, December 29, 1927, p. 8.

⁴⁵ "F. A. Wadleigh is Doing Big Things," *Eastern Utah Advocate*, Price, February 6, 1908, p. 8.

⁴⁶ "Denver's Loss. Railroad Circles Regret the Promotion of Wadleigh," *Salt Lake Herald*, March 7, 1895, p. 2.

⁴⁷ "Wadleigh of the Western. Denver People Say New Official is All Right," *Salt Lake Tribune*, March 4, 1895, p. 3.

⁴⁸ "Wadleigh is Married. Wedded Mrs. Keller Last Monday in New York," *Salt Lake Tribune*, April 14, 1900, p. 8.

⁴⁹ "Frank A. Wadleigh Returns to Old Love," *Salt Lake Tribune*, October, 22, 1904, p. 16.

⁵⁰ "F. A. Wadleigh Moves Office to 'Frisco," *Salt Lake Herald*, January 3, 1910, p. 6.

⁵¹ "Rio Grande Planning Much Work in Utah," *Salt Lake Telegram*, February 22, 1913, p. 8.

⁵² Denver and Rio Grande Railroad Company, *Tourists' Hand-Book Descriptive of Colorado, New Mexico and Utah*, 13th edition (Denver: Passenger Department of the Denver and Rio Grande Railroad, 1895). The Passenger Department also published titles on sights in the Rocky Mountains visible from the train, cliff-dwellings of southwestern Colorado, and lands of Utah. Promotion was a large part of Frank Wadleigh's business, and the discovery of a major new scenic attraction just 20 miles from an existing D&RGW railway line must have been an exciting development.

⁵³ Anne Becher, *American Environmental Leaders: From Colonial Times to the Present*. Volume II, L–Z. With Kyle McClure, Rachel White Scheuering, and Julia Willis (Santa Barbara, Denver and Oxford: ABC-CLIO, 2000), pp. 520–523.

⁵⁴ Wadleigh to Mather (November 2, 1923), pp. 2–3.

⁵⁵ The Frank A. Wadleigh Collection, Box 4, FF 38, also included a more detailed map of Utah with all oil fields known in 1921 circled and labeled in red. "The Oil Fields of Utah" uses the "tourist" map prepared for Wadleigh as a base, but shows oil at Cisco Dome and Crescent Dome, as well as the Moab Dome, essentially ringing the location of "The Devil's Garden." Wadleigh commented that "this will be a small map when ready for reproduction, and we cannot go into too much detail. Our object, however, is to have a reliable map that we can distribute and send out in answer to inquiries from persons seeking information about the Utah oil fields and other natural resources."

Frank A. Wadleigh to Mr. P. E. Trim, Agent, Price, February 26, 1921. Frank A. Wadleigh Collection, History Colorado.

⁵⁶ George L. Beam, James Ozment Collection, Denver Public Library.

⁵⁷ J. W. Lovett, Director of Personnel, The Denver and Rio Grande Western Railroad Company, to Mr. Larry D. Reed, February 4, 1977. ARCH 101/004-006, SEUG Archives.

⁵⁸ ARCH 101/004-006, SEUG Archives.

⁵⁹ Harry W. Pfanz, Chief Historian, National Park Service, Memorandum: Arches History, July 27, 1977. ARCH 101/004-006, SEUG Archives.

⁶⁰ The National Park Service dropped the possessive at some point, now preferring “Devils Garden,” but internal correspondence often reverts to “Devil’s Garden,” and Hoffman used this spelling in his Arches National Park, An Illustrated Guide.

⁶¹ Hoffman (1985), p. 68.

⁶² Anonymous, Footnote to “Index of the Documented History of the Establishment of Arches National Monument from National Archives,” n.d. ARCH 101/004-004, SEUG Archives. Records pertaining to Arches National Monument at the National Archives and Records Administration repository in Broomfield, Colorado were reviewed in June 2018, but no additional correspondence regarding the events leading to the proclamation of Arches National Monument were discovered.

⁶³ “Prominent Men Arrange Utah Southland Trip. Director of National Parks Will Head Party to Rim of Grand Canyon and Other Scenic Points,” Salt Lake Telegram, October 7, 1921, p. 2.

⁶⁴ “Hurricane Visited by Eminent People,” Washington County News, St. George, October 20, 1921, p. 1.

⁶⁵ “Hurricane Visited by Eminent People.”

⁶⁶ “D & R. G. Officials Visiting in Zion,” Ogden Standard, Ogden, March 3, 1909, p. 5. The title of this article suggests that Wadleigh had visited southwestern Utah previously, but the article documented a visit Wadleigh made to Salt Lake City; “Zion” is a colloquial reference to the state of Utah as the seat of the Mormon faith.

⁶⁷ Washington County News, “Hurricane visited,” October 20, 1921, p. 1.

⁶⁸ Hugh T. Glen, “Map Showing Highways Connecting Marysville on the Denver and Rio Grande Western with Bryce Cañon, Cedar Breaks, and Zion National Park, with side trip to the North Rim of the Grand Cañon of the Colorado via Kaibab National Forest, Randall L. Jones,” 1921, Frank A. Wadleigh Collection, Box 4, FF 38, History Colorado.

⁶⁹ Becher (2000), p. 522.

⁷⁰ Richard West Sellars, Manipulating Nature’s Paradise: National Park Management under Stephen T. Mather, 1916–1929. In *A Sense of the American West: An Anthology of Environmental History*, edited by James E. Sherrow, pp. 161–180. (Albuquerque: University of New Mexico Press, 1998).

⁷¹ Wadleigh to Mather (November 2, 1923), p. 1.

⁷² Edwin C. Bearss, “Arno Cammerer, 1883–1941. National Park Service: The First 75 Years – Biographical Vignettes.” (Electronic document http://www.cr.nps.gov/history/online_books/sonntag/cammerer.htm, viewed March 11, 2015).

⁷³ Francis P. McMannon, “Jesse L. Nusbaum—First National Park Service Archeologist,” National Park Service, 2007, Updated 2009. (Electronic document <http://www.nps.gov/archeology/sites/dcaPdfs/BriefBioJNusbaum.pdf>, viewed January 30, 2015).

⁷⁴ Ruthann Heriot, “Jesse L. Nusbaum Papers, 1921–1958,” National Park Service 1987, revised 2004 by David Nathanson. (Electronic document <http://www.nps.gov/archeology/sites/dcaPdfs/2004HFCFindingAid-JNusbaumPapers.pdf>, viewed January 30, 2015). In 2017 this collection was recataloged as part of the Assembled Historic Records of the National Park Service 1856–2007 (bulk dates 1920–2000), Series XIV: Papers and Working Files of NPS Employees, 1879–1992, Subseries C: Jesse L. Nusbaum Papers and Working Files, 1911–1970, HCFA 1645, Harpers Ferry Center, West Virginia.

⁷⁵ Pfanz (July 27, 1977), p. 1.

⁷⁶ ARCH 101/004-004, SEUG Archives.

⁷⁷ “Wonderful Scenic Attraction at ‘The Windows’ to Be Set Aside as Monument,” The Times-Independent, July 17, 1924. ARCH 101/004-004, SEUG Archives.

⁷⁸ F. A. Wadleigh to Hon. Stephen T. Mather, August 21, 1924. ARCH 101/004-004, SEUG Archives.

⁷⁹ Hoffman (1985), p. 63.

- ⁸⁰ F. A. Wadleigh to Hon. Stephen T. Mather, January 2, 1926. ARCH 101/004-004, SEUG Archives.
- ⁸¹ Frank Pinkley, Superintendent, Southwestern Monuments, to Stephen T. Mather, July 24, 1925. ARCH 101/004-004, SEUG Archives.
- ⁸² Pfanz (July 27, 1977), p. 1.
- ⁸³ Hoffman (1985), p. 71. Ringhoffer drove Oastler down Salt Valley, stopping to hike to “The Devil’s Garden” and “The Window Castles.”
- ⁸⁴ F. J. Safley, “Salt Lake 1146611, ‘FS’ FSH & ‘A’ BVC, Proposed National Monument Withdrawal, F. J. Safley, Inspector, Favorable Report,” June 26, 1925. ARCH 101/004-004, SEUG Archives.
- ⁸⁵ Oastler’s photographs, lantern slides, and 16 mm motion pictures are curated as the Frank Richard Oastler Collection, Yale Collection of Western Americana, Beinecke Rare Book and Manuscript Library (WA MSS S-2162). The collection contains 45 glass negatives, 68 albums of photographic prints, and approximately 6,400 lantern slides in 239 boxes and 3 broadside folders that Oastler created between 1908 and 1938. The 16 mm motion pictures were transferred in 2012 to the Library of Congress, Motion Picture, Broadcasting and Recorded Sound Division, National Audio-Visual Conservation Center. Oastler was a forceful advocate for the healthful benefits of nature, and he spent his summers traveling and photographing the West, to provide images for frequent lectures in New York on nature, zoology, and conservation. Oastler is credited with being a leader in the successful movement to save the trumpeter swan from extinction, to create Isle Royale National Park, and to institute the public education program of the National Park Service. He served as a member of the NPS Advisory Board. Frank Richard Oastler (1871–1936). (Electronic document, <http://beinecke.library.yale.edu/collections/highlights/frank-richard-oastler-home-movies>, viewed August 3, 2016).
- ⁸⁶ John H. McNeely, “Utah Has Glorious Rival to Garden of the Gods: New York Surgeon Describes the Fantastic Rock Carvings That Nature Has Hidden in the Desert for Ages,” *The New York Times*, May 9, 1926.
- ⁸⁷ Pfanz (July 27, 1977), p. 2.
- ⁸⁸ Pfanz (July 27, 1977), p. 3.
- ⁸⁹ ARCH 101/004-004, SEUG Archives.
- ⁹⁰ Frank A. Wadleigh to Mr. Alex Ringhoffer, January 29, 1925. ARCH 101/004-004, SEUG Archives.
- ⁹¹ Alex Ringhoffer to F. A. Wadleigh, February 1, 1925. ARCH 101/004-004, SEUG Archives.
- ⁹² Ringhoffer’s comments about ancient ruined castles indicate that he may have been reading a lot of pulp fiction of the era, particularly the works of H. P. Lovecraft, H. Rider Haggard, and Robert E. Howard. The mummified remains of three Navajo people were discovered in a cave high above Courthouse Wash in 1916, however, a location that was reportedly visited by 100 people after the discovery was announced in the local newspaper (Hoffman, p. 50). Ringhoffer may have had this episode in mind when describing the scene to Wadleigh.
- ⁹³ F. A. Wadleigh to A. E. Demaray, Administrative Assistant, National Park Service, February, 9, 1925. ARCH 101/004-004, SEUG Archives.
- ⁹⁴ Walter Sullivan, Laurence McKinley Gould, a Polar Explorer And Innovative College President, Dies at 98. (Electronic document <http://www.nytimes.com/1995/06/22/obituaries/laurence-mckinley-gould-polar-explorer-innovative-college-president-dies-98.html>, viewed August 3, 2016). Gould was a distinguished geologist and polar explorer who conducted his University of Michigan Doctorate of Science dissertation research in the La Sal Mountains of Utah in 1924–1925. Gould’s long career included acting as chief scientist and second in command of Byrd’s first Antarctic expedition, publication of a popular book on the expedition (*Cold: the Record of an Antarctic Sledge Journey*) in 1931 (still in print), 26 honorary degrees, and presidency of Carleton College, Minnesota, 1945–1962.
- ⁹⁵ L. M. Gould to Senator Reed Moot, U.S. Senate (Utah). ARCH 101/004-004, SEUG Archives.
- ⁹⁶ Hoffman (1985), p. 66. Hoffman states that Gould visited The Windows in 1924, guided by J. Marvin Turnbow, rancher and future first custodian of Arches National Monument. Turnbow also guided the 1934 Arches Scientific Expedition, and acted as packmaster (pp. 68–70). Heber Christensen, who guided the first GLO survey to The Windows in 1924, acted as camp cook.
- ⁹⁷ Hoffman (1985).
- ⁹⁸ The current location and condition of these images, if they still exist, is unknown.
- ⁹⁹ Senator Reed Smoot to Stephen T. Mather, February 13, 1925. ARCH 101/004-004, SEUG Archives.
- ¹⁰⁰ Hoffman (1985), p. 79.

¹⁰¹ It is unknown whether Bell ever produced an article for the *Plain Dealer*. A review of online archived articles (<http://nl.newsbank.com/nl-search/we/Archives>) did not produce any by Bell or about Arches. The newspaper was contacted twice during the writing of this administrative history seeking information about Bell, but no reply was ever received.

¹⁰² Jesse L. Nusbaum Papers and Working Files, 1911–1970, HFCA 1645, Harpers Ferry Center. Nusbaum’s correspondence files do not contain any documents by or to Alexander Ringhoffer or Frank A. Wadleigh, or with Stephen T. Mather regarding Ringhoffer or Wadleigh or a proposed “The Devil’s Garden” national monument. Nancy Russell, Harpers Ferry Center, personal communication, June 12, 2018.

¹⁰³ Leo A. Borah, Utah, Carved by Winds and Waters, *The National Geographic Magazine*, Vol. LXIX, No. 5, May 1936, pp. vii–viii. Images “Autochrome Lumière by Hugh Steven Bell,” © National Geographic Society.

¹⁰⁴ John Bristol to Stephen H. [sic] Mather, March 14, 1925. ARCH 101/004-004, SEUG Archives.

¹⁰⁵ Stephen T. Mather to John Bristol, April 1, 1925. ARCH 101/004-004, SEUG Archives.

¹⁰⁶ Safley (June 26, 1925), pp. 6–7.

¹⁰⁷ First Assistant Secretary of the Interior [Edward C.] Finney Memorandum to The Solicitor, March 31, 1926. ARCH 101/004-004, SEUG Archives.

¹⁰⁸ Solicitor (signature illegible) to Secretary Finney, April 5, 1926. ARCH 101/004-004, SEUG Archives.

¹⁰⁹ Stephen T. Mather, Memorandum for First Assistant Secretary Finney, April 8, 1926. ARCH 101/004-004, SEUG Archives.

¹¹⁰ A. D. Ryan, “Supplemental Report: Proposed Devils Garden and the Window [sic] National Monument, 1146611 ‘A’ FSH,” June 29, 1928. ARCH 101/004-004, SEUG Archives.

¹¹¹ Ray Lyman Wilbur, Secretary of the Interior, to [Herbert Hoover], the President of the United States of America, April 10, 1929. ARCH 101/004-004.

¹¹² U.S. Department of the Interior, “Department of the Interior Memorandum for the Press, Immediate Release, April 22, 1929.” ARCH 101/004-004, SEUG Archives.

¹¹³ Dr. Frank R. Oastler to Mr. Horace Albright, Director, National Park Service, May 7, 1929. ARCH 101/004-004, SEUG Archives.

¹¹⁴ Arno Cammerer, Acting Director, National Park Service, to Dr. Frank R. Oastler, May 14, 1929. ARCH 101/004-004, SEUG Archives.

¹¹⁵ Maureen Joseph, Cultural Landscape Inventory, Wolfe Ranch Area, Arches National Park, April 1997. (Denver: National Park Service, Denver Service Center, 1997), Figure 5.

¹¹⁶ Hoffman (1985), pp. 62–68.

¹¹⁷ Wadleigh to Mather (November 2, 1923).

¹¹⁸ The Times-Independent, “The Arches, Top Lure for Tourists, Are Bringing More Here Each Year,” September 29, 1955. This is the first refutation of the story that Taylor and Williams were instrumental in the creation of Arches. The article quotes extensively from Wadleigh’s letter to Mather: “A copy of the letter containing Wadleigh’s suggestion was obtained in 1936 by Winford Bunce of Moab, now a Grand County commissioner.” Yet, the idea that Taylor and especially Williams helped to create Arches persists in Moab, where the 2018 Moab Guest Guide (Winter Park, Colorado: Guest Guide Publications, 2018), p. 11, claims that “Williams worked to make the area a national park.”

¹¹⁹ JoAnn Petty, Southeast Utah Group, Meeting Minutes, November 12, 2002. CANY 743/01-014.7, Canyonlands National Park Records, Southeast Utah Group (SEUG) Archives.

¹²⁰ Vicki Webster, personal communication, 2017.

3 Arches National Monument, 1929–1971

The proclamation of Arches National Monument could not alter the sometimes harsh reality that despite the presence of a transcontinental railway line and US 6/50 just 30 miles to the north, the new monument was as remote and inaccessible a location as could be found anywhere in the 48 United States. Development of Devils Garden and The Windows (which were sometimes named “The Arches” in early NPS planning documents) proceeded very slowly, a situation compounded by a series of national catastrophes, beginning with the onset of the Great Depression later in 1929. Unfortunately, few administrative records from the period 1929–1939 were retained by which to reconstruct the struggles of this decade.¹ As the first contact station was not erected until 1939 near Willow Springs, most of those struggles were likely personal, on the part of the early custodians.² Arches was vigorously promoted by Dr. J. W. “Doc” Williams and Moab *Times-Independent* editor L. L. “Bish” Taylor, who saw future economic opportunities for Moab and Grand County, unlike many of their peers in conservative, Mormon, and rural southeastern Utah.³ Despite those seemingly inauspicious beginnings, Arches was eventually developed for visitation and began to flourish following World War II, when the baby boom and new-found post-war prosperity met the amiable charm and “can do” work ethic of Superintendent Bates E. Wilson.

Custodians, Superintendents, and Unit Managers

During the 1920s and 1930s, the National Park Service administered national monuments from regional centers, with on-site custodians who answered to remote superintendents. Arches was under the care of custodians James Marvin Turnbow⁴ (1933–1936), Harry Reed (1937–1939), Henry G. Schmidt (1939–1942), Lewis T. McKinney (1942–1944), and Russell L. Mahan (1944–1949) until 1948, when Mahan was elevated from custodian to superintendent of Arches (Figures 3-1, 3-2; Table 3-1).⁵ From its inception, the custodians of Arches reported to Frank Pinkley, the superintendent of the Southwestern Monuments in Coolidge, Arizona, on the grounds of Casa Grande National Monument. The difference in roles between custodian and superintendent is significant, and reflected the need to assess the new monument and plan for development, as well as the lesser status of national monuments within the national park system, at least in 1940, when the distinction between a park and a monument was that “the former is scenic and inspirational, the latter is primarily educational.”⁶ The early custodians of Arches also performed all of the functions expected of rangers, law enforcement, and maintenance, in addition to their regular duties. Superintendent Frank Pinkley described the requirements of the custodian to Harry Reed, in a letter offering him a new term on May 16, 1938:

You will be expected to be present at the monument between the hours of 8:00 a. m. and 5:00 p. m. daily. You are entitled to one day off each week. During the travel season Park Service employees usually work on Sunday, taking their day off during the week. We will rely on you to make whatever arrangements seem proper to insure meeting park visitors. We do not need to instruct you with respect to guiding them as we are sure that you are already a thoroughly competent guide and if you tell the story of the monument and explain its formations to visitors as well as you have to representatives from this office, we will be pleased. While your employment contemplates primarily work with visitors, you will probably have a certain amount of free time and it may properly be used to continue your explorations of



3-1. "J. M. (Marv) Turnbow – First custodian of Arches (Natl. Monument) Son Bruce M. Turnbow – Age 10 yrs." 1933. ARCH 3368, SEUG Museum Collection. (Photographer unknown).

the monument, to make minor and incidental repairs to the entrance road, study the signing arrangements, location of future utility, headquarters, and parking areas, trails, etc., and make recommendations to this office. We know that you are a professional photographer and consequently hesitate to take advantage of your ability to obtain official photographs for the headquarters file, but should you feel that you can consistently do so, we would welcome the opportunity to supply perhaps two or three hundred feet of color film, 16 m. m., for the purpose of securing color pictures of Arches National Monument which can be utilized in headquarters lecture work and which would, of course, have to become the property of the Government.⁷

Arches did not have its first seasonal ranger until June 1946, when Billy Walker of Moab was hired to assist Custodian Mahan.⁸ From 1948 to 1954, the entire permanent Arches staff consisted of a custodian or superintendent, a ranger, and Maintencenceman Merle E. Winbourn, who held the position (re-designated Operator General in 1958) from March 1948 until his death in January 1960.



3-2. Custodian Henry G. Schmidt, ca. 1940. ARCH 3994, SEUG Museum Collection. (Photographer unknown).

T. Earl Worthington was the first permanent ranger from 1948 to 1952. Robert L. Morris was ranger and supervisory ranger from 1952 to 1956 when he transferred to White Sands. His place was taken by Lloyd M. Pierson in September 1956 and he was joined by Roby "Slim" Mabery in December 1961 (Mabery transferred to Carlsbad Caverns in 1966). Seasonal and temporary rangers assisted during the summer months after 1955 to help with the increasing visitation. Bates Wilson did not receive dedicated administrative help until September 1957 when Arthur M. Sear joined the staff as Administrative Assistant.

Construction of a permanent custodian's residence (the Rock House) did not begin until 1941.⁹ Until then, the custodian lived in Moab, although Custodian Schmidt noted in February 1941 that the house that he and his family had rented in Moab had been sold from beneath them to make way for a motel.¹⁰ Bates Wilson and his family resided in the Rock House during his entire 23-year tenure at Arches (1949–1972).¹¹ Wilson's younger daughter Caroline recalled that the house was perfectly located for impromptu interpretations of the geology of the Moab fault by her father.¹² Frequently, at cocktail hour, the house would fill with friends, staff, and visitors whom Wilson had impulsively invited in to share his favorite adult beverage, Jim Beam. With glass in hand, he would lead the group to the porch, and point out the nearly 2,000-foot offset of the fault, with Navajo Sandstone at eye level on the north side and Wingate Sandstone on the cliff top at the south side,¹³ lecturing with the whiskey glass like a pointer to show that normally the Navajo sits on top of the Wingate, and all heads would swivel back and forth from south to north as they would try to grasp the scale of the fault's displacement.

Table 3-1. Arches Superintendents, Custodians, and Unit Managers¹⁴

NAME	POSITION	UNIT	SERVICE INTERVAL
Frank Pinkley	Superintendent	Southwestern Monuments	1923–1940
James M. Turnbow	Custodian	Arches National Monument	1933–1936
J. Harry Reed	Custodian ¹⁵	Arches National Monument	1937–1939
Henry G. Schmidt	Custodian	Arches National Monument	1939–1942
Hugh M. Miller	Superintendent	Southwestern Monuments	1940–1942
Charles A. Richey	Superintendent	Southwestern Monuments	1942–1943
Lewis T. McKinney	Custodian	Arches National Monument	1942–1944
Minor R. Tillotson ¹⁶	Regional Director	Region III	1943–1948
Russell L. Mahan	Custodian	Arches National Monument	1944–1948
	Superintendent	Arches National Monument	1948–1949
Bates Wilson	Superintendent	Arches National Monument ¹	1949–1972
	Superintendent	Canyonlands Complex ²	1964–1972
	Director	Utah State Office	1967–1972
Robert Kerr	Superintendent	Canyonlands Complex ³	1972–1975
Larry Reed	Unit Manager	Arches National Park	1974–1981
Peter L. Parry	Superintendent	Canyonlands Complex ³	1975–1986
Jim Capps	Acting Unit Manager ⁴	Arches National Park	1981–1982
Sherma E. Bierhaus	Unit Manager	Arches National Park	1982–1986
Anna M. Fender	Acting Unit Manager ⁵	Arches National Park	1983
Paul D. Guraedy	Unit Manager	Arches National Park	1986–1987
	Superintendent	Arches National Park	1987–1990
Harvey Wickware	Superintendent	Canyonlands Complex ³	1987
	Superintendent	Southeast Utah Group	1987–1991
Noel Poe	Superintendent	Arches National Park	1990–1995
Walter D. Dabney	Superintendent	Southeast Utah Group	1991–1999
Gail C. Menard	Acting Superintendent	Arches National Park	1995–1996
Steve W. Chaney	Acting Superintendent	Arches National Park	1996–1997
[unfilled] ⁶	Superintendent	Arches National Park	1997–2001
Phil Brueck	Acting Superintendent	Southeast Utah Group	1999
Jerry Banta	Superintendent	Southeast Utah Group	1999–2004
J. Rockford Smith	Superintendent	Arches National Park	2001–2004
Laura E. Joss	Superintendent	Arches National Park	2004–2008
Anthony J. Schetzslle	Superintendent	Southeast Utah Group	2004–2006
Kate Cannon	Superintendent	Southeast Utah Group	2006–present
	Superintendent	Arches National Park	2008–present

¹ Wilson was superintendent of Arches and Natural Bridges national monuments.

² Wilson was superintendent of the Canyonlands Complex, Canyonlands National Park, Arches and Natural Bridges national monuments.

³ The superintendent of the Canyonlands Complex was also the superintendent of Canyonlands National Park.

⁴ Acting unit managers or acting superintendents are appointed when the unit manager or superintendent is away from their duty station, usually for a few days or weeks. Prolonged vacancy of a unit manager or superintendent position often required those appointed to an acting position to occupy the role for months or years; only those acting unit managers and superintendents in the latter capacity are listed here.

⁵ Bierhaus was ill for much of 1983. Fender was acting unit manager February 2 to September 27. Steve Swanke and Joan Swanson-Young also acted in this capacity for shorter periods.

⁶ Dabney eliminated the position of Arches superintendent as a cost-saving measure and acted as superintendent of both Canyonlands and Arches, although day-to-day activities at Arches were administered first by Assistant Superintendent Phil Brueck and later by Acting Superintendents Gail C. Menard and Steve W. Chaney.¹⁷

Frank Pinkley was superintendent of Southwestern National Monuments from the establishment of the National Park Service until his sudden death in 1940.¹⁸ Pinkley began government service with the General Land Office as a caretaker at Casa Grande Ruins in 1901. Casa Grande was proclaimed a National Monument by President Woodrow Wilson on August 3, 1918.¹⁹ By 1940 Pinkley's portfolio of units had grown to 27, scattered across the Four Corners states. To relieve the workload on other superintendents, and to provide more direct oversight of individual monuments, the NPS revised the management structure in 1948 to place superintendents at individual park units. Superintendents answered to regional offices of the NPS, but had the authority to allocate resources and supervise interpretation, law enforcement, construction, and maintenance personnel, as well as the clerical and fiscal operations. Bates Wilson transferred from El Morro National Monument in 1949, becoming the second on-site superintendent. He served as Arches (and Natural Bridges) superintendent until 1964, when Superintendent of Canyonlands National Park and Superintendent of the Canyonlands Complex were added to his titles; he held those positions until 1972, when he was replaced by Robert Kerr.²⁰ Under the Canyonlands Complex, Wilson and Kerr were superintendent of Natural Bridges, Arches, and Canyonlands. In 1975, Kerr transferred to Grand Teton National Park and was replaced by Peter L. Parry (1931–2013) as superintendent.

Following the retirement of Wilson, it became apparent that each unit of the Canyonlands Complex would require individual supervision. Beginning about 1974, "unit managers" were designated for each of the Canyonlands units, with Larry Reed the first to fill that role at Arches. Sherma Bierhaus's appointment as unit manager in 1982 marked the first time that a woman filled the role of superintendent at any national park, a real milestone considering that only 22 of 333 other Park Service units were headed by women at that time.²¹ Unit managers or acting unit managers served under the Canyonlands superintendent until 1988, when Paul D. Guraedy's role as unit manager was reclassified as superintendent.²² In 1988 the Canyonlands Complex was renamed the Southeast Utah Group after an organization structural change initiated by Harvey Wickware (discussed further below). In 2008, with the promotion of Laura E. Joss, SEUG Superintendent Kate Cannon also assumed the role of Arches National Park superintendent. Through their actions or inaction, the superintendents, custodians, and unit managers created Arches National Park, sometimes literally with their bare hands, and sometimes by directing a large staff, but Arches would simply be a name on a map without the hard work and dedication of the NPS employees who have staffed the park.

Southwest Monuments to Canyonlands Complex: Administrative Reorganizations

The National Park Service has periodically undergone reorganizations at various scales, including at the level of national, regional, and group. Despite the scope of some of these changes at the national and regional levels, the administrative reorganizations that have most affected Arches are those at the group level. During the earliest years of the monument, 1929–1948, Arches was under the command of a superintendent of the Southwestern Monuments based at Casa Grande National Monument in Arizona, with an on-site custodian from 1933 to 1948. The NPS underwent a major reorganization in 1933 under the administration of Franklin D. Roosevelt, but it had almost no effect on Arches National Monument:

Specifically, two executive orders, effective August 10, 1933, transferred the War Department's parks and monuments to the National Park Service. In addition the National Park Service received all the national monuments held by the Forest Service and the responsibility for virtually all monuments created thereafter. It also assumed responsibility for the parks in the nation's capital, which had previously been

*managed by a separate office in Washington. The reorganization was one of the most significant events in the evolution of the national park system. The Service's holdings were greatly expanded and there was now a single, national system of parklands. With the 1933 reorganization and new responsibilities for historical areas, historic preservation became a primary mission of the National Park Service.*²³

The reason that this affected Arches so minimally had to do with the differential treatment of monuments and parks within the NPS. Monuments were created by the Executive Branch through the 1906 Antiquities Act, and were often regarded within the NPS as “parks in training.”

*The term “holding action” is most appropriate in describing national monuments in the 1920s and 1930s. The duration of national monuments was often short, and their definition was hazy at best, and nondescript at worst. Official National Park Service policy called for the “upgrading” of national monuments to national park status. One might legitimately ask, “What was the difference?” The question could be answered in a variety of ways—none satisfactory—but certainly national parks were well funded, and national monuments were not. This had nothing to do with congressional law, but rather with bureaucratic preference and public popularity. Under the leadership of Stephen Mather and Horace Albright the national parks were considered the “crown jewels” of the system, thus entitling them to generous appropriations. National monuments, on the other hand, were expected to survive with little, and often no, appropriation. Many were simply a convenient way to accomplish immediate conservation goals.*²⁴

The effect on Arches by the establishment of NPS regional offices in 1937 was more profound (Table 3-2).²⁵ The development of regional offices was an evolution of Executive Order 6166 and the 1933 NPS reorganization, which increased the interpretive scope of the park system and its size. The NPS regional system was initially based partly on the existing Civilian Conservation Corps (CCC) regional structure, as the CCC provided almost all of the labor for NPS developments during the Great Depression. Subsequent evolution of the regional system reflected both internal NPS conflicts and external directives, such as President Richard Nixon's 1971 order that all federal agencies should use the same regional structure. Despite that, the regional system continues to evolve today.

The Southwestern Monuments actually remained an NPS unit after 1937, but was subsumed within Region III.²⁶ The headquarters moved to Santa Fe, New Mexico, in 1939, when the Region Three (as it was then designated) headquarters moved from Oklahoma City. The Region Three director directly administered Southwestern National Monuments from 1943 to 1950. In 1952, the Southwestern National Monuments headquarters was relocated to Globe, Arizona, where it remained until the unit was again and finally absorbed by Region Three in 1957.²⁷ Each of the small monuments, most of which were archaeological sites such as Montezuma Castle or Tonto National Monument, had very limited staff, usually consisting of an on-site superintendent (under the supervision of the general superintendent of Southwestern Monuments), a ranger, and a maintenance position.²⁸ Other tasks were handled out of Globe.²⁹ “They had archaeologists, naturalists, engineers those sort of people and if we needed help on a project they'd come out and do it.” The Southwestern National Monuments group primarily handled the administrative functions for each monument,³⁰ until the group was finally broken up in 1958. Thereafter, some of the administrative functions were delegated to individual monuments, which were provided with an administrative assistant for the purpose (Arches received theirs a year early). But small monuments in proximity to one another were often managed as a group. Zion National Park administered Cedar Breaks and Bryce Canyon for many years, Hovenweep was overseen by Mesa

Verde, and Arches administered Natural Bridges. In 1962 regions were again reorganized and Arches was part of a newly designated Southwestern Region headquartered in Santa Fe.

During the period 1948–1964, Arches and Natural Bridges shared a superintendent, Bates Wilson (Table 3-3). With the creation of Canyonlands National Park in 1964, Wilson also assumed the duties of superintendent of the Canyonlands Complex, the administrative unit that oversaw all three park units. During Wilson’s tenure this arrangement worked well, as management decisions did not have to be justified to the public as they have been in the post-National Environmental Policy Act (NEPA, 1969) era of public scoping, meetings, and Records of Decisions. Superintendents determined what needed to be done in consultation with staff and superiors, and issued the orders. All of the units of the Canyonlands Complex were underfunded, so funding was the real limitation on what could be achieved. Arches was fully developed under Wilson’s direction (see discussion below). Wilson’s skill in completing tasks (often by doing the job himself), and later the funding and program drive of Mission 66, fulfilled the long-deferred basic infrastructure of Arches between 1948 and 1962. Wilson was perhaps less successful at establishing Canyonlands infrastructure, in part because he was one of the more vocal opponents to the grandiose plans initially proposed.³¹ Reduced funding for the NPS during the Vietnam War also hindered the development of Canyonlands.

The NPS underwent another significant reorganization in 1964, dividing into natural, historical, and recreational branches, with different management concepts, principles, and policies for each branch, although coordinated in a single system.³² The primary goal of the reorganization was the assimilation of recreation areas and places primarily put aside for recreation (such as some seashores, reservoirs, and rivers), into the NPS. This change would allow the NPS to administer Lake Powell, which was already filling behind Glen Canyon Dam following its completion in 1963, as the Glen Canyon National Recreation Area. As part of the complex compromise over the creation of the reservoir, Congress created Canyonlands National Park in 1964; in some ways, the passage that same year of the Wilderness Act may also have been a congressional attempt to “balance” the environmental impact of Lake Powell. Following the creation of Canyonlands National Park in 1964, Arches, Natural Bridges, and Canyonlands were administered as the Canyonlands Complex.³³ Bates Wilson’s joint superintendency of Canyonlands, Arches, and Natural Bridges, and the dispersed configuration of the Canyonlands districts, led naturally to lumping the three units together administratively as the Canyonlands Complex. Multiple monuments had been administered from a single office before, as were the Southwest Monuments under Pinkley, and the National Capital Monuments. The Canyonlands Complex was a move to eliminate redundancy in administration and personnel in places where monuments and parks in relative proximity to one another had similar classifications and faced similar external issues, such as oil and gas leases.

Table 3-2. Arches in the NPS Regional Structure³⁴

Southwestern National Monuments	Coolidge, Arizona	1929–1937
<i>Regional Organization adopted based partly on existing Civilian Conservation Corps structure 1937</i>		
Region III	Oklahoma City, Oklahoma	1937–1939
Region Three	Santa Fe, New Mexico	1939–1962
Southwest Region	Santa Fe, New Mexico	1962–1971
Midwest Region	Omaha, Nebraska	1971–1973
Rocky Mountain Region	Denver, Colorado	1973–1995
Intermountain Field Area	Denver, Colorado	1995–1997
Intermountain Region	Denver, Colorado	1997–present

Table 3-3. Historic Changes to Arches Organizational Structure

1929–1943		
	<u>SUPERINTENDENT</u> Southwestern National Monuments	Frank Pinkley (1929–1940) Hugh M. Miller (1940–1942) Charles A. Richey (1942–1943)
	<u>CUSTODIAN</u> Arches National Monument	<i>Position vacant</i> (1929–1933) James Turnbow (1933–1936) J. Harry Reed (1937–1939) Henry G. Schmidt (1939–1942) Lewis T. McKinney (1942–1944)
1943–1948		
	<u>REGIONAL DIRECTOR</u> Region Three (1937–1948)	<i>Acting directors</i> (1937–1940) John R. White (1940) Minor R. Tillotson (1944–1955)
	<u>CUSTODIAN</u> Arches National Monument	Lewis T. McKinney (1942–1944) Russell L. Mahan (1944–1948)
	• RANGER	Seasonal (1946–1948)
1948–1964		
	<u>SUPERINTENDENT</u> Arches National Monument	Russell L. Mahan (1948–1949) Bates E. Wilson (1949–1972)
	• RANGER (1948–1955)→ • MAINTENANCEMAN (1948–1958)→ • NATURALIST (1962–1964) • ADMINISTRATIVE ASSISTANT (1957–1964)	SUPERVISORY RANGER (1955–1964) OPERATOR GENERAL (1958–1964)
1964–1972		
	<u>SUPERINTENDENT</u> Canyonlands Complex Canyonlands National Park Arches National Monument/Park Natural Bridges National Monument	Bates E. Wilson (1964–1972)
	<u>SUPERINTENDENT</u> Arches National Monument/Park	
	• SUPERVISORY RANGER • OPERATOR GENERAL • NATURALIST • ADMINISTRATIVE ASSISTANT	
1972–1980 ¹		
	<u>SUPERINTENDENT</u> Canyonlands Complex	Robert Kerr (1972–1975) Peter L. Parry (1975–1986)
	• <i>Secretary-Stenographer</i> • <u>Division of Administration</u> • <u>Concessions</u> • <u>Unit Managers</u> • <u>Central Maintenance</u> • <u>Staff Interpretation</u> • <u>Resource Management</u>	
	<u>UNIT MANAGER</u> Arches National Park	Larry Reed (1974–1981)
	• INTERPRETATION • RESOURCE MANAGEMENT AND VISITOR PROTECTION • MAINTENANCE	
1980–1987 ²		
	<u>SUPERINTENDENT</u> Canyonlands Complex • <i>Assistant Superintendent</i>	Peter L. Parry (1975–1986) Harvey Wickware (1987)

	<ul style="list-style-type: none"> • <i>Secretary</i> • <i>Information Receptionist</i> Canyonlands National Park	
	<ul style="list-style-type: none"> • <u>Headquarters Operations and Staff</u> • <u>Unit Managers</u> 	
	<u>UNIT MANAGER</u> Arches National Park	Larry Reed (1974–1981) Sherma E. Bierhaus (1982–1986) Paul D. Guraedy (1986–1987)
	<ul style="list-style-type: none"> • INTERPRETATION – RESOURCES MANAGEMENT – VISITOR PROTECTION • MAINTENANCE 	
1987–2018³		
	<u>SUPERINTENDENT</u> Southeast Utah Group <ul style="list-style-type: none"> • <i>Administrative Officer</i> • <i>Management Assistant</i> • <i>Facility Manager</i> • <i>Park Ranger</i> • <i>Secretary</i> 	Harvey Wickware (1987–1991) Walter D. Dabney (1991–1999) Jerry Banta (1999–2004) Anthony J. Schetzslle (2004–2006) Kate Cannon (2006–present)
	<ul style="list-style-type: none"> • <u>Arches National Park</u> • <u>Natural Bridges National Monument</u> • <u>Assistant Superintendent</u> Canyonlands National Park	
	<u>SUPERINTENDENT</u> Arches National Park <ul style="list-style-type: none"> • <i>Administrative Clerk</i> • <i>Typist</i> 	Paul D. Guraedy (1987–1990) Noel Poe (1990–1995) <i>Position vacant</i> (1995–2001) J. Rockford Smith (2001–2004) Laura E. Joss (2004–2008)
	<ul style="list-style-type: none"> • CHIEF RANGER • CHIEF OF INTERPRETATION • CHIEF OF MAINTENANCE 	
2018⁴		
	<u>SUPERINTENDENT</u> Southeast Utah Group	Kate Cannon (2006–present)
	<ul style="list-style-type: none"> • <u>Chief of Administration</u> • <u>Chief of Interpretation</u> • <u>Chief Ranger</u> • <u>Chief of Facility Management</u> • <u>Chief of Resource Stewardship and Science</u> • <u>Safety Officer</u> • <u>Superintendent's Assistant</u> 	Brendan Hickey Angela Richman Scott Brown John Lewis Terry Fisk <i>Position vacant</i> Kat Kirby
	<u>SUPERINTENDENT</u> Arches National Park Canyonlands National Park	Kate Cannon (2008–present)
	Administrative, Interpretation, Ranger, Facility, RSS, and LE personnel attached to Arches answer to the SEUG chiefs, not to the Arches National Park Superintendent	

NOTE: This table is not intended to track the evolution of SEUG organization from 1987 to the present, but rather to document major changes in the administration of Arches National Monument and Park from proclamation to the present. The first four periods (1929–1972) reflect changes in Arches relationship with higher levels within the NPS; after 1972, changes are internal within the Canyonlands Complex and Southeast Utah Group.

¹ 1972 organizational structure shown.³⁵

² 1980 organizational structure shown.³⁶

³ 1988–1992 organizational structure shown.³⁷

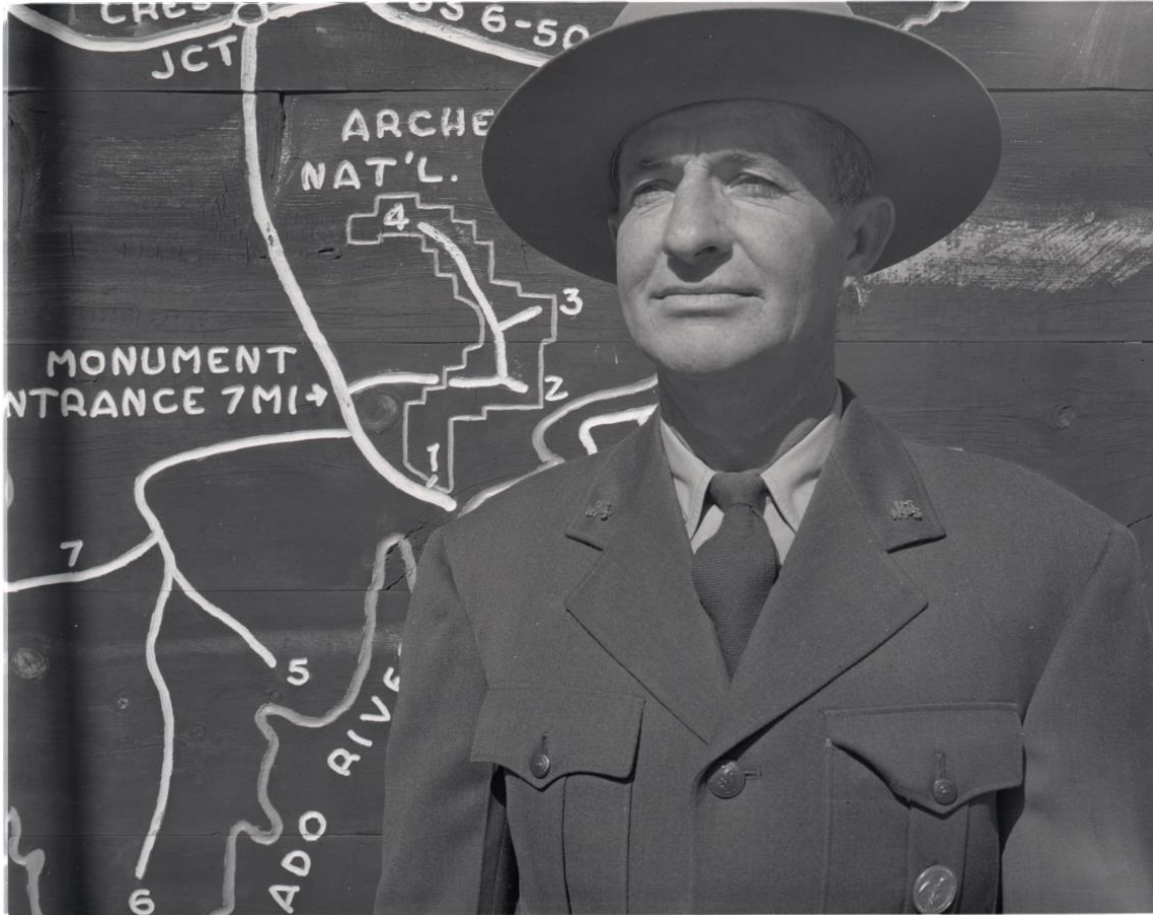
⁴ 2018 or 2019 organizational charts.³⁸

The Canyonlands Complex was initially headquartered at Arches National Monument, which had the staff and physical spaces needed for administration, interpretation, and maintenance functions.³⁹ Consequently, these functions were initially handled as though Canyonlands, Arches, and Natural Bridges were units of a single park. Maintenance staff roamed southeastern Utah repairing, constructing, and remodeling, moving back and forth as the need arose and funds allowed. On December 1, 1964, Canyonlands headquarters moved to the Uranium Building in Moab in Grand County, infuriating officials in San Juan County where the majority of Canyonlands National Park was located. Wilson hired a small administrative and interpretive staff for Canyonlands when he was prevented from transferring some of his experienced Arches staff to the new park. Canyonlands National Park operated under an Interpretation and Resource Management structure, with “park rangers and managers ... responsible for the planning and construction of roads, trails, housing services, interpretive displays and signage, dispersal of information to the media, visitors and map-makers about park regulations, camping, roads, trails, lodging and food, as well as natural and cultural history.”⁴⁰ But continued controversy over development plans at Canyonlands brought development there to a virtual standstill during the late 1960s, and in turn made Congress reluctant to fund development; Canyonlands ended up at the bottom of Rocky Mountain Region funding lists for many years.

The Legacy of Bates Wilson

Arches National Monument was transformed in March 1949 when Bates Eno Wilson (1912–1983) transferred from El Morro National Monument and was appointed as superintendent of Arches National Monument.⁴¹ Wilson served as superintendent of Arches and Natural Bridges, or the Canyonlands Complex until his retirement in 1972, following the elevation of Arches to National Park status (Figure 3-3). Wilson’s tenure at Arches included the construction of the scenic drive (completed 1958–1964), a new visitor center (1958–1960), the discovery of tens of arches (including Wilson’s finding of Surprise Arch in Fiery Furnace), community outreach including the long-standing Easter Sunrise Service, and elevation of Arches to National Park status (1971). Wilson also became one of the leading advocates for the creation of Canyonlands National Park (1964), beginning with his first view of the region from an airplane in 1949.⁴² Most of the significant events at Arches, described below, took place under his direction; at least some of them did not strictly follow NPS protocol.⁴³ Somehow, Bates Wilson also found the time to personally assist visitors to Arches, including those stranded by vehicular problems or flash floods (Figure 3-4). Much of what happened at Arches National Monument during this period took place because Wilson did it himself, often with the assistance of his wife Edie, son “Tug,” Ranger Lloyd Pierson (1921–2015), or Ranger Roby “Slim” Mabery. Pierson described it this way:

*I remember Bates and his son, we had this new administrative assistant come in and he had four kids so we had to get another trailer and put it up for him, and Bates was out there digging a line for the water. We did have water, I can’t remember how, I guess we had a tank up on the hill, we had a well and a tank and later they improved it. But we had water and he was bringing the water line in for the house, the trailer, and here comes a guy in a big, pink cadillac [sic] and he says “Bates,” he says “Sir, have you got a ticket to do that sort of work?” and Bates says “What do you mean?” and he says “You’re supposed to have a plumber’s ticket to do that sort of work, supposed to be a member of the union” and Bates looked kind of funny and says “Sir, I am the superintendent, this is my son and he’s working for nothing, and I don’t need any damn ticket!” So he got him out of there.*⁴⁴



3-3. Bates Wilson in uniform, 1958. ARCH 104/000965, SEUG Archives (Photo credit: Lloyd Pierson).

Bates Wilson's NPS career was extraordinary at the time, and is unlikely to be repeated in the current NPS structure. He entered the Park Service through the CCC, working for 8 years as a foreman in the Santa Fe region.⁴⁵ In 1937 he took the ranger exam, and applied for a position as ranger, but never worked as one.⁴⁶ He entered NPS service as an Acting Custodian of Organ Pipe National Monument in Arizona when the previous acting custodian was drafted for service in World War II. Wilson did apply for a transfer to the position of superintendent of Blue Ridge Parkway, Virginia, in 1951, but turned the position down "due to the prohibitive increases in the living cost entailed in the transfer."⁴⁷ During his career at Arches, Wilson became the superintendent of Canyonlands National Park following its creation in 1964 (in recognition of his efforts to make it a park) and the head of the Canyonlands Complex.⁴⁸ Much of Wilson's energy during this period was directed towards Canyonlands, leaving the day-to-day operations of Arches and Natural Bridges to staff, including Rangers Pierson and Mabery.⁴⁹ In 1967, Wilson was appointed the NPS Utah state director and split his time and residence between Moab and Salt Lake City. After seeing Arches successfully elevated to a national park in 1971, but also having received considerable acrimony from local and state leaders for withdrawing his support for a highly developed Canyonlands National Park, Bates Wilson retired in 1972 to his ranch in Professor Valley.⁵⁰ Significantly, the NPS policy document "Rethinking the National Parks for the 21st Century" suggests that the NPS change the traditional career path, which discourages employees from staying at a single park unit for long periods of time:

*National Park Service's relationships with indigenous and local people must become steeped in understanding, patience, and mutual respect earned over time. The Service should value park staff who choose to remain in one post for extended periods of time so they can more fully understand and work with native and local cultures. The transfer of park personnel from one post to another should no longer be essential for career advancement.*⁵¹

Wilson was active in the Moab community—as a member of the Lions Club, helping the Girl Scouts and Explorer Scouts, directing the Moab Jeep Posse, as a member of the Utah State Travel Council, fundraiser for the March of Dimes, and other school and church affairs.⁵² His friendliness and legitimate ranching background in Silver City, New Mexico, encouraged a close bond between Arches and the people of Moab, even among those who were naturally skeptical of “The Government.” Although Wilson was, for a brief time, the subject of local animosity when the NPS scaled back the plans for development at Canyonlands (in large part at Wilson’s instigation),⁵³ his community stature ensured that Arches was elevated to National Park status in 1971, despite Utah’s opposition to President Johnson’s expansion of the monument in 1969.



3-4. Bates Wilson (center, in cowboy hat) assisted visitors stranded by a flash flood in 1956. Ranger Edward Abbey is reportedly among those visible in this image, but Tug Wilson believes that he was not. ARCH 428/001.002, SEUG Archives. (Photo credit: Jean Cohen [née Sharp]).

Much of what Wilson did, and what he is probably best remembered for, was facilitating the interactions between the National Park Service and residents of Moab through “handshake” agreements. Wilson initiated the popular Easter Sunrise Service at the La Sal Mountain Overlook in 1958. He also assisted local cattle ranchers in navigating Park Service rules, even while trying to stop cattle trespass. After Wilson’s retirement in 1972, Arches Unit Manager Larry D. Reed was surprised when local rancher Tommy White called Assistant Superintendent Tom Hartman to tell him that he would be trailing his cattle through Arches to Dry Mesa.⁵⁴ Hartman was reluctant to let White do this without consulting the unit manager. Reed reviewed the situation and was surprised to find no record of any permit for this in the park’s central files, and was informed by Mrs. White that Bates Wilson had just given them verbal permission in the past to do so. Initially, Reed denied the Whites a permit, as the park planned to phase out all grazing by 1981. However, after reviewing further the records pertaining to grazing, and talking with Bates Wilson, Reed realized that the park Establishment Act specifically permitted cattle driveways through Arches.⁵⁵ Wilson had never issued a permit because the timing of when the Whites needed to move the cattle was variable, depending on the level of the river.⁵⁶ So Reed relented and permitted the drive, but requested that in the future, the Whites at least give the park staff a 2-week notice before the planned drive.

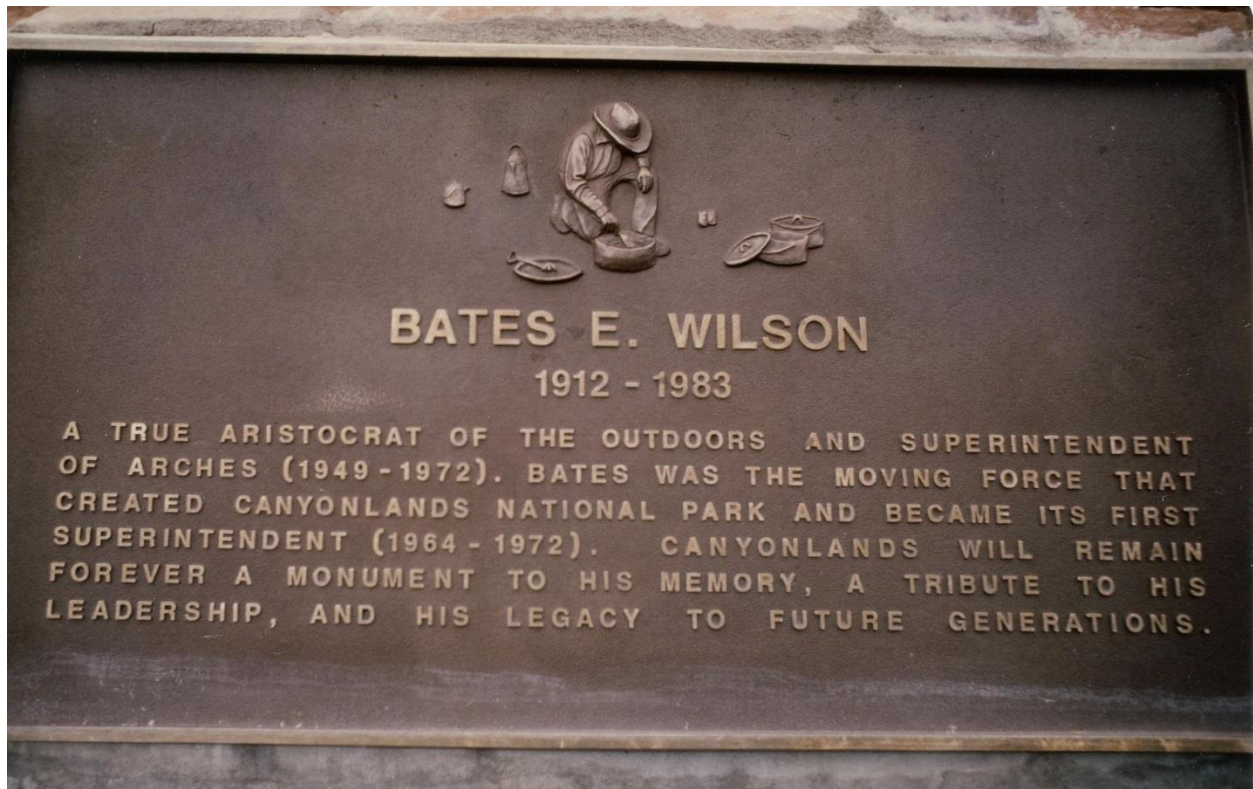
After Wilson’s death on February 25, 1983, Arches held a memorial service at Devils Garden, with approximately 300 mourners in attendance.⁵⁷ Wilson was memorialized with a bronze plaque at the Arches Visitor Center, with text written by former ranger Lloyd Pierson and bas-relief sculpture by neighbor Pete Plastow.⁵⁸ A dedication ceremony held July 7, 1986, was attended by 35 people (Figure 3-5).⁵⁹ The plaque is now on display at the Needles Visitor Center in Canyonlands National Park.⁶⁰ Bates Wilson lives on as the soul of two national parks, the father of a son and four daughters scattered across the southwest, and through the Bates Wilson Legacy Fund of the Friends of Arches and Canyonlands national parks.

Surveys of the Monument and Early Development Plans

The proclamation of Arches National Monument came just 6 months before the October 24–29 crash of the New York Stock Exchange triggered the Great Depression (1929–1941). The collapse left many projects, such as the development of new NPS units, in limbo, without funding for development. In the example of Arches, no development was even planned until 1934 (Figures 3-6a and b). The earliest custodians of Arches were forced to provide whatever meager accommodations they could to visitors, but between 1929 and 1936, Arches had no vehicular access from established roads other than some two-track ranch roads,⁶¹ almost no interpretation, no law enforcement other than the Grand County Sheriff, and visitation that consequently numbered in the hundreds per year. NPS statistics show Arches visitation at an estimated 500 people during its first year, and the monument did not attain a visitor count of 1,000 until 1937, the year after Grand County improved the Willow Springs Road.⁶² Consequently, a visit to Arches National Monument almost guaranteed an adventure of some sort.

The Arches National Monument Scientific Expedition

Arches National Monument was set aside to preserve pristine examples of a landscape formed by wind erosion, but the National Park Service knew almost nothing specific about the two blocks of land within the original 1929 boundaries. From December 1933 to March 1934, the Arches National Monument Scientific Expedition was directed by Frank A. Beckwith to address this deficiency (Figures 3-7 and 8). The NPS project was administered by Zion National Park but used Civil Works Administration money.⁶³

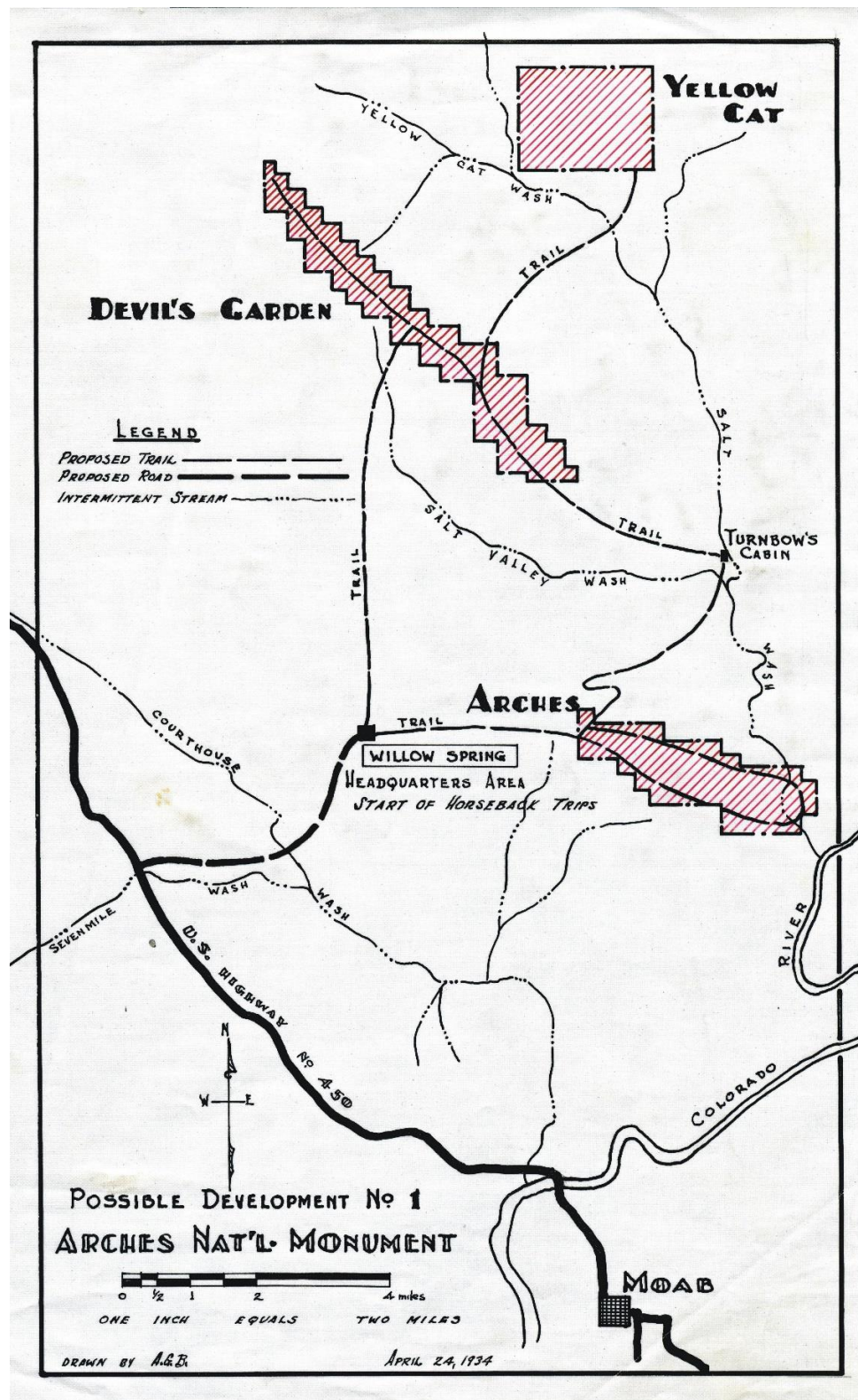


3-5. Memorial plaque dedicated to Bates Wilson July 7, 1986. ARCH 101/003-118 .204, SEUG Archives. (Photographer unknown).

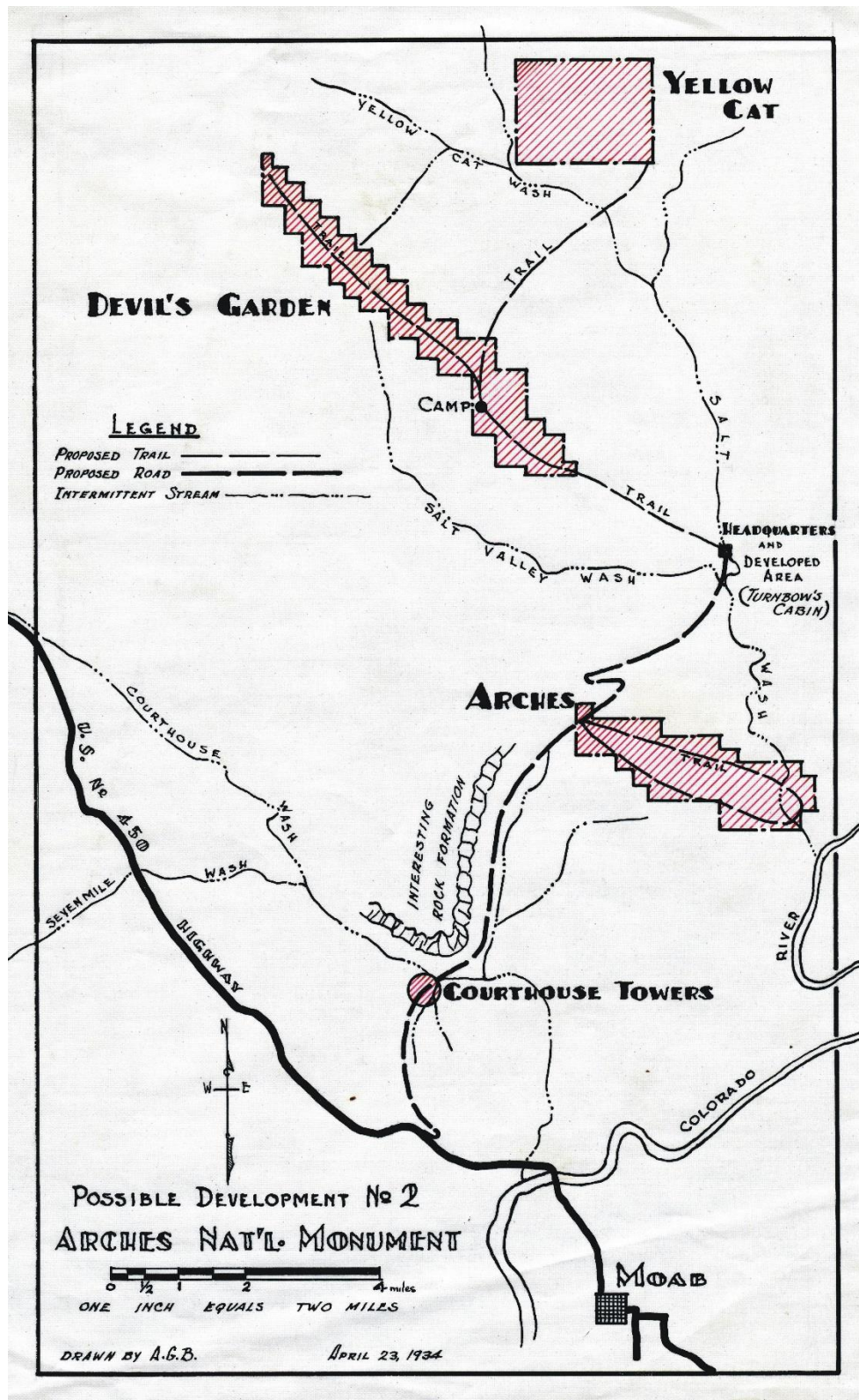
The project had three goals: to survey and map the “chief points of interest,” to conduct a geological reconnaissance, and to conduct an archeological reconnaissance.⁶⁴ The expedition also investigated the paleontological resources near Turnbow’s Cabin and the Yellow Cat area to the north of and outside the monument boundaries:

*The interest of the Arches and of the Devil’s Garden consists in the forms of erosion, and the scenic appeal to tourists; the interest in the Yellow Cat area lies in the fact that it contains many dinosaur bones. Its scientific appeal is its chief value, as it lacks the formations and character of the other two areas.*⁶⁵

Some early NPS documents referred to The Windows section as “the Arches.” As described below, the Arches Scientific Expedition and a companion reconnaissance for planning both operated under the mistaken assumption that Yellow Cat was part of the monument. Beckwith’s report described the access points and difficulties associated with each section, including Yellow Cat. The expedition reported on known archaeological finds and sites in and near Arches, supplemented by additional reconnaissance and excavations undertaken at Archaeological Cave in The Windows section. Unfortunately, this site had already been looted, and it produced nothing new, although reportedly “cedar bark, a few squash seeds, and some bone awls” had previously been collected there. The survey also located petroglyphs of various ages near Wolfe Cabin and in Yellow Cat. Beckwith also reported that two skeletons and the mummified remains of a Navajo person of fairly recent times had been excavated by amateur archaeologists along the pack trail in Courthouse Wash. Beckwith was not an archaeologist by training, but was a well-read and skilled amateur archaeologist and paleontologist.⁶⁶



3-6a. Image of original ink on velum drawing of Arches National Monument Proposed Development No. 1, April 24, 1934. Arches National Park Administrative Collection ARCH 101/006-010, Southeast Utah Group (SEUG) Archives, National Park Service (NPS).



3-6b. Image of original ink on velum drawing of Arches National Monument Proposed Development No. 2, April 24, 1934. ARCH 101/006-010, SEUG Archives.



3-7. The Beckwith Expedition camp, 1933–1934. ARCH 3324, SEUG Museum Collection. (Photo credit: Joseph C. Anderson).

The results of the mapping and geologic components of the project were reported separately, but Beckwith provided a fairly lengthy description of the important landscape features. This section included dimensions of the main arches, the type and color of sandstone formations, and the views visible both from, and including, these features. Beckwith's report is one of the first published descriptions of Delicate Arch, the name he applied to a feature previously known by a number of less flattering names, but it received only two brief mentions, perhaps because it was outside of the original monument boundaries. Beckwith also named Landscape and Tower Arches.⁶⁷ The Beckwith report is also perhaps the first mention of Lost Spring Canyon, the most recent addition to Arches (1998): "The pack train to Yellow Cat passes up a narrow and deep wash, with high ledges of sandstone on either side, fantastically eroded, with spires, twin spires, towers, and caves to interest." Beckwith's description suggests that this area was, in part, the area described in 1925 by Ringhoffer as part of the "Window Castles" area.



3-8. Beckwith (standing, left) and company. The notation on the back of the photograph states "The coffee was so strong you couldn't drive a fork in it." Report of Arches National Monument Scientific Expedition, ARCH 3323.2, SEUG Museum Collection. (Photographer unknown).

J. C. Anderson, a graduate student in geology at the University of Utah, was the project geologist. He published his report in 1934, scooping the 1935 publication of the U.S. Geological Survey report titled “Geology of the Salt Valley Anticline and Adjacent Areas, Grand County, Utah” for which field work had taken place in the summer of 1927.⁶⁸ These reports, along with three additional studies made by NPS geologists in 1936–1941, formed the basis for interpretation of the Arches landscape, and facilitated planning for monument developments.

While the Beckwith Expedition was in the field, Harry Langley, resident landscape architect, Zion National Park Superintendent P. P. Patraw, and landscape architect G. W. Norgard visited Arches to conduct the first planning reconnaissance for monument development.⁶⁹ The group visited the Beckwith camp at Willow Spring on March 12, 1934, and overlooked the region from a high vantage point after hiking from the camp. Patraw and Langley were unable to stay for the entire 4–5 days estimated for a minimal reconnaissance, but Norgard remained behind to do so. Langley’s report on this study is important for several reasons. First, he properly credits Alexander Ringhoffer as the first to advocate for the creation of a national monument in the area. Second, Langley includes the Yellow Cat area as part of the monument, which he describes as 6,610 acres. Yellow Cat also appears on the maps accompanying the report (Figures 3-6a and b). Yellow Cat is described as being unsuitable for tourists, but a rich paleontological location. Third, Langley notes the presence of the Klondike Bluffs outside the monument as another area of interesting formations: “Although believed by many to be part of the ‘Devil’s Garden’ and a continuation of it, it actually is across the Salt Valley Wash from the ‘Devil’s Garden.’” But, he notes that the formations are not so interesting as to make it worth extending the monument boundaries to include them, unless doing so simplifies the whole boundary. He also commented on the scenic values of the Courthouse Towers, which were not as yet part of the monument, but he recommended a boundary extension to include them. In assessing the level of support for the monument in the community, Langley noted the following:

*The older and more conservative people of Moab and Grand County are not very much interested in building a road into the monument, due to the apparent heavy cost of construction.... The members of the Lion’s [sic] Club of Moab are very much enthused with the beauties of this wonderland and have made several trips into the region for the purpose of looking over possible road lines and development. Mr. Taylor, president of the Lion’s Club and editor of the Times-Independent of Moab, is very active in the movement for development of the Arches National Monument and furnished maps and other valuable information.*⁷⁰

Langley evaluated two primary development possibilities: No. 1 would place the monument headquarters at Willow Springs, with a road from US 450 (now US 191) at Sevenmile Bridge to Willow Springs (Figure 3-6a), and 28 miles of trails to the various arches; No. 2 would place the headquarters at Turnbow’s Cabin, with the road climbing the Moab Fault to Courthouse Towers and on to Turnbow’s Cabin (Figure 3-6b). Langley noted that a road into Devils Garden would be very difficult to build, and he recommended against attempting to build a road from Devils Garden to Yellow Cat. He evaluated a loop road using Salt Valley, but pointed out that it would be 35 miles in length, and would parallel US 450 for 20 miles. All road possibilities were regarded as expensive to construct, but Grand County officials thought that state funds could be secured if the road were to link Cisco and Moab, and could be designated a part of the state highway system. Langley ultimately recommended that the No. 2 development plan proceed, as Turnbow’s Cabin seemed like the logical headquarters with a central location, ample water, and proximity to dinosaur bones and a “large Indian cave dwelling.” But the

existing configuration of the monument boundaries was problematic: “Existing boundaries fit the scenic areas very snug and allow no room whatsoever for development purposes so that the headquarters area will have to be outside the Monument areas.”⁷¹

Although Langley’s vicinity map included Delicate Arch, his report made no mention of this feature which was, at the time, outside of the monument boundaries. Langley’s report and maps caused no small confusion due to his inclusion of Yellow Cat as part of the monument. Assistant Chief Engineer A. W. Burney actually contacted the NPS director for information on boundary expansion proclamations made after the 1929 foundation of Arches, and was informed that none had been issued.⁷² “We spoke to Mr. Langley, who is now back in San Francisco, and he states that everybody around the Monument thinks that the ‘Yellow Cat Area’ is part of the Arches National Monument!” Beckwith also fell prey to the same mistaken belief.

Langley’s report also instigated serious discussion about expanding the monument. NPS engineers circulated sketches of the Arches area and its existing boundaries in 1935.⁷³ This would have eliminated more than half of what had been proclaimed in Devils Garden, along the southeast and western edges, added to the eastern and northeastern edges, and extended the boundaries by more than 20 sections to link the two monument units and included “squaring out the sections of worthless land.”⁷⁴ The proposed boundary revision was being evaluated on the 1929 proclamation map, however, which was the only map available at the time, which “is not correct in regard to the shape of the townships and size of certain sections,” underscoring the paucity of information about the area available to the National Park Service.⁷⁵

An inspection of the Arches area conducted on July 14–15, 1936, by District Engineer J. B. Hamilton, Mesa Verde National Park Superintendent Jesse L. Nusbaum, Assistant Superintendent Paul Franke, Deric Nusbaum (son of Jesse), landscape architect Charles A. Richey, and Assistant Regional Officer George L. Collins, as well as various Moab residents including Dr. J. W. Williams, with the goal of identifying expanded boundaries that could accommodate development and include all the significant features of the landscape.⁷⁶ This inspection also included an overflight of the whole area for the first time, from which several rolls of film were shot. By car and on foot, Courthouse Towers, Devils Garden, and the Arches (Windows section) were studied. Significantly, Hamilton also contemplated the scenic value of the Klondike Bluffs and the Colorado River canyon. Like Langley, Hamilton viewed the Moab Fault escarpment as the best route into the monument; it would cross Bloody Mary Wash (the name is blank in his report) and “ascend a sloping ledge of white sandstone and swing around a point of red sandstone into the Courthouse Towers area.” The road was then to pass through the Courthouse Towers along Park Avenue and extend to The Windows and Devils Garden areas. Hamilton further suggested a rim drive along the cliffs above the Colorado River, and possibly forming a loop from Devils Garden east to the rim and back to the Courthouse Towers area. He acknowledged that such a route would be expensive but worthwhile. Klondike Bluffs would require a spur road to reach it, “if not left as a wilderness area” that could be “inaccessible except for the hardier souls among the tourists.” Hamilton recommended greatly expanding the monument:

*To unify the whole area, bringing in the Courthouse Towers, the Klondyke [sic] and the Cliffs overlooking the Colorado, the boundary should be much extended. It should extend to the north to the Salt Wash to take in geologic formations containing dinosaur tracks, to the Colorado River on the east to the Moab-Thompson road on the south and about as shown in the accompanying map to the west.*⁷⁷

Even after obtaining U.S. Geological Survey topographic maps of the region, the extension boundaries remained unsettled. Assistant Regional Officer Collins made another field trip to Arches in 1937 after the boundary extension “had been reopened” because he had been absorbed with “the study of the proposed development” rather than the boundary during his visit with Hamilton in 1936.⁷⁸ Ultimately the development plans for Arches could not proceed until the boundaries had been significantly expanded from the 1929 proclamation. Finally resolved in 1938, as described below, a unified national monument permitted the development of a master plan for Arches and the beginning of actual, on-the-ground management.

Boundary Additions and Subtractions

The lands surrounding Arches were (and still are) owned by Utah or the BLM, and were to be managed with a mixed use/maximum return philosophy. The original monument boundaries conformed not to natural landscape features, but to section lines. Arches was proclaimed under the 1906 Antiquities Act, which required that monuments “shall be confined to the smallest area compatible with proper care and management of the objects to be protected.”⁷⁹ Mather intended to seek enlargement of Arches as soon as he could gather the political capital, but tragically suffered a stroke in January 1929 that ended his NPS career and forced his retirement. While convalescing in Brookline, Massachusetts, Mather died January 22, 1930. Horace Albright (1890–1987), the second director of the Park Service and Mather’s long-time assistant, could do little to expand Arches given the dire financial situation at the beginning of the Great Depression. The scenic wonders of southeastern Utah extend far beyond the original boundaries of Arches and Natural Bridges national monuments, however, and during the 1930s, a very large area of this landscape was proposed for preservation as the Escalante National Monument. Escalante would have encompassed what is now Canyonlands, Glen Canyon/Lake Powell, and Grand Staircase–Escalante. Although this initial attempt to preserve what came to be known as the “Canyon Lands” ended in failure, Arches was collaterally expanded for the first time in 1938 to include Fiery Furnace and Delicate Arch.⁸⁰

1938 Boundary Extension

The most important of these adjustments, which took place in 1938, finally brought Delicate Arch into the monument boundaries, but more importantly, provided space to construct a visitor center and scenic drive within the monument. Without this change, the NPS was unable to provide basic visitor services or interpretation, and the units of the monument were vulnerable to being split by industrial or commercial development. Maps drawn in 1934 depict a possible visitor center near Balanced Rock (Figure 3-6a) or Turnbow’s Cabin (Figure 3-6b), but this was a placeholder plan, never seriously considered, while attempts to expand the monument continued in the background (see discussion above). Unfortunately, these efforts at expansion exposed a significant schism within the National Park Service that involved the Escalante proposal. Archaeologist Jesse L. Nusbaum was a leading proponent of Escalante, and he sought to tie expansion of Arches to the creation of an Escalante National Monument. Superintendent of the Southwestern National Monuments Frank Pinkley was opposed to Escalante and to Nusbaum’s methods, which he saw as heavy-handed and insensitive to local feelings. Pinkley was acutely aware of how the National Park Service was perceived by local interests in general, and in the very touchy relationship with people in southeastern Utah in particular. Pinkley had worked closely with “Bish” Taylor who was head of the local District Six Advisory Grazing Board to ensure that expansion of Arches did not encumber high-quality range or affect too many local ranchers.

Then in 1936 the technicians and others flocked in on us and told us we needed 18 or 20 sections more of land because of its scenic and wild life values. We tried to tell these fellows that the local situation was delicate; that we had the Board with us on our boundaries but 15 or 20 square miles of additional land might upset the apple cart; that we didn't need any more scenery or wild life in order to administer the Arches, which is what the monument was reserved for, but in the final upshot we were told to include the enlarged area.⁸¹

Nusbaum provided a detailed accounting of his efforts on behalf of the Arches expansion and the Escalante project in a letter to NPS Director Arno B. Cammerer on April 9, 1938, in which he describes his instruction from the director to confer with “Bish” Taylor and his subsequent negotiations.⁸² Nusbaum notes that one of the sticking points with Taylor was a proposal to expand Arches to the Colorado River on the south, an area that included an existing stock driveway. This proposal was also problematic to the NPS, as it would have included within the monument boundaries the US 450 right-of-way. To prevent commercial encroachment on the southern edge of Arches, the Grand County Commission and the State Highway Department agreed to impose strict zoning on the area, in exchange for the NPS retaining the stock driveway. Nusbaum also noted that an exploratory oil well then being drilled at Cane Creek south of Moab was a factor in whether or not oil and gas interests would support an Arches expansion. Pinkley’s involvement in the boundary extension was barely mentioned in Nusbaum’s letter. Pinkley viewed Nusbaum’s actions differently, and detailed his concerns in two strongly worded letters to the Director of the National Park Service on April 19 and 21, 1938. Pinkley described his relationship with Taylor and the Grazing Board, and the problems that the Escalante proposal had caused for a proposed Arches expansion:

Boiled down, it looks something like this: We made a definite proposal on October 11, 1935. A few months later Jesse seems, uninvited, and without specific instructions from your office, to have organized a pretentious expedition for the purpose of revisiting the proposal. Since that date, much money and fuss have been expended to put through the revision which resulted from his interference, and now he has gone in, nearly two years later, as your representative, and comes out with the advice that the Service should adhere to the proposal originally made by this office, to avoid adverse effect on the Escalante project!⁸³

Unbeknownst to Pinkley, Nusbaum had been acting with the approval of and at the direction of Director Cammerer.⁸⁴ Cammerer responded to Pinkley on May 4, and asked “Frank, have you been sitting on a cactus?”⁸⁵ Cammerer explained that he “wanted a larger pitching staff” working on the Arches boundary extension “because I thought the project needed supporting energy.” He admonished Pinkley to “run what is handed to you as best you can” but to not “be critical of me, or of any of your other brother members of the Service, for trying to make any area as comprehensive as possible.” Cammerer shut the door on further discussion of the matter: “I want you to accept without rancor my decision not to use your letter in any way. We can talk this matter over personally some time if you care to bring it up again.”

The Moab Lions Club voted in February 1938 to support the Escalante proposal, in sharp contrast to the Governor and many other local organizations.⁸⁶ The Moab Lions Club was also strongly supportive of expanding Arches. In recognition of this support, particularly Dr. J. W. Williams, Williams was accorded a special honor: his personal fountain pen was sent by the Moab Lions Club to Washington, D.C., where President Roosevelt used it to sign the expansion proclamation.⁸⁷ President Roosevelt also sent Williams a personal letter December 15, 1938, thanking him for his work on behalf of Arches National Monument and 40 years of work on behalf of conservation.⁸⁸

The 1940 Development Plan for the monument noted that no modifications to the newly adjusted boundaries were proposed, but that the monument still contained within it “alienated lands” owned by the state of Utah, for which an “effort will be made to exchange for public domain outside the monument, under the provisions of the Taylor Grazing Act.”⁸⁹ Only the lands in Section 16, T25S, R21E were “likely to prove embarrassing to development.”

A much bigger problem was the Turnbow Cabin, the home of the first custodian of Arches James M. Turnbow. This property was an unproven homestead until Turnbow’s widow, Susie, patented the 160-acre homestead on March 2, 1942.⁹⁰ Situated in Salt Valley in the E½NE¼, NE¼SE¼ of Section 7, SW¼NW¼ of Section 8, T24S, R22 E, it blocked access to Delicate Arch. Additionally, there are several springs on or near the patent. Custodian Henry G. Schmidt examined the potential for Turnbow to claim water rights, and noted that two springs known as Freshwater Spring are located outside of the patent and James Turnbow had made no attempt to develop them; a small seep 300 yards from the cabin had been slightly improved by Turnbow by digging a larger catchment; and Wolfe had used the same springs but never developed them.⁹¹ Wolfe had used water from Salt Wash to irrigate “a small crop of hay, a few fruit trees etc., until flood waters in Salt Wash entered his irrigation ditches, and washed away all of the good top soil from the farming land.” The State Engineer determined that Utah had no applications for water rights on file for the property since the office was created in 1903.⁹² “Assuming that no water was used before 1903 they have no water rights,” and the Superintendent was informed that the NPS could “refuse access to any springs not on their own land so that they cannot perfect water rights on the federal lands.”⁹³

Retracting for Oil, Expanding for Roads

Boundary changes were attempted again in 1946–1949 and during the 1950s, but were unsuccessful other than for a small exchange of Utah state lands into the monument in 1955. The 1955 exchange did not change the size of the monument, however, as these acres had been counted with the total monument acreages since the 1938 addition (Table 3-4). In 1960 the monument was expanded, but without consulting the Bureau of Roads, which was in the process of finalizing their plans to complete the park scenic road from Balanced Rock to Devils Garden.⁹⁴ Most of the 1947 road was located outside of the monument boundaries. To bring the scenic drive within the monument required a steep descent into Salt Valley, then a curve back across the wash before climbing to Fiery Furnace (the route that was later constructed during 1963–1965 and is in use today). To avoid a massive cut-and-fill on the lower slope of Salt Valley, the route across Salt Valley would cross Utah state lands in the S½ of Section 2, Township 24 South, Range 21 East. A land exchange was proposed with Utah in 1959 for the 320 additional acres, but the lands included two sets of mineral claims that were staked as lode claims, requiring almost 2 years to research and retire before the exchange was finally completed in 1963.⁹⁵ Because the exchange took so long to complete, the NPS was forced to apply for a right-of-way across the lands proposed for exchange, which was completed as Utah Right-of-Way No. 814 on January 28, 1963.⁹⁶ The proclamation of 1960 also removed 720 acres along the southeastern side of the monument “which are used for grazing and have no known scenic or scientific value.”⁹⁷

To address the shortcomings of the original Arches monument boundaries, to protect the viewscape surrounding Arches, and to prevent development within the vicinity (especially mining and oil/gas drilling), the boundaries of Arches have been adjusted five times (Table 3-4). Arches was enlarged in 1938, 1960, 1969, 1971, and 1998, but also had lands deleted in 1960 and 1971 (Figure 3-9). One block

of land northeast of The Windows and south of Delicate Arch was added in both 1938 and 1969, only to be removed in 1960 and again in 1971. This area, known as Dry Mesa, forms the foreground backdrop to both Delicate Arch and The Windows; for this reason, the potential for the visual intrusion of oil and gas development in this area has been a topic of critical concern to the NPS.⁹⁸ As illustrated by Table 3-4 and Figure 3-9, there are discrepancies between the reported acreage of Arches in official NPS documents at various times, and the cumulative acreage as described in Presidential Proclamations and Public Laws modifying the monument or park boundaries. At least some of this may be due to the presence of Utah state inholdings within the monument or park boundaries; in some documents these are counted as part of the park unit, and in some others apparently not counted towards the total acreage described by the legal description or polygon described by the boundaries. According to the current GIS data, Arches should encompass 75,949 acres (not including the CNHA donation of 1.08 acres which has yet to be included within the park boundaries). The National Park Service officially lists Arches National Park as encompassing 76,678.98 acres, including the 133.03-acre Grand County patent (Riverway/Lions Park).⁹⁹

Table 3-4. Boundary Adjustments to Arches National Monument and Arches National Park

ACTION	ACREAGE ¹	ACT	SIGNATORY
Establishment of April 12, 1929	4,520	Proclamation 1875, 46 Stat. 2988	Herbert Hoover
Addition of November 25, 1938 (29,160 acres)	33,680 ²	Proclamation 2312, 53 Stat. 2504	Franklin D. Roosevelt
BLM State Exchange of June 21, 1955 (200 acres)	33,680 ³	Salt Lake 066292, Clear List 247	
Addition of July 26, 1960 (480 ac)	33,440 ⁴	Proclamation 3360, 74 Stat. C79	Dwight D. Eisenhower
Deletion of July 26, 1960 (720 ac)			
State Exchange (Addition) 1963 (320 ac)	34,010 ⁵	Utah Exchange 035421	J. E. Keogh
Addition of January 20, 1969 (48,943 acres)	82,953 ⁶	Proclamation 3887, 83 Stat. 920	Lyndon B. Johnson
Addition of November 12, 1971	73,379 ⁷	Public Law 92-155, 85 Stat. 422	Richard M. Nixon
Deletion of November 12, 1971			
5 parcels between south boundary and US 191 (6.41)	73,379	None – acquisition never completed	-
Addition of October 30, 1998 ⁸ (3,140 acres)	76,519	Public Law 105-329, 112 Stat. 3060 ⁹	William J. Clinton
Addition of April 10, 2003 (1.08 acres)	76,520.08 ⁹	Arches NP Deed No. 17	Barbara A. Sulhoff

¹ Acreage is based on statutory legal description; actual acreage as legally surveyed or by GIS may differ.

² “Arches – Past to Present” (ARCH 101/004-001) provides acreage of 34,049; Newell (1972) says this should be 34,250; according to the 1940 and 1965 Master Plans, and the acreage described in Proclamation 2312, 33,680 is correct.

³ This acreage is described as 34,249.5 “Federal and gross” by Assistant Chief of Lands James M. Siler in a memorandum to the Region Three Director, dated December 21, 1955;¹⁰⁰ Newell (1972) cites 34,250.¹⁰¹ The 1965 Master Plan gives 33,680 as the correct acreage, indicating that the 200 acres was already counted with the total acreage.

⁴ Based on the 1965 Master Plan total of 33,680 before the adjustment.

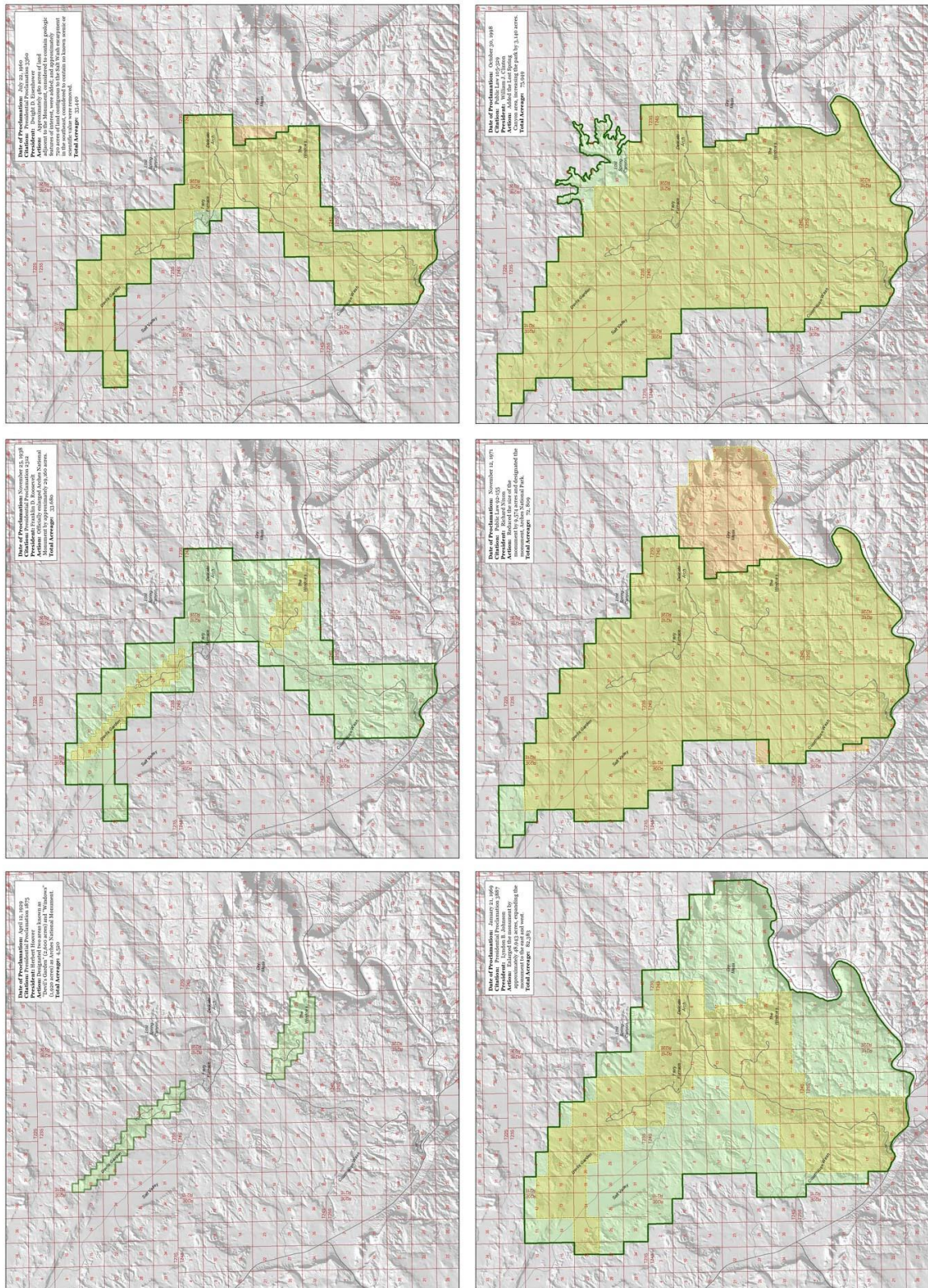
⁵ 34,009.94 according to the 1965 Master Plan.¹⁰² The exchange was completed November 12, 1963 for 320 acres, but the NPS did not receive confirmation of its completion until January 22, 1964.¹⁰³ The total should be 33,760; the 250-acre discrepancy is unaccounted for.

⁶ The addition of 48,943 acres to 33,760 would be a total acreage of 82,703, but if the 320-acre exchange of 1963 was already included in the total acreage, the total should be 82,383.

⁷ The act does not specify the acreage involved in the park designation. The 1980 Land Acquisition Plan lists the 1971 total acreage as 73,379, which would be a net reduction of 9,574 from 82,953. The reduction of 9,574 acres from 82,383 would be a total acreage of 73,129.

⁸ As Amended October 31, 1998, by Public Law 105-335 and March 10, 2000, by Public Law 106-176.

⁹ This parcel was donated to Arches National Park by the Canyonlands Natural History Association, but the park boundary has never been officially adjusted to include this, and the official park acreage does not reflect the inclusion of this parcel. The July 2013 Parkwide Road Maintenance and Modification Environmental Assessment provides a current park acreage of 76,679; the discrepancy of 160 acres is unexplained.



3-9. GIS map of Arches changing boundaries. National Park Service, Arches National Park. Courtesy National Park Service.

The largest addition of land to Arches came in 1969, involving an area 10.8 times larger than the entire original monument area of 1929, and 1.46 times larger than the monument after the 1960 boundary amendments. This included a large area adjacent to the eastern and northeastern boundary, Salt Valley and Klondike Bluffs, and the area between the monument and the Colorado River east of the visitor center and south of The Windows. The 1969 boundary correction was intended to forestall development, particularly oil and gas drilling, at the edges of the park, where these activities would be readily visible from most of the developed interpretive sites and trails. As noted in the Utah Geological and Mineralogical Survey report of 1969, this action was bitterly opposed by many within Utah who wanted to exploit these areas for oil and gas, potash, and uranium.¹⁰⁴ Furthermore, Johnson's use of the Antiquities Act to achieve this expansion during the final 90 minutes of his administration¹⁰⁵ exacerbated local passions, particularly among those who felt that Canyonlands National Park had been "oversold" with promises of extensive development, which were subsequently withdrawn. *The Salt Lake Tribune* characterized Johnson's actions as a "land grab," a term that has become a rallying cry for rural Utah, despite the *Tribune's* acknowledgement that the land in dispute already belonged to the federal government.¹⁰⁶

In response to pressure from the Utah congressional delegation, which had been holding hearings and had repeatedly proposed expansion bills in Congress,¹⁰⁷ some of the 1969 additions were stripped from Arches when it was declared a National Park in 1971. These consisted of two small blocks along the southwestern portion of the park and the large Dry Mesa area to the east. Creation of the park did result in an addition at the northwestern end of the park, an area that is an extension of the rock formations of Devil's Garden.

The deletion of Dry Mesa came with an unintended consequence, namely that access to this area is only available from within the park. The landscape north of Dry Mesa prevents building a road from the north, and sheer cliffs descend from Dry Mesa to the Colorado River on the south. This required companies seeking to do test drilling in the oil and gas leases there to obtain a special use permit to drive through the park. And, should any wells be developed on Dry Mesa (or in Cache Valley), field vehicles would only be able to access the sites through the park, although 36 CFR 5.6 does not grant the NPS authority to authorize commercial vehicle use on park roads.¹⁰⁸ Additionally, the 1971 inclusion of lands along the Colorado River has required management of resources that were not part of Arches' original mission, namely the preservation and interpretation of the wind-eroded formations of arches, towers, and bridges; Arches staff must now be concerned with water quality, aquatic recreation, and viewsapes within the canyon that are not visible from the rest of the monument. The re-inclusion of Dry Mesa remains a priority for Arches staff, as it forms the visual backdrop to Delicate Arch when looking towards the La Sal Mountains. As of this writing, a proposal to further expand Arches by 20,000 acres has been advanced by the Utah congressional delegation as part of the Public Lands Initiative (see Chapters 4 and 9 for further discussion); Dry Mesa constitutes the largest part of the proposed addition.

By 1980 it had become apparent to Canyonlands Complex staff that the 1971 Arches National Park boundaries imposed several new land management problems.¹⁰⁹ These included the 133 acres of the Grand County Riverway Park (now Lions Club Park) located on the north side of the Colorado River where it enters the Grand Valley, and 11 state-owned parcels of 6,902 acres that were completely within the park boundaries (see Chapter 4). Of the latter, 6,774 acres qualified for Wilderness status, but could be used for grazing or mining should Utah decide to lease or sell the parcels. Canyonlands Complex staff developed a Land Acquisition Plan that identified the specific parcels of state land and

recommended the development of a land exchange for federal lands outside of the park boundaries. The plan also recommended a legislative boundary adjustment to exclude the county park, which was patented lands obtained by Grand County before the boundary expansion and establishment of Arches National Park. The plan was forwarded to the Regional Director, Rocky Mountain Region in February 1980.¹¹⁰ Expansion of Arches National Park has also had the effect of negating some previous boundary fencing efforts, leaving the remnants of old boundary markers and range fences marking the 1938 boundaries, especially in the area west of Balanced Rock.¹¹¹

During 1957–1958, UDOT constructed a completely new alignment of US 191 south of the park.¹¹² This had the effect of creating narrow slivers of private land between the northern highway right-of-way and the then current park boundary, which had been established by Congress in 1938 as US 450.¹¹³ By relinquishing the old right-of-way, ownership of the parcels reverted to the previous owners, with two going to Atlas Minerals Corporation and three to the Bureau of Land Management. Although the five parcels totaled less than 10 acres, Arches staff members were concerned about these being used for unsightly billboards, with one of the parcels located almost directly across from the visitor center. Beginning in 1993, Arches lands staff and Superintendent Noel Poe began to investigate the requirements of such an acquisition. Arches negotiated with Atlas Minerals for a donation of two of the parcels after surveying them to make sure that they did not contain any residue of uranium processing.¹¹⁴ Arches received title insurance for three parcels in April 1994.¹¹⁵ As of 2018, however, the five parcels have yet to be incorporated into Arches National Park.

One additional boundary adjustment is described in the May 22, 2015, “Final Arches National Park Water Rights Agreement,” apparently in error. This is listed as an addition of October 1, 1993, Public Law 105-93, signed by President William J. Clinton. Public Law 105-93 (107 Stat. 995) renames the Federal Building and United States Courthouse located at 300 Northeast First Avenue in Miami, Florida, the “David W. Dyer Federal Building and United States Courthouse” and does not pertain in any way to Arches National Park. The 1998 addition of Lost Spring Canyon is discussed in detail in Chapter 7.

The 1940 Master Plan and Early Interpretation at Arches

The 1940 Master Plan envisioned a very modest interpretive program of guided field trips, a small exhibit room/museum (to contain one 12-case exhibit), a single trailside exhibit near “Unbalanced Rock” (now known as Balanced Rock), a nature trail through The Windows section, and a single overlook pullout between the Courthouse Towers and Balanced Rock:

*The amount of time and money expended in providing for the interpretation of these features depends upon the length of visitor stay and the number of visitors whom they will serve. Inasmuch as it is impossible to prophesy what future conditions beyond our control may do in the way of swelling visitor attendance, provision should be made to facilitate such expansion of the interpretive program as increases in travel may require, but interpretive development should follow demand and not precede it. This outline, therefore, is designed to cover the modest interpretational needs of the monument under present visitor conditions with provisions included for expansion if necessary.*¹¹⁶

Arches National Monument accommodated 2,512 visitors in 1940, a 41.52 percent increase over the previous year, but still only a few cars per day. The visitor contact station was located at Willow Springs; the headquarters building was really just the administrative offices for the monument, described further below, yet a few visitors managed to find their way there as well.¹¹⁷ Dr. J. W. “Doc” Williams offered in

1940 to donate “a number of historical and archaeological items” from his personal collection to be displayed at Arches “when storage and museum space is available.”¹¹⁸ During planning discussions about museum and interpretive space, Custodian Henry G. Schmidt also reported that many local pioneer families in Moab had offered to donate historical items for display, and he urged that adequate space be allocated.¹¹⁹ The first five accessions to the museum were prehistoric arrow points that Schmidt collected in 1940 “on the sand flat near Delicate Arch.”¹²⁰ Schmidt had previously sent Naturalist Natt N. Dodge an arrowhead from “an old Indian campground, in a sheltered cove halfway between The Windows and Courthouse Towers.”¹²¹ Regional Biologist W. B. McDougall conducted a reconnaissance of the flora and fauna of Arches in September 1941, which documented both the unique vegetative associations and the past effects of grazing on the landscape.¹²² Schmidt also sent pressed flowers from the monument to the University of Utah for identification in 1941, but had few other opportunities for research, most of his time being occupied with washouts of the entrance road. Schmidt did assess the potential requirements of Arches museum as 45 percent geology, 25 percent history, 20 percent archeology and ethnology, and 10 percent natural history.¹²³

Custodian Russell Mahan noted in April 1945 that the entire Interpretive Program at Arches National Monument consisted of just 12 slides.¹²⁴ This was considerably augmented in December 1946 when professional photographer Bernard B. Freeman provided twenty-four 3¼ x 4¼ and 4 x 5 negatives, four 3¼ x 4¼ and 4 x 5 transparencies, and twenty-eight 35-mm transparencies for interpretive use.¹²⁵ Mr. Freeman had taken the images for the NPS while shooting a magazine article earlier in 1946. Arches also offered duplicates of Kodachrome slides by professional photographer Jack Breed for sale at the headquarters during the early 1950s.¹²⁶ In 1960, Region Three debated returning photo negative files to individual parks for curation from the now defunct Southwestern National Monuments archives.¹²⁷

During the 1930s and 1940s, the custodian often led group tours of The Windows, Delicate Arch, Devils Garden, or occasionally Fiery Furnace; this constituted most of the monument’s interpretive program. Dr. J. W. Williams also guided tours,¹²⁸ and often accompanied NPS visitors to the scenic highlights.¹²⁹ But Custodian Henry Schmidt was admonished to curtail the use of “fancied resemblances in calling attention to the formations” following a visit by the director, although he “did not object to the Parade of Elephants, as being distinctive and possessing general interest.”¹³⁰ During the early decades of the monument the NPS also promoted the use of professional guides who could both ensure that visitors viewed the appropriate landscape features (and return) and interpret the story of wind-generated erosion. Arches National Monument also had few guidebooks or other informative publications available to the public. In January 1947, Custodian Mahan listed the following free handouts as constituting the entire inventory: “Glimpses of Our National Parks” (92), National Park Location Map No. 5 (5), National Park Location Map No. 6 (882), Southwestern National Monuments Information Folders (36), and mimeographed leaflets for Arches (600) and Natural Bridges (500).

During June 1941, Custodian Schmidt assisted Regional Geologist Dr. Ross Maxwell in a geological survey of the area, covering Devils Garden, Delicate Arch, Fiery Furnace, and Courthouse Towers.¹³¹ The biological reconnaissance started in October 1941 by Regional Biologist McDougall was terminated abruptly by a death in the family.¹³² Under the direction of Dr. D. Eldon Beck, Brigham Young University initiated the first study of the natural history of Arches National Monument in 1946 but it was not conducted in the field until 1950,¹³³ and comprehensive study of mammalian species was still identified as needed research in 1956. The dire state of interpretation at Arches in 1956 merited comment in the Master Development Plan:

*Under present circumstances about four out of five visitors never see a uniformed Park Service employee, and during the nine months of the year most of them never see a Government employee at all. Those who do meet an employee at headquarters have no opportunity to receive other than oral orientation. In many cases they meet nobody, because with present limited staff the only man on duty is frequently away from headquarters on other duties.*¹³⁴

Although cultural resources were less of an interpretive focus than geology, the early monument staff was on the lookout for relic hunters and looters in violation of the 1906 Antiquities Act, which requires a permit to collect or conduct excavations. Custodian Schmidt noted in 1941 that someone representing himself as an artist had been asking questions about the locations of Basketmaker cave sites in the area, and that he would be vigilant to make sure that they were not illegally excavating in the monument.¹³⁵ Schmidt also noted that professional archaeologists with the University of Utah and University of Denver had been working near Cisco in 1940. With the arrival of the electric grid to Arches in 1954, the park staff was able to rearrange the headquarters building and install a small exhibit of Southwestern National Monuments Association publications in early 1955.¹³⁶ In 1958 Erik K. Reed supported the development of a “cartoon-type Disney film” as the “most effective means of interpreting the geological story at Arches,” but lamented that it would be expensive and beyond the means of the Park Service at that time.¹³⁷

The Arches administrative records do not include any specifically interpretive files dated prior to 1962, when monthly records were filed by the park’s naturalist (for Arches–Natural Bridges National Monuments). Before that, the Monthly Superintendent’s Reports to Southwestern National Monuments detailed interpretive efforts. Records for November and December of 1962 indicate that wayside exhibits had been installed and fitted with counters to measure visitor use. At Arches, these indicated peak visitation at the roadside exhibits closest to the visitor center, falling off with distance: “La Sal Mt. Overlook, 145; Courthouse, 101; Fiery Furnace View Point, 65; and Skyline Arch View Point, 49.” At the same period, 724 visitor contacts were made at the visitor center and 394 visitors signed the wayside register.¹³⁸ These numbers dropped in December to 368 and 182, respectively.¹³⁹

Monthly notes about wildlife sightings were reported by the park’s naturalist, but beginning in December 1962, a card file was established at Arches to record sightings of birds, mammals, and reptiles. All employees were encouraged to report observations of animals to expand the known wildlife of the area. In that same month, however, the following incident occurred:

*The most significant wildlife observation made during the month, was a spotted skunk. The skunk was found in a kitchen drawer of the Naturalist house trailer. After many unsuccessful attempts to remove it without disastrous results, it was finally removed forcefully with disastrous results, the aroma of which is still faintly discernible.*¹⁴⁰

Records from January, March, April, June, and possibly July, 1967, were also retained in the archives.¹⁴¹ The only information on research and interpretation is for June and July when it was reported that pellet group transects were undertaken in April and May but showed no changes, an Arches interpretive ranger assisted Utah Fish and Game personnel in conducting range vegetative studies using line intersect transects at The Windows and Devils Garden, and a ringtail cat was observed near the entrance to Devils Garden. Most of the report filed under Conservation, Interpretation and Use for 1967 detailed issues of cattle trespass, lost hikers, fallen rocks, and weekend beer parties and associated litter.

The casual nature of research and interpretation of this period is emphasized by the inclusion of the bird species observations of Park Naturalist Dennis L. Carter, from November 8, 1964 to December 18, 1966 (including some observations from outside of Arches).¹⁴² Carter's observations range from the informal (December 20, 1964: "I saw a ROCK WREN on a brick wall outside my window at the visitor center today") to the first annual Arches National Monument Christmas Bird Count on December 22, 1964. The Audubon Society began Christmas Bird Counts in 1900 in response to perceptions of declining numbers of birds, due in part to a tradition of Christmas Day "side hunts," in which teams took to the field and competed for the largest number of birds and animals killed.¹⁴³ Carter, Ranger Robert Ferris, Ranger "Slim" Mabery, and Ted Tibbetts observed 782 individual birds of 23 species between 7 AM and 5 PM. The list included pintail duck and common merganser, as the observation points included a drive along Utah Highway 128 adjacent to the Colorado River. Other observations were made along the scenic drive, Courthouse Wash, and Salt Wash near Turnbow Cabin. These observations provide a valuable, but incomplete baseline historical database. The Audubon Christmas Bird Census, as it is now known, is one of the 26 indicators of climate change used by the Environmental Protection Agency in preparing their 2013 report on global warming.¹⁴⁴ Naturalist Carter continued making observations of birds until he transferred to Craters of the Moon in 1967, at which time his annotated list of 126 species was prepared for distribution to researchers and the interested public; two new species were observed shortly after the list was published.¹⁴⁵

Naturalist Carter was also responsible for the Arches library, which housed a variety of non-fiction and fiction pertaining to the Colorado Plateau, Utah, Four Corners, Mormons, and other topics relevant to Arches. Arches was selected as a pilot library for an accessioning procedure after naturalist Carter corresponded with naturalist Earl Jackson at the Southwest Archaeological Center about the collection. Between February and April of 1965, 294 items were accessioned into the library catalogue.¹⁴⁶ A few books were transferred to the Canyonlands National Park library.

Much of the research and interpretation of the monument period at Arches was conducted by outside institutions in the 1950s and 1960s. NPS Regional Naturalist Natt N. Dodge assessed the needs of then Arches National Monument for calendar year 1964, when three projects were listed as underway, two by outside research programs and one by Arches staff.¹⁴⁷ Brigham Young University had completed approximately 60 percent of an inventory of the natural resources of the monument by 1964, under the direction of Dr. Elden Beck, Dr. Stanley Walsh, and Dr. Glenn Moore, having made a collection of 300 herbarium specimens.¹⁴⁸ Brigham Young University biologists published a paper titled "The Vascular Plants of Arches National Monument" in 1964, with the research partially underwritten by the Southwestern Monuments Association, which agreed to purchase 500 copies of the final paper for sale. Arches was hoping to push BYU to finalize a study of the mammalian and reptilian species, and complete the inventory. Texas Tech University, under the direction of Dr. Alton Wade and Dr. Richard Maddox, had completed about 40 percent of a geological study of Arches, with a focus on geological structures, stratigraphy, and special features such as the salt plug in Salt Valley. In 1960, Texas Tech published the results as a 1:6000 scale color map of Cache Valley, which provided the fledgling Arches interpretive program with an important new visual tool.¹⁴⁹ Both projects were important for Arches as they were entirely funded by the respective universities, and when completed, would provide much-needed new interpretive material. The third project, an inventory of the archaeological resources of the monument, had suffered a serious setback at just over half-completion, when NPS Archaeologist Lloyd M. Pierson was transferred to another unit. In fact, serious archaeological study did not resume until 1987 when

1,160 acres were surveyed in the park frontcountry by archaeologists from the Midwest Archaeological Center (see Chapter 5). In March 1964, a collection of beetles made in Arches and sent to the “National Museum” (the Smithsonian Institution) for identification was found to contain one rare and one previously unknown species of tiger beetle.¹⁵⁰

Outreach to Moab and other local communities was also a major component of the early interpretive program at Arches. This included participation in the San Juan County Fair in Monticello, many lectures and presentations at the Moab Lions Club and other civic organizations, helping to organize a Grand County Archaeology Society (under the direction of archaeologist and ranger Lloyd Pierson), and entering a float in the 1960 Moab Uranium Days Parade to publicize the problem of litter.¹⁵¹ The float “consisted of a very large picture of the Grand Tetons mounted on a pickup with Administrative Assistant Yardic dressed in full uniform and surrounded by 8 small monument children in litterbug costume.”

Roads to Nowhere

On the day following the proclamation of Arches National Monument, access to its scenic wonders was exactly as it had been the day before—extremely difficult. Horseback travel was safer and more reliable, especially for those traveling from Moab, the nearest settlement. The initial development proposals recommended a visitor center at either Willow Springs or Turnbow Cabin, combined with a series of horse trails to the monument landmarks, but Balanced Rock became the de facto visitor center, providing an area to camp and trailheads to the known arches. Yet, getting to Balanced Rock required negotiating some large impediments to travel.

A three-span bridge was erected across the Colorado River in 1912 (Figure 3-10), replacing a small ferry, but the Moab Fault formed a bigger obstacle to vehicular access from the south.¹⁵² For automobiles, US 450 (subsequently designated US 160, US 163, and now US 191)¹⁵³ between Crescent Junction and Moab allowed two points of access at (upper) Courthouse Wash and Salt Valley (Table 3-5). This road was gravel-surfaced until 1938, when the State Highway Commission oiled the last section.¹⁵⁴ Willow Springs Road and Salt Valley Road provided the only vehicular access routes until the scenic drive was completed from the headquarters area to Balanced Rock in 1958. L. L. Taylor began to agitate for civil works projects to assist in building a road into Arches as early as November 1933, but it was “Impossible to include it in national park program” at that time, according to NPS Director Arno B. Cammerer.¹⁵⁵

Frank A. Beckwith described the “temporary” road to Willow Springs in 1933 as being 4.8 miles in length, from the end of which a visitor would have to proceed on horseback the remaining 4 miles to The Windows or 5 to 7 miles to Devils Garden; a “poor dirt road” in Salt Valley beginning near Valley City Junction could be driven to within 1 to 2 miles of Devils Garden, but left visitors on the opposite side of the valley from The Windows.¹⁵⁶ Beckwith’s Arches National Monument Scientific Expedition made camp at Willow Springs and packed with horse trains into Windows and other localities they examined, as this was easier than attempting to drive.¹⁵⁷ Langley’s report states that “a poor road 4.8 miles in length has been opened into the camp ... and is being clayed at the worst sections.”¹⁵⁸ The context of his observation indicates that the 15 men of the Civilian Works Administration camp (the Arches Scientific Expedition) were responsible for the road improvements.



3-10. View towards the east of a White Motor tour bus crossing the 1912 Colorado River Bridge north of Moab, Utah, 1923. “Devil’s Garden section Arches Nat’l Mon,” GB-8373, Denver Public Library. (Photo credit: George L. Beam). © Denver Public Library. Used with permission.

The separation of the two units of Arches National Monument from main roads established an important distinction between an “entrance road” into the monument and a “scenic drive” within the monument. The earliest roads to Arches were envisioned and described as providing access to Arches. With the completion of the temporary road spurs from Balanced Rock to Windows, Delicate Arch, and Devils Garden, Custodian Mahan began to distinguish between “approach roads” and “monument roads.”¹⁵⁹ It was not until much later, when the focus of visitor services shifted from Balanced Rock to the visitor center, and a road extended from the visitor center to the monument attractions, that the “entrance road” became just the short section of pavement linking US 191 to the visitor center. NPS personnel continued to refer to the entire scenic drive as the “entrance road” for years after this change was effected, however, creating a confusing legacy of designations.¹⁶⁰ The 2013 Parkwide Road Maintenance and Modification Environmental Assessment perpetuates the confusion by referring to the Main Entrance Road.¹⁶¹

Table 3-5. The History of Primary Road Construction and Improvement in Arches National Park

YEAR	LOCATION	LENGTH (miles)	SURFACE	CONSTRUCTOR
<i>Willow Springs Road – In use by 1933¹⁶²—the original entrance road. Graded and redesignated Utah 93 in 1936. Abandoned as Arches Entrance Road in 1958. Remains in use as a four-wheel-drive route.</i>				
>1928 ¹⁶³	US 450–Willow Springs	4.8	Dirt two-track	Unknown
1934	US 450–Willow Springs	4.8	“clayed”	Civilian Works Administration
1936	Courthouse Wash to Balanced Rock vicinity ¹⁶⁴	~7.0	Graded dirt	Grand County
1936	Willow Springs to the Garden of Eden	5.0	Two-track	Harry Goulding
<i>Salt Valley Road – Remains in use as access to Klondike Bluffs.</i>				
<1908 ¹⁶⁵	Thompson to near Devils Garden	27.0	Unimproved dirt	Unknown/Grand County
1945	Valley City to “lower end”	?	Graded dirt	Unknown
2000–2001	Within Arches National Park	?	Gravel	NPS–SEUG
<i>Scenic Drive¹ – Completed road dedicated August 24, 1958.</i>				
1941	US 450–Three Penguins	<1	Graded dirt	CCC
1947–1948	Balanced Rock–Skyline Arch	9.2	Graded dirt	Multiple ²
1950	Entrance Road in Headquarters area	?	Gravel	NPS
1957–1958	Entrance Station to Balanced Rock	9.2	Oiled gravel ³	Strong Construction
1963	Balanced Rock–Devils Garden (Realigned entire section)	8.96	Asphalt	Stout Construction Co.
1964–1965	Entrance to Balanced Rock	9.2	Asphalt	Corn Construction Co.
1971	Route 1B Sta. 132+50–230+00 (Reconstruct five segments north of Delicate Arch Spur)	?	Asphalt	Schocker Construction Company
<i>Headquarters Service Road</i>				
1941 ¹⁶⁶	Scenic Drive to headquarters	0.4	Graded dirt	CCC
1959 ¹⁶⁷	Entrance Road to residences	?	Asphalt	LBJ Construction Co./NPS
1964	Utility area and residence road	?	Asphalt	Corn Construction
<i>Entrance Road – After completion of Entrance Station in 1960; US 191 to Entrance Station</i>				
1988	Repair Bloody Mary Wash Culvert	n/a	n/a	Redrock General Masonry/NPS
2003	Moved entrance intersection southeast – culvert abandoned	~0.25	Asphalt	UDOT/WW Clyde Construction
2013 ¹⁶⁸	Realigned spur to residential area; added outbound lane	?	Asphalt	?
<i>Windows Road – Realigned 1960–1962 and dedicated May 5, 1962.¹⁶⁹</i>				
1936	Willow Springs to The Windows	5.0	Two-track	Harry Goulding
1944	“Windows section road”	?	Graded shale	Utah State Highway Maintenance
1947–1948	Balanced Rock to Windows	1.5	Graded dirt	Grand County
1960–1962	Scenic Drive to Windows Loop (included)	2.795	Asphalt	W.W. Clyde Construction
<i>Picnic Area Loop – 1948 route ended at Skyline Arch; extended 1949 to “Terminal Loop”¹⁷⁰</i>				
1949 ¹⁷¹	Devils Garden Loop	?	Dirt	Unknown
1963	Route 1 to Devils Garden Picnic Area (loop is 0.6 miles long)	1.4	Asphalt	Stout Construction Co.
2013	Expand parking from 137 to 225 spaces	?	Asphalt	?
<i>Shale Pit/Garbage Pit Road – Open pit mine for road and trail base was reused as a monument landfill circa 1962 until sometime after 1975.⁵</i>				
1948 ¹⁷²	Spur from Route 1A	?	Graded dirt	Unknown
<i>Devils Garden Campground Loop</i>				
1964	Devils Garden Campground road and 39 spurs	0.7	Asphalt	Earl Troop
<i>Delicate Arch Spur – before 1908 a two-track extended 27 miles to Wolfe Ranch</i>				
1947–1948	Scenic drive to Turnbow Cabin ⁴	1.2	Graded dirt	Bureau of Public Roads

YEAR	LOCATION	LENGTH (miles)	SURFACE	CONSTRUCTOR
1993	Scenic Drive to Wolfe Ranch	1.5	Asphalt	NPS
1994–1995	Scenic Drive to new Delicate Arch Viewpoint; Wolfe Ranch Parking Lot	2.55 ¹⁷³	Asphalt	Mendez Construction
<i>Delicate Arch Viewpoint Road – Reconstructed 1994–1995 and parking area moved. Delicate Arch is no longer visible from parking area and parking area is no longer visible from Delicate Arch.</i>				
1951	Turnbow Cabin to Delicate Arch Viewpoint	1.3	Graded dirt	Grand County/ NPS
1994–1995	Wolfe Ranch to Delicate Arch Viewpoint	1.3	Reconstructed	Mendez Construction/NPS

¹ Madrid (1993) identifies this as the “Arches National Park Main Entrance Road” and lists length as approximately 18.5 miles. Because this is the entire park drive, and to distinguish the section between US 191 and the Entrance Station, we refer to this as the scenic drive. The NPS also uses scenic drive for all of the park roads, without capitalization.

² Grand County and Utah Department of Publicity and Industrial Development.

³ 1955 Road & Trail System map depicted Route 1 and Route 2 as paved, although the entire distance to Devils Garden was not completely graded until 1958, and not paved until 1963–1965, following a realignment.

⁴ First Custodian James Turnbow owned the ranch homesteaded by the Wolfe Family, and for many decades it was known as Turnbow Cabin. Historic research done in conjunction with restoration work in the 1960s revealed that the chain of ownership and the original name was restored.

⁵ A second shale pit was in use before 1941, and was often referred to in Monthly Narrative Reports. Its location was not described, but it may be the Route 12 of 1955, a spur off of Salt Valley Road.

As discussed below, frequent changes in the names and numeric designations of the roads makes tracing their development difficult; Table 3-5 draws upon road system and construction project maps, road construction project files, and management plans to describe the evolution of the Arches road system. Routine maintenance projects, including chip-and-seal coatings, are not shown, but have been undertaken periodically to preserve the asphalt. The best overview of the overall road and trail system was produced in 1975 (see Figures 3-22 and 3-23).¹⁷⁴ The configuration of the entrance road and Delicate Arch Spur have changed since then, but this is the most accurate depiction and most comprehensive list of routes available for Arches National Park, providing a visual reference for locations discussed below and the relative scale of different segments of the system. Some information regarding the road system remains elusive, particularly the scope of some projects. Completion reports, where available, sometimes fail to describe the scope of the project, and some more recent project records and maps have yet to be curated in accessible collections.

In 1936, Grand County graded the route from US 450 along Courthouse Wash to Willow Springs.¹⁷⁵ Using this improved road, Harry Goulding (Navajo trader and founder of the eponymous trading post near Monument Valley, Arizona) was the first person to drive a motor vehicle into Arches National Monument on June 15–17 of that same year, accomplishing the 9-mile round trip from Willow Springs to The Windows and back after equipping his car with special “balloon” tires for the deep sand.¹⁷⁶ Goulding made the drive three days in a row, taking with him various passengers, including “Doc” Williams and Harry Reed on June 16, and Reed, “Bish” Taylor, and visiting NPS Ranger Deric Nusbaum on June 17.¹⁷⁷ Courthouse Wash was sandy and flooded frequently, often stranding inexperienced travelers.¹⁷⁸ Although the road was in less than ideal condition, Grand County and the Dalton Wells CCC camp enrollees worked to keep it passable.¹⁷⁹ Custodian Harry Reed observed in July 1938 “that out of the three hundred visitors during the past two months only two have complained seriously about the road and all have agreed that the trip was well worth making.”¹⁸⁰ The turnoff to Arches was 20.2 miles south of Crescent Junction, and for many years the entrance road was designated State Route 93

because much of the land it traversed was owned by the state of Utah.¹⁸¹ Signs directing travelers to Arches National Monument were not installed on US Highway 160 until 1938.¹⁸²

Custodian Henry Schmidt constructed the first actual piece of Arches National Monument infrastructure in December 1939 when he erected a 12 by 14 foot frame entrance station on State Highway 93, about 5 miles west of Double Arch near Willow Springs.¹⁸³ Southwestern National Monuments had transferred a used 14 by 16 foot wall tent from Chaco Canyon to Arches earlier in 1939 for use as a temporary contact station, but Custodian Harry Reed found it to be “practically worthless.”¹⁸⁴ As the contact station was located outside of the monument boundaries, Schmidt applied to the Division of Grazing for a permit for the station.¹⁸⁵ To help him in performing his duties, Schmidt was assigned a new Chevrolet pickup truck in 1940 (possibly the vehicle visible in Figure 3-25b).¹⁸⁶ Perhaps optimistically, a 1941 tour guide for Arches stated that “roads are unimproved, but are patrolled six days each week, and offer no difficulties if speed is kept below 35 m.p.h.”¹⁸⁷ As of 1940, trails in Arches were not marked, and guides were recommended “who will explain the invisible geology behind the visible forms.”

The road in Salt Valley was improved by Grand County for local ranchers, but during the first two decades following the monument proclamation, it offered the only vehicular access to Devils Garden. Custodian Henry Schmidt clocked the distance in 1939 from the “concrete bridge, one-half mile from Valley City, on the old Valley City–Thompson cut-off” as 22.0 miles one way to Turnbow’s Cabin.¹⁸⁸ The main entrance road required a 14-mile round-trip hike to view Landscape Arch and 8 miles to visit Delicate Arch, from Balanced Rock: “By the use of the road in Salt Valley these distances are cut to 3 miles for Delicate Arch and 6 miles for Landscape Arch.”¹⁸⁹ Custodian Mahan evidently upset superiors in the regional office in 1945 by requesting that Grand County make some improvements to this road by “running their patrol over the existing road to make it passable.”

*This road is not signed as an entrance to Arches National Monument and there is not much danger that visitors will use this road as it cannot be distinguished from the hundreds of other roads that leave the main highway in this section of country. They will certainly not use it when a first class road is built into the areas in question. One year of non-use will practically obliterate the spur road built to the Devil’s Garden.*¹⁹⁰

The Salt Valley Road remains in use as the primary access to Klondike Bluffs, with visitors approaching both from the park from the southeast and from US 191 to the northwest. Visitors with passenger cars can enter or exit the park using this road, which intersects with the paved scenic drive near Skyline Arch. The Willow Springs Road and Herdina Park roads are strictly for four-wheel-drive vehicles, and passenger cars are excluded. The roads currently signed on US 191 for the Klondike Bluffs trails and Klondike Bluffs North trails provide access to a network of jeep, mountain bike, and hiking trails that are mostly on BLM and Utah lands, but do not provide easy access to Marching Men or Tower Arch.

A scenic drive that allows visitors to drive through Arches, with more than one access point into the monument, was never seriously considered, and the residents of Moab actively opposed such a possibility in 1938.¹⁹¹ The favored one-way route had “an entrance through Courthouse Towers to The Windows and then to Devils Garden, with a turnaround at the latter place, and either a return trip over the same road or a parallel loop road, provided the exit is over the same entrance road.” The location of the monument road was largely predicated on the location of the monument headquarters; although some early development proposals placed the headquarters near Willow Springs or Balanced Rock, a location in Moab Canyon and actually within the monument boundaries was the preferred proposal.¹⁹²

The Moab Canyon location had a developable water supply, unlike Willow Springs, and would provide “bottleneck” travel control:

*It is feared that construction of an entrance via Willow Springs would be followed by pressure ultimately to construct on out to Moab Canyon, providing two entrances and through traffic, further diffusing control, increasing administrative expense, and greatly impairing the primitive scenic qualities of the monument.*¹⁹³

No funds were allocated for any development in Arches until the Civilian Conservation Corps established a camp near Moab in 1940. All of the design surveys for roads, trails, interpretation, and infrastructure were undertaken by specialists from the Southwestern Monuments Headquarters in Coolidge, Arizona, or from Washington, D.C., who visited Arches during a series of field trips in 1940. For naturalist Natt N. Dodge, this involved overnight drives of 28.5 hours and 26.5 hours between Coolidge and Arches and back, plus a day trip to Mesa Verde National Park and back to Moab.¹⁹⁴

In 1939–1940 a reconnaissance was undertaken for an 8-mile-long entrance road from the new headquarters at the base of the Moab Fault to The Windows section, a new route that intersected with the highway closer to Moab, essentially following the route still in use to Balanced Rock.¹⁹⁵ The Willow Springs road was deemed substandard, and it was proposed that it be bypassed by the new entrance road, blocked, and obliterated. In addition, the entrance road plan of 1940 included a half-mile-long service road connecting headquarters units, a parking area at the proposed new administrative building with a capacity of “20 automobiles, or less,” and a parking area at the end of the Windows road with a capacity of 50 cars maximum. A road from Balanced Rock to Devil’s Garden of approximately 10 miles was also proposed for the “future.”¹⁹⁶ The new route involved a series of switchbacks, roughly paralleling part of an old Mormon dugway (an excavated, below-grade roadbed, cutting through the ridge northwest of the headquarters area), to ascend the Moab Fault scarp. Work began on a road of this basic design in 1941 using CCC labor, including construction of a masonry bridge over the wash between Highway 160 and the new headquarters and residences at the base of the Moab Fault.¹⁹⁷ The dugway was originally recommended as part of the monument interpretation by Dodge, who suggested the construction of a trail from the administration building/museum to the remains of this historic wagon road (destroyed by expansion of US 191 in 2003).¹⁹⁸

Civilian Conservation Corps

The economic relief programs implemented by the administration of President Franklin D. Roosevelt, collectively known as the “New Deal,” provided the National Park Service with a huge pool of labor for construction projects, and a ready source of work for those enrolled in the programs.¹⁹⁹ It is not an exaggeration to state that even after the implementation of the Mission 66 program, the majority of NPS developments have been constructed by New Deal programs. The Civilian Conservation Corps (CCC) was perhaps the most active New Deal program in the NPS, although the Works Progress Administration (WPA) was also active in large-scale archeological projects. The CCC enrolled young men, particularly from urban settings, and placed them in primarily rural settings to undertake a variety of construction tasks, including infrastructure for national parks and national forests, archaeological excavations under the 1935 Reservoir Salvage Act (construction of large reservoirs being another component of the New Deal), and construction of features to mitigate widespread erosion from the Dust Bowl climatic event. The CCC started in 1933 and grew to 1,500 camps by early 1940, located throughout the United States.²⁰⁰ Although the camp originally planned for Moab in 1939 was reallocated to Texas, a well for a

future CCC camp near the entrance to Arches National Monument was drilled on December 7, 1939, in anticipation of the April 1, 1940, construction date.²⁰¹ The CCC camp of 200 men was designated for exclusive use in developing Arches National Monument.²⁰² Forty enrollees from the existing camp at Dalton Wells built the Moab camp under the direction of Lt. Edward Coffin.²⁰³ The camp was located on a 10-acre site near the mouth of Moab Canyon, half a mile west of the Colorado River and 1 to 2 miles from the monument headquarters (Figure 3-11).²⁰⁴ Camp Arches NP-7-U was part of Company 6428 in the Fort Douglas District.²⁰⁵ The Fort Douglas district was established in 1933 and administered between 16 and 46 camps in Utah, Idaho, Nevada, Wyoming, and Arizona. Harry G. Letts (Captain, Infantry Reserve) was Company Commander, following the unexpected suicide of Lieutenant Woodrow W. Tickle after 3 weeks on duty.²⁰⁶



3-11. Aerial view of the Civilian Conservation Corps camp adjacent to the Colorado River, 1939–1941. The Dorris Yates “Doc” Bumgarner Photograph Collection ca. 1939–1941 ARCH 3994, SEUG Museum Collection.

After completing construction of the camp, the CCC crews immediately began to assist park staff in maintaining the existing Willow Spring entrance road, building a new headquarters building in Moab Canyon, and constructing a new entrance road up the Moab Fault. Construction was under the direction of Project Superintendent W. W. Welton, who had “a gasoline shovel, tractors equipped with bulldozers, jackhammers, compressors and graders” available for heavy construction.²⁰⁷ Custodian Henry Schmidt worked 5 days per week as foreman on the construction crew, in addition to his other duties to the monument.²⁰⁸ The custodian’s residence was built in 1941 adjacent to the new headquarters building, based on a design from Region III, Branch of Plans and Designs:

*The structure is sited on a modified rectangular plan approx. 60' x 27' within a single story and a small utility basement. The exterior walls of red pitched-faced random ashlar sandstone masonry with mutined double hung sash inset. A gable cedar shingle covered roof is above with white fascia and trim and with a shed roof extension over slate porch infilling the east corner. A central chimney stack, also of ashlar, protrudes from the roof. Inside are 4 large rooms partitioned with framing and wallboard.*²⁰⁹

The project required 3,214 “man-days” of labor and cost \$5,830.20.²¹⁰ Custodian Schmidt estimated that the house was 95 percent complete when the CCC was disbanded and withdrew in 1942, so he hired two carpenters and a painter to assist him in completing the house, which involved sanding the hardwood floors, installation of linoleum flooring in the kitchen, installation of window screens, final finishing of wood trim, and interior painting.²¹¹ This house had only two bedrooms, however, and during its occupation by Superintendent Bates Wilson, his son lived in a “shack” behind the house, with his two daughters occupying one of the bedrooms.²¹² Construction of a fence, graveled driveway, and landscaping was accomplished by Custodian Lewis T. McKinney, the first resident of the house, in 1942–1943.²¹³ Work on the picket fence (which extended to the headquarters area) continued in 1945–1946 under Custodian Mahan, but it was not painted until 1947.²¹⁴

In addition to these accomplishments, CCC Camp NP-7-U also experienced its share of problems. Camp enrollees were drawn from the Carolinas and other Deep South states, and were unaccustomed to Utah’s climate. To protest what they felt were harsh working conditions during inclement weather, they staged a work strike on December 18, 1940.²¹⁵ Enrollee Griner led the strike, and he and the other leaders and assistant leaders who refused to work were demoted by Project Superintendent Welton, when the Commanding Officer failed to act. One enrollee who had declared that he would work that day was beaten with two brooms and ended up in the infirmary for 2 days to recuperate from his injuries. Sometime during the night of December 17 or 18, 1940, the camp telephone line was sabotaged, with sections of the line cut out between approximately 40 poles, by a large number of men wearing overshoes for the snow. Although the perpetrators were never identified, Schmidt, Welton, and the Sheriff all concluded that the vandalism was in retaliation for the punishment meted out following the strike, rather than an attempt to steal the wire for scrap.²¹⁶ Commanding Officer Captain Pressley resigned effective January 21 as a result of the action.

The CCC crews also built a 20-foot-long multiplate steel arch culvert with masonry headwalls across the wash flowing at the bottom of the Moab Fault scarp (Moab Canyon Wash), and 0.3 miles of entrance road between Highway 191 and the new headquarters (Figure 3-12).²¹⁷ Work had just begun on the first 3-mile-long section of scenic drive between the headquarters and Courthouse Towers when World War II broke out. According to a 1940 memorandum, “It is proposed at present to build only to The Windows section; the route to the Devil’s Garden is for future construction not contemplated for the CCC.”²¹⁸ Less than 1 mile of this route was actually completed, to Three Penguins, when the CCC was disbanded and the camp withdrawn from Moab on May 31, 1942. The camp was completely dismantled by February 1943, except for the Maintenance Shop, which was moved to the Arches Headquarters area; the other buildings were demolished and used for firewood.²¹⁹ Materials were also purchased to construct an equipment storage shed but “the camp was terminated before it was possible to begin construction on this building.”²²⁰



3-12. Members of the CCC during construction of the entrance road culvert on Moab Wash, 1941. The Dorris Yates “Doc” Bumgarner Photograph Collection CA. 1939–1941 ARCH 3994, SEUG Museum Collection. The image is titled “buildingshelter” but is clearly a depiction of the entrance road culvert.

Construction of the road required large quantities of dynamite for blasting through the sandstone cliff edges. In January 1941, the CCC camp had on hand 8,779 pounds of 20 percent dynamite, 18,666 pounds of 40 percent dynamite, and 9,022 electric detonation caps with lead wires stored in the only powder magazine in Grand County.²²¹ This magazine was adjacent to the bridge over the Colorado River (the man-made caves in the cliff east of the northern abutment, now in Lions Park). Due to concern about infiltrators and saboteurs, the magazine was placed under 24-hour guard using “competent and responsible enrollees” during the day and the CCC camp foreman at night; as of January 11, the State Road Commission had yet to arrange for guards on the bridge.²²² The December 7, 1941 Japanese attack on Pearl Harbor, Hawaii, led to more stringent security of the camp and explosives under the provisions of the Federal Explosives Act:²²³

1. *A nightwatchman is on duty every night at the Headquarters Area and Custodians Residence. He is instructed to immediately report any irregularity to the Foreman in charge of quarters.*
2. *Daily inspection is made of all work projects and machinery.*
3. *Daily check is made of the powder and cap magazines, also area around same.*
4. *All keys, etc., to automotive equipment is placed under lock and key every night. This also pertains to camp buildings under the direct jurisdiction of the Park Service.*²²⁴

By March of 1942, the road construction project was using 500 blasting caps and 1,000 pounds of dynamite a month; 4,633 caps and 24,958 pounds of dynamite were on hand at that time.²²⁵

As the United States involvement in World War II deepened, the few visitors to Arches found a new headquarters that was still 8 miles distant from the functioning Willow Springs entrance road, the same problematic route improved in 1936. In 1942, Bureau of Mines Engineer Sam Hendricks proposed certifying a road to Turnbow cabin as being “a necessity for the development of critical minerals there” as a way to get the road construction funded during wartime shortages.²²⁶ Realizing that if such a road were built it might embolden the Turnbows to refuse to sell their property to the Park Service, and might open the monument to further mineral encroachment, the plan was quashed by Southwestern National Monuments. The Park Service had only the previous year turned back an attempt to develop a vanadium mine near Fiery Furnace.²²⁷ Completion of the scenic drive and development of visitor services was put on hold until the war ended.

VISITOR COMMENTS ON ROADS

“This is a beautiful area but the paved road has created a monster; too many cars/people. The park service would do the public, and the land, a favor by stopping this madness. Heed Ed Abbey’s suggestions. Creat [sic] a shuttle system and eliminate all private motor vehicles from the park. Everyone wants to see the beauty of the land not masses of people. Some may not like this system but those who really want to enjoy the park would be delighted. Most people would support this change.

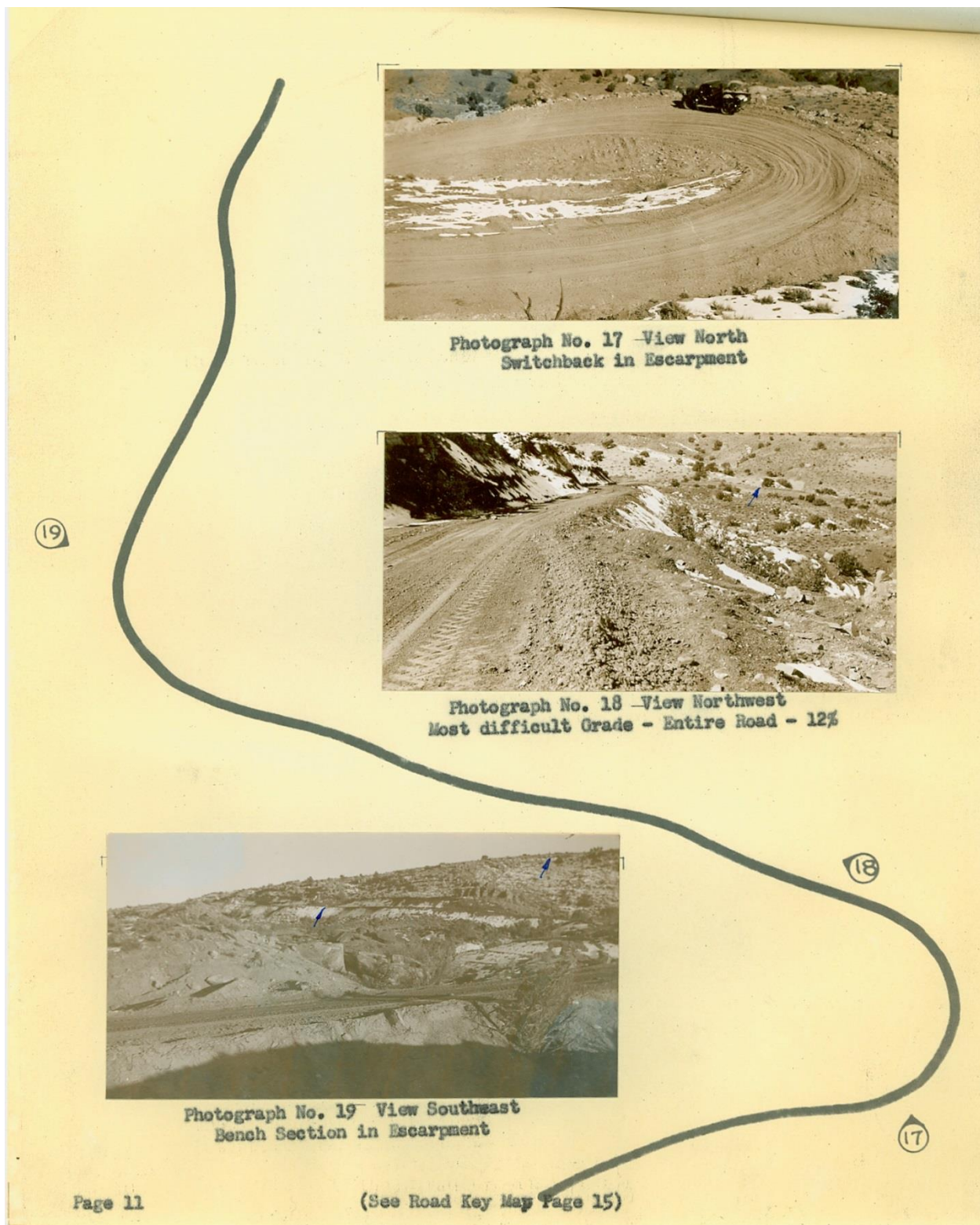
The park employees are very helpful + informative.”

Visitor, January 2, 1998

Post-War Road Construction Resumes

Following the end of the war in 1945, vehicular and visitor demands on Arches increased dramatically and suddenly, although no further development had taken place during the war years. In August 1947, NPS staff surveyed temporary spur roads to Turnbow Cabin and Delicate Arch, Fiery Furnace, and Devils Garden, originating from the terminus of the Willow Springs Road near Balanced Rock. By 1948, the scenic drive from Balanced Rock to Devils Garden was completed, and a spur road to Turnbow Cabin was under construction using equipment and crews supplied by Grand County and the Utah Department of Publicity and Industrial Development (Figures 3-13 to 3-16).²²⁸ Both routes had yet to be surfaced due to delays caused by severe winter weather in that year, but 2 weeks of additional work were estimated to complete the job. A 1949 map of roads, springs, and monument boundaries depicts the completed road network, with roads to The Windows, and Devils Garden and Delicate Arch (splitting in Salt Valley).²²⁹ The Fiery Furnace spur was temporarily postponed, in part because the county had deferred road work elsewhere that needed immediate attention. New trails to Delicate Arch and Devils Garden were surveyed in conjunction with the road work, but the construction did not take place until 1954.²³⁰ Two pit latrines were constructed in early 1947 at The Windows, the first formal rest facilities in Arches National Monument.²³¹ Drinking water was made available at the same location later that same year, using war surplus water tanks. A Wayside Exhibit with directions, interpretation (including photographs by former custodian Harry Reed), guide brochures, and register book was started near Balanced Rock in 1950²³² but was not completed until early 1951.²³³

Bates Wilson purportedly constructed the Delicate Arch viewpoint road (the portion from the new Lower Viewpoint parking area to the 1951 Lower Viewpoint parking area was closed in 1994–1995) using Grand County equipment loaned by County Commissioner “Bish” Taylor, following an old mining road in Cache Valley, thus bypassing normal NPS procedures.²³⁴ The viewpoint allowed the “man in the pink Cadillac” to view Delicate Arch without leaving his car, one of the developments that gave Arches a reputation as a “windshield park.” Landscape architect Carl Alleman inspected the newly constructed road in Cache Valley from Turnbow Cabin to the Lower Delicate Arch Viewpoint in June 1951, reporting to the regional landscape architect that the new road “will serve to eliminate a great number of public complaints” on the part of those who did not want to hike from Turnbow Cabin.²³⁵ Alleman’s report also



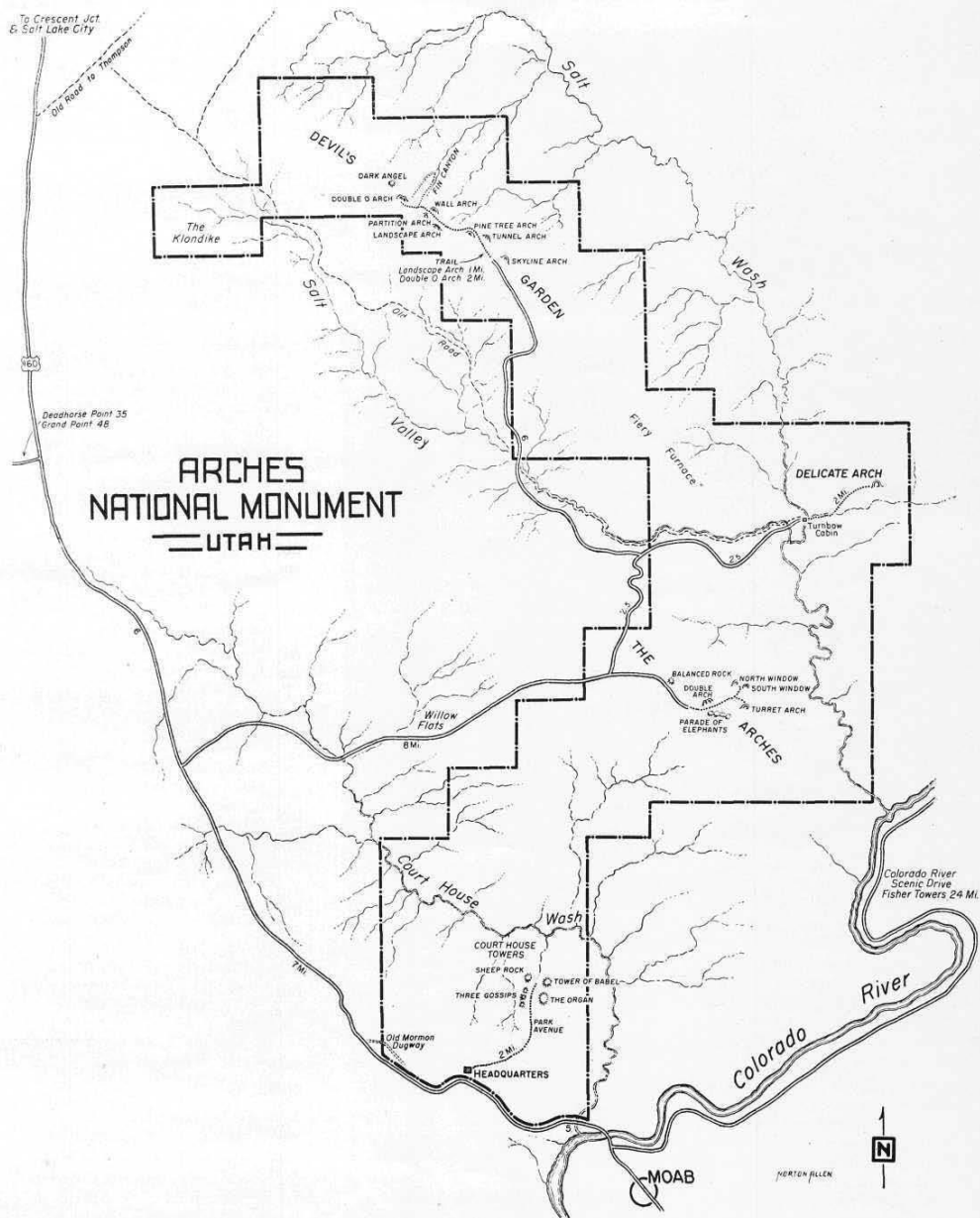
3-13. Reproduction of Page 11 of the report by Carl W. Alleman (1948): "Foot Trail Delicate Arch Area and Road Construction," showing construction of the Arches scenic drive, ca. 1947/1948. ARCH 101/003-001, SEUG Archives.



3-14. Construction bulldozer at work on the Arches scenic drive, 1947/1948. Marginal note in Alleman (1948) report identifies the operator as Jack Beeson. Alleman Report Photo No. 27, "Diesel Caterpillar Dozer (D-7)" ARCH 101/003-060.149, SEUG Archives. (Photo credit: Carl Alleman).

makes clear that Wilson's construction of the road was undertaken as part of planned and approved NPS developments, which included collaborations with Grand County and the state of Utah, and was not a circumvention of the proper procedures by Wilson. Wilson was reprimanded, however, for failing to dispose of used equipment properly in 1953 when he traded or sold without advertising some used tools.²³⁶

According to NPS Landscape Architects Charles Carter and Carl Alleman, the road and spurs constructed in 1947–1948 were supposed to be temporary (with the exception of the spur to Wolfe Ranch), and were to be placed outside of the staked centerline for the "permanent" road that was to be constructed at some undefined point later in time.²³⁷ Subsequent correspondence regarding roads makes no mention of "temporary" or "permanent" roads, and it seems that much of the road built in 1947–1948 between Balanced Rock and Devils Garden became the "permanent" road following additional modification in 1956–1958.²³⁸ It was not until 1963–1965 that the scenic drive north of Balanced Rock was realigned to a completely new route that was carefully designed to be as inconspicuous across the landscape as possible. The Arches scenic drive was recognized in 1966 by the American Society of Landscape Architects as one of the three most outstanding roads constructed under the Mission 66 Program; the other two were for roads in Bryce Canyon National Park, Utah, and Ft. Caroline National Memorial, Florida.²³⁹



*This map, recently revised by Custodian Mahan, shows the new roads in the Monument.
Double lines are dirt roads subject to weather conditions. Dotted lines are foot trails.*

AUGUST, 1948

27

3-15. Map of the roads and trails of Arches National Monument, from "Utah's Incredible Arch of Stone," *The Desert Magazine*, August 1948. A copy of this map without the byline is curated in ARCH101/003-059, SEUG Archives. (Map drawn by Norton Allen).



3-16. View of Skyline Arch from the under-construction scenic drive, 1947. ARCH 4020-029, SEUG Museum Collection. (Photographer unknown)



3-17. Willow Springs Road (State Route 93) in the aftermath of heavy rains, 1957. ARCH 104/000012, SEUG Archives. (Photo credit: Lloyd Pierson).

Arches National Monument immediately advertised the new spur roads and improved surface of the entrance road with articles in major newspapers, resulting in a dramatic increase in visitation, from 4,701 in 1947 to 8,500 in 1948.²⁴⁰ On August 22, 1949, the Lions Club of Moab made a request to Congress to appropriate funds to complete the 9-mile-long scenic drive started by the CCC; a survey was undertaken in 1950, but the project was not funded until 1956 as part of Mission 66.²⁴¹ Mission 66 was an ambitious development project for the National Park Service during the 10-year lead-up to the 50th anniversary of the NPS (discussed in greater detail below).²⁴² The 1950s witnessed explosive increases in visitation at Arches, in conjunction with some vexing weather events. Heavy rains in 1957 washed out the scenic drive and Willow Springs Road, leading to a closure of the monument for 30 days, with a resultant drop in visitation of more than 3,000 people over the same period in 1956 (Figure 3-17).²⁴³

During the Mission 66 planning for Arches National Monument, significant alterations to the 1940 Master Plan were proposed by General Superintendent John M. Davis, and ultimately rejected by Regional Director Hugh M. Miller.²⁴⁴ Extending the monument's scenic drive beyond Devils Garden to US 160 was again suggested, but would have required two points of access, doubling the number of rangers on duty, and potentially opening the monument to commercial vehicle traffic.²⁴⁵ The drive-through scenic drive was rejected on these grounds, but the construction of a road to Landscape Arch was seriously considered:

*We concur in the proposal for extending the Devil's Garden road to the vicinity of Landscape Arch. We prefer that such road terminate probably 1000 feet from the Arch in order that automobiles will be kept entirely out of view. Such arrangement would make Landscape Arch accessible to all and Delicate Arch accessible to those willing to make the hike.*²⁴⁶

To protect Delicate Arch, Miller recommended no improvements to the road beyond Turnbow Cabin. During the final assessment of the Mission 66 Prospectus, virtually all of the proposed deviations from the 1940 Master Plan were rejected, and the scenic road and other infrastructure were constructed as previously proposed. Mission 66 planning also resulted in formal route designations for the first time (Table 3-6). During May of 1955, as the final designs for the monument scenic road were being completed, the preliminary numbering system was substantially revised. After Arches National Park was created in 1971, the road system designation was further altered, with many individual spur roads, loops, and parking areas assigned route numbers as shown on the Road and Trail System map of 1975. Most of the primary road designations were retained from 1955 until 1988 when the entire road system was completely renumbered. Minor changes to this system were implemented at some time after 1988.

The CCC culvert on Moab Wash was reconstructed in 1957 to improve visitor access, in conjunction with the realignment and improvements to US 160. Excavations were made around the culvert to expose the footers. By mounting the masonry tailwall on rails and unbolting the corrugated steel plates, a vehicle (probably a bulldozer)²⁴⁷ was able to pull the two sections apart, allowing the roadbed to be widened to 37 feet to meet the construction standards (and bigger cars) of the post-war era, and to support the 15 feet of fill required to bring the entrance road to the new grade of US 160 (Figure 3-18a and b).²⁴⁸ Although a rockslide in February 1958 slowed progress on the new scenic drive (Figure 3-19), it was completed as an oil-surfaced road of 9.3 miles, dedicated on August 24, 1958,²⁴⁹ shortly before the new visitor center was approved on August 28 (Figure 3-20).

Table 3-6. Changes to Arches National Park Road System Designations

ROUTE NUMBER					ROUTE NAME/LOCATION	
1955 ¹	1955 ²	1975 ³	1988 ⁴	2018 ⁵		
1	1A	1A	10	10	US 191 to Balanced Rock	Scenic Drive/ Entrance Road
	1B	1B			Balanced Rock to Devils Garden	
2	2	2	11	11	Windows Spur	
3	3	3	100	100	Delicate Arch Spur	
11	8	8	101	101	Salt Valley Road ⁶	
10	10	10	401	401	Headquarters Service Road	
–	–	11	200	200	La Sal Overlook	
U 93	–	13	213	213	Willow Springs Road/Utah 93/Old Entrance Road	
–	–	14	205	205	Panorama Point Overlook	
–	14	15			Shale Pit/Boneyard and Landfill (1947–1948 segment)	
–	–	16	206	903	Salt Valley Overlook	
–	–	17	207	902	Fiery Furnace Parking	
5	1B	18	501	901	Picnic Loop/Devils Garden Campground (including Scenic Drive from Skyline Arch Parking 1975)	
	5		208	917		
–	15	19	403		Generator Shed	
	–	25	204	907	Garden of Eden Overlook	
3	11	35	201	201	Cache Valley Road	
		85	209	–	Herdina Park Road (and part of Klondike jeep trail)	
11	8	88	210	203	Tower Arch Spur and Parking	
		89			Eagle Park Road	
	13	132	402	402	Mixing Table (spur from Willow Springs Road)	
		852	203	203	Tower Arch 4WD parking (part of Klondike jeep trail)	
		855	–	903	Salt Valley Viewpoint	
		857			Eye of the Whale Arch View	
–	12				Shale Pit (spur from Salt Valley Road)	
		2	500	11	Windows Loop	

¹ ARCH 138/2102g.0001 “Road & Trail System” May 1955, revised December 1963. Roads depicted on map but not individually designated are indicated by [–]; roads that were not within the monument boundaries or did not yet exist are indicated by shaded cell.

² ARCH 138/2102h.0001, “Roads and Trails,” May 1955.

³ ARCH 138/80000a.001, December 24, 1975, and ARCH 138/80000b.0001 March 12, 1976 [a more legible version with additional trail information], “As Maintained Roads & Trails.”

⁴ ARCH 138/20040.001, “Road System Route Numbers,” September 1988.

⁵ Audrey Casper, FMSS Specialist, SEUG, June 11, 2018.

⁶ Including 1947–1948 section to Devils Garden.

Caroline Coalter Wilson recalls Bates Wilson taking her out to the La Sal Viewpoint shortly after the road was completed.²⁵⁰ He asked her, “Look around, what do you see?” Caroline looked around and said “I don’t see anything!” and Bates replied, “That’s the point! That was the idea, that you can’t see the road.” He was very proud of his alignment of the scenic drive and remembered it as one of his biggest accomplishments.

Ranger Lloyd Pierson recalled that when the road was first opened, there were immediately several auto accidents, something the monument had never experienced before (Figure 3-21).²⁵¹ “It is apparent that among other things the new entrance road has opened us up to the “sunday” driver and we shall have to increase our warning sign program and expect more accidents of this type until the new road system is complete.”²⁵² The oiled scenic drive ended at Balanced Rock, where it connected with the 1948 graded dirt roads to The Windows, Delicate Arch, and Devils Garden. *The New York Times* helped to stoke visitation with an article about the new road in 1959:



3-18a. Disassembly of the CCC-built entrance road culvert on Moab Wash, 1957. ARCH 104/000066, SEUG Archives. (Photo credit: Lloyd Pierson).



3-18b. The Moab Wash culvert masonry tailwall was separated from the headwall and moved downstream on rails to widen the road. ARCH 104/000067, SEUG Archives. (Photo credit: Lloyd Pierson).



3-19. 1958 rock slide onto the under-construction scenic drive slowed progress on its completion. ARCH 104/000068, SEUG Archives. (Photo credit: Lloyd Pierson).

*The highly scenic new road, an initial fruit of the Mission 66 program of improvements for Arches National Monument, seems proof that pavement can be provided in a park preserve previously kept in its nearly natural state without unduly marring scenic values. In fact, the route taken by the highway builders has opened to tourists some spectacular sights previously unknown to monument visitors.*²⁵³

Upon completion of the scenic drive in 1958, the old Willow Springs road was immediately removed from service, although it remained visible. Arches staff first installed an 8-foot “ROAD CLOSED” sign at US 160, but visitors continued to use it, so a four-strand barbed-wire fence was erected across the road just inside the monument boundary, and a cable and reflective signs were installed at the Balanced Rock end.²⁵⁴ In 1967 this was replaced with a pipe gate, painted and flagged for safety, and the old picnic area was dedicated to materials and equipment storage.²⁵⁵ Park staff made repeated attempts to conceal and remove the road, but decades of compaction of the underlying clay formations discouraged revegetation, so the road has been returned to service for off-road-capable vehicles.²⁵⁶ The road has also occasionally been used for the Moab Jeep Safari and as an unofficial foot trail from Balanced Rock westward.



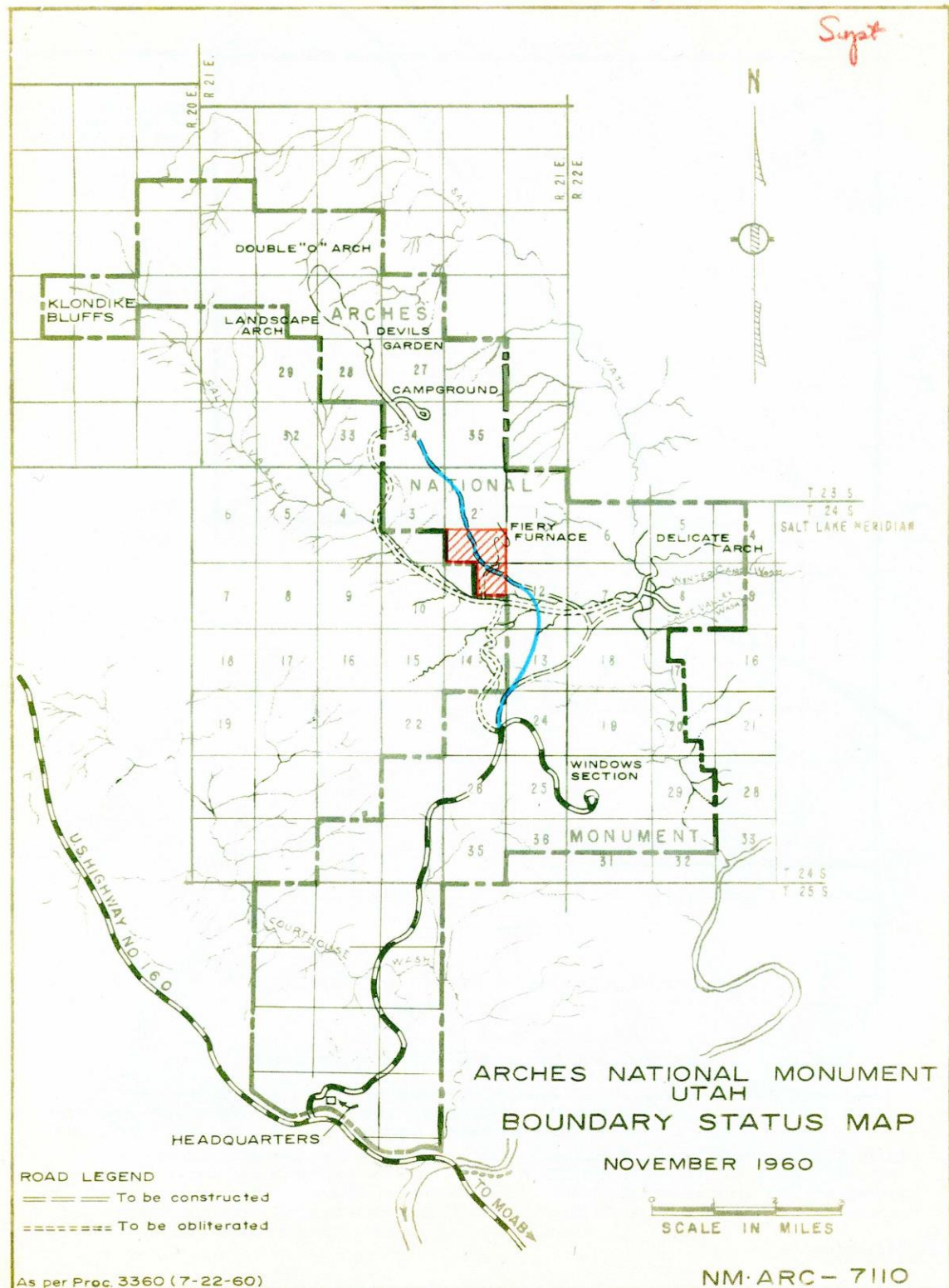
3-20. Mrs. J. W. Williams cutting the ribbon at the scenic drive dedication ceremony, August 24, 1958. Superintendent Bates Wilson is in uniform at the left. Regional Director Hugh Miller, State parks Director Chet Olsen and Master of Ceremonies Mitchell Melich, President of the Uranium Reduction Company are also present. The ceremony also honored Founders Day, and was attended by 200 people. ARCH 104/000035, SEUG Archives. (Photo credit: Natt Dodge).

Completion of the new road also required moving the Wayside Exhibit to a new location at the intersection of the old and new roads (discussed above), installation of roadside interpretive signs, and creation of an auto tour guide.²⁵⁷ Although the new scenic drive was a vast improvement over Utah 93 and Salt Valley Road, the unpredictable and sometimes violent weather of the Colorado Plateau still inflicted some road maintenance headaches. Following a heavy rainstorm in August of 1959, extensive repairs to the new road were required, due to inadequate shoulder drainage.²⁵⁸



3-21. An automobile accident in Arches National Monument, August 2, 1969. The car left the road and crashed into Moab Wash, landing on its side at the base of the entrance road culvert. ARCH 104/000007, SEUG Archives. (Photo credit: NPS).

The scenic drive was partially reconstructed during 1961–1963 with the addition of pullouts, parking areas, 2,500 linear feet of gutters, and 2,000 feet of asphalt curbing, a project frequently delayed by snowstorms, high winds, and extreme high temperatures, and finally washouts and a lightning storm.²⁵⁹ This project also significantly realigned Route 1B between Balanced Rock and Devils Garden, replacing “temporary” switchbacks down into Salt Valley with the long, steep grade that is currently in use, and moving much of the road out of Salt Valley onto the ridge above, closer to Fiery Furnace. Part of this road crossed a state land inholding in the S½ of Section 2, Township 24 South, Range 21 East that was in the process of being exchanged into NPS ownership; when the exchange had not been completed by the time construction was slated to begin, Arches obtained a right-of-way to a 200-foot-wide corridor across the contested land (Figure 3-22).²⁶⁰ The graded dirt road from Skyline Arch down into Salt Valley and a short segment of the route northwest of the Delicate Arch Road are the only remaining sections of the 1947-1948 road still in use; the rest was abandoned, but remains visible in aerial images. The old “terminal loop” and 1947–1948 road alignment near Devils Garden were obliterated in December 1963.²⁶¹ The old loop and Devils Garden trailhead are shown on working drawings and as-built maps of the Devils Garden Campground; only short segments of the old loop near the picnic area on the east side and along the west side before the trailhead were retained in the new loop.²⁶²



3-22. Map showing the location of the recently completed scenic drive from headquarters to The Windows section, proposed route across State land, and existing "temporary" route from Balanced Rock to Salt Valley, built 1947-1948. ARCH 101/003-059, SEUG Archives.

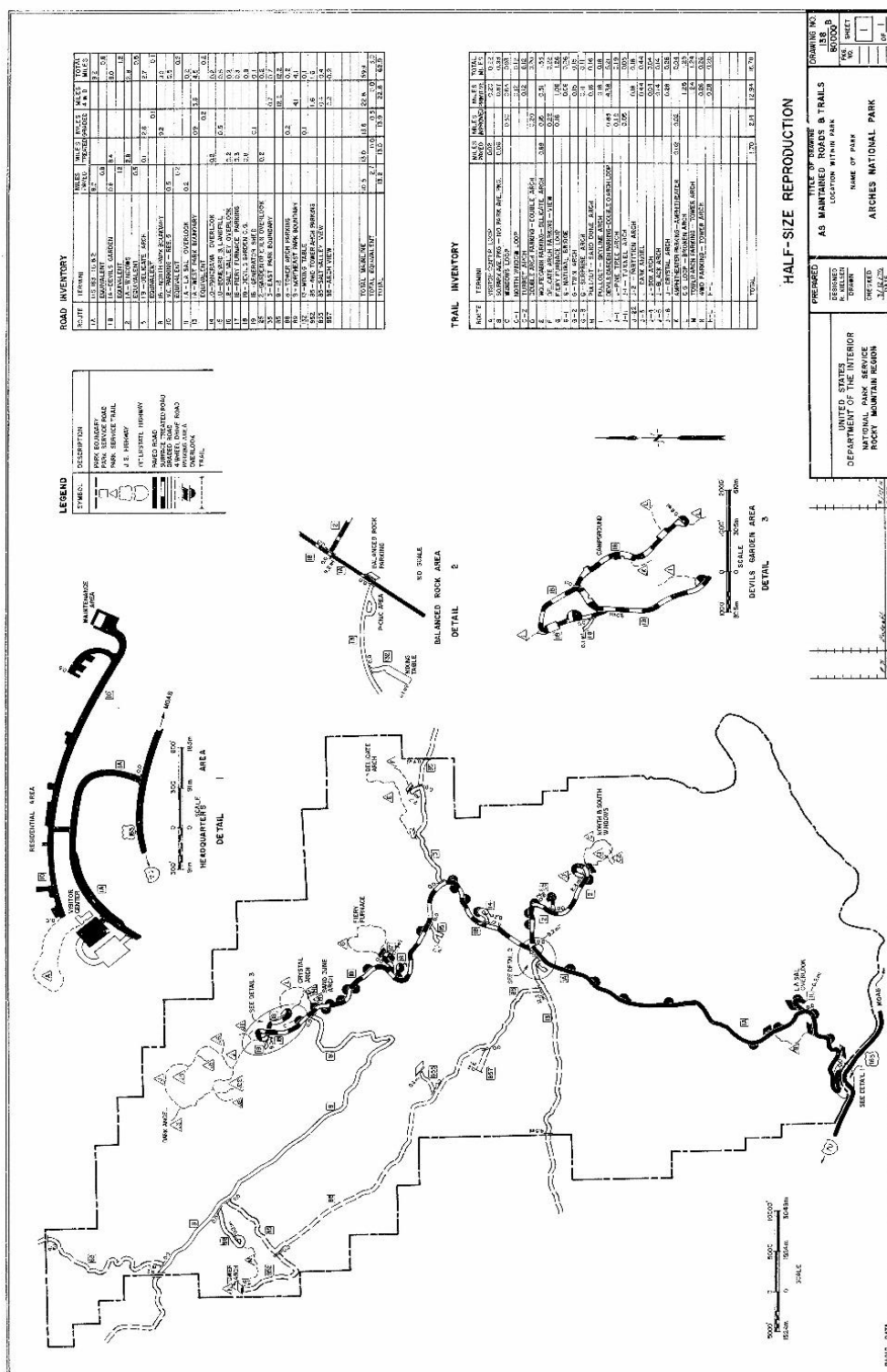
The Windows spur was also realigned at this time, moving the entire road farther north, now intersecting with the scenic drive between Balanced Rock and Panorama Point, rather than at Balanced Rock, where the old road was really a continuation of Utah 93/Willow Springs Road. The entire scenic road was given an asphalt surface during 1963–1965, as described in the Historic American Engineering Record (HAER) documentation completed in 1993.²⁶³ Although a final chip-seal coat was deemed unnecessary in 1965, chip sealing was undertaken in 1971, 1986, and 1997 to preserve the original asphalt surface.²⁶⁴ This included 19.6 miles of the scenic drive, and 3.6 miles of spurs and overlooks that had previously been oiled or graded dirt.²⁶⁵

Between 1965 and 1994, the Arches road system changed little. Paved roads accounted for 13.2 of the 62.9 miles of road (21.0%) in the park by 1976 (Figures 3-23 and 3-24), consisting of the scenic drive from the visitor center to Balanced Rock (Route 1A), the residential/maintenance road (Route 10), and La Sal Overlook (Route 11). The park also included 13.0 miles of treated (oil-surfaced) road (20.7%), including the majority of Route 1B between Balanced Rock and Devils Garden, the Windows Spur (Route 2), and various overlooks (Panorama Point, Salt Valley, Fiery Furnace parking, Devils Garden campground, Garden of Eden, and part of the Delicate Arch spur). Graded dirt roads represented another 21.6 percent of the road system (13.6 miles), most of which was the Delicate Arch spur road (Route 3) and the Salt Valley Road (Route 8). A graded dirt road of 0.5 miles to the Boneyard & Landfill (Route 15) indicates that this park facility was still in operation in 1976. Four-wheel-drive roads comprised 22.8 miles (36.2%), the largest component of the road system in 1976. These included the old Willow Springs entrance road (Route 13), the road to Herdina Park (Route 85 and several short spur roads), the road to Eagle Park (Route 89), and the Tower Arch jeep road (Route 852).

On August 7, 1987, an intense local thunderstorm caused severe flooding in Bloody Mary and Moab washes, washing away part of US 191 (Figure 3-25) and damaging the Moab Wash Culvert beneath the entrance road.²⁶⁶ The culvert was repaired in 1988 with new rip-rap along the wash banks and reinforcement of the culvert footers.²⁶⁷ The concrete footers were being under-cut by erosion of the wash bed.²⁶⁸ To mitigate this, a poured concrete floor was constructed with rebar that tied the sides of the culvert together, which also increased the span from 6 feet 6 inches to 10 feet. At this time, the masonry was also repointed.

Dynamite was a crucial tool in completing the Arches road system, as it had been for the CCC, but it was occasionally misplaced. In 1988 a visitor reported finding “wires coming out of the rock from construction in 1958,” which were detonation leads to “live” dynamite, but due to its location, was not able to be detonated in place.²⁶⁹ A whole case of 38 sticks of dynamite was found near the gauging station on Courthouse Wash in 1997, but by the time rangers made it to the scene 3 hours later, someone had dumped the dynamite (marked as having been manufactured in 1955) and stolen the crate in which it had been stored.²⁷⁰ The sticks were detonated with the assistance of Burt Explosive.

Further evolution of the entrance road has been tied to realignments of US 191 and to changes in the headquarters area. Likewise, major changes to the Delicate Arch Road and parking areas took place in the 1990s. All of these alterations to the Arches road system are discussed in Chapter 7.



ROAD INVENTORY

ROUTE	TERMINI	MILES PAVED	MILES TREATED	MILES GRADED	MILES 4 W D	TOTAL MILES
1A	U.S. 163-1B & 2	9.3				9.3
	EQUIVALENT	0.8				0.8
1B	1A-DEVILS GARDEN	0.6	9.0			9.6
	EQUIVALENT	1.2				1.2
2	1A-WINDOWS		2.7			2.7
	EQUIVALENT	0.5				0.5
3	1B-DELICATE ARCH		0.1	2.6		2.7
	EQUIVALENT			0.1		0.1
8	1B-NORTH PARK BOUNDARY			9.2		9.2
10	V.C. PARKING - RES. 5	0.5				0.5
	EQUIVALENT	0.2				0.2
11	1A-LA SAL OVERLOOK	0.2				0.2
13	1A-WEST PARK BOUNDARY			0.9	3.6	4.5
	EQUIVALENT			0.2		0.2
14	1B-PANORAMA OVERLOOK		0.2			0.2
15	1B-BONEYARD & LANDFILL			0.5		0.5
16	1B-SALT VALLEY OVERLOOK		0.2			0.2
17	1B-FIERY FURNACE PARKING		0.3			0.3
18	1B-DEVILS GARDEN C.G.		0.7			0.7
19	1B-GENERATOR SHED			0.1		0.1
25	2-GARDEN OF EDEN OVERLOOK		0.2			0.2
35	3-EAST PARK BOUNDARY				0.7	0.7
85	8-13				12.2	12.2
88	8-TOWER ARCH PARKING			0.2		0.2
89	8-NORTHEAST PARK BOUNDARY				4.1	4.1
132	13-MIXING TABLE			0.1		0.1
852	85-4WD TOWER ARCH PARKING				1.6	1.6
855	85-SALT VALLEY VIEW				0.4	0.4
857	85-ARCH VIEW				0.2	0.2
	TOTAL MAINLINE	10.5	13.0	13.6	22.8	59.9
	TOTAL EQUIVALENT	2.7	0.0	0.3	0.0	3.0
	TOTAL	13.2	13.0	13.9	22.8	62.9

3-24. Detail of a portion of Figure 3-23 showing the route numbers, route names, and road surface for the Arches National Park Roads System in 1976. ARCH 138 80000b.001, Denver Service Center, Technical Information Center.



2-10-81
 Point where RANGERS ARE STANDING
 PROPOSED TO BE KNOWNED INTO CASHOUT.
 ARCHES & HOLE 191 Larry Thomas

3-25. View of flood damage to US 191 on Bloody Mary Wash, August 10, 1987. ARCH 101/003-073.004, SEUG Archives. (Photo credit: Larry Thomas).

Horses to Hikers: Trails

Almost all of the visits to Arches in the early days of the monument, from 1929 into the 1940s, were guided by the custodian. Visitors would write to the custodian requesting information on conditions and sights to visit. In his reply to H. G. Hottes of Grand Junction Colorado in July 1938, Custodian J. Harry Reed described the situation:

I am now stationed at the monument with temporary headquarters in the Windows section. I will be on duty every day except Mondays until Sept. 1st. There will be no one stationed at the monument after that date.

*If you can arrange to make your visit any time during August, I will be glad to take you to any part of the monument you wish to see. If you will advise when you will arrive, I will meet you at the intersection of the monument road and highway 160. I would suggest that you visit both sections of the monument as they are both remarkable and vastly different.*²⁷¹

The first trails in Arches National Monument were planned as equestrian trails (see Figures 6a and b). These do not appear to have been formally constructed or signed, and a pack and saddle concession was not initiated until 1949, after roads were extended from Balanced Rock to Delicate Arch and Devils Garden, generally following the proposed route of the horse trails.²⁷² Custodian Harry Reed observed in 1938 that there were no marked trails, and a trail to The Windows section was indicated by a signboard at the trail head, but the trail itself was not marked in any way.²⁷³ Construction of the trails followed much the same pattern as for the roads, slowly, and as time and budgets allowed (Table 3-7). Informal, unsigned trails were in use in Courthouse Towers, The Windows section, Delicate Arch, and Devils Garden by the 1940s (Table 3-8). Custodian Mahan began a trail signing program in April 1948 on the Delicate Arch and Devils Garden trails, including the addition of a rope handhold on the slickrock section of the Delicate Arch trail, and name signs at various arches.²⁷⁴ In May 1948 signs were placed in The Windows section and name signs at Cove, Double, and Turret arches, The Windows, and Parade of Elephants.²⁷⁵ Courthouse Towers Trail was signed in June of the same year, including directional arrows.²⁷⁶ Private ownership of Turnbow Cabin was initially an obstacle to developing a better trail to Delicate Arch, as the obvious parking area was located near the cabin.²⁷⁷ The National Park Service bought Wolfe Ranch from Emmett Elizondo in 1948, completing the road and trail system.²⁷⁸ After The Windows, Delicate Arch, and Devils Garden spur roads were built in 1947–1948, new trails were constructed from the end of the Windows road to The Windows, Turret Arch, and Double Arch; the end of Delicate Arch Road at Turnbow Cabin with Delicate Arch; and from the end of the Devils Garden spur at Skyline Arch to Landscape Arch. By 1953, there were 8 miles of signed trails and 3 miles of unsigned trails in Arches that were used for guided tours (although only 1.3 miles of trail were shown on the Master Plan).²⁷⁹

Table 3-7. Trails Developed at Arches National Park

NAME	LENGTH (miles) ¹	LOCATION
Amphitheater	<i>0.04</i>	Amphitheater parking to amphitheater
Balanced Rock Loop	0.3	From Balanced Rock Parking
Black Arch	<i>0.14</i>	Spur from Devils Garden Trail
Box Arch	<i>0.04</i>	Spur from Devils Garden Trail
Broken Arch Loop	2.0	Devils Garden Campground (1.25 miles without loop)
Courthouse Towers ²	2.3	Headquarters to Courthouse Towers
Courthouse Wash Rock Art	1.0	US 191 Parking Area to Courthouse Wash Rock Art Panel
Cove Nature	0.5 ²⁸⁰	Cove of the Caves area
Crystal Arch	0.28	Spur from Devils Garden trail
Dark Angel	1.0	Spur from Double O Arch (end of Devils Garden Trail)
Delicate Arch ³	3.0	Wolfe Ranch Parking to Delicate Arch
Desert Nature	0.2	Loop from visitor center
Devils Garden ⁴	4.2	Parking Lot to Double O Arch (1.6 miles to Landscape Arch)
Doc Williams Point	?	Around the Doc Williams overlook parking area
Double Arch ⁵	0.5	Spur from Windows Loop to Double Arch
Eye of the Whale	<u>0.5</u>	Herdina Park jeep trail to Eye of the Whale Arch
Fiery Furnace Loop ⁶	2.04	Loop through the Fiery Furnace (approach trail not included)
Fin Canyon	?	Loop from Devils Garden Trail back to Double O Arch
Garden of Eden	<u>0.2</u>	Around parking loop
Headquarters Area ⁷	0.1	Administrative Area
Landscape Arch Loop	?	Beneath Landscape Arch
La Sal Viewpoint	?	Around parking loop, extending to overlook loop
Lower Delicate Arch View	0.22	Delicate Arch parking area to viewpoint
Klondike Bluffs	0.5	From BLM boundary fence to Klondike Bluffs viewpoint
Natural Bridge	<i>0.06</i>	Spur from Fiery Furnace
Navajo Arch	0.2	Spur from Devils Garden Trail
North Window Loop	<i>0.12</i>	Primitive trail around North Window
Park Avenue	1.0	Park Avenue Viewpoint to Courthouse Towers Viewpoint
Partition Arch	0.2	Spur from Devils Garden Trail
Petrified Sand Dunes	<u>2.0</u>	Social trail from Petrified Sand Dunes Viewpoint
Pine Tree and Tunnel Arches	0.25	Spurs from Devils Garden Trail
Primitive Loop ⁸	7.2	Double O Arch to Landscape Arch
Private Arch	0.6	Spur from Primitive Loop
Sand Dune Arch	0.3	Main Road to Broken Arch Loop
Skyline Arch	0.4	Main Road to Skyline Arch
Surprise Arch	<i>0.11</i>	Spur from Fiery Furnace Loop
Tapestry Arch ⁹	0.6	Spur from Broken Arch Trail to Tapestry Arch
The Windows ¹⁰	2.7	Parking area (Rt. 2) to Windows
Tower Arch ¹¹	3.4	From Klondike Bluffs Parking Area ⁶
Tower Arch	<i>0.26</i>	Four-wheel parking to Tower Arch
Turret Arch	<i>0.12</i>	Windows Trail loop
Twin Arch	<i>0.15</i>	Spur from Fiery Furnace Loop
Upper Delicate Arch View	0.5	Lower Overlook to Upper Delicate Arch Viewpoint
Visitor Center Loop ¹²	0.22	Visitor Center nature trail
Windows Loop	1.0	From Windows Loop Parking
Windows Primitive ¹³	1.0	From Double Arch Trail around Windows (one way)
Wolfe Ranch	0.25	Loop from Parking Lot

¹ All distances round trip, except Park Avenue and Windows Primitive (one way) from Arches Visitor Guide 2016, Arches website, or as described in notes below; distances in *italic* are one-way from 1975 Trail Inventory. For some trails, there are significant discrepancies in distances shown on the current Arches Visitor Guide, and archival sources. Underlined distances were obtained from Internet hiking sites.

² Trail length in 1953 given as 1.5 miles.²⁸¹ The 1955 Road & Trail System map states that 1.3 miles of this trail from Headquarters Parking Area to First Parking Area is to be removed from use and obliterated; this then becomes the Park Avenue Trail.

³ Delicate Arch Trail length in 1953 2.0 miles.²⁸² During 1954–1957, approach route was changed to eliminate a steep section of slickrock and a pipe-and-rope handrail; and “oil mulch” asphalt surface was also applied.²⁸³ 1955 Road & Trail System Map gives distance of 2.1 miles; 1975 Trail Inventory gives one-way distance of 1.55 miles.

⁴ 1953 the trail length is described as 2.1 miles.²⁸⁴ 1955 Road & Trail System map gives distance of 3.6 from Parking Area to Double “O” Arch; 1975 Trail Inventory gives distance of 5.21 miles, possibly the round trip length.

⁵ Distance given as 0.22 miles in 1975.

⁶ The total distance of the loop and side routes was measured May 7, 1964, as 1.58 miles, but the walking distance, including returns to the loop from side routes is 2.04 miles.²⁸⁵ The distance given on the 1975 Roads & Trails map is 1.26 miles; the reason for the difference is unknown.

⁷ 1953 length given as 0.22 miles.²⁸⁶

⁸ The route of a “proposed Devil’s Garden loop trail through Fin Canyon” was scouted May 12, 1965.²⁸⁷ The one-way length of the Primitive Trail from Double O Arch to Landscape Arch is 2.7 miles.²⁸⁸

⁹ utahoutdooractivities.com, Tapestry Arch Trail – Arches National Park.²⁸⁹ Hoffman (1985) depicts this trail, but it does not appear in official trail lists and may be a social trail.

¹⁰ Length of Windows Trail in 1953 was 1.0 miles.²⁹⁰ The Windows Trail and Windows Loop Trail were reconstructed during 1998–2000 as a single project.

¹¹ 1955 Road & Trail System map gives distance of 1.0 miles from Route 11 (Salt Valley Road) to Tower Arch.

¹² The Visitor Center Loop and the Desert Nature Trail are the same route but in various sources are referred to by one or the other names. The Visitor Center Loop was constructed in 1960; the first reference to the Desert Nature Trail was circa 1992.

¹³ The 1992 Hiking Guide names this the “Primitive Loop Trail,” and the return trail from Double O Arch.

Table 3-8 illustrates all named trails in the archival sources consulted for this administrative history. Every new repository consulted provided new information on known trails—and names of trails not described previously. Forty-five trails in total are named in various documents, plus two trails (Petrified Sand Dunes and Tapestry Arch) that are identified on Internet trail sites and probably social trails, not recognized or designated by the NPS.²⁹¹ Some appear in only a single document or map, often without a length or date of construction indicated. The first formal, developed hiking trail in Arches National Monument linked the headquarters area with Courthouse Towers (Trail 1). It was first described in 1948, and apparently came into use after the Headquarters and Custodian’s Residence were built, as no CCC documents mention trail marking or building (Table 3-8).²⁹² In 1958, upon completion of the new scenic drive, the section from the Headquarters Area to Courthouse Towers was abandoned; the remaining section of the trail was redesignated as the Park Avenue Trail, beginning at the Park Avenue parking area. Thus, although the trail through Park Avenue was in use before 1948, this designation did not come into use until 1958.

As noted above, four other trails were in existence by 1948, when they were depicted in a visitor brochure.²⁹³ In a 1953 memorandum to the general superintendent, these trails were identified by trail number: No. 2 – Windows Trail, No. 3 – Delicate Arch Trail, No. 4 – Devil’s Garden Trail, and No. 6-Headquarters Walks.²⁹⁴ Trail No. 5, Fiery Furnace, was not listed in 1953 but is assumed to be in existence, as it is shown by this number on the 1955 Road & Trail System map. Fiery Furnace Trail may not have been included in the 1953 memorandum for several reasons: it was not signed and had no constructed or enhanced features; an accurate trail length could not be provided or mapped; and the 1947–1948 road did not provide access to Fiery Furnace. The Fiery Furnace Trail was formally marked with signs in 1964 and a shale-surfaced trail to the Fiery Furnace was built from the newly constructed parking area along the newly realigned scenic drive.

Table 3-8. Known or Inferred Dates for Arches National Park Trails

PERIOD	BUILT OR IN USE		
1929–1948	Courthouse Towers (<1948) Delicate Arch (<1948) Devils Garden (<1948) Fiery Furnace (<1948) Fin Canyon (<1948) Garden of Eden (1948) Headquarters Area (<1953) Partition Arch (<1948) Pine Tree/Tunnel Arch (<1948) Skyline Arch (1948) Turret Arch (<1948) The Windows (<1948)		
		RECONSTRUCTION	REMOVAL/CLOSURE
1950–1958	Cove Nature (1950) La Sal Viewpoint (1958) Lower Delicate Arch (1954) Park Avenue (1958) Petrified Sand Dunes (1959) ²⁹⁵ Tower Arch (1954) Upper Delicate Arch (1954)	Delicate Arch (1953–1957) Devils Garden (1956–1957)	Courthouse Towers (1958) Headquarters Area (1958)
1960–1965	Amphitheater (1964) Broken Arch Loop (1965) ²⁹⁶ Doc Williams Point (1963) Natural Bridge (1964) Navajo Arch (<1963) Surprise Arch (1964) Twin Arch (1964) Visitor Center Loop (1960) Windows Loop (1965)		Cove Nature (?)
1966–1975	Black Arch (<1975) Box Arch (<1975) Crystal Arch (<1975) Dark Angel (<1975) Landscape Arch Loop (1966) ²⁹⁷ North Window loop (<1975) Primitive Loop (1974)		
1983–1997	Windows Primitive (>1989) Private Arch (1992) Wolfe Ranch (1992)	Delicate Arch (1997) Desert Nature (ca. 1992) Landscape Arch Loop (1983) Primitive Loop (1991)	Landscape Arch Loop (1995) Lower Delicate Arch (1994)
2000s	Balanced Rock Loop (2000) Courthouse Wash Rock Art (>2013)	Sand Dune Arch (2000) The Windows (2000) Windows Loop (2000)	Devils Garden (2008)
Unknown	Eye of the Whale (?) Tapestry (<1981)	Double Arch (>1989) Klondike Bluffs (<2003)	

This group of early trails also underwent a complicated and lengthy period of further development. Various documents confuse the situation by referring to Delicate Arch, Windows, and Devils Garden trails as being “under construction” between 1954 and 1958, although the activity underway may actually have been survey, repairs, reconstruction, or surfacing. Specifically, the 1956 Development Plan states that all trails except for Windows are in development or planning, despite documentation that these trails were already in existence in some form. A 1954 Monthly Narrative Report describes the Devils Garden trail under construction, but the October 1956 Monthly Narrative report states that a “definite decision on the exact route of a trail from the Devil’s Garden parking area to Landscape Arch” had just been made.²⁹⁸ The new shale-surfaced trail from the parking loop to Landscape Arch (0.75 miles) was completed on March 8, 1957.²⁹⁹

*This job was accomplished by the use of an ingenious spreader, constructed by Maintenceman Merle Winbourn. Shale was hauled, ¼ cubic yard at a time and unloaded in the spreader which was then pulled along the trail spreading the shale to the correct depth and width. This device saved a great deal of shale and time by eliminating any waste or material and hand spreading.*³⁰⁰

The 1948 *Desert Magazine* map shows a trail into Fin Canyon and a spur from the Windows Trail to Turret Arch.³⁰¹ Short spur trails to Skyline Arch, Tunnel Arch, Pine Tree Arch, and Partition Arch are also assumed to be present in some form in 1948, as these are depicted as prominent features of The Windows and Devils Garden trails in the Arches visitor guide and the *Desert Magazine* map. Thirteen trails appear to have been in use by 1948, but only six of those were formally designated as named and numbered trails.

The Cove Nature Trail was completed September 22, 1950,³⁰² and was one of the main trails accessible during the 1950s, yet it never received a unique numeric trail designation, nor was it depicted on any of the maps of roads and trails of this period. Numbered wooden posts adjacent to plants were keyed to a trail guide that identified the plants for visitors along an easy quarter-mile-long hike to Double Arch and Parade of the Elephants. The Cove Trail had a trail register beginning in June 1951, when an estimated 640 visitors used the trail; Cove Trail use was one of the official counts of visitation reported in Monthly Reports.³⁰³ The 1956 Development Plan states that the Cove Trail will be removed, and it does not appear on the 1962 Roads and Trails system map.³⁰⁴ Cove Trail was not depicted on the 1955 Road & Trail System map by this name, but was apparently shown as part of The Windows Trail, which is depicted as three trails: one to Double Arch, and one to each of the Windows.³⁰⁵ Cove Trail is not currently listed in park interpretive literature. Three signs for the Cove of Caves Viewpoint, which was apparently part of the Cove Trail but has not been officially interpreted or shown on maps for decades, were removed in 2015; their presence was instigating social trail development in the area.³⁰⁶

A trail to Tower Arch in the Klondike Bluffs was not listed in 1953, but does appear on the first of two 1955 maps as Trail 7. The second 1955 map shows the locations of 13 trails, designated 1–7, 9, and 11–15 (Table 3-9).³⁰⁷ No Trail 8 or 10 is shown, and these are not described in other documents pertaining to trails. It is important to note the presence of two Tower Arch Trails on Table 3-7. The first, Trail No. 7, has a trailhead at the parking area at the end of the access spur road from Salt Valley Road, located on the east side of the Klondike Bluffs. The other Tower Arch Trail begins at the BLM/NPS boundary fence west of the Marching Men, and traverses a short section of Arches National Park to view the Tower Arch.

Table 3-9. Changes to Arches National Park Trail System Designations

TRAIL NUMBER				TRAIL NAME/DESTINATION
1953 ¹	1955 ²	1975 ³	2018 ⁴	
1	1	B		Courthouse Towers
2	2	C		The Windows
		C-1		North Window Loop
		C-2		Turret Arch
		D		Double Arch
3	3	E		Delicate Arch
4	4	J		Devils Garden North
				Primitive Loop
				Pine Tree Arch
				Tunnel Arch
				Partition Arch
				Dark Angel
				Box Arch
				Black Arch
				Crystal Arch
5	5			Fiery Furnace
		G-1		Natural Bridge
		G-2		Twin Arch
		G-3		Surprise Arch
6	6			Headquarters Area walks
	7	M		Tower Arch
		–		<i>No Trail 8 was depicted; location unknown</i>
	9	–		La Sal Viewpoint
		–		Devils Garden Picnic Area (<i>Trail 10, 1963</i>)
	11	–		Garden of Eden
	12	–		Doc Williams Point
	13	F		Upper Delicate Arch Viewpoint
	14	K		Campfire Circle/Amphitheater
		L		Broken Arch
	15	I		Skyline Arch
		H		Sand Dune Arch
		N		Tower Arch 4WD Parking
		H-L		Sand Dune Arch to Campground Loop
		A		Visitor Center Loop (Desert Nature Trail)

¹ 8NS-079-94-143, Folder 630, J. R. Lassiter, Regional Engineer, Memorandum: Roads and Trails Statistics, Arches, March 13, 1953. Shaded cells indicate trail was not in existence or not depicted on map. Trails depicted on map but not designated are indicated by [–].

² ARCH 138/2102h.0001, “Roads and Trails,” May 1955. Trail numbers 8 and 10 are not depicted.

³ ARCH 138/80000b.0001, “As Maintained Roads & Trails,” December 24, 1975. 1975 designations remained in use as late as 1992.

⁴ Audrey Casper, FMSS Specialist, SEUG, June 11, 2018 (personal communication) noted that there is nothing in the current spec templates that matches that 1975 designations.

Trail 6, the Headquarters Area Loop, is not listed in trail summaries after 1955; it is presumed to have been removed during construction of the visitor center during 1958–1960. On the 1955 map (2102g) it is depicted as a short spur paralleling part of the headquarters access road. The Visitor Center Loop is a trail that first appears on the 1975 Roads & Trails map, forming an open loop from the 1960 visitor center to the Rock House. This trail is not currently listed by Arches National Park as one of the hiking trails, and was apparently renamed Desert Nature Trail, which is first described in a 1992 Arches Trail Guide.³⁰⁸ Several trails depicted on the 1955 map would have been under construction or proposed, not in use, as the scenic drive was not completed until 1958. So Trail 9 – La Sal Viewpoint Trail, Trail 12 – Doc Williams Point, and Trail 14 – Devils Garden area trails could not have been completed until 1958 (Trail No. 9) or 1963 (Trails No. 12 and 14) following completion of those sections of road, although trails may have been present in those locations as informal or social trails.

Trail No. 10 is, finally, depicted in 1963 in the Devils Garden Picnic Area as three short spur trails from the loop to various fins nearby.³⁰⁹ Subsequent maps do not show this trail. This is the same general area of the 1955 Trail No. 14, although that map does not depict a Trail No. 10.

The 1975 Trail Inventory lists 27 trails with completely new alphanumeric designations, but does not include Balanced Rock Loop, Headquarters Area, or Cove Nature trails. Sand Dune Arch Trail is shown on the 1975 Roads & Trails map, and is designated Trail H. But a review of the trail condition and status in 2000 determined that this was actually a social trail that had never been formally constructed.³¹⁰ SEUG Staff debated the need for and final configuration of a formally constructed trail to replace the multiple social trails to Sand Dune Arch. While some argued for a stepped trail to reduce erosion, and others advocated for a ramped surface for wheelchair accessibility, SEUG Superintendent Jerry Banta pointed out that the real issue was wilderness, and the need to start considering wilderness values in all projects. He recommended that the project proceed after conducting the needed analysis of minimum impact, and rewriting the justification to support the analysis. Five trails shown on the 1975 map and inventory (Black Arch, Box Arch, Crystal Arch, Dark Angel, and North Window Loop) were probably built some time prior to 1975, but were either not included on earlier maps, or were built between 1963 and 1975 between inventories of the road and trail system at Arches.

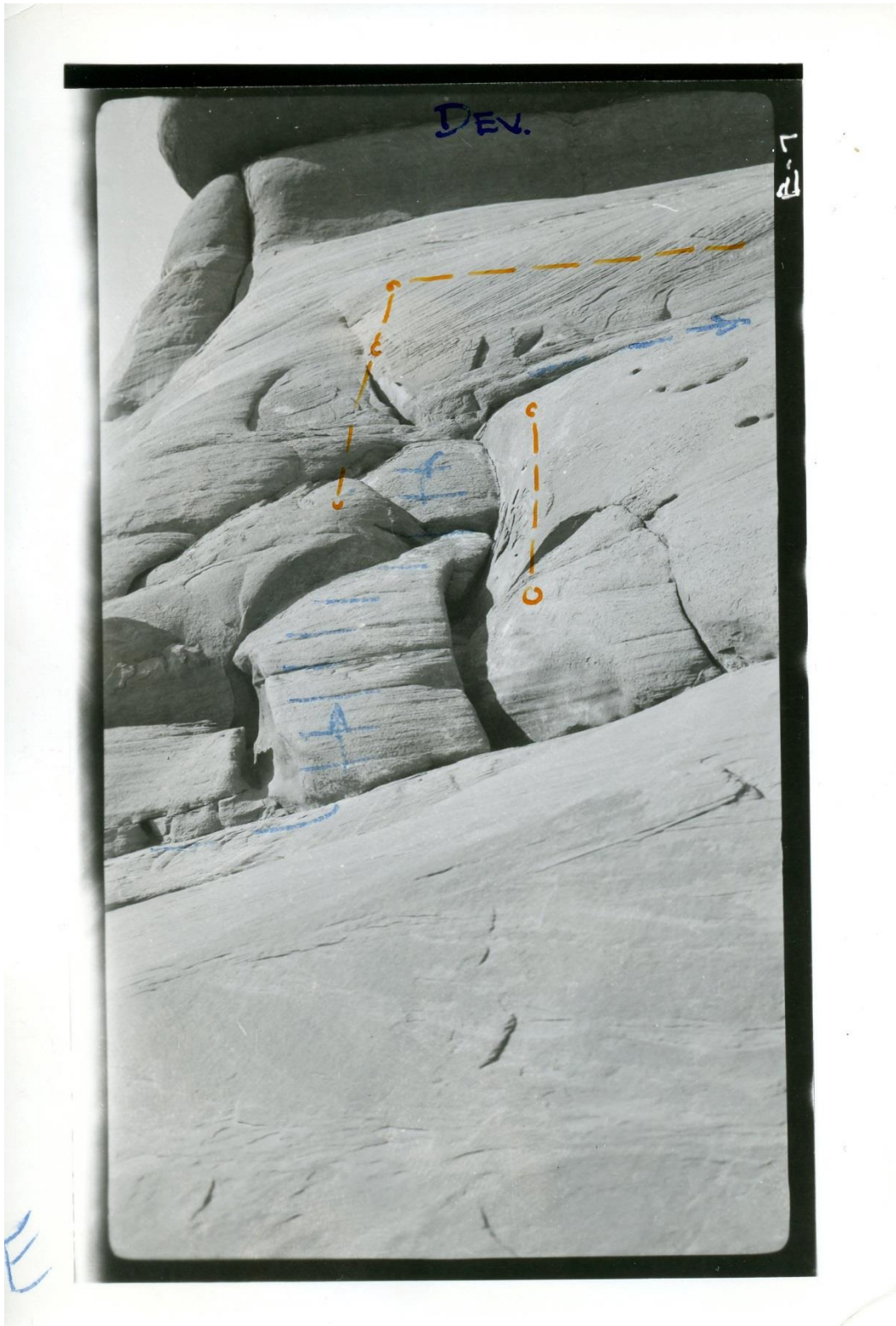
The Delicate Arch Trail required the greatest level of effort to reconstruct, as it is the most developed of all the Arches trails. The oldest approach to Delicate Arch was from the east, climbing up from Winter Camp Wash, which was longer but did not require the level of construction required by an approach from the south and west, the route of the new trail. The new Delicate Arch Trail was surveyed in conjunction with the scenic drive and Delicate Arch spur road in 1947–1948.³¹¹ The planned approach required drilling, cutting slick rock, and lengthy sections of pipe handrails for fall protection. Additionally, a swinging pedestrian suspension bridge was constructed across Salt Wash to provide access to the trail from the parking area at Turnbow Cabin. This proved to be one of the most difficult parts of the trail to maintain, as it was repeatedly vandalized in the 1950s to 1970s. In its original configuration, this bridge was too low to the ground, and was within the flood zone until 1956, when it was raised and strengthened with additional steel cables.³¹² In 2013, Arches staff discussed the possibility of constructing a new spur trail into the “bowl” beneath Delicate Arch, to avoid a sometimes icy section of the trail; due to potential cost, safety issues, a desire to retain the “surprise” appearance of Delicate Arch at the end of the trail, and lack of consensus that such a trail was actually needed, the project never reached the formal planning stages.³¹³ Of note, this was similar to Alleman’s proposed

Route #1 from 1948, which would have crossed the blowout basin below Delicate Arch, with steel ladder rungs set into the steep northeast face of the basin.³¹⁴

Landscape Architect Carl W. Alleman visited the project in 1953 and suggested that the rock work and railings could be eliminated “by the construction of step ladders at the point leading up to the Arch Area,” similar in construction to ladders in use at Montezuma Well and Montezuma Castle in Arizona.³¹⁵ General Superintendent John M. Davis vetoed the plan on safety grounds and noted that “it would be far better to cut the trail through the side of a solid rock cliff.”³¹⁶ Developing the trail involved blasting and chiseling of the sandstone (Figure 3-26), an act that still upsets some visitors. Dean Potter cited this “defacement” in his defense of climbing Delicate Arch in 2006 (see Chapter 6). Despite this effort, and even with the large numbers of people on the trail to Delicate Arch, a surprising number of visitors manage to lose the trail and get lost or find themselves on an exposed slickrock location from which they have to be rescued. The Delicate Arch Trail has also required numerous changes over the decades; in 2002 several sections were rerouted and most of the steps were removed, retaining just 25 in an area where they were unavoidable.³¹⁷ The other trail to view Delicate Arch, extending from the Delicate Arch Viewpoint parking lot (the Lower Delicate Arch Viewpoint), was surveyed in 1951³¹⁸ and constructed circa 1954–1956. It is known as the Upper Delicate Arch Viewpoint Trail.

Several trails have undergone substantial reconstruction or alterations since their initial development (Table 3-6). The original approach to the Delicate Arch trail included a steep section of slickrock, with a pipe-and-rope handhold. This was removed and the approach realigned in 1954–1957; at this time, the “oil mat” asphalt surface was installed to improve traction and safety. After a number of delays for weather, the project was finally completed June 18, 1957.³¹⁹ Following the completion of the Devils Garden Campground in 1964, monument staff realized that Skyline Arch was readily accessible to campers, so existing rocks at the base of the arch were removed to prevent campers from trying to climb to the arch.³²⁰ In 1991, a section of the Primitive Trail was rerouted due to concerns about the safety of visitors, particularly during the winter months.³²¹ Since its designation in 1974, the park had routinely received complaints from visitors who had gotten lost or injured on this trail, but efforts “to change the route of this trail ... have been resisted by everyone from a supply clerk to resource management.”³²² The section of trail in question was a steep, exposed slickrock face on which ice and snow would often cling. After conducting an archaeological survey and an Environmental Assessment (EA), the reroute was marked and the old section of trail was obliterated. In 1997, Arches staff removed the swinging bridge on the Delicate Arch Trail and replaced it with a fixed, single span bridge, which proved to be highly controversial with both the Utah State Historic Preservation Office and the local public.³²³ Likewise, the trail beneath Landscape Arch was closed in 1995 after a series of rock falls from the arch; it was rehabilitated in 2003, and the adjacent section of Devils Garden Trail was moved closer to Landscape Arch to provide visitors a view of the sky beneath its span.³²⁴ Devils Garden Trail was further modified following the 2008 collapse of Wall Arch, which deposited debris on the trail; the trail was moved to another fin to the east.³²⁵

Three other trails are mentioned in archived documents, but little additional information regarding these is available. Private Arch was first documented in 1980, but the recognition that it was previously unknown to other “arch hunters” did not come until 1992.³²⁶ A trail to Private Arch was hastily created in 1992 after its discovery was widely publicized and undesirable social trails across soil crusts quickly developed.³²⁷ A trail to Eye of the Whale Arch is only described on Internet hiking sites.³²⁸ Hoffman



3-26. Delicate Arch Trail construction planning photograph, 1947. Blue indicates the route of the trail, and orange the locations of handrails. Alleman Report Photo No. 5 "Route No. 1--Trail & Handrail," ARCH 101/003-060.133, SEUG Archives. (Photo credit: Carl Alleman).

illustrates a spur trail from the Broken Arch Loop Trail to Tapestry Arch, located north of the Devils Garden Campground, but no documents pertaining to the construction of this trail were discovered during the research on the history of Arches trails.³²⁹ It was obviously in use before Hoffman's guide was published in 1981, and may have been constructed in conjunction with the Broken Arch Loop Trail in 1965, or a social trail that has developed since then.

VISITOR COMMENTS ON TRAILS

"Make delicate arch accessible as the campground area is. Delicate Arch is the significant arch of the total arch system. If you do not wish to pave the route to the viewpoint for Delicate Arch then why continue to emphasize an arch with both restricted viewing access and visiting access."

Visitor from Otsego, Michigan, March 2, 1978

"Concerning hike to Delicate Arch. Because of the graffiti on the arches, some of the hazzardous [sic] portions of the hike, + the length + heat of the hike I would suggest that this hike be made into a guided "tour" – You have protected Fiery Furnace, why not protect Delicate arch."

Visitor from Salt Lake City, Utah, April 20, 1980

"First I would like to say that this certainly is a beautiful place and has, in general, been managed very nicely. Personally I am a bit disappointed that there are not any more hiking trails. I think that it would be a definite improvement if some of the 4-wheel drive roads were changed to solely hiking trails. Although it is fairly easy to negotiate most of the terrain without trails, perhaps more trails, or at least fewer roads, would encourage more people to walk.

I was quite surprised that the trail to delicate arch was paved throughout much of its length. I found the pavement to be offensive and hope that you don't bother to pave any other trails.

I did enjoy the 2½ days that I spent hiking and camping in the park and would like to say again that it is a very nice place. By getting people out of their cars and walking around the park, I think that you will be helping the people as well as the area. Thanks for reading this."

Visitor from Denver, Colorado, October 1, 1978

In response to visitor comments, developing awareness in the National Park Service of the many impediments to those with physical handicaps, and later the 1990 Americans with Disabilities Act, several trails were modified for use by the disabled of those in wheelchairs. Trails or viewpoints that are currently considered completely ADA-compliant are the Lower Delicate Arch Viewpoint Trail, Balanced Rock Viewpoint and Picnic Area, Wolfe Ranch Cabin and Petroglyph Panel trail, and the Park Avenue Viewpoint.³³⁰ Three other trails are considered "barrier free"—Devils Garden Trail to Landscape Arch, Windows Trail (only the first 100 feet), and Double Arch. These trails were hard-surfaced to accommodate wheelchairs, steps were removed (only the first 100 yards of the Windows Trail is wheelchair accessible), and slopes were modified. Trail hardening also reduced trail maintenance and was intended to encourage visitors to stay on the trail, reducing trail-side erosion.³³¹ During reconstruction of the Windows Trail in 1998–2000, the existing steps were buried under gravel to create a ramp for equipment access.³³² SEUG staff debated at length retaining the ramps for wheelchair and stroller accessibility, but ultimately decided the gravel was a tripping hazard and would require annual maintenance to keep it from washing out and exposing the steps—a further tripping hazard. Delicate Arch was visible from the automobile overlook between 1951 and 1994, but the parking area was likewise visible from Delicate Arch. Delicate Arch can now be viewed after a 100-yard flat, wheelchair-accessible trail is traversed from the current parking area, which was moved in 1994–1995 out of view of Delicate Arch. The Upper Delicate Arch Overlook can be accessed after a half-mile hike up a steep trail of steps and slickrock. In 2000, three AmeriCorps teams assisted Arches staff in reconstructing the Windows Trail, which SEUG Superintendent Jerry Banta recognized as "now one of the highest quality trail systems in the United States Park Service."³³³ The AmeriCorps crews also assisted with reconstructing parts of the Devils Garden and Sand Dune Arch trails in 2000.

In regards to the Lower Delicate Arch Viewpoint Trail, it is worth noting that the state of Utah provided financial assistance for its modification in 1994.³³⁴ Relocating and modifying the trail was part of the Delicate Arch road and parking project, but the NPS Denver Service Center and Federal Highway Administration did not want to fund the trail portion of the project. Utah Natural Resources contributed money, and in exchange the head of Utah Natural Resources was invited to participate in the ribbon-cutting ceremony for the project in 1995. Utah's assistance is acknowledged with a sign at the trail.

Trail construction was initially undertaken by National Park Service employees, using funds allocated for park development. With increases in visitation, and budget cuts and program cuts since 1991, trail maintenance has become a task that involves the assistance of outside volunteer organizations such as the AmeriCorps National Civilian Community Corps (NCCC), Sierra Club, American Conservation Experience (ACE), Southwest Youth Corps, the American Hiking Society, Outdoor Colorado, Trail Mix, and others, as well as the "Flame 'N' Gos" prison work crew. The Fee Demonstration program gave a much-needed boost to deferred maintenance projects in the 1990s and 2000s, but major corporations such as American Airlines and Nike also donated money to help maintain trails. American Airlines contributed \$28,000 to rebuilding the Windows Arch Trail in 1998, which was accomplished by the SEUG Trails Crew and NCCC over 3 years.³³⁵ In 2003 the SEUG Trail Crew was disbanded, with each park maintaining their own crew.³³⁶ Following the departure of a problematic crew chief, SEUG reconstituted a unified Trails Crew in 2004/2005 under the direction of Greg Kosa.³³⁷

During the major trail reconstruction projects of the late 1990s and early 2000s, each project was evaluated and approved using the N-16 process internally.³³⁸ This did not account for analysis of other attributes such as wilderness values, as discussed with the Sand Dune Trail Reconstruction Project, nor did it give the public the opportunity to comment on these projects. SEUG began work on a Trails Management Plan to deal with trails throughout the group, but was still working on it while each of the major trail reconstruction projects was evaluated individually, partly because promised guidance on NEPA compliance and the use of categorical exclusions had not been promulgated by Washington, D.C. Squad Meeting notes in 2003 discuss N-16 clearance for repairs and upgrades to a Klondike Bluffs Trail, a bike trail across BLM lands from US 191 to the park boundary, and a foot trail of approximately 0.25 miles (one way) to an overview of the Klondike Bluffs.³³⁹ It is not known when the trail first came into use, but by 2003, 32,000 people per year were using it, leading to serious erosion; additionally, the trail cut across a large archeological site. SEUG Superintendent Rock Smith wanted to "re-establish the boundary fence" and install a gate in this location, indicating that this had evolved as a social trail. This trail is different from the second Tower Arch Trail, which has a trailhead on the Klondike Bluffs 4WD road (Trail N on the 1975 map).

Remote Rangers: Balanced Rock and Devils Garden

An interpretive wayside exhibit at Balanced Rock, constructed in 1950-1951, also doubled as the visitor center, at which post cards from the Southwestern Monuments Association were offered for sale (see Chapter 8, Figure 8-4). The Balanced Rock interpretive exhibit contained a visitor register that for many years was the principal count of monument visitors, supplemented by ranger contacts and visitor contacts at headquarters, or, after 1960, at the visitor center. With the completion of the scenic drive in 1958, which changed the location of the road intersection near Balanced Rock, the original Wayside Exhibit was moved adjacent to the new road.³⁴⁰ The wayside remained the focus of interpretation for

many visitors until it was demolished in October 1966, along with many of the roadside interpretive signs, as all were deemed to be in poor repair.³⁴¹

In 1951, a used trailer from Bandelier National Monument was installed near the new Wayside Exhibit at Balanced Rock as a residence for a ranger to be stationed within the monument.³⁴² This marked the first time that there was an NPS presence within the publically accessible portions of Arches National Monument, although rangers did not initially stay overnight. But by May 1952, rangers were assigned the trailer as their duty station, beginning with Ranger Howard Williams.³⁴³ The completion of the Wayside Exhibit made this location the focus of visitor activities within Arches; the trailer was situated near the camping area at Balanced Rock for the convenience of and oversight of visitors. The Balanced Rock trailer was made famous as Edward Abbey's duty station and residence, and was described in *Desert Solitaire*. In 1960, after Abbey's second season was completed, the trailer was moved to the headquarters residence area for permanent employees.³⁴⁴ One pit toilet was installed at Balanced Rock in 1952, and another at Devils Garden that same year.

General Superintendent John M. Davis recommended that a ranger residence be established near Devils Garden as part of the Mission 66 Prospectus. But in his review of the prospectus Regional Director Hugh M. Miller suggested that remote residence was unnecessary if the monument drive remained a one-way route and proper fencing and other protective measures were in place; additionally, Miller advocated for eliminating all campground facilities within the monument, making it available for day trips and picnickers only.³⁴⁵ The Mission 66 Prospectus, not Miller's opinion, was acted upon, and a house trailer was installed adjacent to the campground road, just off of the Devils Garden loop.³⁴⁶ Supervisory Park Ranger Lee Ferguson recalls that the trailer was occupied by law enforcement ranger Marc Yeston when he first arrived at Arches in 1992.³⁴⁷ Ferguson also spent part of a summer in the trailer and remembered that "there it was a constant flood or constant flow of people coming into the campground looking for a place in spite of the fact that all the signs said it was full ... we had people knocking on our door all the time." Within a year the trailer was condemned and removed, in 1994, as it was in poor repair and was infested with mice, which suddenly became a major health scare following the 1993 Hantavirus outbreak.³⁴⁸ The trailer was replaced with a small (20 x 24 feet) frame visitor contact building, constructed by Rholand Murphy Construction and NPS personnel using \$12,000 in year-end repair/exterior construction money and \$5,000 of fee money to furnish materials for the interior. It was also at this time that three of four solar photovoltaic charging systems were installed in the campground, to eliminate the noisy, expensive, and polluting generators.³⁴⁹ Since the removal of the Devils Garden trailer, no rangers have been stationed within Arches National Park (beyond park housing in the headquarters area). As part of the development of a reservation system for the campground, volunteer campground hosts have resided seasonally in RVs in the campground, fulfilling the informal role imposed on Yeston and Ferguson.

Park Infrastructure Development

The Master Plan of 1940 described the proposed development of Arches National Monument, but the construction proposal for the road system (NM-ARC-R-1-1, Entrance Road, Section A, Grading and Surfacing) was actually prepared before the Master Plan was completed.³⁵⁰ As described in the annual report of 1942, the CCC camp succeeded in building some basic infrastructure for Arches National Monument: a headquarters building; the custodian's residence (NM-ARC-B-1, Custodian's Residence); a well and reservoir (NM-ARC-U-3, Water Reservoir) and water distribution system (NM-ARC-U-1, Water

Supply, Headquarters Area); and the entrance road bridge (NM-ARC-R-5, Arch Culvert, Entrance Road). Monthly notes list construction of a sewer system (for the custodian's residence only) but official correspondence regarding the development plans indicate that this had not yet been started in September 1942.³⁵¹ Custodian Schmidt noted that much was left uncompleted:

*Other projects started, and worked on but not completed, include headquarters circulation system, section 1A of the road, channel change and revetment, grading headquarters area [sic], construction of signs and pit latrines, maintenance and storage shed and maintenance of the existing roads.*³⁵²

Custodian Schmidt managed to construct a storage shed for tools (NM-ARC-B-7, Equipment Storage Building, Utility Area) using materials that had been purchased while the CCC camp was still in operation.³⁵³ Although the national focus was on World War II, the National Park Service continued preparations to complete Arches National Monument's development, submitting funding requests to Congress that prioritized various projects. Proposal B-18-1, Power House and Pump House for Arches, was priority 5 in September 1942.³⁵⁴

Arches and Natural Bridges national monuments benefited from the abundance of surplus materials from World War II, and to a lesser degree, from uranium mining in the Four Corners region following the war. The Surplus Property Act of 1944 was a temporary statute created in recognition of the potentially devastating effect on the American economy of the potential surpluses of real estate, military equipment, and consumer goods that would become available at the conclusion of World War II.³⁵⁵ The act (Public Law 78-457) created various federal entities to dispose of surplus property, and allowed for the transfer of materials among government agencies and the donation of surplus to local governments and non-profit institutions at reduced or no cost.³⁵⁶ Subsequently, the Federal Property and Administrative Services Act of 1949 (Public Law 81-152) established the General Services Administration to manage all government property, surplus or otherwise. Between 1946 and 1950 surplus vehicles, generators, pumps, and other materials were transferred from the Department of Defense to the National Park Service. The Monthly Narrative Reports of this period documented multiple trips to White Sands, Big Bend, Carlsbad Caverns, and Chaco Canyon to retrieve surplus equipment that was designated for use at Arches by the War Assets Administration. A second wave of surplus materials became available in the late 1950s as the Atomic Energy Commission began to demobilize their operations in the region. A large AEC facility just 2 miles from Natural Bridges supplied that monument with many buildings, but some smaller structures were transported to Arches:

*June has been declared "outhouse" month at Arches. Thanks to the A.E.C., four slightly used one holers were transferred as excess property and placed into service at Arches. Two more, one a mobile trailer type, the other a steel building, are in the plans and preliminary construction has been started pending their arrival. All the rest of the small government buildings have been painted.*³⁵⁷

From 1941 until 1954, the headquarters area was powered by a succession of mostly unreliable gasoline and diesel generators. In 1952, the Utah Power & Light Company first offered to extend electrical service from Moab to the headquarters area, but the project was repeatedly delayed.³⁵⁸ After a substation was constructed for the uranium mill in early 1954, other delays occurred that prevented power from being delivered to the monument until October 28, 1954, at 2:08 PM.³⁵⁹ The connection of national park units to commercial power, including Arches, was prominently featured in the 1954 Annual Report of the Director of the National Park Service to the Secretary of the Interior as a significant improvement in services and reduction in costs.³⁶⁰ Equally unreliable pumps for the 20,000-gallon water tank at

headquarters broke with some regularity during the 1940s and 1950s. A completely new well and 50,000-gallon storage tank were part of the Mission 66 improvements to the headquarters area. The new system was completed May 4, 1959, ending a lengthy period of hauling potable water from Moab.³⁶¹

Development plans for headquarters had originally included seven residences (in addition to the Rock House). Three were constructed in 1958, and one (Residence #5) was built as part of the visitor center contract in 1959–1960.³⁶² But sudden and dramatic increases in visitation, and very limited housing in Moab due to the uranium and oil booms, required the addition of seven trailers for three permanent, one seasonal and Western Office of Design and Construction personnel in 1960.³⁶³ The rest of the permanent residences—Residences 4, 7 [seasonal apartment], and 11—were constructed in 1964.³⁶⁴

The septic system was expanded with the addition of new residences, but construction of an on-site wastewater treatment plant was never seriously considered. Sewage from vault toilets and other locations not connected to septic fields was dumped at an undisclosed location within the park until 1986, when Arches signed a disposal agreement with the City of Moab, and the dump was closed and rehabilitated.³⁶⁵ The cost of such a facility was evaluated in 1988 as part of the GMP planning; based on projected additions of three visitor center staff and 3000–4000 visitors to the headquarters area, “the cost of providing the wastewater treatment facilities would be \$17.24 per additional visitor per visit.”³⁶⁶ But, by 1999, sewage dumping by the NPS (100,000 gallons from Canyonlands National Park alone) and the dramatic growth of Moab strained the capacity of Moab’s sewage plant and the NPS was prohibited from further dumping.³⁶⁷ Waste was trucked to Blanding, but “they have made it clear they don’t want our waste.” In 2000, the Water and Sewer Service Agency received funding to construct water and sewer lines to Arches and a new water tank.³⁶⁸

Potable water was regarded as a potential development liability at Arches from the beginning. Five possible sources of water were evaluated in 1938: the spring near the Colorado River bridge, springs in Courthouse Wash, Entrada Sandstone natural catchments, a sheet-iron catchment, and wells drilled into the Navajo Sandstone.³⁶⁹ In the same year, after the first monument expansion, the National Park Service instructed Grand County to file for water rights on Matrimonial Spring, the spring adjacent to the Colorado River Bridge, as a potential future source of water for monument developments.³⁷⁰ Unfortunately, Grand County filed on the upper of two springs at this location, and the NPS had no jurisdiction to prevent other uses of this source, which was outside of the monument boundaries. Development of this water source had proceeded to the point of drafting construction plans and budgeting for construction of a 300-gallon sump, 18,480 feet of 2-inch waterline, and a 20,000-gallon storage tank with pump and distribution lines, estimated to cost \$15,900.³⁷¹ The first well for the headquarters area was drilled by the CCC to 117 feet and cased in February 1940. By February of 1941, the well had filled with debris to a depth of 112 feet, but still had water at 92 feet.³⁷² Custodian Schmidt investigated drilling the well to a deeper depth, using the Grazing District’s drill rig (on loan from Loren L. “Bish” Taylor), but the well driller noted the danger of hitting a fault and losing the aquifer, so they decided to clean out the debris with a pump. The CCC also constructed a 20,000-gallon underground storage reservoir on the slick rock above the residences, but was forced to use 2-inch pipe instead of the recommended 4-inch pipe due to lack of funds.³⁷³ A gasoline engine powered a 30-gallon-per-minute pump to fill the two-cell concrete tank.³⁷⁴

Mission 66 development at Arches included a new, larger well and storage tank in the headquarters area and a permanent water system at the proposed Devils Garden Campground, as the earlier well and tank were considered inadequate for the demands of a new visitor center, residences, and the increasing number of visitors. In November 1958, the Moab Drilling Company began drilling a new well to supply the newly completed 50,000-gallon tank that sits above the headquarters area. The project encountered a series of problems: sand in the borehole, out of plumb well casing, and no suitable pump to conduct tests.³⁷⁵ To complicate matters, the driller's mud and mill fiber that was used in the final stages of drilling migrated through the aquifer and plugged the existing well (which had ceased working prior to the new well construction due to a failed generator and damaged pump shaft). By December 1958, the old well remained blocked and the new well still had no pump; Arches hauled 36,000 gallons of water during the month to supply the basic needs of the monument.³⁷⁶ Changing water safety standards required chlorination of the headquarters and Devils Garden water systems by 1984, a project that itself required an Environmental Assessment to complete.³⁷⁷ The project included putting back into service a well capped in 1978, replacement of pipelines, and burial of electrical and television cables in the pipeline trenches.

Disposal of trash was another development issue at Arches. Trash generated in the headquarters area, including the residences, was burned in barrels prior to March 1965:

*A new system of garbage disposal is being experimented with in the Headquarters area. The burning barrels have been replaced with garbage cans in an effort to cut costs of hauling burned materials to the city dump. Wastes from these cans will be hauled to the Devils Garden and burned during routine trips.*³⁷⁸

At the same time, an existing garbage pit in the Devils Garden area was covered over and a new one excavated; the locations of these pits are not known. The 1962 Roads & Trails map depicts a spur road from the Salt Valley Road, on the slope south of Skyline Arch, as "Garbage Pit," a location previously identified as a "shale pit" that had presumably been the source of the shale that was used to surface roads and trails during the 1940s and 1950s. This place is still identified as a landfill as recently as the 1975 Roads & Trails map.

Mission 66

For Arches National Monument, Mission 66 would finally complete basic park development, particularly the entrance road and rebuilding of the spur roads to Devils Garden and Delicate Arch.

*Other proposals in the program include improved trails to individual arches, headquarters facilities to include a visitor center, maintenance buildings, employee housing, campgrounds, picnic areas, wayside exhibits, utilities, fencing and other improvements which will assure preservation of the unique features of the area and at the same time meet increasing visitor-use requirements.*³⁷⁹

A headquarters building was one of the few improvements completed at Arches by the CCC, but by 1956 it was 15 years old and the parking lot with "fewer than 20 spaces" was completely inadequate for the level of visitation Arches experienced in the early 1950s (Figures 3-27a and b). Park development under Mission 66 would also include an entrance station, site-built residences (instead of trailers; Figure 3-28), maintenance facilities, an upgraded water system (Figure 3-29), and septic systems. But during the

planning process a complete revision to the 1940 Master Plan developed at Region III offered a very different approach to developing Arches National Monument:

The radical masterplan revision being offered as the “MISSION 66” proposal strikes me as excellent—(1) main developed area, including campground and residences and utility yard, on high ground in the southeast corner of the monument, with numerous advantages and no immediate apparent serious drawbacks; (2) only a checking station and a public use building (or small museum or information station) in the present headquarters vicinity; (3) the entrance road continuing northward past item (1) above from item (2), with a few viewpoints and interpretive markers, to approximately the present

junction, the present interpretive wayside exhibit there being revised toward more an orientation display; (4) extend the road as far as Landscape Arch; (5) two or three geological wayside exhibits at points along the road north of the junction, to its end; (6) develop a trail from Landscape Arch, relocate the Cove Trail slightly, make that to Delicate Arch a geological nature trail, and have guided trips only (with no signs or markers) in the Fiery Furnace area. The prime need, of course, is a third permanent man, so as to have two men on duty much of the time.³⁸⁰

The revision also toyed with continuing the scenic drive past Devils Garden to US 160, and removing the campground completely. Ultimately, nearly all of these changes were rejected, with the trail beyond Landscape Arch and guided access to Fiery Furnace the only changes that were retained.

Each year during the early 1960s Arches received money in the federal budget for significant improvements. In 1962, for example, \$319,000 was earmarked for an equipment and storage building, one employee residence, a boundary fence, utility connections, a new well, storage tank and distribution system and restrooms and septic system, for Devils Garden Campground.³⁸¹

NPS Renaissance or the Car Culture Conquers All

Mission 66 remains a polarizing program. For those within the Park Service who had witnessed the deprivation of the War Years, followed by the explosion in visitation immediately afterward, Mission 66 put the Park Service back in the black and gave it the funding and federal prominence it deserved. In many parks like Arches, some planned development had never been completed, and Mission 66 provided the needed political push and financial resources for the park-as-

intended to be realized. Mission 66 emphasized interpretation and visitor accommodation, elevating the quality of the park experience to equal the popularity of that experience.

For environmentalists, wilderness advocates, and others (including Edward Abbey),³⁸² Mission 66 was a travesty, the victory of “industrial tourism” over what they viewed as the key components of the Organic Act—preservation of wilderness, of quiet, of nature. Parks such as Great Smoky Mountains were

VISITOR COMMENTS ON MISSION 66 DEVELOPMENT

“This national park looks more like Disneyland than a wilderness area. The number of visitors is ridiculous and the idea of guided walks is contrary to my idea of a park experience. I know Arches N.P. receives a lot of political pressure to provide a plush park visit to America’s and Europe’s wealthy few. Stop “improving” visitor services and stick to the first mandate of the park service – preserving our country’s incredible resources for the enjoyment of future generation. In an ideal world, I’d tell you to rip out the roads and take down the signs. Realistically, I just wanted to cast my vote that this park does not meet my expectations due to overuse. I’m an environmentalist and I’ll support any congressional plan to cut this park’s (and others) funding.”

Visitor, September 16, 1997

Ranger Comments: “- Yep! let the park run itself !!”

[Visitor Comment forms of this period included a few lines at the end for Ranger Comments. Usually these were a notation that the issue had been resolved or a request for an official response. Obviously the antagonistic manner of this visitor had upset the ranger, who was responding to that in an unofficial way – Ed.]

already being encroached upon by gaudy and sordid sideshows such as that which developed in Maggie Valley, North Carolina, at the park's eastern entrance. The agent of tackiness, the facilitator of laziness, conveyor of crassness was the car, and Mission 66 capitulated to its intrusion into the wilderness (Figure 3-30).



3-27a. The 1940–1960 Arches National Monument Headquarters, date unknown, but after May 1947 when the telephone line connected the headquarters and office. ARCH 104/001380, SEUG Archives. Photographer unknown.



3-27b. The 1940–1960 Arches National Monument Headquarters, no date but taken before August 1945 when a flagpole was erected. ARCH 104/00323, SEUG Archives. Photographer unknown (possibly George Grant, U.S. Department of the Interior).

The most immediate problem posed by Mission 66 road-building was that automobiles provided easy access not just for tourists, but for “local ‘Pipe-Rattlers’ and nocturnal ‘Beer-Can-Spreaders’” looking for a place to party.³⁸³ In 1959, the NPS began to close the entrance gate at night due to the littering and vandalism being perpetrated.³⁸⁴ During the 2 months prior to the dedication of the new Arches Visitor Center and Windows Loop Road on May 5, 1962, Arches experienced a rash of vandalism that included the complete destruction of one new interpretive sign, damage to other signs, dumping of trash, and piling rocks into a toilet.³⁸⁵ Four local boys were arrested on April 10, 1962, for indecent exposure and vandalism, and late patrols were instituted to control vandalism.³⁸⁶ One roll of toilet paper was unrolled along the park road as far as it would go—a sad index of the level of boredom afflicting the local teenagers. Arches was short-staffed at this time and unable to maintain nightly patrols of the monument roads, so a nighttime closure of the park from 8 PM to 7 AM was imposed, with the entrance road gated and locked. In response, names were painted on the cliffs above Lower Courthouse Wash in bold letters.³⁸⁷

Unruly juveniles remained a problem for Arches law enforcement through the 1960s; in 1966, an editorial in *The Times-Independent* complained about the lack of police response to juveniles harassing visitors to Arches and Lions Park.³⁸⁸ The swinging bridge at Turnbow Cabin was damaged multiple times, including May 2, 1966, when nine local kids pulled down the bridge and scattered broken beer bottles over the area (they were subsequently caught and forced to pay for repairs).³⁸⁹ Arches reopened to nighttime visitation but added night ranger patrols in 1971 to deal with beer parties and littering.³⁹⁰



3-28. Many current visitors to Arches haul camping trailers larger than the residence trailers occupied by park personnel in the 1950s. One of these may be the trailer occupied at Balanced Rock by Edward Abbey 1956–1957; it was later moved to the Headquarters area. 1959. ARCH 104/000187, SEUG Archives. (Photo credit: Lloyd Pierson).

Continuing problems with parties, littering, and vandalism, including destruction of some interpretive signs, pushed Arches staff to again consider closing for the night in 1975.³⁹¹ More vandalism took place in October 1976, including four interpretive signs pushed over with a motor vehicle, and two signs in Fiery Furnace that were cut off with a saw and axe and stolen from the park.³⁹² The cohort of young people perpetrating the damage must have grown up by the late 1970s, as fewer reports of vandalism of this sort were logged in park files or by the local newspapers.

Delicate Arch by Road and Trail

Until 1948, the road to Delicate Arch (Salt Valley Road) was unpaved, and ended at Turnbow (Wolfe) Cabin. From there, Delicate Arch was a 2-mile hike, a distance that made viewing the Arch a special experience, but also excluded a number of visitors from seeing it because the arch was not visible from the parking area. Landscape Architect Carl W. Alleman proposed two possible routes for a new trail to Delicate Arch in that same year (Figure 3-31), and in 1951 he conducted a field inspection of Arches National Monument, focusing particular attention on the Delicate Arch road and trail. The road had just been extended down Cache Valley from Turnbow Cabin:

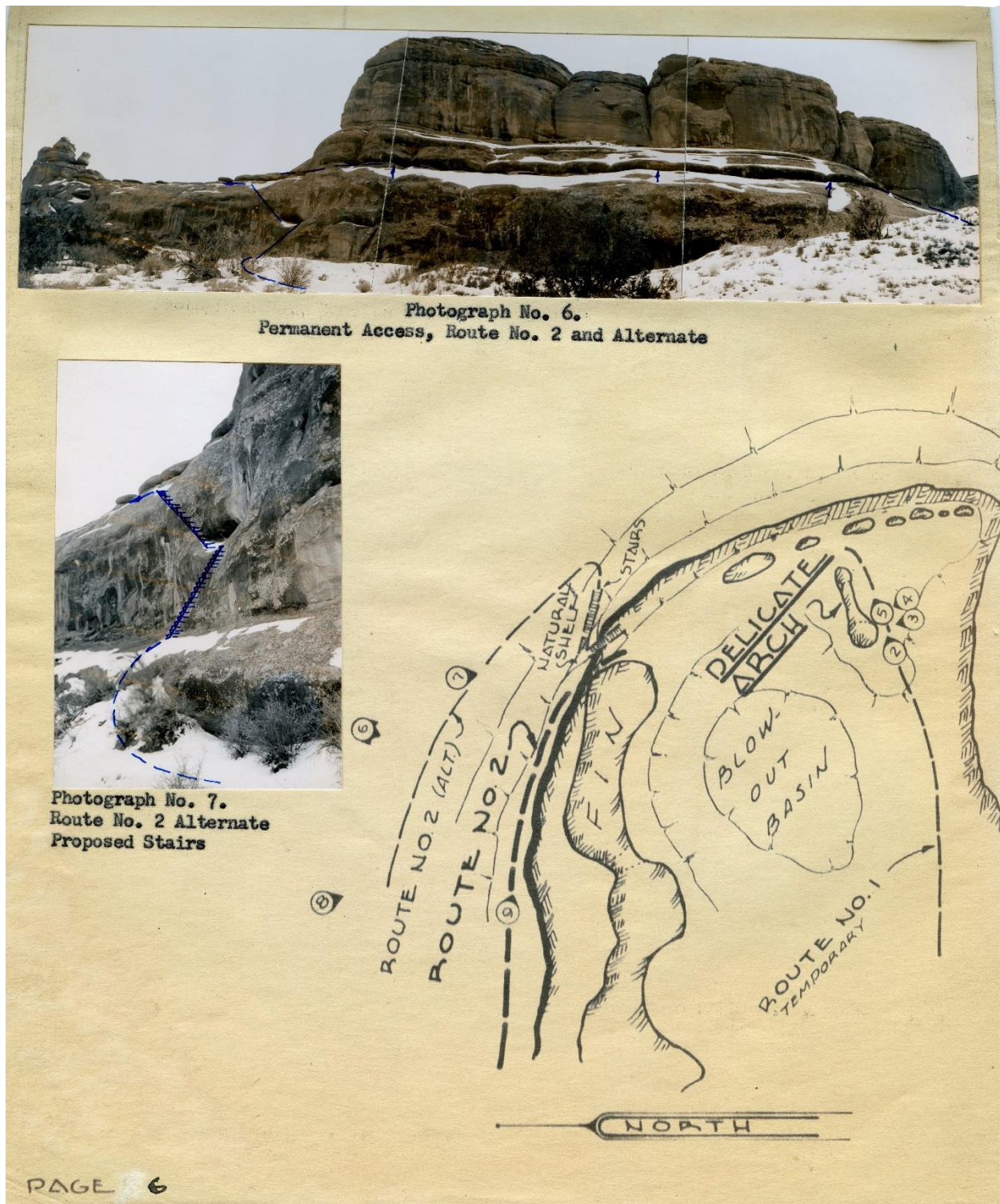
*From the end of this new road a prominent view is obtained of the Delicate Arch with some indication of its dramatic setting. From this point we made a reconnaissance for a proposed foot trail approximately three-fourths of a mile leading into the Arch. A plan from aerial photographs will be prepared showing this perposal [sic]. For the benefit of those who do not make the hike to the Arch, a sign or a small exhibit at the Parking Area giving such information as location, height and breadth of the Arch, as well as perhaps photographs and some of the geological story should be considered.*³⁹³



3-29. Construction of the park water tank in progress, 1959. ARCH 104/000232, SEUG Archives. (Photo credit: Lloyd Pierson).



3-30. Visitor cars parked at the Devils Garden Trailhead, ca 1968. ARCH 104/323.002, SEUG Archives.
(Photographer unknown).



3-31. Page 6 of Landscape Architect Carl Alleman's 1948 report on the Delicate Arch trail and road, with the alternate trail routes mapped and photo points illustrated. ARCH 101/003-001, SEUG Archives. (Photo credit: Carl Alleman).

Alleman also inspected the location of a proposed campground 2 miles west of The Windows section (which was not subsequently built) and the location of a new ranger's quarters and wayside exhibit near Balanced Rock. The ranger trailer was found to be within the viewscape from The Windows, and a different site was selected a short distance to the south.³⁹⁴ Alleman and Landscape Architect Van Pelt visited Arches in 1953, primarily to examine the progress on the construction of Delicate Arch Trail. Alleman noted that the route had been carefully studied, and would use mostly slickrock as the trail bed. Although this route would require more drilling and blasting to achieve the correct grade and emplace guard rails (Figure 3-32), the "longitudinal slope of the formation follows closely the proposed trail grade and its transverse bed sloped sharply, but not excessively, down and away from the natural face of the fin adding to the feeling of safety if the trail were constructed along this natural shelf."³⁹⁵

Devils Garden Campground

Although the road to Devils Garden had been completed in 1958, camping was "rustic" and lacked the sort of formal amenities now expected by the traveling public (Figure 3-33). In conjunction with paving the park roads and completing the viewpoint pullouts, creation of a formal campground that could accommodate both tent camping and trailers was an important component of Mission 66 at Arches. Camping was available at both Devils Garden and Balanced Rock, where the camping area was expanded in 1963 when frequent closures of the Devils Garden road were required for road realignment and surfacing.³⁹⁶ Park Landscape Architect Alleman scouted a possible campground location north of Landscape Arch, to be reached by a one-way loop road, in 1952.³⁹⁷ Alleman's proposal, which was accompanied by a sketch map, utilized the same initial route from the Devils Garden trailhead loop, but turned west to form a large loop in the open area north of the fins, with proposed short hiking trails to Tunnel, Pine Tree, Landscape, and Crystal arches, and Fin Canyon. However, unlike the entrance road and spurs, which were designed and constructed with little controversy, the Devils Garden Campground underwent multiple design changes.³⁹⁸ The initial design had two loops of nearly 100 camping spaces, later increased to 120 spaces (a 1963 construction design plan shows 133 spaces),³⁹⁹ but early in the design process, in 1962, the second loop was dropped, reducing the campground to 60 spaces (the 1963 design plan still shows the two deleted loops and 52 remaining spaces on the portion actually constructed, but correspondence regarding the campground consistently refers to 60 spaces).⁴⁰⁰ The new Southwestern Region office did not want to fund a larger campground, and decided to use 60 spaces on a "trial" basis;⁴⁰¹ additional cost savings were realized by using culverts already stored at the maintenance yard, replacing colored concrete barriers with crushed rock berms, and reducing the size of some restrooms. Several suggestions made by Bates Wilson to modify the design (such as moving the Campfire Circle closer to the road "Y"⁴⁰²) were rejected.⁴⁰³ But construction by Earl Troop of Cory, Colorado, began in August 1963 and the project was completed June 18, 1964 (Figure 3-34).⁴⁰⁴

VISITOR COMMENTS ON CAMPGROUND

"1. COMPLAINT. – On arrival at both Capitol Reef and Arches National Parks at midday 10/6 and 10/7, campgrounds were full. – Facilities for camping are completely inadequate at these and all other National Parks. Arches and Capitol Reef have only about 50 campsites each – this is ridiculous. Why limit campsites and crowd people together in small areas in these huge parks. This SPOILS a vacation.

2. SUGGESTION. – Expand campground facilities with designated primitive overflow areas to accommodate all wishing to stay in these beautiful areas. Raise fees to finance if necessary. There is plenty of room.

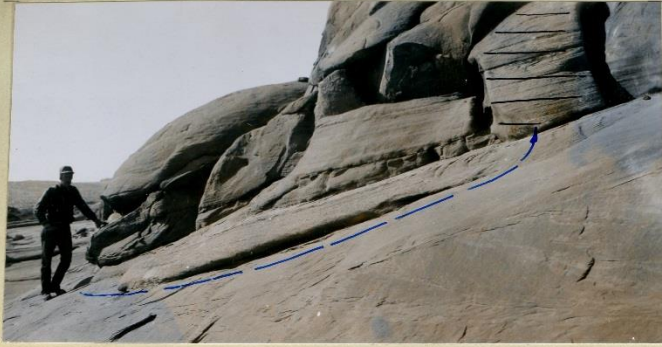
Please, let me have your comments."

Visitor from Gates Mills, Ohio, October 7, 1978

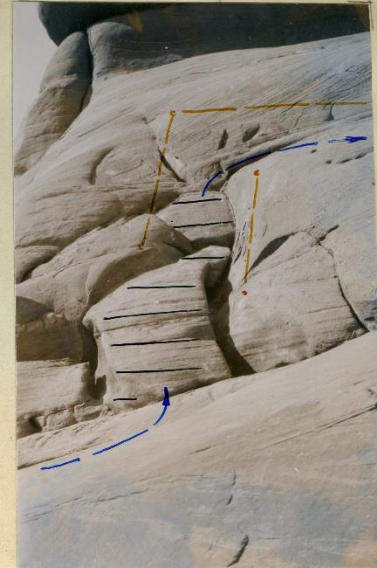
Ranger Comment: "I encountered this gentleman at Entrance. His complaint & aggravation may be valid but his manner was rude and obnoxious. I tried to explain our filling early this weekend & the objectives of the Park. He only replied with rude remarks."

"Arches (+ Canyonlands) are my favorite Nat'l Parks. Please don't commercialize these fantastic natural wonders. Grand Canyon was partly ruined by all those cities at the top. Don't enlarge campgrounds! Keep the experience a really good one. Keep roads dirt (don't pave them!)."

Visitor from Boulder, Colorado, June 4, 1978



Photograph No. 3, Route No. 1.



Photograph No. 4, Route No. 1.
Steps & Hand Rail



Photograph No. 2.
Existing Access



Photograph No. 5, Route No. 1.
Trail & Hand Rail

Page 5

3-32. Page 5 of Alleman's report illustrating the proposed locations of cuts and handrails. ARCH 101/003-001, SEUG Archives. (Photo credit: Carl Alleman).



3-33. Before the Devils Garden Campground was completed, visitors camped near Balanced Rock, as seen in this vacation photo from 1956. ARCH 428/001.005 SEUG Archives. (Photo credit: Jean Cohen [née Sharp]).

From the very beginning, the campground fills to capacity every night, causing some visitors and rangers alike to hope that the Park Service will expand the campground to the 120 spaces originally planned.⁴⁰⁵ A visitor survey in 1977 found that 40 percent of campers would like more campsites, but 54 percent wanted to keep the same number; 50 percent felt the quality of the camping experience was about the same as elsewhere, 30 percent said it was actually a better experience, and only 10 percent stated that the campground quality is worse than elsewhere.⁴⁰⁶ Over the years since it was completed, the Devils Garden Campground has actually lost spaces, although it is unclear when and for what purpose some of the spaces were removed. Currently, 51 spaces are available to campers, including two group-use sites, but some management documents variously list 52 to 54 spaces. The original small group space was moved in 1983 to increase the picnic area capacity, increase visitor safety, and make fee collection more efficient.⁴⁰⁷ The old site was converted into an additional picnic site. Fifty-three spaces are described on a 1988 site plan of the campground, with 10 new walk-in tent sites proposed (but never constructed) northwest of Comfort Station #1.⁴⁰⁸ One space (#37) was removed in 2011 to construct a photovoltaic array panel to provide additional solar power and reduce hours of operation for the generator.⁴⁰⁹



3-34. To save money and reduce the footprint of the park developments, the NPS built a single campground of 60 spaces, rather than two much larger campgrounds. Competition for campground spaces is one of the most common complaints registered by Arches visitors. ARCH 104/001395, SEUG Archives. (Photographer unknown).

Completion of the campground necessitated some ancillary developments in the area, including a generator shed, new comfort stations with septic systems, a well and storage tank, and a ranger station.⁴¹⁰ Several of these proved to be maintenance headaches. The well burned out pumps on an annual basis, often breaking down at the beginning of the camping season. After paying well-drillers to remove the pump for repairs in March 1966, the well was drilled 200 feet deeper to 1,100 feet in June 1966, providing a better flow of 10–11 gallons per minute using a new pump.⁴¹¹ The generator was also problematic. In July 1966, the cranking switch, then the rectifier burned out; new parts were only available from the factory, which took 6 weeks to 2 months to ship. This forced Arches staff to haul water from headquarters at a cost of \$97.05 per week.⁴¹² The pump failed again in March 1967, at the beginning of tourist “high” season, and again, well-drillers were hired to remove it.⁴¹³ The capacity of the Devils Garden water system was evaluated in 1988 as part of the General Management Plan.⁴¹⁴ The study concluded that there was sufficient capacity for current and projected future uses, but recommended upgrading the distribution system to connect with the comfort stations, residences, dump stations, office, and drinking fountains, and to automatize the operation of the reservoir with a float

control. Yet the water pumps remained a problem; even after rebuilding the campground water system in 2001, the first pump stopped working and a replacement pump overloaded the electrical system and tripped off the generators.⁴¹⁵

Ground fires have been prohibited in the campground (and elsewhere in the park) since the 1960s, but firewood gathering was not banned until 1977.⁴¹⁶ Arches National Park hired a firewood concessionaire beginning in 1976 to sell bundles of cut and split wood that could be used in the campground grills. The campground was open on a seasonal basis until the late 1990s, as the comfort stations were unheated and the water system had to be drained to prevent freezing. An early Fee Demonstration project in 1998 installed heat in all three comfort stations and three handicapped stalls.⁴¹⁷



3-35a. The new Mission 66 Visitor Center was completed in 1960. ARCH 104/000150, SEUG Archives. (Photo credit: Lloyd Pierson).



3-35b. A view of the new visitor center in the summer of 1960, before the site was landscaped. ARCH 2906, SEUG Museum Collection. (Photographer unknown).

The First Visitor Center 1958–1960

Arches National Monument existed for almost 30 years before a true visitor center was constructed during 1959–1960 (Figure 3-35a and b). As Christine Madrid French observed, Mission 66 invented the “visitor center” as an integrated administrative, interpretive, and commercial facility.⁴¹⁸ Although the Rock House had initially served as an informal visitor center, between 1949 and 1972 it was the superintendent’s residence, and in any case it was far too small to accommodate visitors by the time the Wilson family occupied it in 1949. A frame structure built by the CCC west of the Rock House (now within the footprint of the current visitor center) served as the contact station, museum, and administrative offices from 1940 until 1960. The new visitor center was designed at the Western Office of the Division of Design and Construction but Bates Wilson suggested some modifications to the locations of ancillary buildings to better accommodate the local landscape. Bids were opened June 23, 1959, and the contract was awarded to Gunter-Perryman Construction Company of Grand Junction, Colorado, after the low bidder failed to acknowledge a proposal addendum.⁴¹⁹ The project consisted of the visitor center—3,800 square feet of covered building space, 1,250 square feet of covered exterior porch areas and 1,000 square feet of walkways and steps—as well as an entrance station, one employee residence, and a sewer system, for a total contract cost of \$124,024 (Figure 3-36).



3-36. 1959 view of the headquarters area from the Moab Fault overlook. The new visitor center and residences are under construction, with the old Headquarters still extant east of the Rock House; the Moab Wash culvert widening has been completed. ARCH 104/000068, SEUG Archives. (Photo credit: Lloyd Pierson).

A national steel strike in late August 1959, then snow in December, delayed the completion of the visitor center, but by shifting resources to the residence, the contractor was able to stay on deadline; minor changes in the project necessitated change orders in October 1959 and February 1960, pushing the final cost to \$131,768.83. Final inspection took place on January 22, 1960, at which time the only tasks left uncompleted were finishing stucco on the exterior back porch foundation, installation of metal partitions in the restrooms, and installation of six light fixtures.⁴²⁰ Landscaping took place during 1960, with replacement of plants and trees that had died after transplant in 1961. With great relief and excitement, the Arches Visitor Center was dedicated May 5, 1962, along with the newly completed Windows Loop Road, three park residences, the entrance kiosk, and a bust of Dr. J. W. Williams, displayed prominently in the visitor center lobby.⁴²¹

The construction of an entrance station in conjunction with the visitor center was another important milestone for Arches. First opened April 15, 1966,⁴²² it moved the point of initial contact with visitors out of the visitor center, allowed for fee collections, and gave some control over traffic entering the monument (Figure 3-37). During the 1960s, when the visitor season was shorter and more clearly defined than it is today, the entrance station was only operated from April 15 to October 15, with the visitor center the point of contact in the off season.⁴²³ Arches had not yet charged an entrance fee, but after the entrance station was completed in 1966, an entry fee was instituted.⁴²⁴ Visitors could buy a 50 cent one-day pass, a \$3 pass for 30 days to Arches, or a \$7 “Golden Passport” annual pass to all federal recreation areas.⁴²⁵



3-37. The new entrance station in 1960. ARCH 104/000212, SEUG Archives. Photographer unknown.

In an interesting departure from the typical landscaping of the era, native species were used extensively at the Arches Visitor Center (with the one exception being a “small lawn” of turf), under a separate contract from the construction (for an additional \$5,324.70, plus \$325 in change orders).⁴²⁶ The project entailed grading the visitor center grounds with “native” topsoil, collected from the local area but outside of the monument grounds, installation of a drip-irrigation system, and planting of native tree and shrub species. Grading began in November 1960 and was completed by Christmas of that year. By November of 1961 “60% of a required 85% [of the shrubs] have survived,” and “77% of a required 85% have survived” of the *Populus acuminata*.⁴²⁷ However, none of the 22 evergreens (pinon pine and juniper) survived, and 52 of the native shrubs died. Many native Colorado Plateau species do not transplant well, and the contract included a guarantee for replacement if the transplants did not survive the summer. Replacement species included 10 cliffrose, 4 single-leaf ash, 10 Mormon tea, 4 sandsage, 5 Gambel oak, and 5 blackbrush.⁴²⁸

The 1960 Arches National Monument Visitor Center also included an expanded museum and exhibition space for the first time. Lloyd Pierson recalled shooting chipmunks and jackrabbits for the taxidermy display, and noted that once installed, the displays did not change for more than 30 years.⁴²⁹ John Jenkins and Clair Younkin installed the exhibits on April 2, 1960; as Wilson noted, “not every area rates the services of the Chief of the Museum Lab in the installation of their exhibits and we certainly appreciate our good fortune and the excellent job.”⁴³⁰ The new visitor center included a small auditorium in which an audio-visual exhibit was displayed, using a slide projector and tape player. It was first put into operation on August 29, 1960, to generally favorable comments from visitors.⁴³¹ Unfortunately, this system proved to be unreliable, and the Monthly Narrative Reports through the 1960s make frequent comments about the audiovisual system ceasing to function and visitors’ disappointment. In 1964–1965 the audio-visual system was inoperable for over 10 months.⁴³² Despite these shortcomings, the newly completed developments were appreciated by staff and visitors alike, some of whom recalled the decidedly primitive conditions that prevailed as recently as 1946. However, in 1973, increases in visitation necessitated the replacement of the information desk with one that could accommodate more people at once, a foreshadowing of the changes to come.⁴³³

Notes

¹ Anonymous, “Significant Events Arches National Park From 1939,” n.d., Arches National Park Records, ARCH 101/004-002, Southeast Utah Group (SEUG) Archives, National Park Service (NPS). The National Archives and Records Administration in Bloomfield, Colorado, archives records pertaining to Arches that include documents dated 1933–1938 regarding the proposed expansion of Arches and Monthly Reports from Custodian Harry Reed to Southwestern National Monuments Headquarters, September 1937 to December 1938 (8NS-079-94-139). No documents dated 1929 to 1932 were identified.

² Anonymous, “Significant Events Arches National Park From 1939,” p. 1.

³ Samuel J. Schmieding, *From Controversy to Compromise to Cooperation: The Administrative History of Canyonlands National Park*. (National Park Service, 2008), p. 53.

⁴ “J. M. Turnbow Will Be Appointed Custodian,” *The Times-Independent*, November 2, 1933. ARCH 101/005-056, SEUG Archives. This article does not mention that in 1915 Turnbow accused his wife of infidelity with sheepman Clyde Bailey. On December 24, 1915, Turnbow, generally known as Marvin, shot Bailey dead as the two men stepped from a train at Thompson. Mrs. Turnbow, who was never named in the newspaper accounts, shot her three children dead on March 7, 1916, and committed suicide, proclaiming her innocence to the end. Turnbow was charged with first degree murder, but was acquitted by the trial jury on April 23, 1916. The jury ruled that Turnbow had committed justifiable homicide because of the improper relationship between Bailey and his wife.

- ⁵ Anonymous, "Personnel Recordings Arches National Park 1929–1979," n.d. ARCH 101/004-010, SEUG Archives.
- ⁶ Writer's Program, Utah, Utah: A Guide to the State. Compiled by Workers of the Writers' Program of the Work Projects Administration for the State of Utah. American Guide Series. (New York: Hastings House, 1941), p. 452.
- ⁷ Frank Pinkley, Superintendent, to Harry Reed, Custodian, May 16, 1938. 8NS-079-94-139, National Archives and Records Administration (NARA), Bloomfield, Colorado.
- ⁸ Anonymous, "Significant Events Arches National Park From 1939."
- ⁹ George W. Norgard, "Field Report, Plans and Design Division, Arches National Monument, April 8–9, 1941." ARCH 101/003-001, SEUG Archives.
- ¹⁰ Henry G. Schmidt, "Report for Arches National Monument, February 17, 1941." ARCH 101/001-002, SEUG Archives.
- ¹¹ Jen Jackson Quintano, Blow Sand in His Soul: Bates Wilson, the Heart of Canyonlands. (Moab: Friends of Arches and Canyonlands National Parks, Bates Wilson Legacy Fund, 2014), p. 32.
- ¹² Caroline Coalter Wilson, personal communication, August 24, 2018.
- ¹³ John F. Hoffman, Arches National Park: An Illustrated Guide. (San Diego: Western Recreation Publications, 1985), p. 106.
- ¹⁴ National Park Service, Historic Listings of NPS Officials, Compiled 1964 by Hiliary [*sic*, correct spelling is Hillory] A. Tolson, revised 1969, 1972, 1986, 1991, and 2000. (Electronic document https://www.nps.gov/parkhistory/online_books/tolson/histlist7a.htm, viewed August 10, 2016). This document does not appear to have been substantially updated since 1991, and contains a number of apparent errors of fact. No Canyonlands Complex or Southeastern Utah Group is listed, and Bates Wilson is listed as ending his service as Arches National Monument Superintendent in 1964. This table was supplemented by dates of correspondence in the ARCH 101 administrative collection and local newspaper accounts of administrative changes. However, there is some discrepancy between the archived records and newspaper accounts that perhaps reflects internal delays in sending correspondence during changes in staff.
- ¹⁵ "New Custodian Named for Arches Monument," The Times-Independent, September 14, 1939. ARCH 101/005-056, SEUG Archives. The date or circumstances of Turnbow's departure from Arches is not referenced in either the Arches Administrative Collection The Times-Independent newspaper. Several documents reference Reed as acting custodian before he was appointed as custodian effective September 1, 1937 (The Times-Independent, "Harry Reed Appointed Custodian of Arches," September 23, 1937), suggesting that Turnbow vacated the position in late 1936 or early 1937.
- ¹⁶ National Park Service, Historic Listings of NPS Officials, viewed June 6, 2018. Tillotson was regional director of Region III from August 9, 1940 to March 1, 1955, but during the interval August 31, 1943 to March 3, 1950 he had direct supervision of Southwestern National Monuments, including Arches National Monument. In 1948, superintendents were appointed for most of the monuments under his control, including Arches, where Russell L. Mahan was elevated from custodian to superintendent.
- ¹⁷ Samuel Schmieding, Transcript of Interview Walt Dabney, Canyonlands Administrative History Project, Oral History Component, October 25–26, 2005. 2010 Administrative History Oral History Transcripts, SEUG Net (inpcanyusers\net) Digital Files.
- ¹⁸ Hoffman (1985), p. 66.
- ¹⁹ National Park Service, National Monuments Designated by Presidents 1906–2009. (National Park Service, 2009).
- ²⁰ Anonymous, "Personnel Recordings."
- ²¹ "Sherma Bierhaus Is New Unit Manager at Arches," The Times-Independent, January 13, 1982. ARCH 101/005-094, SEUG Archives.
- ²² National Park Service, Historic Listings of NPS Officials. Although this identifies Guraedy's reclassification as superintendent as taking place in 1989, correspondence from Guraedy identifies him as superintendent from 1988 onward; the change took place concurrently with the SEUG reorganization in 1987.
- ²³ National Park Service, National Park System Timeline (Annotated). (Electronic document http://www.nps.gov/parkhistory/hisnps/NPSHistory/timeline_annotated.htm#TOP, viewed December 8, 2015).
- ²⁴ Robert W. Rightner, National Monuments to National Parks: The Use of the Antiquities Act of 1906. (Electronic document <http://www.nps.gov/parkhistory/hisnps/npsHistory/righter.htm#9>, viewed December 10, 2015).

- ²⁵ Russ Olsen, Administrative History: Organizational Structures of the National Park Service 1917–1985. (Electronic document http://www.nps.gov/parkhistory/online_books/olsen/adhi.htm, viewed December 10, 2015).
- ²⁶ National Park Service, Historic Listings of NPS Officials.
- ²⁷ Bates E. Wilson, Superintendent’s Monthly Report – 1 M 1, March 1957, March 24, 1957. ARCH 101/001-018, SEUG Archives. The convention for naming the Narrative Monthly Reports changed over the years. The titles cited are as they appear on the documents themselves.
- ²⁸ Amy Korpieski, Jacks of All Trades: Transcription of Interview with Lloyd and Marion Pierson, June 28, 1991, p. 3. Papers of Lloyd M. Pierson CANY 579, Folder 4, SEUG Archives, p. 4.
- ²⁹ Korpieski (1991), p. 10.
- ³⁰ National Park Service, “Master Plan Development Outline, Arches National Monument, Utah,” November 1956.
- ³¹ Schmieding (2008), pp. 131–132.
- ³² Olsen, Administrative History, Part V: Reorganization of 1964.
- ³³ Schmieding (2008), pp. 135–138.
- ³⁴ National Park Service, National Park Service Administrative History: A Guide. 2004. (Electronic document <http://www.nps.gov/parkhistory/hisnps/NPSHistory/guide.pdf>, viewed December 8, 2015), pp. 29–32.
- ³⁵ Canyonlands Organizational Chart 1972. CANY 339/01-107, SEUG Archives.
- ³⁶ Organization Chart, Arches & Canyonlands National Parks, Natural Bridges National Monument [as of 6/2/80]/ CANY 339/01-109, SEUG Archives.
- ³⁷ Harvey Wickware, Organizational Chart Southeast Utah Group, Arches National Park, Canyonlands National Park, Natural Bridges National Monument, November 7, 1988, CANY 339/01-113, SEUG Archives, and Noel R. Poe, Arches National Park Organization (1348), October 5, 1992. ARCH 101/001-074, SEUG Archives.
- ³⁸ Brenden Hickey, Org Chart Admin_090618.pdf.
- ³⁹ Schmieding (2008), p. 118.
- ⁴⁰ Schmieding (2008), p. 120.
- ⁴¹ Wikipedia. Organization of the National Park Service. (Electronic document https://en.wikipedia.org/wiki/Organization_of_the_National_Park_Service, viewed March 9, 2016), p. 21.
- ⁴² K. C. DenDooven, “A Conversation with Bates Wilson,” Western Gateways Magazine 1967. (Electronic document <http://nps.gov/cany/learn/historyculture/bateswilson.htm>, viewed June 18, 2015).
- ⁴³ Quintano (2014), pp. 37–41. This entire chapter is dedicated to Bates’s “highly irregular” methodology, including his “improvement” of an old mining road in Cache Valley to create a Delicate Arch Lookout Road, using road equipment lent by Grand County.
- ⁴⁴ Korpieski (1991), pp. 5–6. The paragraph begins “And we did a lot of the work ourselves.”
- ⁴⁵ DenDooven (1967).
- ⁴⁶ Quintano (2014), p. 23.
- ⁴⁷ Bates E. Wilson, Narrative Report for the month of March, 1951, March 26, 1951. ARCH 101/001-012, SEUG Archives
- ⁴⁸ Schmieding (2008), pp. 135–137.
- ⁴⁹ Quintano (2014), p. 46. Quintano relates one story about Wilson being teased about being absent from Arches so often the he required the services of a guide to find his way around.
- ⁵⁰ Quintano (2014), pp. 137–143. Quintano notes that Wilson’s first marriage ended in 1969 and he quickly remarried in 1970 to Robin Ruder, who shared and actively participated in Wilson’s desert expeditions. In regards to Wilson’s retirement, Schmieding (2008, pp. 138-141) also notes that the construction of the Confluence Road in Canyonlands exposed Wilson to the politically charged, post-NEPA world of the NPS. This was one of the first NPS development projects following passage of NEPA, and the Sierra Club was much better versed in its implementation than was the NPS, which was still trying to claim that it was exempt from NEPA. Wilson’s son Tug recalled that his father would have found the new political reality difficult to take (Schmieding 2008, p. 156), so anticipation of future conflicts over development and expansion of Canyonlands weighed heavily in Wilson’s decision to retire.
- ⁵¹ National Park Service, Rethinking the National Parks for the 21st Century. (Electronic document <http://www.nps.gov/policy/report.htm>, viewed December 7, 2015). A nice idea, but as of this writing, moving up still requires moving.

- ⁵² Quintano (2014), p. 59.
- ⁵³ L. Robert Anderson, "Still Inaccessible" (letter to the editor), The Salt Lake Tribune, March 11, 1969. ARCH 101/005-081, SEUG Archives.
- ⁵⁴ Larry D. Reed, Memorandum: Tommy White. May 1, 1974. ARCH 101/006-007, SEUG Archives.
- ⁵⁵ Larry D. Reed, Memorandum: Tommy White. May 1, 1974.
- ⁵⁶ Larry D. Reed, Memorandum, Tommy White Driveway. June 27, 1974. ARCH 101/006-007, SEUG Archives.
- ⁵⁷ Sherma E. Bierhaus, Superintendent's Annual Report [1983], February 7, 1984. ARCH 101/001-035, SEUG Archives.
- ⁵⁸ Quintano (2014), p. 161.
- ⁵⁹ Paul Guraedy, Superintendent's Annual Report [1986]. ARCH 101/001-035, SEUG Archives.
- ⁶⁰ Quintano (2014), p. 162.
- ⁶¹ Christine L. Madrid, Arches National Park Main Entrance Road, Beginning at U.S. Highway 191, approximately 6 miles North of Moab, Moab Vicinity, Grand County, Utah. HAER No. UT-70. Photographs, Written Historical and Descriptive Data. (Washington, D.C.: Historic American Engineering Record, National Park Service, Department of the Interior, 1993a), p. 8.
- ⁶² National Park Service, "Arches NP Annual Park Recreation Visitation (1904–Last Calendar Year)." (Electronic document [https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20\(1904%20-%20Last%20Calendar%20Year\)?Park=ARCH](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20(1904%20-%20Last%20Calendar%20Year)?Park=ARCH), viewed February 14, 2017).
- ⁶³ Hoffman (1985), p.14.
- ⁶⁴ Frank Beckwith, Report of Arches National Monument Scientific Expedition, 1934. ARCH 101/003-001, SEUG Archives.
- ⁶⁵ Beckwith (1934), p. 1.
- ⁶⁶ Hoffman (1985), p. 67.
- ⁶⁷ Hoffman (1985), p. 67.
- ⁶⁸ Hoffman (1985), p. 17.
- ⁶⁹ Harry Langley, Resident Landscape Architect, "Report to the Chief Architect on Arches National Monument, March 11th to 16th, 1934," Office of Chief, Western Branch of Plans and Design, San Francisco, April 23, 1934. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁷⁰ Langley (1934), p. 5.
- ⁷¹ Langley (1934), P. 6.
- ⁷² A. W. Burney, Assistant Chief Engineer, to Frank Pinkley, Superintendent, January 15, 1935. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁷³ Anonymous, "Arches National Monument Proposed Boundary Changes" (colored pencil drawing), n.d. Attachment to Walter C. Attwell, Associate Engineer, to F. A. Kittredge, Chief Engineer, May 22, 1935. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁷⁴ Anonymous, "Arches National Monument Proposed Boundary Changes."
- ⁷⁵ A. W. Burney, Acting Chief Engineer, to Frank Pinkley, Superintendent, July 16, 1935. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁷⁶ J. B. Hamilton, District Engineer, Memorandum of Inspection, Arches National Monument, July 14–15, 1936. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁷⁷ Hamilton (1936).
- ⁷⁸ Geo. L. Collins, Assistant Regional Officer and Charles A. Richey, Asst. Regional Landscape Architect, to Hugh Miller, Asst. Superintendent, August 10, 1937. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁷⁹ John Ise, Our National Park Policy: A Critical History (Baltimore: Johns Hopkins Press, 1961). Quoted in Robert W. Righter, National Monuments to National Parks: The Use of the Antiquities Act of 1906. (Electronic document <http://www.nps.gov/parkhistory/hisnps/nps/history/righter.htm#9>, viewed December 10, 2015).
- ⁸⁰ Schmieding (2008), pp. 55–64. The history of Escalante National Monument forms the backstory to the establishment of Canyonlands National Park and the source of ongoing friction between the NPS and San Juan County and the state of Utah. However, it has little direct bearing on Arches National Park, other than the involvement of Bates Wilson in the successful promotion of a national park in the Canyonlands basin.

- ⁸¹ Frank Pinkley, Superintendent, to the Director, April 21, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁸² Jesse L. Nusbaum, Superintendent, to the Director, National Park Service, April 9, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado. Nusbaum copied Maier, Pinkley, and Madsen on this letter.
- ⁸³ Frank Pinkley, to the Director, April 19, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁸⁴ Arno B. Cammerer, Director, to Jesse L. Nusbaum, Superintendent, Mesa Verde National Park, March 14, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁸⁵ Arno B. Cammerer, Director, to Frank Pinkley, Superintendent, Southwestern National Monuments, May 4, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁸⁶ "Lions Declare In Favor of Creating National Monument: Pass Resolutions Urging That Escalante Area be Favorably Considered by Public Officials," *The Times-Independent*, February 17, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁸⁷ A. E. Demaray, Acting Director, to Jesse L. Nusbaum, Superintendent, Mesa Verde National Park, June 3, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁸⁸ "President Honors Dr. Williams of Moab in Personal Letter on Signing of Arches Proclamation," *The Times-Independent*, December 22, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ⁸⁹ National Park Service, "Master Plan for Arches National Monument." 1940.
- ⁹⁰ Acting Superintendent, Memorandum for the Water Rights Section, Region Four, June 11, 1942. 8NS-079-94-139_801, NARA, Bloomfield, Colorado.
- ⁹¹ Henry G. Schmidt, Custodian, Memorandum for the Superintendent, Southwestern National Monuments, June 23, 1942. 8NS-079-94-139_801, NARA, Bloomfield, Colorado.
- ⁹² Ed. H. Watson, State Engineer, to A. van V. Dunn, Hydraulic Engineer, National Park Service, June 24, 1942. 8NS-079-94-139_801, NARA, Bloomfield, Colorado.
- ⁹³ A. van V. Dunn, Hydraulic Engineer, Memorandum for the Superintendent, Southwestern National Monuments, June 26, 1942. 8NS-079-94-139_801, NARA, Bloomfield, Colorado.
- ⁹⁴ A. M. Baclawski, Supervising Park Landscape Architect, National Park Service, Memorandum, Reconnaissance Survey, Devils Garden Extension, Entrance Road, Arches. March 20, 1961. ARCH 101/003-059, SEUG Archives.
- ⁹⁵ J. E. Keogh, Manager, Bureau of Land Management, Land Office, Decision, State Exchange Utah 035421: Title Accepted – Patent to Issue (no date). CANY 339/007-526, SEUG Archives. The NPS was unable to take title without the date of issue, which was finally clarified with a letter from R. D. Nielson, State Director, Utah, to Regional Director, Southwest Region, National Park Service, January 16, 1964, that clarified that the date of issue was November 12, 1963. ARCH 101/006-043.
- ⁹⁶ Max C. Gardner, Director, Entry No. 300221, Filed for record January 28, 1963 at 4:30 PM, Book 114, page 334-5, Esther Somerville, Recorder Grand County, Utah, Easement: Right of Way No. 814. ARCH 101/010-022, SEUG Archives.
- ⁹⁷ President Dwight D. Eisenhower, Proclamation 3360 Modifying the Arches National Monument, Utah. July 22, 1960.
- ⁹⁸ Arches National Park, Briefing Statement: Dry Mesa – Potential Threat to Arches Nat'l Park Resources. April 24, 1995. ARCH 101/001-039, SEUG Archives.
- ⁹⁹ National Park Service, Land Resources Division, Listing of Acreage (Summary), December 31, 2017. (Electronic document <https://irma.nps.gov/Stats/Reports/Park/ARCH>, viewed August 21, 2018).
- ¹⁰⁰ James M. Siler, Assistant Chief of Lands, National Park Service, Memorandum: Acquisition of Land in Arches National Monument, December 21, 1955. ARCH 101/006-036, SEUG Archives.
- ¹⁰¹ Maxine Newell, "Arches Park Looks Back on Rich But Rugged Past," *The Times-Independent*, May 11, 1972. ARCH 101/005-084, SEUG Archives.
- ¹⁰² National Park Service, Master Plan of Arches National Monument, November 1965, p. 13. ARCH 101/003-005, SEUG Archives.
- ¹⁰³ Leslie P. Arnberger, Assistant Regional Director, Resource Planning, to Director, Memorandum: NP3-L-1 Form, Deed No. 11, Formerly State Land, Arches, January 22, 1964. ARCH 101/006-043, SEUG Archives.
- ¹⁰⁴ William P. Hewitt, Mineral Content, Capitol Reef National Monument – Senate Bill 531, Arches National Monument – Senate Bill 532. ARCH 101/006-131, SEUG Archives.

¹⁰⁵ Gordon Eliot White, "Johnson Enlarges Arches, Capitol Reef," *Deseret News*, January 20, 1969. ARCH 101/005-081, SEUG Archives.

¹⁰⁶ "Mr. Johnson's Arbitrary Land Grab," *The Salt Lake Tribune*, January 22, 1969. ARCH 101/005-081, SEUG Archives.

¹⁰⁷ S. 1736, 88th Congress, 1st Session, In the Senate of the United States, June 19, 1963, A Bill To Establish Arches National Monument as Arches National Park. H.R. 7604, 88th Congress, 1st Session, In the House of Representatives, July 16, 1963, A Bill To Establish Arches National monument as Arches National Park.

¹⁰⁸ Arches National Park Briefing Statement (April 24, 1995).

¹⁰⁹ Arches National Park, Land Acquisition Plan, Arches National Park, Final Draft, February 26, 1980. ARCH 101/006-007, SEUG Archives.

¹¹⁰ Peter L. Parry, Superintendent, Canyonlands Complex, Memorandum: Land Acquisition Plan, Arches National Park. February 26, 1980. ARCH 101/006-007, SEUG Archives.

¹¹¹ Gerald Wakefield, GIS Coordinator, SEUG, personal communication, June 12, 2018.

¹¹² John E. Cook, Regional Director, Rocky Mountain Region to Richard Blumberg, Vice President, Atlas Corporation, January 1, 1995. ARCH 101/006-021, SEUG Archives. This document describes the road realignment as having taken place in 1960. Monthly Narrative Reports indicate that the actual construction took place 1957–1958, with a new right-of-way/boundary fence being constructed in early 1958. Bates E. Wilson, Superintendent's Monthly Narrative Report-1 M1 for February 1958, February 25, 1958. ARCH 101/001-019, SEUG Archives.

¹¹³ Arches National Park, Briefing Statement: Park Boundary, May 24, 1993. ARCH 101/006-021, SEUG Archives.

¹¹⁴ James F. Wood, Physical Scientist, Mineral Resources Section, Mining and Minerals Branch, Land Resources Division, National Park Service, Memorandum: Field Examination Indicates no Mining-related Problems With Parcels Under Consideration for Acquisition by Arches National Park, June 27, 1994. ARCH 101/006-021, SEUG Archives.

¹¹⁵ Noel R. Poe, to Regional Director, Rocky Mountain Region, Title Insurance for Three Parcels. ARCH 101/006-021, SEUG Archives.

¹¹⁶ National Park Service, Master Plan for Arches National Monument (1940).

¹¹⁷ Korpieski (1991), p. 7.

¹¹⁸ Hugh M. Miller, Superintendent, to Dr. J. W. Williams, August 6, 1940. 8NS-079-94-139, NARA, Broomfield, Colorado.

¹¹⁹ Henry G. Schmidt, Custodian, to Hugh M. Miller, Acting Superintendent, February 24, 1940. 8NS-079-94-139, NARA, Broomfield, Colorado.

¹²⁰ Henry G. Schmidt, Custodian, to Hugh H. Miller, Superintendent, Southwestern National Monuments, May 1, 1940. 8NS-079-94-139_833.05, NARA, Bloomfield, Colorado.

¹²¹ Henry G. Schmidt, Custodian, to Natt N. Dodge, Jr., Naturalist, November 22, 1939. 8NS-079-94-139_833.05

¹²² W. B. McDougall, Special Report Arches National Monument, October 1941. 8NS-079-94-139_833.05, NARA, Bloomfield, Colorado.

¹²³ Natt N. Dodge, Naturalist, to Henry G. Schmidt, Custodian, August 11, 1941. 8NS-079-94-139_833.05, NARA, Bloomfield, Colorado.

¹²⁴ Russell L. Mahan, Memorandum for the Regional Director, Region III: The following is a monthly narrative report for Arches National Monument for the month of April, 1945, Moab, Utah, April 26, 1945. ARCH 101/001-006, SEUG Archives.

¹²⁵ Russell L. Mahan, Memorandum for the Regional Director, Region III: The following is a monthly narrative report for Arches National Monument for the month of December, 1946, Moab, Utah, December 26, 1946. ARCH 101/001-006, SEUG Archives.

¹²⁶ Leslie P. Arnberger, Naturalist, to Superintendent, Arches, Memorandum: Color Slides, November 24, 1954. 8NS-079-93-291_K30, NARA, Bloomfield, Colorado. The memo noted that Breed was gravely ill in a hospital in Philadelphia and was unlikely to "get back into the slide business," and the NPS would need to make their own images for sale.

¹²⁷ Earl Jackson, Acting Supervisory Archaeologist, to Superintendent, Arches, Memorandum: Photo Negatives for Arches and Natural Bridges, June 14, 1960. 8NS-079-93-291_K30, NARA, Bloomfield, Colorado.

- ¹²⁸ Harry Reed, Arches National Monument, Moab, Utah, Report for February 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ¹²⁹ Harry Reed, Arches National Monument, Report for November 1937. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ¹³⁰ Hugh M. Miller, Superintendent, to Henry G. Schmidt, Custodian, June 3, 1941. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ¹³¹ Henry G. Schmidt, Arches National Monument, Moab, Utah, June 23, 1941. ARCH 101/001-002, SEUG Archives.
- ¹³² Henry G. Schmidt, Monthly Report – October 1941, October 22, 1941. ARCH 101/001-002, SEUG Archives.
- ¹³³ Bates E. Wilson, Monthly Narrative Report for the month of May, 1950. ARCH 101/001-011, SEUG Archives. Wilson states that “a group of 12 men under the direction of Dr. Lynn Hayward, Brigham Young University, spent the week of May 7 through 12 completing the Natural History Survey which has been in progress since 1947. A final report was prepared in 1948: Brigham Young University, Arches National Monument Natural History Survey Reconnaissance Study, May 12, 1948.
- ¹³⁴ National Park Service, Master Plan Development Outline, Arches National Monument, Utah, Interpretation, p. 7, November 1956. ARCH 101/003-004, SEUG Archives.
- ¹³⁵ Henry G. Schmidt, Custodian, to Dale S. King, Archaeologist, Southwestern National Monuments, February 7, 1941. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ¹³⁶ Robert L. Morris, Acting Superintendent, Monthly Narrative Report for February 1955, February 24, 1955. ARCH 101/001-016, SEUG Archives.
- ¹³⁷ Erik K. Reed, Regional Chief, Division of Interpretation, to Superintendent, Arches, Memorandum: Cartoon-type Interpretive Film, January 17, 1958. 8NS-079-93-291, NARA, Bloomfield, Colorado.
- ¹³⁸ Stanley G. Canter, Monthly Narrative Report for November, 1962. ARCH 101/005-035, SEUG Archives.
- ¹³⁹ Canter (1962).
- ¹⁴⁰ Canter (1962), p. 2.
- ¹⁴¹ Robert J. Ferris, Undated monthly reports with “January 1967” handwritten across the cover page. “April” is indicated on the third page. ARCH 101/010-003, SEUG Archives.
- ¹⁴² Dennis L. Carter, Bird Records from Arches National Monument, Utah, Nov. 8, 1964–Dec. 18, 1966. ARCH 361/007-002, SEUG Archives.
- ¹⁴³ Audubon Society, History of the Christmas Bird Count: From the very first count in 1900 through today. (Electronic document <http://www.audubon.org/content/history-christmas-bird-count>, viewed June 11, 2015).
- ¹⁴⁴ Audubon Society, p. 2.
- ¹⁴⁵ H. Wayne Norton, District Ranger, Superintendent’s Monthly Narrative Report-1 M1 for January 1967, February 3, 1967. ARCH 101/001-028, SEUG Archives.
- ¹⁴⁶ Roby R. Mabery, Superintendent’s Monthly Narrative Report-1 M1 for February 1965, March 5, 1965. ARCH 101/001-026, SEUG Archives.
- ¹⁴⁷ Natt N. Dodge, Research Needs for Arches and Natural Bridges, January 28, 1963. ARCH 101/007-027, SEUG Archives. The date may be in error. The attached Priority List – Research Program evaluates the status of research projects as of January 1, 1964. The cover memorandum references an unsuccessful funding request for fiscal year 1964, and the date applied to the memo is a later addition using a rubber stamp. The correct date is probably January 28, 1964.
- ¹⁴⁸ Bates E. Wilson, Superintendent’s Monthly Narrative Report-1 M1 for February 1964, March 4, 1964. ARCH 101/001-021, SEUG Archives.
- ¹⁴⁹ Bates E. Wilson, Superintendent’s Monthly Narrative Report-1 M1 for September 1960, October 5, 1960. ARCH 101/001-021, SEUG Archives.
- ¹⁵⁰ Wilson (March 4, 1964).
- ¹⁵¹ Wilson (October 5, 1960).
- ¹⁵² Madrid (1993a).
- ¹⁵³ Arches National Park and Utah Department of Transportation. Moab Canyon – 120 Years of Change. US 191 Wayside Exhibit, viewed January 2, 2017. In this administrative history, the contemporary designation of the road is used when describing an event involving the highway. This often involved various informal designations when the road was referenced in administrative documents. Otherwise, the road is referred to as US 191. The Utah

Department of Transportation currently uses a road designation format that hyphenates the name (US-191), which is not the format followed by this history.

¹⁵⁴ Harry Reed, Arches National Monument, Moab, Utah, Report for December 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.

¹⁵⁵ Arno B. Cammerer, Telegram to L. L. Taylor, President Moab Lions Club, November 27, 1933. 8NS-079-94-139, NARA, Bloomfield, Colorado. This is the earliest dated National Park Service document identified that pertains to the development of Arches National Monument, and the first to reference using Civil Works programs to build a road into Arches.

¹⁵⁶ Beckwith (1934), p. 2. Beckwith did note that Surveyor Ralph P. Anderson was using his personal car to work in the Devils Garden area, “since it saves both time and money over the use of the pack train.”

¹⁵⁷ Hoffman (1985), pp. 68–70.

¹⁵⁸ Langley (1934), pp. 4–5. On the page following his description of the road improvements, Langley noted that Grand County had shown no interest in building or improving a road and “is not planning any at this time.”

¹⁵⁹ Russell L. Mahan, Memorandum for the Regional Director, Region Three: The following is a narrative report for Arches National Monument for the month of August, 1948, August 28, 1948. ARCH 101/001-009, SEUG Archives.

¹⁶⁰ Madrid (1993a). The Arches scenic drive is officially the “Arches National Park Main Entrance Road” in the Historic American Engineering Record. For reasons described in the text of this chapter (and in a footnote to Table 3-4), after the visitor center was constructed below the Moab Fault, this description no longer makes sense.

¹⁶¹ U.S. Department of the Interior, National Park Service, Arches National Park. Parkwide Road Maintenance and Modification Environmental Assessment, July 2013. (Electronic document <https://parkplanning.nps.gov/document.cfm?parkID=25&projectID=43632&documentID=56043>, viewed May 5, 2017).

¹⁶² Beckwith (1934).

¹⁶³ General Land Office, Township No. 24 South, Range No. 20 East of the Salt Lake Base & Meridian, Utah, June 10, 1929. (Electronic document https://www.ut.blm.gov/LandRecords/search_plats.cfm#SearchResults, viewed May 4, 2018). Survey for this map took place between May 24 and July 18, 1928. The completed map does not depict any road between the Thompson-Moab Road and Willow Springs; in fact, no developments of any kind are depicted east of the highway.

¹⁶⁴ Custodian [Henry G.] Schmidt, Memorandum for the Regional Director, Region III, February 27, 1940. ARCH 101/003-001, SEUG Archives. The attached Development Outline, Arches National Monument, Utah, January 1, 1940 describes the Willow Springs Road as “a short section of very low grade road approaching the Windows section via Willow Springs lies inside monument boundaries. ‘Road’ was roughly bladed out by county equipment in 1936. On completion of the proposed entrance road from headquarters to the Windows section, this old road should be blocked and obliterated.”

¹⁶⁵ General Land Office, Township No. 23 South, Range No. 20 East of the Salt Lake Base and Meridian, Utah, April 30, 1909. (Electronic document https://www.ut.blm.gov/LandRecords/search_plats.cfm#SearchResults, viewed May 4, 2018). Survey work for this plat was undertaken between November 11, 1878 and June 1, 1908, showing both Salt Valley Road and the road from Thompson to Moab as extant.

¹⁶⁶ Jerome C. Miller, Field Report Plans and Design Division, Arches National Monument September 12, 1940. ARCH 101/003-001, SEUG Archives.

¹⁶⁷ Bates E. Wilson, Superintendent’s Monthly Narrative Report-1 M1 for August 1959, August 31, 1959. ARCH 101/001-020, SEUG Archives.

¹⁶⁸ USDI, NPS, Arches National Park, Parkwide Road Maintenance and Modification Environmental Assessment.

¹⁶⁹ “Dedication at Arches Planned For May 5th,” The Times-Independent, April 26, 1962. ARCH 101/005-073, SEUG Archives.

¹⁷⁰ Baclawski (March 20, 1961).

¹⁷¹ Russell L. Mahan, Memorandum for the Regional Director, Region Three: The following is a narrative report for Arches National Monument for the month of February, 1949, February 25, 1949. ARCH 101/001-010.

¹⁷² Russell L. Mahan, Memorandum for the Regional Director, Region Three: The following is a narrative report for Arches National Monument for the month of February, 1948, February 26, 1948. ARCH 101/001-009.

- ¹⁷³ National Park Service, U.S. Department of the Interior, As Constructed Plans for Utah Project PRA ARCH-100(1), Delicate Arch Road, Arches National Park, Grand County, Length 2.350 Miles. ARCH 138/41908a.0001, Denver Service Center, Technical Information Center. These as-built plans list 1.123 miles of grading, drainage, aggregate base and parking lot construction and 2.350 miles of asphaltic surfacing, which differs from the mileage listed in project contract documents (2.55 miles).
- ¹⁷⁴ Rocky Mountain Region, National Park Service, U.S. Department of the Interior, As Maintained Roads & Trails, Arches National Park, March 12, 1976. ARCH 138/80000b.001, Denver Service Center, Technical Information Center.
- ¹⁷⁵ Madrid (1993a), p. 2.
- ¹⁷⁶ "Automobile Reaches Arches National Monument for First Time," The Times-Independent, June 25, 1936. ARCH 101/005-056, SEUG Archives. Harry Reed photographed the expedition. Hoffman claims that Harry Goulding drove into the monument in 1936, with Grand County following and grading his route in 1937.
- ¹⁷⁷ Hoffman (1985), pp. 71–74. Hoffman misspelled Nusbaum's given name as "Derek."
- ¹⁷⁸ Madrid (1993a), p. 6.
- ¹⁷⁹ Harry Reed, Arches National Monument, Moab, Utah, Report for August 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ¹⁸⁰ Harry Reed, to Frank Pinkley, Superintendent, July 25, 1938. 8NS-079-94-139, NARA, Broomfield, Colorado.
- ¹⁸¹ Writer's Program, Utah (1941), p. 424.
- ¹⁸² Frank Pinkley, Superintendent, to Harry Reed, Custodian, July 1, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ¹⁸³ "Park Service Erects Building at Arches," The Times-Independent, December 21, 1939. ARCH 101/005-057, SEUG Archives.
- ¹⁸⁴ HMM [Hugh M. Miller], Memorandum for the Files, August 16, 1939. 8NS-079-94-139, NARA, Broomfield, Colorado. "Custodian Reed at Arches says the tent transferred to him from Chaco Canyon is practically worthless and he has taken no action to erect it. It may be desirable to buy a new tent for erection somewhere along the present entrance road at Arches to be used by the permanent employee as a contact station and, possibly, administrative office. Hold this memorandum for comment by the employee [new Custodian Henry G. Schmidt] after he has gone over the ground and gained some experience."
- ¹⁸⁵ Henry G. Schmidt, Custodian, to Frank Pinkley, Superintendent, October 20, 1939. 8NS-079-94-139, NARA, Broomfield, Colorado.
- ¹⁸⁶ The Times-Independent, January 18, 1940 [No title]. ARCH 101/005-058, SEUG Archives.
- ¹⁸⁷ Writers' Program, Utah (1941), pp. 449–450.
- ¹⁸⁸ Henry G. Schmidt, to Mr. Frank Pinkley, Superintendent, Southwestern National Monuments, November 13, 1939. 8NS-079-094-139_660.05, NARA, Broomfield, Colorado.
- ¹⁸⁹ Russell L. Mahan, Custodian, Arches National Monument, Memorandum for the Regional Director, Region Three, December 27, 1945. Arches National Park Administrative Collection, ARCH 101/003-058.
- ¹⁹⁰ Mahan (December 27, 1945).
- ¹⁹¹ Anonymous, "Arches – Past to Present," n.d. (circa 1969). ARCH 101/004-009, SEUG Archives.
- ¹⁹² Acting Superintendent, Memorandum for the Regional Director, Region III, March 19, 1940. 8NS-079-094-139_660.05, NARA, Broomfield, Colorado.
- ¹⁹³ Acting Superintendent, Memorandum for the Regional Director, Region III, March 19, 1940, p. 2. In the same folder, a January 6, 1940, Memorandum to the Regional Director from the Superintendent (Frank Pinkley) makes this point even more forcefully: "This office has long been opposed to the construction of through roads in the Southwestern National Monument and would find it difficult to concur in any proposal which might ultimately result in the construction of a through road at Arches National Monument."
- ¹⁹⁴ Natt N. Dodge, Naturalist, National Park Service, Memorandum for the Superintendent: Arches National Monument, July 31, 1940. ARCH 101/003-001, SEUG Archives.
- ¹⁹⁵ Madrid (1993a), p. 8.
- ¹⁹⁶ NPS, Master Plan (1940).
- ¹⁹⁷ Norgard (April 8–9, 1941).
- ¹⁹⁸ Dodge (July 31, 1940).

- ¹⁹⁹ William S. Collins, *The New Deal in Arizona*. (Phoenix: Arizona State Parks Board, 1999).
- ²⁰⁰ "CCC Discloses Plan to Give Up 273 Camps: Order Affects Many in Mountain Area," *Salt Lake City Tribune*, March 12, 1940. ARCH 101/005-058, SEUG Archives. Although the CCC was planning to reduce the number of camps in response to government budget reductions recommended by President Roosevelt, a new camp was also slated for Arches National Park as part of this plan.
- ²⁰¹ "Drilling Water Well for Park Service Camp," *The Times-Independent*, December 7, 1939. ARCH 101/005-057, SEUG Archives.
- ²⁰² Madrid (1993a), p. 9.
- ²⁰³ "Erection of New CCC Camp Starts: Crew of 40 Begins Work Tomorrow on Park Service Buildings," *The Times-Independent*, May 2, 1940. ARCH 101/005-058, SEUG Archives.
- ²⁰⁴ "Erection of New CCC Camp Starts."
- ²⁰⁵ *Civilian Conservation Corps, Memories of Civilian Conservation Corps 1941*. (No title page). ARCH 101/003-001, SEUG Archives.
- ²⁰⁶ ARCH 101/005-058, SEUG Archives. This folder of news clippings contains article "C.C.C. Commander at Moab Suicides: Lieut. Woodrow W. Tickle of Arches Camp Shoots Self Through Head: Body Discovered 10:30 This Morning on Highway Near Dalton Wells; Officer was Resident of Tennessee and Had Been Here About Three Weeks," with no newspaper, author or date information. The Utah digital newspapers archives do not contain a copy of this article. A search of *The Times-Independent* newspaper for the period during which the Arches CCC camp was in existence (1940–1942) produced "New Arches Commander" for April 3, 1941, documenting the installation of new camp commander Harry G. Letts following Tickle's suicide, but not the article in the SEUG Archives.
- ²⁰⁷ "Construction of Arches Highway Starts in Earnest: Metal Arch Bridge Erected: Plans Received for Road Into Courthouse Towers," *The Times-Independent*, October 24, 1940. ARCH 101/005-058, SEUG Archives.
- ²⁰⁸ Henry G. Schmidt, *Monthly Report – February 1942*, February 23, 1942. ARCH 101/001-003, SEUG Archives.
- ²⁰⁹ Lance J. Olivieri, *Classified Structure Field Inventory Report, Arch #2: Custodian's Residence*. December 1975. ARCH 101/003-086, SEUG Archives.
- ²¹⁰ U.S. Department of the Interior, National Park Service, CCC and ERA, *Job Application Supplemental and Job Completion Record, Custodian's Residence*. September 18, 1942. 8NS-079-93-282, National Archives and Records Administration (NARA), Broomfield, Colorado.
- ²¹¹ Henry G. Schmidt, *Annual Report – Arches National Monument*, June 23, 1942. ARCH 101/001-030
- ²¹² Korpieski (1991), p. 3.
- ²¹³ Lewis T. McKinney, *Monthly Narrative Report, Arches, Moab, Utah*, January 28, 1943. ARCH 101/001-004, SEUG Archives.
- ²¹⁴ ARCH 101/001-006 and 008, SEUG Archives.
- ²¹⁵ Hugh G. Schmidt, Custodian, to Hugh M. Miller, Superintendent, January 9, 1941. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ²¹⁶ Henry G. Schmidt, Custodian, to Hugh M. Miller, Superintendent, December 22, 1940. 8NS-079-94-139, NARA, Bloomfield, Colorado.
- ²¹⁷ Madrid (1993a), pp. 10–11.
- ²¹⁸ Acting Superintendent, *Memorandum for the Regional Director, Region III*, March 19, 1940. 8NS-079-94-139_660.05, NARA, Broomfield, Colorado.
- ²¹⁹ ARCH 101/001-004, 005, and 007, SEUG Archives.
- ²²⁰ U.S. Department of the Interior, National Park Service, CCC and ERA, *Job Application Supplemental and Job Completion Record, Equipment Storage Building*, September 18, 1942. 8NS-079-93-282, National Archives and Records Administration (NARA), Broomfield, Colorado.
- ²²¹ Henry G. Schmidt, to Mr. Milton J. McColm, Acting Regional Director, RE: Protection of explosives, January 7, 1941. 8NS-079-94-139, NARA, Broomfield, Colorado.
- ²²² Henry G. Schmidt, *Memorandum for Acting Regional Director McColm*, January 11, 1941. 8NS-079-94-139, NARA, Broomfield, Colorado.
- ²²³ J. J. McEntee, Director, to Interior Department Representative, CCC, March 13, 1942. 8NS-079-94-139_801, NARA, Bloomfield, Colorado.

- ²²⁴ Alden B. Newell, Acting Project Superintendent, Memorandum for Lieutenant Colonel, Infantry, District Commander, Civilian Conservation Corps, Fort Douglas, Utah, December 22, 1941. 8NS-079-94-139, NARA, Broomfield, Colorado.
- ²²⁵ Explosives Inventory Report, Arches National Monument, Camp NP-7-U Moab, Utah, March 29, 1942. 8NS-079-94-139, NARA, Broomfield, Colorado.
- ²²⁶ Superintendent, Confidential Memorandum for the Custodian, Arches National Monument, November 21, 1942. 8NS-079-94-139_609.10, NARA, Bloomfield, Colorado.
- ²²⁷ Oscar L. Chapman, Assistant Secretary, to Hon. Abe Murdock, January 21, 1941. 8NS-079-94-139_609.10, NARA, Bloomfield, Colorado.
- ²²⁸ Anonymous, Memorandum for the Regional Landscape Architect, April 19, 1948 (retyped by Museum Curator 11/23/1999). ARCH 101/003-001, SEUG Archives.
- ²²⁹ Regional Office, Division of Engineering, National Park Service, U.S. Department of the Interior, Location of Roads, Springs & Boundary, East and West Sections of Monument, Arches National Monument, April 1949. ARCH 138/5315.001, Denver Service Center, Technical Information Center.
- ²³⁰ Anonymous, Memorandum for the Regional Landscape Architect (April 19, 1948), p. 2.
- ²³¹ Russell L. Mahan, Memorandum for the Regional Director, Region Three: The following is a narrative report for Arches National Monument for the month of February, 1947, February 27, 1947. ARCH 101/001-008, SEUG Archives.
- ²³² Bates E. Wilson, Monthly Narrative Report for April 1950, April 26, 1950. ARCH 101/001-011, SEUG Archives.
- ²³³ Bates E. Wilson, Monthly Narrative Report for March 1951, March 26, 1955. ARCH 101/001-012, SEUG Archives.
- ²³⁴ Quintano (2014), p. 37. Jackson appears to be referencing an article by Maxine Newell ("Arches Park Looks Back on Rich But Rugged Past" The Times-Independent, May 11, 1972) in which she relates the story of Wilson's Delicate Arch Road construction project, and indicated that he received much grief from the higher-ups in Washington for doing so—until they realized that they had gotten a free road. Although the tone of this story is humorous and populist, Alleman's inspection report (1951, below) indicates that Wilson had full permission to build the road and was largely following the plans prepared by the NPS Landscape Architect in 1947.
- ²³⁵ Carl W. Alleman, Memorandum to Regional Landscape Architect: Field trip Report, Arches National Monument, July 3, 1951. ARCH 101/003-059, SEUG Archives.
- ²³⁶ Luis A. Castellum, Assistant General Superintendent to Superintendent, Arches, Memorandum: Disposition of scrap and surveyed equipment, February 18, 1953. 8NS-079, 94-143, Folder 400, NARA, Broomfield, Colorado.
- ²³⁷ Charles D. Carter and Carl W. Alleman, Landscape Architects, National Park Service, Memorandum: For the Regional Landscape Architect, September 2, 1947. ARCH 101/003-059, SEUG Archives. Carter and Alleman note that "the route to Delicate Arch will extend 1½ miles closer to that feature than the proposed future monument road as shown on the Master Plan, but since the terminus at Turnbow Cabin will still be a mile from the arch and in the valley several hundred feet below it there will be no intrusion on the natural setting of the arch."
- ²³⁸ Regional Office, Location of Roads, Springs & Boundary (April 1949).
- ²³⁹ "Arches Road is Award Winner," The Times-Independent, August 25, 1966. ARCH 101/005-077, SEUG Archives.
- ²⁴⁰ Madrid (1993a), p. 13. NPS statistics show 5,028 in 1947 and 8,870 in 1948, a 76% increase in visitation in one year. (Electronic document [https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20\(1904%20-%20Last%20Calendar%20Year\)?Park=ARCH](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20(1904%20-%20Last%20Calendar%20Year)?Park=ARCH), viewed December 4, 2015).
- ²⁴¹ Anonymous, Memorandum for the Regional Landscape Architect (April 19, 1948), p. 2. The original inventory of 1939 had been a reconnaissance, for which a formal survey was recommended but never undertaken.
- ²⁴² Christine Madrid French, The Emergence of the Mission 66 Visitor Centers. In Mission 66 – Modern Architecture in the National Parks. (Electronic document <http://www.mission66.com/documents/intro.html>, viewed June 11, 2015).
- ²⁴³ Madrid (1993a), p. 14.
- ²⁴⁴ Hugh M. Miller, Regional Director, Mission 66 Prospectus, Arches National Monument, to Chairman, Mission 66, September 12, 1955. ARCH 101/003-002, SEUG Archives.
- ²⁴⁵ Miller (1955), Mission 66 Prospectus.
- ²⁴⁶ Miller (1955), p. 2.

²⁴⁷ Christine L. Madrid, Arches National Park Main Entrance Road, Moab Canyon Wash Culvert, Spanning Moab Canyon Wash at Main Entrance Road, Moab Vicinity, Grand County, Utah. HAER No. UT-70-A. (Washington, D.C., U.S. Department of the Interior, National Park Service, Historic American Engineering Record, 1993b). Based on Arches Black-and-White Photographic Collection ARCH 104.000067, 4" x 5" negative by Lloyd Pierson, 1957, Madrid believed that the 1957 Chevrolet 3104 Apache pickup truck shown parked in front of the tailwall was used to pull the wall on rails away from the headwall. As indicated by the side-mounted spare tire, the truck is a half-ton model; Arches took delivery of this truck in February 1957 with the optional 160 horsepower 283 cubic inch V8. (Bates E. Wilson, Superintendent's Monthly Narrative Report-1 M1 for February 1957, February 25, 1957. ARCH 101/001-018, SEUG Archives). Given the narrow tires visible in the photograph, it is unlikely that this truck was capable of moving the multi-ton masonry wall, regardless of the power plant (Don Bunn, Chevrolet Trucks History, Segment Six: 1955–1959 Early V8 Pickups). (Electronic document http://www.pickuptrucks.com/html/history/chev_segment6.html, viewed January 25, 2017). The road construction crew had a bulldozer (ARCH 104.000065), which would have provided the necessary horsepower and traction to move the tailwall. Madrid may have consulted the "Photographic History of the Moab Culvert" curated as CANY 579, Folder 4, which includes the same image of the pickup truck parked in front of the tailwall, with the caption "Headwall on rails and pulled apart with a truck."

²⁴⁸ Bates E. Wilson, Superintendent's Monthly Narrative Report-1 M1 for September 1957, September 25, 1957. ARCH 101/001-018, SEUG Archives. The actual construction was undertaken by the James Reed Construction Company as part of the realignment of US 160.

²⁴⁹ The Moab Lions Club sponsored a dedication ceremony at the monument headquarters, followed by a reception and dinner at the Towne and Country Club. A copy of the invitation is curated in the SEUG Archives, ARCH 101/001-129. Completion of the entrance road was, without doubt, the most important event yet to take place at Arches National Monument.

²⁵⁰ Caroline Coalter Wilson, personal communication, August 24, 2018. She also noted that she thought Edward Abbey really did go out and pull up the stakes Wilson had placed, as he claimed to have done in *Desert Solitaire*.

²⁵¹ Korpieski (1991), pp. 8–9.

²⁵² Lloyd M. Pierson, Acting Superintendent, Superintendent's Monthly Narrative Report-1 M1 for April 1959, April 28, 1959. ARCH 101/001-020, SEUG Archives.

²⁵³ Jack Goodwin, "New Access to Utah's Natural Wonders," *The New York Times*, April 19, 1959. ARCH 101/005-070, SEUG Archives.

²⁵⁴ Bates E. Wilson, Superintendent's Monthly Narrative Report-1 M1 for July 1958, July 27, 1958. ARCH 101/001-019, SEUG Archives.

²⁵⁵ H. Wayne Norton, District Ranger, Superintendent's Monthly Narrative Report-1 M1 for February 1967, March 3, 1967. ARCH 101/001-028, SEUG Archives.

²⁵⁶ Madrid (1993a), p. 19.

²⁵⁷ Pierson (April 28, 1959).

²⁵⁸ Bates E. Wilson, Superintendent's Monthly Narrative Report-1 M1 for August 1959, August 31, 1959. ARCH 101/001-020, SEUG Archives.

²⁵⁹ Arches National Monument, Narrative Statement: Contract #NPS-WASO-ARCH-V-64-33, Project 1 (1), Bituminous Surfacing, Arches Entrance Road. ARCH 101/003-065, SEUG Archives.

²⁶⁰ Max C. Gardner, Director, Easement, Right of Way No. 814.

²⁶¹ Roby R. Mabery, Superintendent's Monthly Narrative Report-1 M1 for December 1963, January 4, 1964. ARCH 101/001-025, SEUG Archives.

²⁶² U.S. Department of the Interior, National Park Service, Division of Engineering, Utilities, Devil's Garden, Arches National Monument, Utah, May 1963. ARCH 138/3036a.0001, Denver Service Center, Technical Information Center.

²⁶³ Madrid (1993a), p. 18.

²⁶⁴ Arches National Monument, Narrative Statement: Contract #NPS-WASO-ARCH-V-63-1, Construction of Monument Entrance – Devil's Garden Road Project 1 (por). ARCH 101/003-064, SEUG Archives. J. I. Carpenter, Letter of Acceptance, December 6, 1971. ARCH 101/003-067, SEUG Archives. Although weather had been an issue with road projects in 1947 and 1963, Arches records indicate that Arches had several problems with contractor

Shocker Construction Company during the 1971 chipsealing, including Schockers' attempt to bill for more materials than had been used, and seek redress for days of inclement weather, both of which were denied by the contracting officer. Leon R. Thygesen, Contract No. 4970B10063, Arches National Monument, Utah. ARCH 101/003-068, SEUG Archives. Schocker also left some materials stockpiled at Arches for use in a Moab road project, but the project was lost in the shuffle and the materials remained in place 2 years later. John C. Urbanek, Record of Telephone Conversation, February 14, 1973. ARCH 101/003-068, SEUG Archives.

²⁶⁵ Rocky Mountain Region, National Park Service, United States Department of the Interior, "Bituminous Surface Treatment of Roads, Arches National Park, December 1985." ARCH 138/80013.001, Denver Service Center, Technical Information Center.

²⁶⁶ Frank A. Ularich, District Design Engineer, Utah Department of Transportation, to Harvey D. Wickware, Superintendent Canyonlands National Park, August 13, 1987. ARCH 101/003-074, SEUG Archives.

²⁶⁷ Anonymous, Photographic History of the Moab Culvert [undated, but after 1988]. CANY 579, Folder 4, SEUG Archives. Because this is curated in the Lloyd Pierson Collection, it may have been authored by Pierson.

²⁶⁸ Murray Shoemaker, Interview of Frank Darcey, Former Arches National Park Chief of Maintenance; January 23, 2002, pp. 5–6. ARCH 3860, SEUG Archives. Darcey recalled that this was his first task at Arches National Park.

²⁶⁹ Penny F. Jones, Southeast Utah Group, Squad Meeting, July 1, 1997, p. 2. CANY 743/01-014.2, Canyonlands National Park Records, Southeast Utah Group (SEUG) Archives.

²⁷⁰ Jones (1997), p. 3.

²⁷¹ Custodian [J. Harry Reed], to H. G. Hottes, July 29, 1938. 8NS-079-94-139, NARA, Broomfield, Colorado.

²⁷² Bates E. Wilson, Monthly Narrative Report for the month of August, 1949, August 27, 1949. ARCH 101/001-010, SEUG Archives.

²⁷³ Custodian [Harry Reed], to Lawrence Bottino, March 19, 1938. 8NS-079-94-139, NARA, Bloomfield, Colorado.

²⁷⁴ Russell L. Mahan, Memorandum for Regional Director, Region Three: The following is a narrative report for Arches National Monument for the month of April, 1948, April 29, 1948. ARCH 101/001-009, SEUG Archives.

²⁷⁵ Russell L. Mahan, Memorandum for Regional Director, Region Three: The following is a narrative report for Arches National Monument for the month of May, 1948, May 28, 1948. ARCH 101/001-009, SEUG Archives.

²⁷⁶ Russell L. Mahan, Memorandum for Regional Director, Region Three: The following is a narrative report for Arches National Monument for the month of June, 1948, June 27, 1948. ARCH 101/001-009, SEUG Archives.

²⁷⁷ Carl W. Alleman, Landscape Architect, Special Report: Trail System Delicate Arch Area – Stabilization Delicate Arch, Arches National Monument, Moab, Utah, January 22, 1948. ARCH 101/003-001, SEUG Archives.

²⁷⁸ Maureen Joseph, Cultural Landscape Inventory, Wolfe Ranch Area, Arches National Park, April 1997. (National Park Service, Denver Service Center, 1997).

²⁷⁹ Bates E. Wilson to General Superintendent, Memorandum: Road & Trail Allotments, Arches, February 15, 1953. 8NS-079-94-143, Folder 630, NARA, Broomfield, Colorado.

²⁸⁰ National Park Service. Cove Trail Brochure, 1957. ARCH 101/005-143, SEUG Archives. The trail brochure states that the trail is "an easy ¼-mile walk leading to Double Arch and Parade of the Elephants. If you wish, you may continue on to the North and South Windows and Turret Arch."

²⁸¹ J. R. Lassiter, Regional Engineer, Memorandum: Roads and Trails Statistics, Arches, March 13, 1953. 8NS-079-94-143, Folder 630, NARA, Broomfield, Colorado.

²⁸² Lassiter, Memorandum: Roads and Trails Statistics (March 13, 1953).

²⁸³ Bates E. Wilson, Monthly Narrative Report for October 1955, October 25, 1955. ARCH 101/001-016, SEUG Archives. The addition of the hard surface was not universally supported within the NPS. Acting Superintendent Robert L. Morris commented that "this seems to be a great extravagance for at the most 5% of the visitors." Robert L. Morris, Superintendent's Monthly Narrative Report-1 M1 for February 1956, February 24, 1956. ARCH 101/001-017, SEUG Archives.

²⁸⁴ Lassiter (March 13, 1953).

²⁸⁵ Bates E. Wilson, Superintendent's Monthly Narrative Report-1 M1 for May 1964, June 12, 1964. ARCH 101/001-025, SEUG Archives.

²⁸⁶ Wilson (1964).

²⁸⁷ Roby R. Mabery, Superintendent's Monthly Narrative Report-1 M1 for July 1965, August 4, 1965. ARCH 101/001-026, SEUG Archives.

- ²⁸⁸ Arches National Park, Proposed Relocation of Devils Garden Primitive Loop Trail, Environmental Assessment, Arches National Park, May 5, 1990. ARCH 101/003-070, SEUG Archives.
- ²⁸⁹ Dj Nebula, Tapestry Arch Trail – Arches National Park. (Electronic document <https://www.utahoutdooradventures.com/tapestryarch.html>, viewed August 23, 2018).
- ²⁹⁰ Lassiter (March 13, 1953).
- ²⁹¹ ProTrails.com, Petrified Dunes – 1.0 miles. (Electronic document <http://www.protrails.com/trail/296/arches-national-park-petrified-dunes>, viewed August 23, 2018), and Dj Nebula, Tapestry Arch Trail.
- ²⁹² Acting Superintendent, Memorandum for the Regional Director, Region Three, September 13, 1941. 8NS-079-94-139_621, NARA, Bloomfield, Colorado.
- ²⁹³ E. F. Berry, Arches National Monument, Utah, September 1948, NM ARC 7004. In visitor guide Arches National Monument, Utah, Reprint 1950, U.S. Government Printing Office: 1950 O.F – 910295. ARCH 3154, Folder 1, SEUG Archives.
- ²⁹⁴ Lassiter (March 13, 1953).
- ²⁹⁵ Bates E. Wilson, Superintendent's Monthly Narrative Report-1 M1 for May 1959, May 28, 1959. ARCH 101/001-020, SEUG Archives.
- ²⁹⁶ Roby R. Mabery, Superintendent's Monthly Narrative Report-1 M1 for June 1965, July 5, 1965. ARCH 101/001-026, SEUG Archives. The first guided walk on Broken Arch trail was conducted June 10, 1965 after trail markers were placed and footholds were chipped into slickrock sections of the trail.
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4

Grazing, Minerals, and Development Encroachments: A Pattern Established

The proclamation of Arches National Monument in 1929 came with baggage—a pattern of land use issues both within and adjacent to the monument boundaries that persists to the present. Although few of the resources at Arches have been greatly harmed by livestock trespass, mineral prospecting, or oil and gas development, the frequently changing boundaries and use of section lines to demarcate those boundaries have made it difficult to adequately fence or patrol Arches against incursions. Furthermore, the presence of state inholdings and highway and utility rights-of-way presents a constant management challenge, within and along the edges of the park. Yet despite the frequency with which cattle trespass or encroaching oil leases are mentioned with concern by park staff in park records, natural gas pipelines have had the greatest and longest-lasting effect on the park resources.

The earliest serious encroachment on Arches was by the U.S. Bureau of Reclamation (BOR), which reserved potential dam and reservoir locations along the length of the Colorado River in the 1930s. One of the dam sites was just above the US 160 bridge north of Moab. On March 1, 1950, the BOR contacted Superintendent Bates Wilson by phone to inform him that they intended to build such a dam, impounding the waters of the Colorado. Wilson immediately contacted the regional office because the reservoir created by such a dam would have backed up into Salt Wash, isolating Delicate Arch from the rest of the monument, “making it inaccessible by road or trail.”¹ Bowing to pressure from conservation groups,² the Colorado River Storage Project Act of 1956 specifically prohibited construction of any dams in national parks or monuments within the Upper Basin.³ This area was returned to public use by the BOR in 1963 after Grand County petitioned for a patent to build Lions Park.

Encroachment issues reached a crisis point in 1982, during the Reagan administration, when Arches and Canyonlands were threatened by plans for nuclear waste repositories, coal strip mines, and oil sands development, and the Atlas Uranium Mill was belching dense smoke.⁴ In recent years, degradation of the air quality in Arches National Park has become an issue of increasing concern, as regional haze threatens all units of the national park system. Arches National Park has successfully resolved state and county land inholdings, but remains threatened by anti-environment, pro-development attitudes in Utah, including attempts to seize federal and private lands as historic road rights-of-way. Although Grand County and the Utah Department of Publicity and Industrial Development were instrumental in constructing and maintaining the early roads into and across Arches National Monument, animus towards the federal government by the Utah legislature and county governments has intensified after every new expansion of parks or creation of new monuments in Utah, culminating in the Public Lands Transfer Movement.⁵

Cattle, Sheep, and the Open Range

Grazing was the first resource issue to confront Arches. Utah is one of thirteen western states that possess similar laws regarding livestock range and fencing, a legacy of Territorial-period laws to protect large grazing operations. These “open range” statutes permit livestock owners to run herds anywhere that is not fenced against them with a “lawful” fence.⁶ Utah Code Ann., Section 25, Estraying and Trespassing Animals [§ 4-25-8 (3)(b)], states that the owners of livestock are not responsible for damages if “the premises that was trespassed is not enclosed by an adequate fence at the time the

trespass occurs.”⁷ This section does not define an “adequate” fence, but § 56-1-13 (fencing railroad rights-of-way) does: “Such fence shall not be less than four and one-half feet in height and may be constructed of barbed or other fencing wire with not less than five wires, and good, substantial posts not more than one rod apart with a stay midway between the posts attached to the wires to keep said wires in place.”⁸ In 1946, Grand County adopted Ordinance No. 39, requiring landowners to fence their property against livestock using language similar to Utah Code Ann., Section 25.⁹ The onus of the law places all responsibility on landowners, railroad operators, and operators of motor vehicles on public roads to avoid injury or death of livestock, and the full expense of constructing an “adequate” fence to prevent livestock trespass. This includes Arches National Monument, where boundary fence construction was not initially a priority. Frequent changes in the monument (and later park) boundaries, as well as the use of section lines rather than natural contours for those boundaries amplified the difficulties, and many miles of boundary ran across slickrock exposures that would require costly drilling to install the fence posts. In 1975, Grand County amended the livestock ordinance with Ordinance No. 124, establishing a zone around Moab and in Spanish Valley in which roaming livestock were excluded, but Arches was not included within that zone.¹⁰

Livestock was trailed through Salt Valley and the area to become Arches National Monument as early as 1875, but John Wesley Wolfe was the first year-round resident to graze cattle in the area circa 1898.¹¹ J. M. Turnbow, the first Custodian of Arches, bought the Wolfe Ranch from Tommy Larson in 1914 and by 1916, had 100–475 cattle in the area. The 1930s witnessed relatively little actual grazing but much correspondence between Arches and the NPS and the Grazing Service regarding proposals to expand Arches National Monument, incorporating some 24,420 acres of Grazing District No. 6 within the expanded monument.¹² It was noted that one sheepman had withdrawn his herd from this area in 1937 because the terrain was too rough and he had lost too many animals to predators. In 1941 the U.S. Fish and Wildlife Service examined the issue of grazing on national parks and monuments (Table 4-1).¹³ Harold M. Ratcliff, an ecologist who was acting assistant in charge of the Fish and Wildlife Service at that time, prepared an outline of the history of grazing in Arches National Monument, noting that “at the time of the boundary extension of Arches National Monument, three men were using a portion of the lands taken into the monument as cattle range. Each man was at that time grazing approximately 100 head. The grazing rights were to continue for 10 years with a 10 percent reduction of the herds each year until extinguished. Since that time two of the permittees have sold all cattle and have discontinued their grazing rights.”¹⁴ The Division of Grazing issued the permits, not Arches National Monument, a situation over which the NPS had little say at the time. Rancher Bert Newell died in 1939, with his heirs selling his cattle and grazing rights, and Turnbow was killed in a car crash in 1940; although Turnbow’s widow Susie attempted to continue ranching, she eventually sold out, in 1941, to the Moab Land and Cattle Company.¹⁵

To increase the supply of food and fiber (wool) for the war effort of World War II, the National Park Service was called upon in 1943 to increase cattle grazing 27 percent and sheep grazing 11 percent on NPS-administered lands.¹⁶ It was up to the NPS to apportion those percentages, and mindful of the Organic Act and the fragile nature of some ecosystems, the NPS crafted a policy that provided for six different strategies to grazing, while reaffirming “the policy of eventual elimination of grazing in the national park system.” The six management strategies were to exclude all grazing from park units with no existing grazing (14 national parks); continue without change grazing in units that permitted grazing

Table 4-1. History of Grazing Leases at Arches National Park

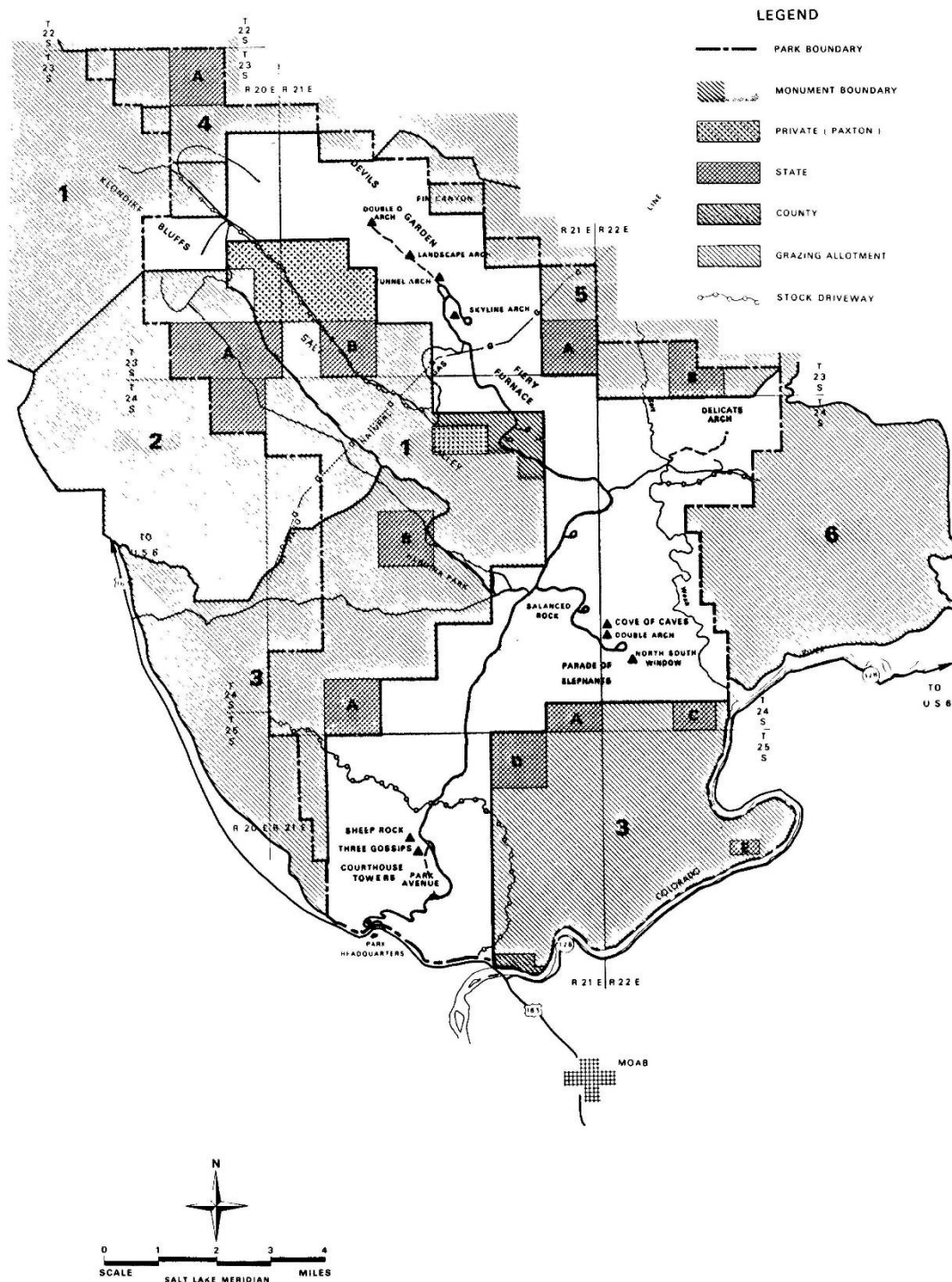
ALLOTTEE	LOCATION or ALLOTMENT NAME/NUMBER	ACRES ¹	AUMs or HEAD
Arches Expansion, 1938¹⁷			
Bert Newell	Devil's Garden		~100 cattle
J. M. Turnbow	Devil's Garden		~100 cattle
James Westwood	Devil's Garden		~100 cattle
Institution of formal grazing permits, 1943¹⁸			
James Westwood	T23S, R20E, Sec. 24 NW¼	160	100 cattle
Frank Paxton	Driveway	–	2,000 sheep
Gus Morris	Driveway	–	1,600 sheep
Henry Revoir	Stock water	–	1,400-1,600 sheep
Establishment of Arches National Park, 1971²			
Tad Paxton	Salt Valley / 1 (A)		891 (NPS) 174 (State)
Ina H. Young	Courthouse Wash / 2 (B)		202 (NPS) 616 (State)
George M. White	Willow Flats / 3 (C)		459 (NPS) 140 (State)
Curecanti Sheep Company	Whipsaw Flat / 4 (D)		4,568 (NPS) 504 (State)
Taylor Livestock Company	Lost Spring / 5 (E)		1,992 (NPS) 162 (State)
Jay Elizondo / Colorado-Utah Livestock	Monument Wash / 6 (F)	9,961	2,160 (NPS) 204 (State)
Retirement of Grazing Leases, May 31, 1982			
Martin Etchard	Unknown		
Don W. Holyoak	Willow Flats		306
Jack Garrison	Big Flat-Ten Mile		480
George W. White	T24S, R22E		
Emmet Elizondo	Unknown		
Curtis Young	Unknown		
Curecanti Sheep Company	Unknown		
TOTAL		25,057	

¹ If known.

² In 1971 permits were on an annual basis, and the number of AUMs (animal unit months, consisting of a cow and weaning calf, or an adult cow, per month of grazing) varied year to year. Several documents retained in the SEUG Archives for 1969, 1972, and 1973 also show different numbers as the portions of the allotted areas under analysis were different; the grazing allotments were present at the establishment of Arches National Park (date of permit reviews April 1970). Allotments were listed by name, number, or alphabetic designation on different documents (Figure 4-1).

(7 national parks and 16 national monuments); increase the scale or scope of grazing (1 national park, 2 national monuments and 1 national historic site); graze range not previously permitted and increase the number of animals (2 national parks, 6 national monuments including Arches, 1 national historical park, 1 national recreational area, 1 national historic site, 2 national parkways, and 3 recreational demonstration areas); and prohibit grazing due to logistical problems (2 national parks, 1 national battlefield site, 1 national historic site, 32 national monuments, and 31 recreation demonstration areas). During the war years, permits were issued for 3-year periods, with 1-year permits in use after the conclusion of the war. These grazing permits provide the first accurate records of grazing activities in Arches, as described by SEUG Biologist William B. Sloan in his discussion of the desert bighorn sheep herd:

Prior to 1943, written grazing or watering permits were not necessary within the Monument; however, upon a recommendation from the Department of Interior, permits were soon required for grazing upon and crossing the Monument. In 1943, 1600 domestic sheep are recorded as using the area around Freshwater Spring; in 1944, an additional 2000 sheep were also watering at this spring. Despite severe overgrazing in the past and the resultant degradation of the range, grazing continued to be allotted on the Monument throughout the subsequent decades (NPS 1994).¹⁹



4-1. Grazing allotments shortly after the creation of Arches National Park, December 1973. ARCH 138/400005.0001, National Park Service, Denver Service Center, Technical Information Center.

Harold M. Ratcliff again visited Arches in 1943 for a 7-day field inspection.²⁰ He noted that there remained two grazing permittees and three crossing (driveway) permittees. Ratcliff recommended no expansion of existing grazing, that Emmet [sic] Elizondo be excluded from the monument (as he had no legal grazing or watering rights), that James Westwood be issued a grazing permit (if he requested one) with the proviso that he continue to reduce his herd 10 percent per year, and that the three ranchers with allotments or property on both sides of the monument be given permits to cross (Frank Paxton and Gus Morris) or be given access to emergency water (Henry Reservoir). The permits were issued soon after Ratcliff's report, marking the first time in the history of Arches National Monument that the National Park Service had some degree of direct legal control over grazing in Arches. Four other ranchers were also using the "Arches unit" in 1943: "James Sommerville held 2200, W. D. Hammond 500, J. M. Bailey 540, and Gus Morris held 1320 AUMs."²¹ Some of these animals were grazed in Salt Valley outside of the monument boundaries, and it is unclear what defined the "Arches unit," so the latter four are not included in Table 4-1 as being present in 1943 when permits were issued.

Emmett Elizondo of Fruita, Colorado, and his family had a long and complex relationship with Arches over grazing rights. At the time of Ratcliff's inspection in 1943, Elizondo had just purchased Susie Turnbow's grazing rights in Cache Valley, outside the monument boundaries, where he grazed sheep.²² He had already had conflicts with the monument custodian, who recommended that he be denied any grazing permits in the monument (including a stock driveway or access to water) and that he be reprimanded by the superintendent for animal trespass. Elizondo continued grazing animals in and near Arches long after Custodian Schmidt had left. In 1952, the (then) Region Three office in Santa Fe requested information on all special use permits and other authorizations within Arches. At that time, four livestock driveway permits were in effect for Frank Paxton (I-33np-326), Emmett Elizondo (I-33np-180), James S. Westwood (I-33np-250), and Ross S. Musselman (I-33np-241).²³ Elizondo also possessed 35-year watering privileges as part of the purchase agreement between the NPS and Mr. Elizondo for the Wolfe Ranch.

Arches remained open for grazing for many years following World War II, and issued permits to local ranchers for livestock driveways and stock crossings of portions of the monument. In 1944, Superintendent Mahan observed the movements of two 1,000-head herds of cattle owned by the Scrup-Summerville Cattle Company, one of the larger cattle operations in southeastern Utah (Figure 4-2).²⁴ Arches staff also documented legal and trespass cattle encounters over many decades. By 1967, reports of trespassing cattle appeared monthly in the Interpretation reports filed by Robert J. Ferris, who noted that "trespassing cattle continue to be a problem, pointing up the need for more fencing of Monument boundaries. As usual, John Ross, the cowboy in charge removed them promptly when notified."²⁵ The following month "John Ross came out on several occasions to remove cattle from the Turnbow Cabin area." Although Ross removed "the last of stray cattle seen in the upper Courthouse Wash area" a month later, the situation in July 1967 was "cattle trespass continues."

VISITOR COMMENT ON CATTLE TRESPASS

"On May 30 we back-packed into upper Courthouse Wash (north of Highway). There was a herd of about 30 to 40 head of cattle, with their visual nuisance value. The herd ran ahead of us through the hanging fence which is now badly broken up. The herd was initially quite close to highway."

Visitors from Walnut Creek, California, June 1, 1980.

Ranger Comments: "Apparently cows have come in during the last week. Drift fence needs repair. Mr. + Mrs. ____ were quite upset at seeing cows in the park. I will contact BLM."



4-2. Cattle drive in Arches, circa 1939–1941. The Dorris Yates “Doc” Bumgarner Photograph Collection, “cowboys,” ARCH 3994, SEUG Museum Collection.

Grazing on portions of six allotments partially within Arches National Park was permitted until May 31, 1982.²⁶ Emmett Elizondo was permitted for 22 AUMs of sheep, but the rest of the 1,169 total AUMs permitted in Arches were issued for cattle.²⁷ Two other ranchers (Taft Paxton and M. H. Young) held grazing leases on Utah state lands within the boundaries of Arches National Park, but did not also graze federally owned lands within Arches; Elizondo also grazed state lands.²⁸ In a review of the grazing history of Arches, Superintendent Noel Poe noted that “as recently as 1983, the Curecanti Sheep Company was issued a permit which expired in 1987. Other livestock companies held permits which expired about the same time. One was valid until 1992 (near the Colorado River).”²⁹

Even when funds were available to fence sections of the park boundary against trespassing cattle, Arches staff sometimes encountered problems with adjacent Utah state lands managers. In 1984, Arches proposed to fence portions of the western park boundary adjacent to Courthouse Wash, an area where many of the previous trespasses had taken place. NPS had already emplaced a fence across the wash channel at a narrow point approximately $\frac{1}{4}$ mile within the Arches boundary in T24S, R20E, Section 30, and proposed to build fences along the terraces above the wash to link with existing and new fences on the section lines (park boundary). Utah State Lands & Forestry Southeast Regional Manager Mike Grosjean wrote to Arches Unit Manager Sherma E. Bierhaus expressing his concern that boundary fencing would exclude 100 head of cattle from using a spring-fed pond in the Courthouse Wash channel that is 200 feet inside the park boundary.³⁰ Grosjean supplied a map showing where the state would like to see the fence installed so that the cattle could continue to use the water tank. Bierhaus replied to Grosjean that, due to the locations of cliffs that were being utilized as part of the fencing proposal, the

pond would remain accessible to cattle.³¹ No mention was made in either letter as to whether the state of Utah or the grazing allottee would compensate NPS for this use of federal resources. This problematic situation of the spring being fenced outside of the park still prevails in 2018.

By 1991, ongoing cattle trespass had been identified as the number one resource threat at Arches. Park rangers documented 12 incidences of cattle trespass in 1990, with an additional 12 visitor complaints filed. The boundary fence funding proposal of 1991 noted that funding was still not available to fence the entire park boundary, but that 22 miles of boundary had been identified that could be fenced, greatly reducing the trespass, which had increased in the preceding 5 years due to drought conditions. The funding proposal noted that cattle had impacted the park in a number of ways, including trampling baseline vegetation and small mammal monitoring transects, destruction of cryptobiotic soils, sheet erosion and gullying, water pollution, and the spread of invasive plant species such as cheatgrass, sagebrush, and cactus. Available funds in FY 1991 would only allow up to 4 miles to be fenced, however.

The ongoing presence of trespass cattle also affected the visitor experience. In 1995, visitor Eddy Eckley of Montana filed a Freedom of Information Act request regarding cattle grazing allotments in Arches and Canyonlands after “hiking in lower Courthouse Wash and finding a herd of cattle thrashing the riparian zone in the Nat’l Park. I find it idiotic your education message about visitors destroying the cryptobiotic crust yet you permit foul 1000 pound cattle to roam freely in the most fragile and beautiful part of our park.”³² Superintendent Noel Poe responded to Eckley with a lengthy letter that explained that grazing allotments had been retired in 1982 and that the cattle that Eckley had witnessed were in trespass; Poe also described in detail the history of the boundary fencing problems, including the reality that to fence the western boundary would require 5.5 miles of posts to be drilled into solid bedrock, at considerable expense. Thirty miles of the 67 miles of Arches National Park require fencing to prevent cattle trespass, but by 1996, 15 miles remained to be fenced (the other 37 miles are protected by natural barriers such as cliffs).³³ By 1998, park staff completed a fence to prevent cattle trespass with assistance from Sierra Club volunteers and the “Flame ‘N’ Gos” prison work crew.³⁴ OHV riders and trespassing cattle continued to cause widespread and extensive ecological damage in the Sevenmile and Eagle Park areas by 2003, and two sections of fencing were proposed in these areas, even though many of the posts would require drilling into bedrock.³⁵ This project also triggered discussion of the need for a Fencing Management Plan. Approximately 17 percent of Arches National Park boundary is fenced as of 2018, a total of 73,000 feet, 7,000 feet of which is right-of-way fence along US 191 on the park’s southern boundary.³⁶ The park boundaries along the Colorado River are naturally defended by sheer cliffs and the river, and do not require fencing to prevent animal trespass, but most of Arches remains open and unfenced.

Oil, Gas, and Potash: Prospects and Leases

The complicated faulting and uplift that created the Arches landscape also acts as a trap for petroleum and natural gas.³⁷ Arches is within the Paradox Fault and Fold Belt of the Paradox Basin, which is underlain by the evaporite sequence of the Pennsylvanian-age Paradox Formation (formerly the Paradox member of the Hermosa Formation).³⁸ Within this belt the Salt Valley anticline is one of the major structures, containing a massive deposit of potash (potassium salts including potassium chloride [KCl] and sodium chloride [NaCl] that are mined for use as agricultural fertilizers) and petroleum. The Four Corners region has been actively exploited for these resources since 1899 when the first exploratory wells were drilled along the Denver and Rio Grande Railroad.³⁹ The Mexican Hat oilfield was discovered

in 1908⁴⁰ and many other locations in southeastern Utah were prospected for oil and gas, with some areas such as Aneth and Lisbon Valley being subsequently developed for production. Although the petroleum was sought for use as a motor fuel (and other uses), much of the early prospecting for petroleum was actually done using horses to haul the drill rigs (some of which were steam-powered), or undertaken in the winter when the washes were frozen. Few motor vehicles of the era had four-wheel drive and most of the region had no roads and was too rough or steep for any vehicles.⁴¹

Encroachment of oil and gas and potash leases and their development has been an issue of concern for the management of Arches since the monument's inception, as test wells had already been drilled near Cisco, in Salt Valley, and at Willow Flats, before proclamation of the monument.⁴² Arches collections include an oil placer claim dated January 3, 1912 for 160 acres for "Oil King No. 6."⁴³ The mid-1920s were a boom time for oil prospecting in Moab, with as many as 5,000 people in town, many of whom were out-of-state oil drillers. One Salt Valley well was drilled by the Utah Southern Oil Company to a depth of 3,500 feet; although flowing 10–12 barrels a day, the well was later abandoned and plugged.⁴⁴ The 1930s witnessed renewed interest in the oil reserves beneath Arches. On September 22, 1936, Secretary of the Interior Harold Ickes announced that existing oil and gas permits were to be cancelled on December 31, 1937, unless oil or gas had actually been discovered on the permit area, the permit area was included in an approved unit plan, or the permit area had been converted into a lease under the act of August 21, 1935.⁴⁵ Two additional wells were drilled near Arches in 1937, but one showed no oil at 6,400 feet deep, and the other showed slight oil but did not appear to have commercial potential. Ickes' action on oil and gas leases was in direct response to plans to enlarge Arches National Monument to 29,160 acres, of which two-fifths were covered by existing oil and gas prospecting permits; these were extended unconditionally to December 31, 1938, based on the "Solicitor's opinion that these permits could not be singled out to deal with more unfavorably than others."⁴⁶ Superintendent Frank Pinkley noted in 1938 that "our proposed extension, however, seems hung up until a flock of oil claims which cover that county expire," in reference to the possibility of extending the boundaries to include the Klondike Bluffs.⁴⁷

Another oil boom in 1959–1960 brought monthly requests by oil prospecting crews to use the monument roads to access various leases in Salt Valley, Cache Valley, or Dry Mesa.⁴⁸ Superintendent Wilson noted that "we find it necessary to ride herd on the numerous seismograph crews daily," through frequent patrols of the monument boundaries.⁴⁹

The exploration for and extraction of oil and natural gas impacts the environment in many ways, both direct and indirect. Much of the concern on the part of the Arches staff regarding the development of oil and gas leases near Arches derives from the visual impacts from the construction of roads, drill pads, detention ponds, drill rigs and work lights, gas flaring, and pipelines and tank farms. These affect not only the viewshed in the background of specific landscape features within Arches National Park, but also more generally the night sky when drill rigs may be visible from anywhere in the park, and when the use of bright lighting and gas flaring degrades the natural dark skies. In particular, the presence of BLM oil and gas leases within the viewscape of Delicate Arch have and continue to cause concerns, a point acknowledged by the current (2012) proposal to expand Arches National Park. However, oil and gas drilling can also directly affect air quality in the vicinity and downwind due to dust from road and pad construction, truck traffic, drilling, and loss of vegetation cover. This is a consideration for leases located upwind from Arches National Park, generally to the west and southwest. Arches staff have formally or

officially commented on pending oil and gas leases near the park boundaries since the 1960s due to these potential resource impairments.

A location southwest of Arches was identified as a potential source of commercially-exploitable potash. In 1961, Texas Gulf Sulphur developed this prospect, building an underground potash mine along Cane Creek (as it was spelled then) with a shaft 2,810 feet deep.⁵⁰ To provide egress, they also built a new state highway along the right bank of the Colorado from near the Arches entrance, and a railroad spur from Thompson.⁵¹ The extensive evaporation ponds at Potash, readily visible from Dead Horse Point, demonstrate the level of visual impact that potash mining could have on the visitor experience at Arches, an intrusion actually much greater than that of oil and gas drilling, even though the mine itself is subterranean. Nevertheless, petroleum exploration was the primary focus of park staff concerns about mineral exploration in the vicinity of Arches for decades.

In 1969, the Utah Geological and Mineralogical Survey conducted an assessment of the mineral content of Capitol Reef and Arches national monuments, following an expansion of both units earlier in the year.⁵² The study was part of an attempt by the state of Utah to overturn the expansion, by identifying the potential value of mineral wealth that had been “locked into” protected status by their inclusion into NPS lands. The report noted that two petroleum test wells had been drilled within Arches, both in Salt Valley (it is unclear if these are the two wells described above or other tests; Figure 4-3). These wells were not developed for production although the report noted that based on the results logged from the wells, “it is difficult to understand why several of them were not completed as producing wells.” The report noted the existence of active wells at Long Canyon (7 miles west-southwest of Arches) and Big Flat (10 miles west-southwest), and test wells 4.5 miles southwest of the monument. The revised boundaries of Arches National park did little to alleviate the situation, as it included a number of potential petroleum leases (Figure 4-4).

Likewise, extensive test drilling for potash had taken place near Crescent Junction, to within 5 miles of the monument boundaries. These deposits were described as being potentially more valuable than any potash beneath Arches, and therefore “any northwestward extension of the Monument should be viewed with caution.” As of 1969, BLM land records indicated that 80 percent of the Utah state lands within Arches (6,880 acres) were under lease for oil and gas, 7,600 acres were leased for other activities (possibly including potash mining), and 3,500 mining claims were documented. The report concluded that the one area of known potash deposits in T25S, R21E, Sections 7 and 18, “if at all possible, should be removed from the Monument.” Federal lands that were to be included in Arches National Park included 61,158 acres covered by oil and gas leases, and 2,437 acres of potash leases.

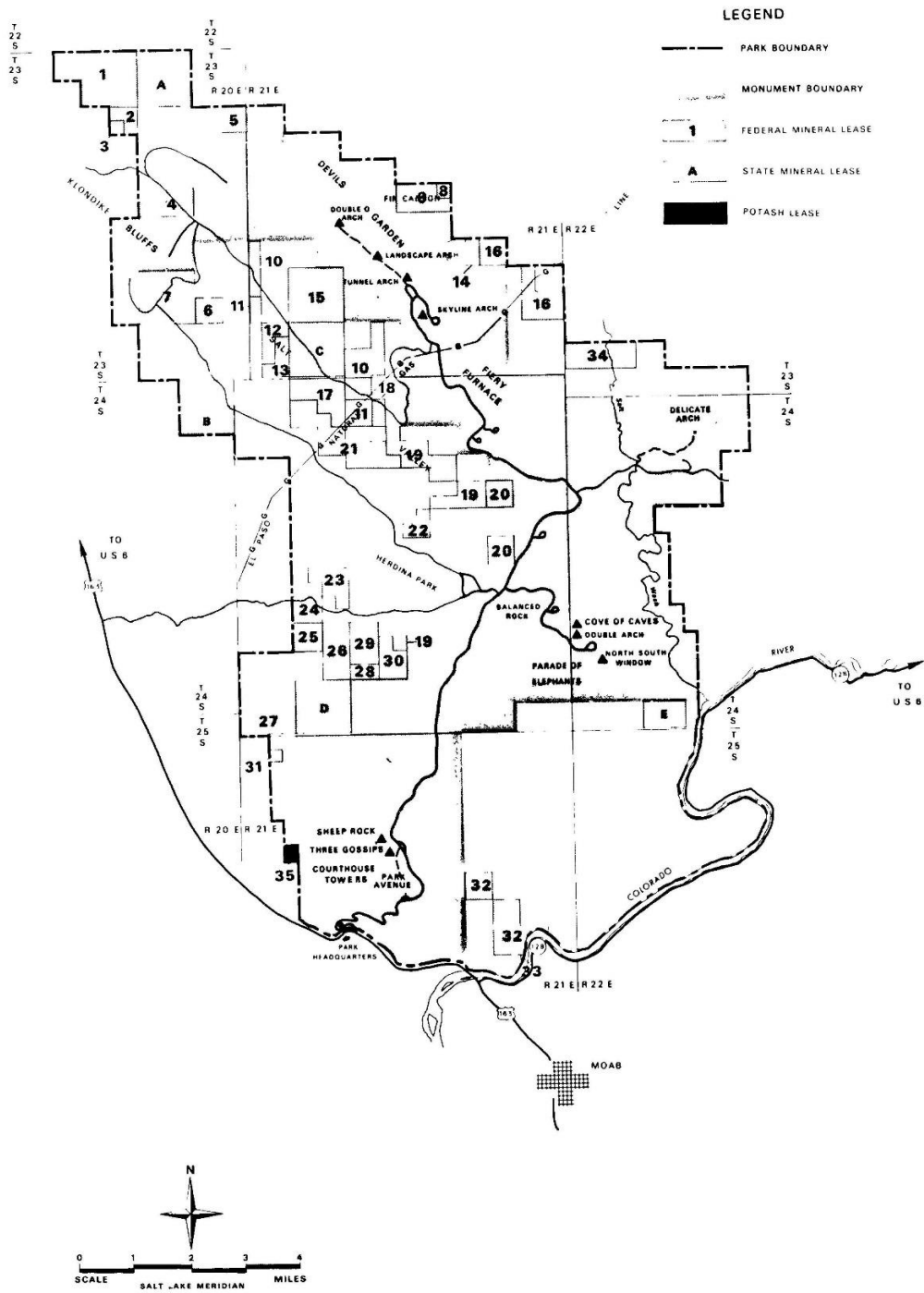
In 1982, Park Resource Specialist Joan Swanson-Young expressed concerns about a test drill hole in Moab Canyon near Highway 163 (now US 191) to the BLM Surface Protection Compliance officer for the Moab District and to the Environmental Scientist for Minerals Management Service.⁵³ Although the drill hole was not visible from within the park, Swanson-Young identified four areas of concern: air quality, waste material, possible wildlife (bighorn sheep) interference, and noise. In the first two areas of concern, the prevailing winds and drainage would carry pollutants into the park. The drilling practice for the test hole did not produce significant dust and fumes, and the drilling waste material (slurry) was to be contained within plastic-lined retention ponds. So, after further consideration, it was agreed that Highway 163 presented an equal obstacle to the movement of bighorn sheep, and the noise was mitigated by the use of mufflers on equipment.



4-3. The aftermath of oil and gas exploration in 1974. "Test Well #3, showing litter, several truck-loads of boards, cable, tin & misc. trash in area not visible from road; also soakage pond (dry); NW 1/4 NW 1/4 Sec. 32, R 20E T23S SLB&M,". ARCH 104/001239, SEUG Archives. (Photo credit: Carl Mikesell).

At the time, an area of greater concern for Arches staff was the location of Utah state land sections within Arches National Park, including one oil/gas lease and eight grazing leases in 1983, and adjacent BLM leases for which the only access was NPS roads. In 1983, Arches issued a special use permit to an oil exploration company to drive two drill rigs through the park and out the Delicate Arch/Cache Valley road to such a lease on Dry Mesa.⁵⁴ Due to a washed-out section of the road, it was necessary to offload a bulldozer and regrade that section of the road, causing minor damage to vegetation, which was charged against a bond required for the permit. A second drilling operation later that year was escorted by a ranger to avoid similar problems.

Under SEUG Superintendent Walter D. Dabney, Arches staff attempted to take a more proactive approach to encroaching oil and gas leases, in response to a suggestion made by the BLM that NPS develop maps of areas adjacent to park units that were considered sensitive.⁵⁵ Arches Superintendent Noel R. Poe prepared a map and narrative description of the sensitive areas adjacent to Arches National Park;⁵⁶ a similar document was completed for Canyonlands. The locations identified included areas of



OIL AND GAS LEASES ARCHES NATIONAL PARK UTAH

UNITED STATES DEPARTMENT OF THE INTERIOR - NATIONAL PARK SERVICE

138 40006
DEC 73 DSC

4-4. Oil and Gas Leases brought within the new boundaries of Arches National Park, December 1973. ARCH 138/40006.001, National Park Service, Denver Service Center, Technical Information Center.

general concern and specific sensitive locales. The general areas were those in which paleontological and cultural resources were split by NPS and BLM jurisdiction. The specific locations were high-elevation landscapes on Ringtail Mesa and north of Poison Strip, as these would be readily visible from Devils Garden, Landscape Arch, and Eagle Peak in the park. Three specific lease parcels in Dry Mesa/Cache Valley, in Lost Spring Canyon, and along the park's west boundary were red-flagged as present and future problem areas.

During the 2000s, a new oil and gas boom occurred in southeastern Utah, with the BLM leasing many parcels west, north, and east of Arches for drilling and extraction. SEUG Superintendent Anthony J. Schetzle wrote to the deputy state director of the BLM Division of Lands and Minerals in February 2005 regarding six leases proximal to Arches, three of which were initially identified by park staff as being visible from the park, and therefore problematic:

*Potential impacts to Arches National Park resources from possible exploration or development of the oil and gas lease could likely to be [sic] a new source for air pollution to a Class I Airshed from the flaring of natural gas and fugitive dust release. Additionally, we are concerned with impacts to night sky resources by lighting during the drilling phase and with flaring during production as well as the visual intrusion on the natural scene from the drill rig, and noise from drilling and pumping. Siting of facilities will be critical for mitigating visual impacts from any development and production activities. Exploration and development of oil and gas production in this area should be carefully regulated to protect sensitive cultural and natural resources.*⁵⁷

One week later, Arches National Park Superintendent Laura E. Joss wrote to the BLM to further clarify the NPS position on the leases, noting that during a subsequent GIS review of the viewshed, one of the contested parcels was no longer identified as an intrusion, and for another there was probably room to place facilities out of view from park locations.⁵⁸ The BLM released additional leases early in 2006, including 18 that were within 5 miles of the park boundaries. GIS viewshed analysis indicated that all or part of each of these leases would be visible from within the park, and Arches requested that these leases be deferred until the BLM Moab Field Area had completed their Resource Management Plan, including appropriate Visual Resource Management stipulations.⁵⁹ Additional concerns were raised with two lease parcels located adjacent to the Colorado River, upstream from Arches, due to the potential for a spill of waste materials into the river.⁶⁰

In 2008, the administration of George W. Bush aggressively promoted expanded oil and gas development, culminating in a massive lease sale of BLM parcels in direct proximity to Arches National Park and Moab itself (as well as Dinosaur National Monument).⁶¹ The sale greatly expanded the number of lease areas in Utah, but cut the comment period from the typical 1–3 months to just a few weeks. In an unexplained deviation from normal operating procedures, the BLM released the final map of lease locations on Election Day, with the auction set to take place on December 19, 2008, only one month before President Bush was to leave office. Some residents of Spanish Valley discovered that the mineral rights beneath their homes were available for lease, with virtually no regulations to control the activities of drillers on their land.⁶² A consortium of national environmental groups filed suit to block the auction, including the Wilderness Society and the Natural Resources Defense Council.⁶³ Although they were unable to stop the auction, the groups negotiated a settlement with the BLM which agreed to withhold the leases for 30 days, providing time for the lawsuit to be heard by a federal judge. Meanwhile, the NPS mounted a campaign of public complaint over the process, location, and lack of transparency of the

sales, resulting in widespread public protest; as a result, the BLM scaled back the original auction from 360,000 acres to “just” 164,000. U.S. District Judge Ricardo M. Urbina issued a restraining order on the auction just before Bush left office, suspending the process.⁶⁴ On February 4, 2009, new Interior Secretary Ken Salazar cancelled 77 of the leases pending further review.

The administration of Barack Obama subsequently initiated a review of drilling policy at the Department of the Interior level, from which developed a new BLM Master Leasing Plan. The Master Leasing Plan (MLP) concept was introduced in an Instructional Memorandum to BLM field officials as a supplement to the existing Regional Master Plans (RMP), which identified oil and gas leasing decisions.⁶⁵ This process is to be conducted through NEPA, and incorporates best-science practices, modeling, and specific concerns about cultural resources, air quality, noise pollution, and impacts to units of the National Park Service, National Wildlife Refuges, and National Forest Wilderness Areas. Because the MLP concept at BLM was developed from the proposed Utah lease sale that was withdrawn by Secretary Salazar, southeastern Utah was the focus of the very first MLP to be completed, with the Moab MLP covering 1 million acres of public lands in Grand and San Juan counties. SEUG Resource Stewardship and Science Chief Mark Miller and Superintendent Kate Cannon were integrally involved in the development of this pilot plan, which included areas around both Arches and Canyonlands national parks.⁶⁶ This plan was released August 13, 2015, as a draft Environmental Impact Statement. The preferred alternative identified by the BLM prohibits leasing on 145,000 acres adjacent to national parks and prohibits surface occupancy on an additional 306,000 acres, but does offer up 59,000 acres for potash mining in some areas barred from oil and gas leases.⁶⁷ The implementation of the MLP was denigrated as another regulatory impediment to energy development by energy industry spokesmen, and was heralded as a positive development by environmentalists, including the Southern Utah Wilderness Alliance (SUWA) and the National Parks Conservation Association (NPCA). The final EIS was published July 26, 2016, incorporating the public comments received and BLM internal review, but did not substantially change the language of the draft EIS. Alternative 4, the preferred alternative,

*provides for both oil and gas leasing and potash leasing. Mineral development would be precluded in many areas with high scenic quality, in some high use recreation areas, specifically designated areas, and in other areas with sensitive resources. Outside of these areas, surface impacts would be minimized by separating leasing of the two commodities (oil/gas and potash), locating potash processing facilities in areas with the least amount of sensitive resources, and limiting the density of mineral development. Potash leasing would involve a phased approach and would be prioritized within identified areas. The proposed plan would provide operational flexibility for mineral leasing and development through some specific exceptions and would close the BLM-managed lands adjacent to Arches and Canyonlands National Parks to mineral leasing and development. In the proposed plan, a controlled surface use stipulation requiring compensatory mitigation would be applied to sensitive resources where onsite mitigation alone may not be sufficient to adequately mitigate impacts. Best Management Practices (BMPs) have been developed that include components of the draft compensatory mitigation policy such as the priority for mitigating impacts, types of mitigation, long term durability, and monitoring. The BMPs also identify Utah’s Watershed Restoration Initiative projects as potential locations for compensatory mitigation outside the area of impact. Utah’s Watershed Restoration Initiative is a partnership-driven effort which includes State and Federal agencies with a mission to conserve, restore, and manage ecosystems in priority areas across Utah.*⁶⁸

The final Record of Decision was released in December 2016. The MLP will guide the BLM's actions for the next 15 years, if not overturned by the administration of President Donald J. Trump, or subsequent administrations.

Uranium – The New Gold Rush

Uranium is a fissionable, radioactive heavy metal ($_{92}\text{U}$) that is the active component of atomic, or fission weapons in its ionic forms ($_{235-238}\text{U}$). Uranium oxide (U_3O_8) is a natural component of the sedimentary deposits that are widely exposed in the formations of the Colorado Plateau.⁶⁹ Although uranium is a rare element in the universe, it is relatively plentiful in the sandstone of the Southwest. Uranium is present in the lower members of the Jurassic Morrison Formation and the Triassic Chinle Formation, where uranium was deposited in stream channels in a complex natural process of concentration: groundwater dissolved uranium from volcanic rocks, then was precipitated when the groundwater contacted extensive deposits of decaying plant material, such as that found in swamps, river deltas, and stream channels.⁷⁰ Uranite is one of the ores that results from this concentration.

Uranium was first isolated and mined in 1871, but is often part of complex mineralizations that include other economic minerals such as copper, radium, and vanadium.⁷¹ Radium was first to be commercially exploited in the late nineteenth century for use in luminescent watch faces, in medical and scientific devices, and as a radioactive marker. Vanadium and uranium were initially just unwanted byproducts of radium mining, which peaked in the period 1917–1924. It was subsequently discovered that vanadium significantly improved the performance of steel, so existing radium mines in southeastern Utah became the focus of a vanadium boom beginning in 1936.⁷² In 1941, Custodian Henry G. Schmidt discovered a vanadium claim within the boundaries of Arches National Monument, near Fiery Furnace.⁷³ Prospector Jack Owens claimed to have political connections with Utah Senator Abe Murdock that would “enable him to secure permission for Owens to operate the recently discovered vanadium deposit,” despite the fact that he had not registered the claim and made it more than 2 years after the area was formally closed to mining. Owens’ claim was rejected and a mine was never opened. Uranium next became the primary commodity when the Cold War accelerated the development and stockpiling of nuclear weapons. As a result, the Colorado Plateau has experienced a series of economic booms and busts associated with uranium.⁷⁴

The Cold War Uranium Boom

The Cold War was a protracted economic, diplomatic, and covert military conflict between the United States, the North Atlantic Treaty Organization (NATO), and their allies (the “First World” or West) and the Soviet Union, the Warsaw Pact, and their allies (the “Second World” or the East) between 1945 and 1991.⁷⁵ Non-aligned countries and puppet states of the two sides, often impoverished or developing countries (the “Third World”), were used as pawns in the struggle. In the Korean Conflict (1950–1953) and the Vietnam War (1954–1975) open warfare erupted, but was contained as civil conflicts within those regions, and did not expand into a global “hot” war.⁷⁶ Overarching the Cold War was the development of nuclear weapons by the United States during World War II, followed by the Soviet Union’s development of nuclear technology in 1949. Between 1946 and 1972, the principal antagonists in the Cold War engaged in a fantastically expensive arms race that included not only the development and production of increasingly powerful fission and fusion bombs, but aircraft, naval vessels, and missile delivery systems. The doctrine of “Mutually Assured Destruction” supposedly prevented the Third World campaigns from erupting into all-out nuclear war between the two sides, but it exerted significant

psychological and economic effects on both sides.⁷⁷ Beginning in 1972, treaties were negotiated to reduce the testing of nuclear weapons (Strategic Arms Limitation Treaty, SALT I), the deployment of anti-ballistic missiles (1979, SALT II), and finally a reduction in the numbers of intercontinental ballistic missiles and warheads (1991, Strategic Arms Reduction Treaty, START).⁷⁸ Ultimately, it was the economy of the USSR that was destroyed, as the cost of developing and maintaining a global military presence, including nuclear weapons, exceeded the Gross Domestic Product of the Soviet Union, which supported the economies of Warsaw Pact countries and client states like Cuba. With the fall of the Berlin Wall in 1989, the Warsaw Pact disintegrated, leading to the collapse of the Soviet Union in 1991, and the end of the Cold War.⁷⁹

An important collateral effect of the Cold War was the Uranium Boom, which largely affected the Four Corners states of Arizona, New Mexico, Colorado, and especially Utah. The Colorado Plateau, underlying parts of these four states, was the most remote and least populated part of the continental United States. Uranium prospectors armed with surplus Jeeps and Geiger counters began to penetrate this region immediately after World War II.⁸⁰ The Atomic Energy Commission (AEC), successor to the Manhattan Project, which developed the first atomic bomb, discovered that uranium was present at abandoned vanadium mines in the Southwest, sparking the boom. Prior to this, the AEC imported most of its uranium from Canada and Belgian Congo.⁸¹ However, when the AEC set the commodity prices for uranium at \$50 per ton at 0.3 percent concentration, and offered a \$10,000 cash award for finding new high-grade ore lodes, thousands of would-be prospectors descended on the region.⁸² Between 1946 and 1959, prospectors filed on 309,380 claims in four Utah counties alone.⁸³ Prospector Charlie Steen's discovery of a major deposit of pitchblende uranium ore in the Big Indian Wash District south of La Sal in 1952 made him famous and wealthy overnight, and drove the prospecting frenzy to new heights.⁸⁴ This boom lasted until the end of the Cold War in 1991, but was at its peak from 1948 to the early 1980s.⁸⁵ The "boom" also included several "busts," notably following the October 31, 1958, moratorium on nuclear testing by the United States and Soviet Union.⁸⁶ However, by 1961 the Soviets had resumed testing, so the United States did as well, temporarily reviving the uranium industry. By 1966, the growing demand for commercial nuclear power again improved the uranium market.

The 1969 Utah Geological and Mineralogical Survey report on the mineral content of Arches National Monument noted that no field study of the uranium prospects of Arches had taken place.⁸⁷ However, immediately north of Arches was the Yellow Cat uranium production area, in which the same sandstone formations exposed in Arches were exploited. The report also noted that many uranium claims were documented within the monument, although Arches' records indicate that staff went to considerable efforts during this period to keep prospectors out. Custodian Mahan and Ranger Worthington checked the monument boundaries near a uranium mine in the Klondike Bluffs area in August 1948, marking the first mention of encroaching uranium activities.⁸⁸ In February 1954, the NPS marked 29 miles of the boundaries of Arches National Monument for the first time since its declaration due to an influx of uranium and oil prospectors in Moab.⁸⁹ Monument staff frequently found claim markers within the monument boundaries in 1955, and would dismantle them and return the claim papers to claimants.⁹⁰ On January 18, 1956, the AEC released a large area adjacent to Arches' north and east boundaries for prospecting. Even though the monument boundaries were posted at all section and quarter section corners, Superintendent Wilson noted that "there are still some lost souls who have staked within the monument boundary. As soon as the rush is over and the danger of getting shot is less we will go out

and remove the stakes inside the boundary.”⁹¹ Worse, Acting Superintendent Robert L. Morris reported the following in August 1954:

*Rumors are flying in Moab that Arches is to be opened up for Uranium mining. The personnel at this monument does [sic] not know a thing about it and in the past three weeks we have seen several faces fall and a few million dollars fade from the eyes of would be miners who are sure they would be another Charley Steen if the monument were only opened up.*⁹²

From the Uranium Building to the Atlas Mill tailings pile, the legacy of uranium mining and processing cannot be escaped in Moab. But until relatively recently, the Uranium Boom period has often been downplayed or ignored in formal histories of the Colorado Plateau and Utah.⁹³ Yet, the Uranium Boom had a number of impacts on the region and its peoples. Direct impacts included the construction of thousands of miles of bulldozed roads (“cat tracks” after the most popular bulldozer manufacturer Caterpillar) and excavation of thousands of prospects and mines. More than 3,000 mines are documented in the Four Corners states, although the total number of mines and prospects has not been determined.⁹⁴ At least 1,542 mines are known to exist in Utah alone.⁹⁵ At one time, the Lisbon Valley area, south of Moab, was the most productive uranium field in Utah,⁹⁶ producing about 10 percent of the uranium in the United States.⁹⁷ In 1951, the Utah State Road Commission funded \$1.6 million in construction of roads to uranium mines, splitting the cost 10/90 with the Atomic Energy Commission.⁹⁸ Mills were located at Salt Lake City, Monticello, Blanding (White Mesa), La Sal, Mexican Hat, Monticello, and Moab.⁹⁹ The latter, operated by Atlas Minerals, filled the valley with smog and created a large, radioactive tailings pile adjacent to the Colorado River and just outside of Arches National Monument boundaries (in approximately the same location as the earlier CCC camp). Indirect effects of the Uranium Boom included sudden economic growth in a generally impoverished area, the influx of “outsiders” to closed communities of Native Americans and Mormons, and dissemination of information about the geologic and scenic wonders of the Colorado Plateau to a national audience.¹⁰⁰ The Annual Report for 1955 clearly articulates the effects of uranium prospecting on Arches National Monument:

*The uranium boom in this section of Utah has indirectly given Arches a tremendous amount of publicity which has increased our information requests over 200%. In spite [sic] of this publicity and interest travel only increased 1% over last year. We attribute [sic] this very slight increase to the lack of accommodations in the boom-town of Moab.*¹⁰¹

The Monthly Narrative Reports from 1948–1960 frequently attribute decreases in visitation to scarce or non-existent hotel accommodations in Moab, which were rented by uranium (and oil) prospectors and workers. Moab ended up suffering terribly when the Uranium Bust finally came. USGS Research Ecologist Jayne Belnap recalls driving into Moab after dark in the early 1980s and seeing only a third of the houses lighted, the rest sitting empty as they could not be rented or sold.¹⁰² Arches Facility Manager Tome Johnson, who grew up in Moab and worked in the uranium mines, noted that it was the economy provided by Arches that saved Moab when uranium collapsed.¹⁰³ Specifically, new forms of outdoor recreation such as off-road driving, mountain biking, river running, and rock climbing developed, and Moab found itself on the map as a major destination for these activities (see Chapter 6).

The legacy of the Uranium Boom profoundly affected the region, including government cleanup of contaminated sites which continues to the present.¹⁰⁴ The EPA produced the first report on abandoned uranium mines in 1983, marking the end of the Uranium Boom.¹⁰⁵

Atomic Legacy

World War III has yet to take place, but the United States has already experienced more than 200 nuclear bomb detonations above-ground. The Four Corners states bore the brunt of the U.S. nuclear weapons development programs following World War II.¹⁰⁶ Not only were the sandstone formations of the Colorado Plateau the source of the uranium used in the weapons, but people living in these states were exposed to fallout from above-ground and underground test explosions, beginning with tests at the Trinity Site in New Mexico in 1945. Nuclear tests were moved to the South Pacific on the U.S. Territory of the Marshall Islands until 1949, when the Soviet Union successfully tested a nuclear device, and testing was returned to the continental United States due to fears of espionage or sabotage. The Nevada Proving Ground was created northwest of Las Vegas in 1950, and renamed the Nevada Test Site in 1954. Nuclear weapons tests were initially conducted above-ground, and often measured the weapon's effects on simulated buildings, vehicles, and living people.

Although several of the larger above-ground tests in the mid to late 1950s exposed the entire continental United States to radioactive fallout,¹⁰⁷ Utah and Arizona received the greatest exposure to radiation because they were the locations of both the mines and the mills, and were the closest downwind states to the Nevada Test Site. In fact, the fallout in Utah was sometimes worse than in White Pine County, Nevada, the area nearest to the test site. The heaviest particles fell to the ground near the detonation site in Nye County, but intermediate-sized fallout was carried on the wind to the north and east, into Utah. The heaviest fallout was deposited on the western two thirds of Utah, based on estimates of thyroid doses of Iodine-131,¹⁰⁸ although maps of $\mu\text{Ci/square meter}$ exposure (1 micro Curie or 10^{-6} Curies per square meter) show that all of Utah received the maximum doses of 409–6788 units (as did most of Nevada and New Mexico, and parts of Arizona, Colorado, Wyoming, Idaho, Oregon, Washington, and Iowa).¹⁰⁹ In one 1955 test, so much radiation was released that it set off prospector's Geiger counters across the Colorado Plateau, leading to many false strikes and days of frustration before it cleared.¹¹⁰

Despite this exposure, Grand County is not among the counties included in the Radiation Exposure Compensation Act (42 U. S. C. §2210 note [2012]) for downwinder exposure to nuclear tests, but is covered by the portion of the act that applies to occupational exposure while employed in the uranium industry.¹¹¹ A third section of the act applies to "onsite" participants at the tests. RECA only applies to persons who can prove that they were in the locations defined by the act during the testing period for 2 years, and had subsequent diagnosis of specific diseases. Unfortunately, the exposure is limited to the periods January 21, 1951, to October 31, 1958, and June 30, 1962, to July 31, 1962, when atmospheric tests were conducted. Demonstrating that testing fallout was reaching Grand County, in January 1962, the Civil Defense and Mobilization Administration distributed the leaflet "Facts About Fallout" and booklet "Fallout Protection" to monument personnel.¹¹² However, many underground tests vented or leaked vapor, radiation, and fallout, and in some cases were in excess of above-ground explosions.¹¹³ This period, which extended to 1986, is not covered. The "downwind" counties as defined by RECA are Apache, Coconino, Gila, Navajo, Yavapai, and the portion of Mohave County in the Arizona Strip in Arizona; Nevada counties Eureka, Lander, Lincoln, Nye, White Pine, and part of Clark County; and Utah counties Beaver, Garfield, Iron, Kane, Millard, Piute, San Juan, Sevier, Washington, and Wayne.¹¹⁴

Arches successfully kept prospectors out of the park (but had to repeatedly re-post the park boundaries against trespass during the peak years of prospecting in the 1950s and 1960s) but could not remain free

of the other effects of the Uranium Boom (Figure 4-5). The Utah Highway Department was forced to build a new bridge over the Colorado River north of Moab due to deterioration of the old one-lane bridge under heavy uranium ore trucks: “An armed guard is posted to keep drivers of the Uranium Ore trucks from shifting gears on the bridge and enforce a 5 mph speed limit.”¹¹⁵ The park’s long-term *Coming of Man* exhibit featured a geology display, including five samples of uranite.¹¹⁶ In 1991, local resident Susan Miller visited the park and asked interpretive staff if the ore was radioactive, and if so, did it pose a health hazard? Superintendent Noel Poe arranged for Dale Edwards of the Atlas Minerals Corporation to check the Arches Visitor Center and exhibit area with a calibrated Simulation Meter, a sophisticated detector of gamma radiation. Although the visitor center and general exhibition space was below the accepted background radiation threshold of 0.2 mr/hour at a typical visitor distance from the uranite samples, the reading was 0.3 mr/hour. Edwards recommended immediately removing the rocks for disposal at the Atlas facility. Poe agreed, and since this constituted an immediate hazard to health and safety, advocated that it was unnecessary to contact the regional office for approval. Thinking a follow-up memo was a good idea, and in keeping with NPS practice, Poe also suggested the following:

If the rocks are accessioned or catalogued, we will need to follow through on some paperwork process. If not, box them up and take them to Atlas and leave for Dale. We should have some written record (memo to files) of our final action.

*You may want to replace them with other rocks in the exhibit.*¹¹⁷

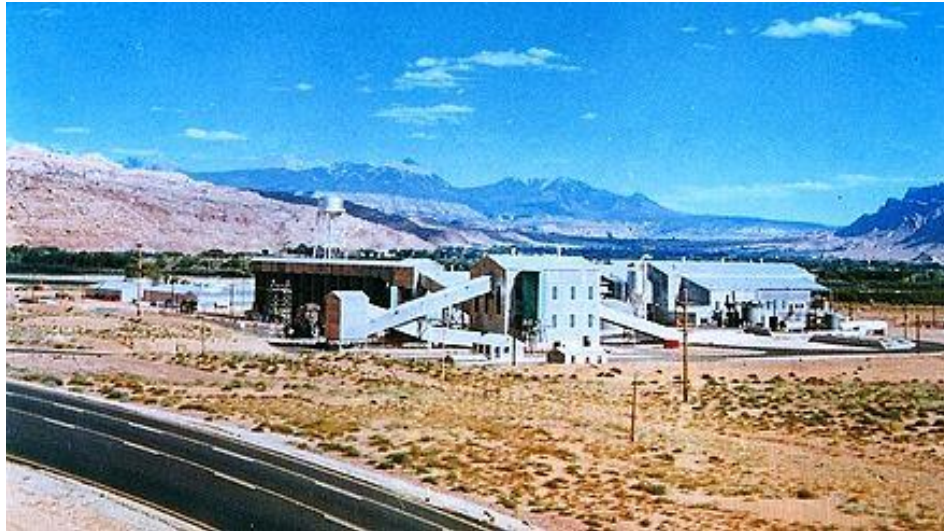
A more serious hazard developed almost directly across US 191 from the Entrance Station, on the site of the old CCC camp. In 1954 the Atomic Energy Commission began development of a uranium ore sampling plant, and Charlie Steen announced that the Uranium Reduction Company (Utex Corp) would invest 4.5 million dollars in an ore processing mill on the same site, to process ore from Steen’s Una Vida Mine and other regional operations (Figure 4-6).¹¹⁸ Ground was broken in 1955 and the mill was in operation by October 4, 1956.¹¹⁹ In 1962, the Atlas Minerals Corporation bought the mill outright (a wholly owned subsidiary had been a silent partner) and continued to operate it as the Atlas Uranium Mill until 1984, when the operation was closed during Atlas’s bankruptcy.¹²⁰ The waste slurry pond, which had been built adjacent to and on the floodplain of the Colorado River, was capped in 1984, but a 90-foot-high pile of mill tailings was uncovered. Pollutants leeching from the tailings and slurry pond into the Colorado River kill fish and cause other threats to the health and safety of wildlife and human users of the river.

In 2001, the U.S. Department of Energy took control of the mill site for remediation, under Title 1 of the Uranium Mill Tailings Radiation Control Act. The DOE developed a Draft Environmental Impact Statement with the preferred alternative to improve the tailings cap but leave the tailings in place, adjacent to the Colorado River. Opposition to this plan, led by the Grand Canyon Trust, forced the DOE to consider an alternative: move the 16 million tons of tailings and clean the mill site. Moving the tailings was given final approval in 2006 by the Environmental Protection Agency.¹²¹ The plan requires the excavation of all contaminated tailings and soil, placement in sealed containers, and transportation by rail to Crescent Junction (30 miles north of Moab, where the spur line from Potash meets the Union Pacific Mainline and I-70) where they are to be buried in perpetuity. Removal began in 2009 and is expected to continue through 2025, depending on funding levels.¹²² As of January 2016, 8 million tons of tailings (50%) had been removed and buried (Figure 4-7).¹²³



4-5. Preparation of Boundary Line property signs in the sign shop, 1964. ARCH 104/000988, SEUG Archives. (Photo credit: Tom Mulhern).

The plume of toxic ground water beneath the site is being cleaned by extracting the water through a well field between the mill site and the Colorado River, removing toxins (799,000 pounds of ammonium and 3,990 pounds of uranium by February 2014), and injecting fresh water.¹²⁴ After the U.S. Department of Energy's Office of Environmental Management requested a 10 percent reduction in the remediation budget for the 2017 federal fiscal year, Grand County sent a letter to the Utah congressional delegation requesting an intervention to maintain current funding.¹²⁵ Funding was increased for 2018 by \$2.9 million, but had to be spent before September 30 of that year.¹²⁶



4-6. (Top) The Atlas Minerals Uranium Mill in operation, circa late 1960s. Image courtesy Wikiwand. (Bottom) The Atlas Minerals Uranium Mill before dismantling in 1988. (Photo credit: Vicki Barker).



4-7. View of the Atlas tailings pile remediation, January 2017, following removal of approximately half of the tailings (8 million tons). (Photo credit: David E. Purcell).

Despite the issues associated with the Atlas Mill and abandoned uranium mines, the U.S. Department of Energy continued to view the Moab area for Cold War projects. During 1978–1980, the DOE investigated three sites in southeastern Utah for a high-level nuclear waste repository, due to the presence of buried salt domes: Salt Valley, Elk Ridge (near Natural Bridges National Monument), and the Gibson Dome.¹²⁷ Salt domes are geologically stable over long periods of time, and the salt provides natural radiation containment. Salt Valley, immediately adjacent to the park boundaries, was tested during the initial period of investigation (Figure 4-8). Based on a test drilling done 1 mile north of the boundary, this location was removed from consideration.¹²⁸ However, the Department of Energy refused to engage with the NPS about their plans, placing great stress on park staff. After initial testing, the location preferred by DOE for burial was in the Gibson Dome, adjacent to and partially beneath Canyonlands National Park.¹²⁹

Arches staff created an exhibit about the proposed dump that was displayed in the Arches Visitor Center, the NPS facility in southeastern Utah that received the most visitor traffic, in the hopes of alerting the public to the DOE's plans.¹³⁰ The repository would have been constructed adjacent to North



4-8a. Department of Energy nuclear waste test site in Salt Valley, 1978. ARCH 104/001231, SEUG Archives. (Photo credit: Jim Stiles).



4-8b. Alternate view of Department of Energy nuclear waste test site in Salt Valley, 1978. Panorama of two Polaroid images. ARCH 104/001232 and 001233, SEUG Archives. (Photo credit: Jim Stiles).

Six-Shooter Peak, following a multi-year project of testing that would involve drilling hundreds or thousands of bore holes and massive test trenches to expose geological contacts, installation of 197-foot-tall meteorological towers as well as at least 10 tiltmeter stations and meteorological recording stations, installation of six seismic reflection lines, improvement of existing roads, and construction of up to 300 miles of new roads.¹³¹ The DOE completed a cursory Environmental Assessment, but threatened to conduct additional testing without updating the document. The Bureau of Land Management found the EA to be inadequate and requested a much more detailed description of the actual proposed activities and their impacts before making the final decision. The scale of the waste repository itself was proposed to be even larger, with a railroad spur for hauling nuclear waste canisters, possibly a coal-fired power plant to provide electricity for the project, and excavation and storage of 40 billion tons of salt from the Gibson Dome; an estimated 1,800 construction workers would be required for the project. After extensive review and litigation, the plan was not abandoned until 1986, when the Final Environmental Assessment ranked the Gibson Dome as the least preferred site of three under consideration.¹³²

Clearing the Air: From Radiological Monitoring to Regional Haze

Industrialization and the use of fossil fuels began to affect air quality in the United States in the nineteenth century. The post-World War II population growth, economic expansion, and a dramatic increase in automobile use instigated air quality crises in cities throughout the United States in the late 1940s, but particularly in Los Angeles. In response, Congress passed the first of a series of laws to

control airborne pollutants with the Air Pollution Control Act of 1955 (Public Law 84-159: Amended 1960, 1962), which was largely an acknowledgement that the air quality problem existed, and it provided some funding for additional research.¹³³ Concrete measures to reduce air pollution followed with the Clean Air Act of 1963 (Public Law 88-206: Amended 1965, 1966, 1967, and 1969), the Clean Air Act of 1970 (Public Law 91-604: amended 1977), and the Clean Air Act of 1990 (Public Law 101-549). Unlike the many other environmental and land management acts passed in the 1960s and 1970s, the Clean Air laws had little initial effect on Arches, other than to establish in 1970 the standards by which

VISITOR COMMENTS ON AIR POLLUTION FROM ATLAS MILL

"Heavy, blue, hard to breathe air in valley today. Thick chemical taste fills the air.

This blanket of smog certainly detracts from my enjoyment of the National Park."

Visitor from Moab, Utah, September 11, 1983

"AWFUL!!!! POLLUTION FROM URANIUM MIL [sic]

We have been coming to this area for 20 years, but this is the first time we have seen the air like this.

This is supposed to be a clean air nature place. Can't we keep it that way? Eventually it will be the end of an unusual, absolutely fantastic area."

Visitor from Boulder, Colorado, September 13, 1983

"I find it hard to fully appreciate the park when the air is as polluted as one might find in a large city (such as Salt Lake). What happened to the EPA?

Isn't the air quality of this park protected under the Clean Air Act? Is this what is known as 'pristine' air quality? I can't believe no action has been taken—its even worse than when I was visiting last year."

Visitor from Grand Canyon, Arizona, January 3, 1982

"The refining plant could provide an interesting interpretation resource. Perhaps the pollution could be 'used' to develop a public education project."

Visitor from Olympic National Park, Washington, January 3, 1982

"This is degrading and disgusting to the area & the nation! What about pristine air in the national parks & monuments? What about the visibility criteria in the Clean Air Act? Denver's air isn't even this bad—only Provo could compare. Utah is a disgusting state for letting this continue. Industry indeed!"

Visitor from Fort Collins, Colorado, January 12, 198[1]

clean air is determined, the National Ambient Air Quality Standards (NAAQS). The 1970 Clean Air Act also regulated regional air quality, which had begun to affect NPS units downwind from major urban areas and coal-fired power plants. Air pollution takes several forms that can affect visibility (transparency of the atmosphere), and can result in precipitation of acids and concentrations of gaseous pollutants.¹³⁴

In 1977 Congress attempted to address the deteriorating quality of the air in national parks (and by extension, everywhere else) by setting a goal of "remedying any existing and preventing any future human-caused visibility impairment in most of our largest national parks."¹³⁵ As a natural resource managed under the Organic Act, the NPS could now record baseline observations of air quality and monitor changes to those conditions. Grand Canyon, in particular, documented progressive deterioration of air quality from multiple sources, although the worst visibility impairment was in the Appalachian parks such as Great Smoky Mountains (ironically), Shenandoah, and Mammoth Cave. The Canyonlands Complex installed an Air Clarity Research Station in February 1978 at Island in the Sky in Canyonlands National Park.¹³⁶ By 2002, some impairment of air quality was documented at every national park. Arches remained within Class 1 air (the highest quality) until the 1980s, when concerns were raised about the Atlas Mill emissions. But after the mill closed in 1984, it was the tailings that raised concerns about local air and water quality.

Atlas Tailings and Radiological Monitoring

Uranium mill tailings present several hazards in addition to the obvious release of radiation. First, the processed material contains remnant uranium, radium, lead, arsenic, and caustic chemicals used in leaching. These are the most direct threats to water quality, and the reason the Grand Canyon Trust (and other groups) demanded the removal and burial of the tailings.

Second, the decaying radium 226 releases radon gas at a concentration as much as 500 times above the natural rate of release for areas such as the Moab Valley.¹³⁷ Third, the uncapped pile was exposed to the

gusty and unpredictable winds of the Colorado Plateau. During one storm in the spring of 2001, Moab was pelted with particles from the tailings pile, material that also covered every surface and fell into Mill Creek and the Colorado River.¹³⁸ Wind coming from the south-southeast, as sometimes happens during monsoon thunderstorms, would carry the tailings to Arches National Park and into the visitor center and entrance station.

Beginning in 1979, Arches National Park issued a special use permit to Atlas Minerals to operate a continuous air sampler for emissions from the mill and tailings.¹³⁹ This monitor occupied a 5 by 5 foot pad behind the brick privacy fence east of the visitor center. However, during the late 1970s, Atlas evaluated the natural radioactivity levels in various areas of the park to describe the baseline against which the monitors were measuring, and found that the natural radioactivity near the park residences was higher than other park areas.¹⁴⁰ In 1987, Acting Superintendent J. M. Brady inquired about relocating this monitor, but its location was established by the Source Material License issued to Atlas by the U. S. Nuclear Regulatory Commission, and would have required a license amendment, so it was not pursued further.¹⁴¹ The monitor established monthly (1983–1984) or quarterly (1985–1988) readings for uranium 238, thorium 230, radium 226, radon 222, and lead 210 (1983 to October 1984 only). Although the exposures varied seasonally and by year, all of the readings of each monitored substance were well below the NRC-established standards.

Regional Haze

Local, point-source emitters of air pollution can and have been mitigated through the NEPA process, but the issue of regional or continental air pollution has proven so far to be unresolvable and increasing in severity. Concern about (and reaction to) regional air quality issues emerged in the late 1970s, particularly on the Colorado Plateau, which had been possessed of some of the clearest air in the country before widespread industrial development. By 1981, the EPA was proposing the designation of “integral vistas” associated with Class 1 air as a means of tracking and preserving air quality over national parks.¹⁴² Promulgated during the Reagan administration, the standards also required the input of the states to allow them to balance development with improving air quality. The Utah Bureau of Air Quality and NPS officials visited Moab for a public hearing in February 1981. Possible “integral vistas” at Arches National Park were tentatively identified as the view from Delicate Arch, the La Sal Mountains viewpoint, and views to the horizon from Panorama Point. Predictably, and despite the state involvement, Governor Scott Matheson released an angry rebuttal to the process:

*In addition to our outright objection to the provision for integral vista protection, we find the process for identifying those vistas unacceptable. States are denied any role in the identification process, but are then required to protect the federally-selected vistas in state implementation plans.*¹⁴³

VISITOR COMMENTS ON REGIONAL HAZE

“The park (Arches) seems to have a considerable amount of air pollution in and around the area. A brown color is visible in the air for miles in all directions. The La Sal Mountains are almost invisible. Clean air standards should be enforced. This is the most polluted park I have been to in the Lower 48.”

Visitor from Denver, Colorado, April 18, 1980

Ranger Comments: “I informed the visitor of our air quality-monitoring instruments here at Arches & ISKY and how we were trying to establish good baseline data on air quality here at the park. I also informed him that the pollution wasn’t necessarily from a local source.”

At the regional level, the Environmental Protection Agency is charged with monitoring, regulating, and reducing air pollution, a program that began in 1988. In the Southwest and Colorado Plateau, regional

haze derives from pollution emitted by coal-fired power-generating plants, dust, and smog generated in southern California, Las Vegas, and Phoenix, and transported on the prevailing winds. Seasonally, smoke from wildfires (and prescribed burns and managed wildfires) makes a significant contribution to the air pollution.¹⁴⁴ In fact, NPS studies have shown that the largest contributor to air pollution emission from parks is prescribed burns; the NPS Environmental Leadership Initiative directs the NPS to practice sound environmental stewardship by reducing park emissions as much as possible. In many cases, such as saving energy and reducing visitor vehicle emissions by using mass transit, these goals mesh with other initiatives aiming at reducing waste, increasing energy efficiency, and reducing traffic congestion. Additionally, ozone levels have increased in regional parks, despite its reduction in major urban areas. Parks in other regions of the county face additional challenges due to acid precipitation, nitrogen deposition, and other toxic fallout.

Air quality monitoring stations with IMPROVE particulate and 35 mm automatic cameras were installed at both Canyonlands and Arches. In 1992, the NPS Air Quality Division removed the monitoring station from Arches and reinstalled it at Island in the Sky in Canyonlands “because of the proximity of Arches and Canyonlands and considering the more-lengthy database obtained from the monitoring efforts at Canyonlands.”¹⁴⁵ The facility, ironically, was a portable building weighing 3,500 pounds, and required 8–10 Kwh of power, which was supplied by a diesel generator when it was installed at Arches.¹⁴⁶ Additionally, the facility required 6 hours per week for an attendant and 2 hours of administrative time, for an annual budget of \$10–12,000 dollars.

On July 1, 1999, the EPA published 40 CFR Part 51, a final rule on Regional Haze Regulations to address the deteriorating air quality conditions in the 156 Class 1 areas, most of which are national parks (including Arches) or Wilderness areas.¹⁴⁷ The rule defined regional haze as “visibility impairment caused by the cumulative air pollutant emissions from numerous sources over a wide geographic area.” The rule required states to improve the visibility in all Class 1 areas through the establishment of goals and strategies to reduce emissions. Specific provisions within the nine Grand Canyon Visibility Transport Commission (GCVTC) states (including Utah) were to be implemented within the national framework of the rule. The rule provided up to 8 years (ending 2007) for states to submit haze plans (only 4 years for those in the GCVTC group), with 2008 set as the latest date for states to submit plans.¹⁴⁸ The state plans are to be updated in 2018 and every 10 years thereafter.

The Regional Haze Regulation immediately ran afoul of industry opposition and election year politics. In 2002 the District of Columbia Circuit Court vacated certain provisions of the portion of the rule related to the best available retrofit technology (BART), requiring amendments in 2004 and 2006, including a plan to trade emissions as an alternative to power plant retrofits.¹⁴⁹ Despite this delay, in 2009 the EPA reported that 37 states and the District of Columbia had failed to submit plans. The EPA published the final rule on emission trading in the Cross-State Air Pollution Rule (CSAPR) as an alternative to the BART provision. In April 2016, the EPA proposed an amendment that would address requirements for the 2018–2028 second planning period, based on the experiences of the first, yet to be completed, planning period.

Utah submitted their plan in 2008, but the EPA rejected the proposed approach to reducing nitrogen oxide and particulates at two coal-burning power plants located in Emery County (Hunter and Huntington) in their final review of the plan in 2012. In response, the state ordered the closure of the 172-megawatt Carbon power plant near Helper, an alternative strategy that was part of the original

plan.¹⁵⁰ The Utah Air Quality Board included the closure in its revised regional haze plan, and claimed that the closure would achieve much greater reduction in pollutants than retrofitting the Hunter and Huntington plants with scrubbers. Critics of the plan called Utah's closure of Hunter a bait-and-switch tactic. The Sierra Club observed that the Carbon plant had been built in 1954 and would have to be decommissioned now, as it could not be upgraded to meet current standards for mercury emissions. The issue with Hunter and Huntington is the emission of nitrogen oxide, which forms ground-level ozone, which monitoring stations at Canyonlands Island in the Sky indicated were approaching a level deemed unsafe for humans on bad days. Despite the confidence of the Utah Air Quality Board and Rocky Mountain Power, the owner of the three plants, that the revised plan would result in the greatest reduction of pollutants, the NPS was critical of this step.¹⁵¹ NPS Associate Regional Director Tammy Whittington submitted a letter on April 2, 2015, to the EPA and the Utah Department of Environmental Quality officially commenting on this situation, noting that regional haze is visible at all of the "Mighty Five" Utah national parks 75 percent of the time. The cost of the retrofits to selective catalyst reduction (SCR) at each of the four power generating units was estimated by Rocky Mountain Power to cost more than \$680 million, although the National Parks Conservation Association noted that the 7 million visitors to the "Mighty Five" generated \$730 million per year. In June 2016, the EPA ordered Rocky Mountain Power to install the scrubbers at Hunter and Huntington within 5 years,¹⁵² but it is unclear as of this writing if this decision will survive the Trump administration's pro-coal, anti-regulation policies. Arches National Park established a photo station at Doc Williams Point in 2016 to monitor haze, but no repeat photographs have yet been taken.¹⁵³

Pipelines

Two gas pipelines have had major impacts on Arches. In 1955 Pacific Northwest Pipeline Company forced a right-of-way across the monument, slicing future wilderness in half, introducing invasive non-native plants, and leaving a scar that remains visible despite efforts at replanting native vegetation. Also, during construction of a new pipeline in Moab Canyon in 1998, another pipeline was punctured, causing a huge explosion and fire that burned vegetation and archaeological sites in Arches National Park.

1955 Pacific Northwest Pipeline Construction

The Pacific Northwest Pipeline Company of Houston, Texas, applied for a right-of-way across part of Arches National Monument in June 1955. This application was forwarded from the NPS Land Office in Salt Lake to the field office in Santa Fe, New Mexico, and on to the acting director of the National Park Service, Thomas J. Allen.¹⁵⁴ Noting that the construction of a pipeline was contrary to the preservation mandate of the Organic Act, and that Section 28 of February 25, 1920 (41 Stat. 449), as amended, authorizes pipeline rights-of-way across federal lands but does not specifically include lands of the National Park Service, Allen wrote to the director of the Bureau of Land Management requesting that the application be submitted to the Solicitor General for review. Apparently, construction of the pipeline was being pushed at higher levels of the government, as Allen issued a very terse note less than a week later to the director of Region Three, regarding the pipeline right-of-way application:

*Director determined granting of permit for pipeline across Arches on your route number two to be proper and advisable. Request you issue permit on basis our normal authority and not in reference to any other Act. Negotiate with Pacific Northwest company as to any special conditions. Their attorney here has been advised.*¹⁵⁵

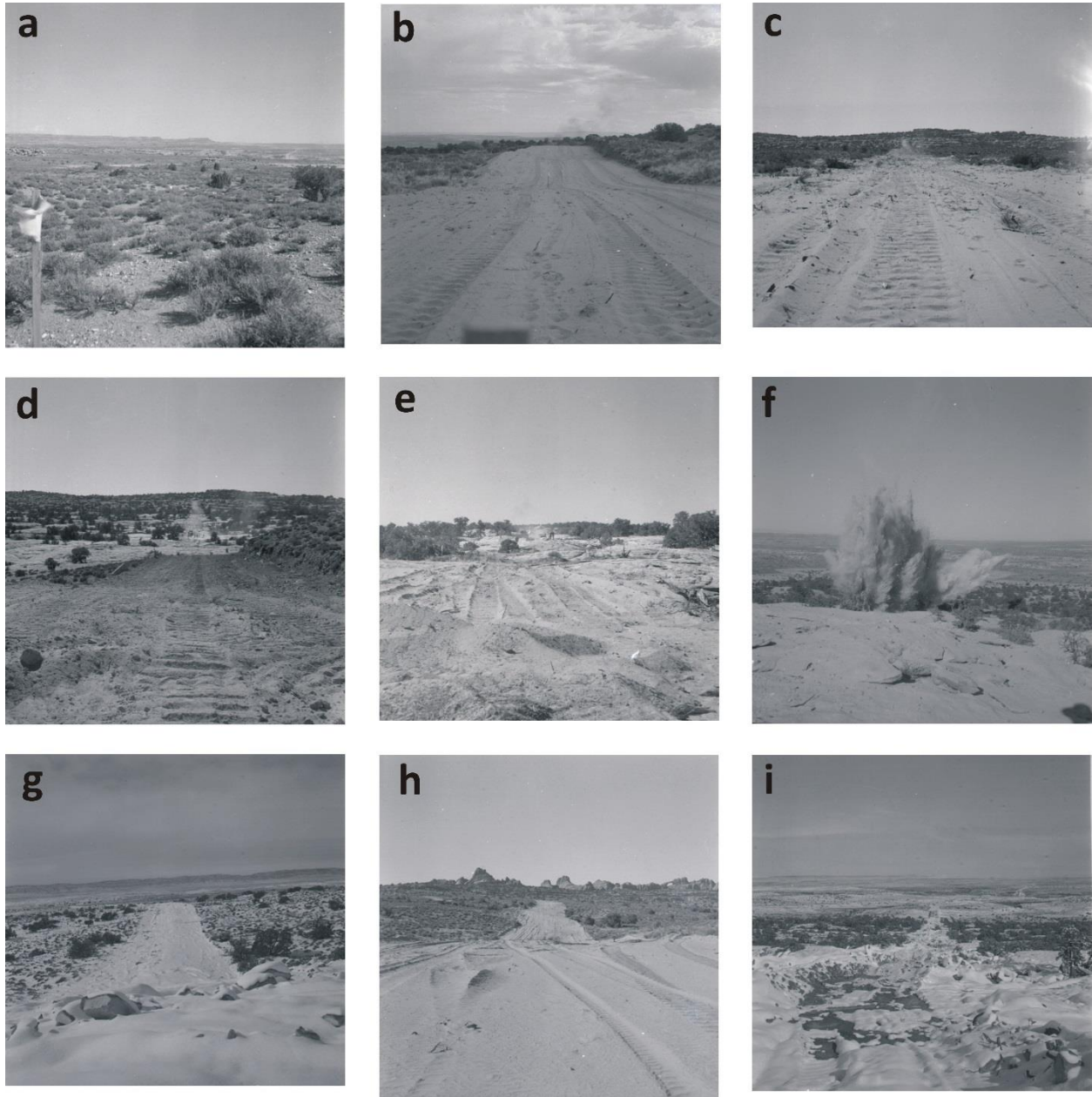
The special use permit granting the right-of-way was issued the same day, July 1, 1955.¹⁵⁶ Apparently, the statute did include units of the National Park Service, or the pipeline was viewed as part of the Cold War military-industrial complex and pushed by the Eisenhower administration.¹⁵⁷ Lloyd M. Pierson later characterized the decision to authorize the pipeline in a letter to the editor of *The Times-Independent*:

*The pipeline was shoved down the throat of the National Park Service by a Republican administration in the pocket of the oil and gas industry. Arches Superintendent Bates Wilson was informed by telephone one morning to let the pipeline through in spite of rules and regulations against such nonsense.*¹⁵⁸

Archived records from Arches National Monument contain surprisingly little correspondence on this matter,¹⁵⁹ but do include an extensive collection of photographs made by Bates Wilson documenting all stages of the pipeline construction (Figure 4-9). The 26-inch pipeline crosses Arches northeast to southwest, cutting across the ridge between Skyline Arch and Fiery Furnace near the intersection with the Salt Valley Road; the pipeline crosses the road twice as it traverses Salt Valley. NPS General Superintendent John M. Davis, Park Landscape Architect Harold Marsh, Chief of the Branch of Conservation and Protection Lon Garrison, Regional Director Hugh Miller, and Regional Landscape Architect Jerry Miller all visited Arches in June 1955 to inspect the two proposed routes and meet with supervisors of Fish Construction Company about the pipeline. Two potential routes through Arches were evaluated, although the alignments of the routes were not described. Actual construction of the pipeline took place over a few weeks in late 1955, but the daily passage of 10 trucks and buses carrying the construction crews caused severe damage to the monument roads. Superintendent Wilson and Robert Morris inspected the completed line on November 18, 1955: “We now have a fifty foot strip of bare, sterile soil, 4000' of which can be seen from the Devils Garden approach road. We hope the ten year planting program will be successful so that this eyesore can be obliterated.”¹⁶⁰ Revegetation actually took “only” 4 years to complete. Crews from Roberts Nursery began work on November 5, 1956, planting 1,400–1,600 native shrubs per acre, and 611 pinon and juniper (71 more than the required minimum of 540).¹⁶¹ Eight thousand additional plants (50% saltbush, 35% sand sage, and 15% blackbrush) were planted in April 1958 to replace previous plantings that had died.¹⁶² On December 8–10, 1958, 7,500 more shrubs were planted, using 15,000 gallons of water on both old and new plantings, during a very dry winter.¹⁶³ It took many years for the plants to grow to mature size, yet the scar remains visible today.

Outside of the park, the pipeline right-of-way turns south into Moab Canyon, south of US 191. The pipeline was originally 1,500 miles in length, supplying natural gas from the San Juan Basin of Colorado to Washington and Oregon.¹⁶⁴ The pipeline has changed hands several times since its construction. El Paso Natural Gas acquired Pacific Northwest in 1957 but was forced by federal regulators to divest in 1974, selling Pacific Northwest to Midwest American Pipeline Company (MAPCO). Williams Energy purchased MAPCO in 1998,¹⁶⁵ but sold the division in 2002 to Enterprise Products Partners. The pipeline has been upgraded to bi-directional supply and expanded to 3,900 miles in length, with laterals in Washington, Idaho, Wyoming, and Colorado.

Although the pipeline crossed about 2.5 miles of Arches National Monument when it was constructed, the dramatic expansion of boundaries that accompanied the creation of Arches National Park also increased the extent of the pipeline within NPS jurisdiction, necessitating an adjustment to the Wilderness proposals submitted after 1974. The revised Wilderness Recommendation of 1982 included the provision that “any major maintenance or pipeline replacement should be cause for rerouting the



4-9. Construction of the Pacific Northwest Pipeline across Arches National Monument, 1955–1956. (a) View along the staked right-of-way, before construction. (b–e) Clearing of the right-of-way. (f) Explosives were required to cut the trench in slickrock. (g–i) After construction, the scar of the pipeline was most readily visible in winter, following a snow storm. ARCH 104/472, 473, 474, 475, 476, 494, 458, 484, and 540. (Photo credit: Bates E. Wilson).

entire line around the park.”¹⁶⁶ The pipeline was also a cause of concern during the realignment of the scenic drive between Balanced Rock and Devils Garden in 1963. At that time, the pipeline was the property of El Paso Natural Gas, whose division engineer wrote to the Utah Bureau of Public Roads to request that the section of road crossing over the pipeline be elevated 2 feet more than called for in the construction plans, to provide adequate protection to the pipe.¹⁶⁷

In April 1956, Superintendent Wilson reported on an accident with the pipeline, ominously foreshadowing the events of 1998 (described below):

*No one was hurt nor was their health impaired; however we had a preview of what could happen if the natural gas line should break in the monument. On April 23, four miles west of Headquarters a break in the pipeline occurred which caused a terrific explosion. A spectacular fire with flames licking 100 feet in the air followed along the 2700 feet of demolished line. The only control was to shut off the gas and let the fire burn until the gas was consumed. The electric transmission line was broken by torn pipe thrown 400 feet. All vegetation was burned to the ground within 500 feet of the line. If this had happened in the monument the pipeline right-of-way would be widened to over 1000 feet.*¹⁶⁸

The real danger of the pipeline is not its demonstrated potential to rupture and explode, but the precedence it established of intrusive utility infrastructure. In 1997 SEUG Archivist Vicki Webster was contacted by the U.S. Geological Survey for information on the history of the pipeline, particularly the legal circumstances of how it came to be built. The state of Utah was interested in constructing pipelines within Grand Staircase–Escalante National Monument and other national monuments in Utah and wondered “whether it is legal or if there is a law that covers installation in existence.”¹⁶⁹

The legacy of the pipeline continues to manifest itself in other ways that impact the resources of Arches National Park. Natural gas pipelines require routine inspection and maintenance, and changes in technology have improved the safety and efficiency of pipelines, requiring periodic excavation and replacement of the pipe. Because the pipeline was installed before NHPA or NEPA, the effects of its construction on cultural resources and the environment had never been evaluated. SEUG conducted an archaeological survey of the pipeline right-of-way across Arches in 2009, in advance of scheduled repairs, and monitored those repairs for potential impacts to archaeological sites and plant communities.¹⁷⁰ SEUG also planned and oversaw efforts over the next several years to restore and monitor plant communities that were disturbed by the 2009 repairs.¹⁷¹ The routes to the repair sites were accessed by heavy machinery, traveling over pipeline paths that had not seen vehicular traffic in decades. The pipeline is aging, and the frequency of repairs and impacts is expected to increase.

1998 Williams Pipeline Explosion

On December 3, 1998, a pipeline construction crew operating under contract to Williams Energy accidentally ruptured an existing 10-inch high-pressure pipeline in Moab Canyon.¹⁷² The crew was clearing the right-of-way for a new 16-inch pipeline with a Caterpillar D-8 bulldozer when the blade caught and punctured the pipe, releasing a pressurized vapor cloud of unrefined “Y grade” natural gas liquids (NGL) (Figure 4-10).¹⁷³ The construction crew escaped the vicinity, but within a few minutes, the vapor cloud was ignited by either the cab dome light or engine of a semi-truck on US 191, which had stopped at the approach of one of the workers on foot (Figure 4-11). The vapor cloud exploded about 9:40 AM¹⁷⁴ in a massive fireball that injured four people and destroyed nine vehicles (Figure 4-12), as well as the bulldozer.¹⁷⁵ Most of the vehicles destroyed were the personal transportation of the construction workers.



4-10. Following the explosion of the NGL vapor cloud on December 3, 1998, the damaged section of pipeline was closed, and the fire burned for more than 6 hours before consuming the remaining contents of the pipeline. Arches Pipeline Explosion Collection 3167, Roll E, Image 20. (Photographer unknown).

At least one of the vehicles was thrown across the road, landing in Bloody Mary Wash.¹⁷⁶ The truck driver and the construction worker were able to escape the explosion, but the tractor was charred in the fire.¹⁷⁷ A south-bound truck was also stopped by a construction worker just beyond the limit of the fireball; the driver was later able to back his truck several miles up the canyon and return safely to Crescent Junction.¹⁷⁸

No fatalities resulted from the accident, and only one injury required hospitalization for possible internal injuries; the three cases of smoke inhalation were treated at the scene.¹⁷⁹ US 191 was closed for two days while the fire was extinguished and the scene cleaned up, including emergency repairs to the road surface.¹⁸⁰ UDOT closed US 191 at the Crescent Junction interchange and diverted traffic onto Utah 128 at Cisco.¹⁸¹ Dozens of long-haul truckers were stuck on each side of the closure, as Utah 128 and the route from La Sal junction (south of Moab) to Grand Junction are not recommended for oversized vehicles.¹⁸² To clear the backup of commercial trucks, UDOT instituted a temporary opening (4 hours) of the highway on December 4, then closed it again to begin the repair work.¹⁸³ Arches National Park closed immediately following the explosion, with six visitors who were in the visitor center evacuated along with the park employees and residents.¹⁸⁴ Other visitors in the park were evacuated later in the day through Salt Valley to US 191. The Mid-America Pipeline Company (MAPCO, a Williams subsidiary at the time) was able to isolate the damaged section of pipeline by closing valves north and south of the



4-11. A semi truck carrying a load of diesel fuel headed north on US 191 encountered the vapor cloud at 9:50 AM, igniting the escaping NGL into a fireball that burned 21 acres. The truck sustained relatively minor damage (visible in the right foreground) and the driver was uninjured. The photo was taken a few hours after the explosion, as the fire was still burning. The worst damage was north of US 191, which is lower in elevation and collected more of the vapor, which is heavier than air. Arches Williams-MAPCO Pipeline Incident Records (1998–2002) ARCH 3167, Roll D, Image 5. (Photographer unknown).

rupture, but it took nearly 6 hours for the remaining fuel in the 10-mile section of pipe to burn off. An emergency command center was initially established by the NPS at the intersection of the entrance road with US 191 but was soon moved to the intersection of Potash Road and US 191; this was also deemed too close to the still-burning pipeline, and was again moved to the Utah 128/US 191 intersection at Lions Park.¹⁸⁵ NPS rangers monitored the situation throughout the day, with Ranger Gary Salamacha observing from the Moab Fault Overlook and Ranger Van Slyke using a fixed-wing aircraft to observe and photograph the fire from the air. The response was summarized in a joint press release:

The incident was managed under an interagency unified command with over 19 agencies and companies and well over 100 personnel involved. NPS resources from Arches and Canyonlands NP's included emergency medical, park security, traffic control, fixed wing spotter aircraft, public information, family liaison and several key overhead positions. 28 NPS employees were involved in incident management, park evacuation and security, and post-incident documentation actions. 8 park residents were evacuated from their homes for two days, with most being housed in local motels. The park remained closed and the Headquarters complex evacuated until repairs to the pipeline were completed in the early morning hours

*of December 5. The park returned to normal operations and residents were allowed to return on Saturday morning, December 5.*¹⁸⁶

In terms of direct impacts to park resources, the pipeline explosion was the most significant event in Arches' history, although the impacts could have been much worse. The accident took place half a mile uphill and just around the next bend of Moab Canyon from the park entrance; had the vapor cloud advanced just a few hundred yards farther down US 191 (less than 1 minute at the speed it was estimated to have been travelling), the explosion could have engulfed the Arches Visitor Center, Entrance Station, and residences.¹⁸⁷ The flames were more than 150 feet high, and were visible from the visitor center above the rock fin that separated the accident site from the park facilities.¹⁸⁸ Not reported by the media was that one park employee suffered respiratory distress when the smoke from the explosion and fire drifted over his position at Balanced Rock, where he was monitoring traffic.¹⁸⁹ Darrell Dalton required emergency room attention the following day for severe cough, fever, and throat and chest pains. The NPS filed a Workers Compensation claim on his behalf, but debated attaching the cost to the claim later filed against Williams Energy. Additionally, the flames burned adjacent overhead power poles, scorched 200 feet of US 191, and affected parts of three archeological sites in Arches National Park (Figure 4-13).



4-12. The explosion and fire destroyed eight vehicles parked nearby and the bulldozer that ruptured the pipeline. Arches Williams-MAPCO Pipeline Incident Records (1998–2002) ARCH 3167, Roll D, Image 11. (Photographer unknown).



4-13. The pipeline fire burned 21 acres of natural vegetation and portions of five archeological sites, three of which are partially within Arches National Park, including the old alignment of US 450/160/163 visible here. Arches Williams-MAPCO Pipeline Incident Records (1998–2002) ARCH 3167, Roll D, Image 15. (Photographer unknown).

Between December 3 and 8, 1998, the Western Region Pipeline Safety Office conducted an accident investigation that identified problems in communications and improper operations of the bulldozer that caused the accident; the interim results were presented to Williams on January 19, 1999, with a request for a comprehensive plan to address the accident causes.¹⁹⁰

In response to the explosion, Moab city officials demanded regular meetings with Williams to discuss schedule and safety concerns, especially as the pipeline entered the city and passed near residences.¹⁹¹ Arches National Park developed a Park Evacuation Plan, and stationed a vehicle with a large, loud horn directly across US 191 from the park entrance, with an operator.¹⁹² The evacuation plan was updated daily, as the evacuation route changed depending on how close to the entrance of the park the construction crew was operating.¹⁹³ The plan required visitors and park staff to evacuate by vehicle immediately upon the horn sounding, away from US 191 into the park or north on US 191, or on foot to higher ground; because one of the two “live” pipelines carried a heavier-than-air gas, the plan prohibited evacuation towards the lower-lying ground in the direction of Moab. A vapor cloud such as was released in December would flow downhill along US 191 until it reached a point of ignition. During the interval of February 26 to March 1, when construction was taking place in the canyon at an elevation higher than the developed park facilities, the evacuation route was only into the park. Following a “near-

miss” incident involving one of the live pipelines (see below), the construction was temporarily halted on March 2 and the evacuation plan suspended.¹⁹⁴

The December pipeline explosion was not an isolated occurrence. Construction contractor Four-Four Pipeline Construction was responsible for a “near-miss” incident that occurred on February 26, 1999. The 26-inch Northwest Pipeline Corporation gas pipeline that is also within the US 191 right-of-way was not properly marked, and a bulldozer cutting a temporary access road scraped the pipe, removing some of the protective coating that prevents rust and corrosion from forming.¹⁹⁵ The pipe itself was undamaged and no one was injured in the incident, but because Williams had been cited by the Pipeline Safety office and the Occupational Safety and Health Administration (OSHA) for the December incident, the “near-misses” were treated as serious safety violations. Work had only just resumed on this section of the pipeline after the December explosion 2 days prior to the near miss. Williams Energy investigated the event and contacted the Western Region Pipeline Safety Office on March 1, 1999.¹⁹⁶ On March 9, the director of the Western Region Pipeline Safety Office, Chris Hoidel, cited Williams for violating Title 49, CFR, Part 195.202 for failing to comply with the written safety standards of the project, but declined to assess a fine; Williams was ordered to immediately comply with the safety program of the development plan.

In February 1999, SEUG Archaeologist Eric Brunnemann inspected the approximately 7 acres of Arches National Park affected by the explosion and fire (a total of 21 acres was affected).¹⁹⁷ This preliminary assessment of impacts was followed by a formal survey by Alpine Archaeological Consultants under contract to the Bureau of Land Management, lead agency for the pipeline project.¹⁹⁸ Three sites, consisting of five temporal components, were identified and their current condition assessed. All of the sites are located on the north side of Moab Canyon, where the fire was most damaging due to the presence of flammable vegetation. Two prehistoric components (42GR2921 and 42GR2922) consisted of small rock shelters and lithic tool manufacturing debris; although there was some damage to the rock surfaces and a potential for modern charcoal to mix with buried cultural deposits, the integrity of the components did not appear to have been adversely affected. A prehistoric petroglyph (42GR3012) and two historic telephone lines (42GR2921 and 42GR2922) were directly affected, with the massive temperature fluctuations and intense heat of the fire expected to cause long-term disintegration of the boulders in which the features were located.¹⁹⁹ Based on experience garnered during wildfires in Mesa Verde National Park, and the condition of the sites in Moab Canyon, Brunnemann recommended detailed documentation of the petroglyph and the telegraph mounting braces, and the post-fire condition of the rock surfaces, and annual monitoring and condition assessment for 4 years. Arches National Park developed a preliminary estimate of damages and an estimate of the cost to fully document and monitor the affected cultural resources in November 2001.²⁰⁰ However, the program was not implemented until 2006, when SEUG’s Cultural Resource Program Manager Chris Goetze examined the two sites and found no evidence of deterioration in the preceding 5 years. Consequently, a new Restoration Plan was proposed: finalize the site documentation with an emphasis on current condition; hire a GS-5 Archeological Technician for a 6-month seasonal term to update the condition of as many archaeological sites in the park as possible; and provide a vehicle dedicated to this condition assessment using the settlement money obtained from Williams Pipeline.

Natural resources were also harmed by the pipeline explosion. The burned area was surveyed for plant species on January 25 and October 4, 1999, during which 38 native plant species and 5 invasive (non-native) species were observed.²⁰¹ All of the major plant species, including the exotic species, had

regenerated from roots or seeds by October, with the exception of the 22 Utah juniper trees that were completely consumed by the fire. Due to unusual weather conditions, the disturbed area did not experience the expected expansion of cheat grass or tamarisk as was feared. Some cryptobiotic soil crust was also lost in the fire, but “losses of insects, rodents, birds and other animals were undetermined.” To restore the area to its natural condition, three alternatives were examined: (1) The actual cost of reseeding the junipers (\$3,325); (2) the estimated cost of transplanting junipers purchased from a nursery (although Utah juniper is not grown commercially; \$11,310), and (3) the estimated cost of a compensatory restoration project elsewhere within the park that would offset the lost ecological services of the damaged area (\$7,155). The cost estimates were arrived at using detailed restoration matrices that calculate the growth rate of native plants per growing season. A natural resources damage assessment completed in March 1999, identified only 19 species, with a total estimated restoration cost of \$8,840.²⁰² Many additional species were found growing during the October inspection.

The National Park Service filed a claim in 2001 against Williams Energy under the Park System Resources Protection Act [16 U.S.C. § 19jj].²⁰³ The 1990 act was originally applied only to park units with marine or Great Lakes environments, where boat wrecks or fuel/oil spills could damage the aquatic environment.²⁰⁴ Two of the initial claims settled by the NPS involved boat groundings in Biscayne National Park in Florida.²⁰⁵ Under the 1996 Omnibus Parks Act, the scope of 16 U.S.C. 19jj was expanded to all NPS units. Williams Pipeline Company settled with the NPS in 2002 for \$62,575, the amount initially requested,²⁰⁶ including \$17,232 for the incident response, \$1,410 in assessment costs, and \$40,513 for restoration of cultural and natural resources damaged by the explosion.²⁰⁷ In 2004, the penalty and accrued interest was withdrawn from the Natural Resource Damage Assessment and Restoration Fund (NRDAR) to fund the hiring of a seasonal employee for the summer of 2004. The seasonal was to work within the Division of Resource Management and Visitor Protection, monitoring and interacting with visitors. Specifically, the new hire was to work on implementing specific and critical boundary access management actions, and to undertake VERP baseline social resource monitoring in backcountry and boundary areas not yet included in the VERP monitoring program. The seasonal hire would also help patrol the backcountry, identify backcountry campsites, and engage in exotic species removal.

Federal, State, and County Land Issues

Promotion of Arches from a national monument to a national park did nothing to alleviate existing land conflicts within and around the park boundaries: in fact, it increased them. Although Arches was expanded when it was made a park, some other lands were removed, and the new boundaries placed the park lands closer to non-NPS lands (or worse, included those lands within the park boundaries) where the potential for conflict was enhanced. This included not only oil and gas leases and cattle grazing allotments, many of which had been in existence for decades on Utah and BLM lands, but also private and county lands along the Colorado River. Although some of these issues have never been successfully resolved to the satisfaction of any of the stakeholders (in the instance of oil and gas leases), the “Sagebrush Rebellion” pushback against environmental regulations during the 1980s intensified the political and emotional landscape surrounding lands issues. With the advent of the Public Lands Transfer Movement by legislators in Utah in 2012, the rhetoric surrounding federal lands management and ownership has increased, further straining relationships between the National Park Service and state and local political bodies.²⁰⁸

The Riverway (Lions Club) Park

The constantly shifting boundaries of Arches has repeatedly brought the NPS into conflict with other jurisdictions in the checkerboard lands of southeastern Utah. The Moab Lions Club sought to lease Lot 3 of T25S, R21E, Sec. 26 in 1958 to develop a public park.²⁰⁹ This lot sits east of the highway bridge across the Colorado River, and south of the river. However, their application was rejected by the Land Office in 1962, as the lands in question had been withdrawn for power site purposes (a dam) by the Bureau of Reclamation, and Grand County had already filed a request to restore the land from the power site withdrawal; the BLM Land Office, Salt Lake City, ruled in favor of Grand County's request. The land was restored, and in 1963, Grand County obtained a patent on lands on both sides of the Colorado River where it debouches into Grand Valley.²¹⁰ This 155.10 acre parcel included 133.03 acres on the north side of the Colorado.²¹¹ The patent (Number 43-63-0036) was for the purposes of developing a park, but it did not include full water rights or minerals. When the boundaries for Arches National Park were designated, the lands north of the Colorado River were incorporated into the park, including the 133 acres of the Riverway Park. At the time of Arches National Park designation in 1971, part of the patent had been "turned over" to the Moab Lions Club, which had developed a park with "outdoor dining facilities, camping facilities, and general recreation area," known as Lions Park.²¹² The portion of the patent north of the river was being used as a boat dock, but the proposed plan of development had not yet been implemented.

Between 1972 and 1986, Grand County sought clarification from the NPS and Solicitor General regarding whether the county could, in the course of developing the park, grant exclusive use in running the park (as a picnic area and boat docks) to the Canyonlands by Night (or Nite) operation.²¹³ This initiated years of correspondence, opinions, and more correspondence and more opinions, documented by hundreds of pages in the SEUG Archives on the matter. In 1980, Canyonlands Complex Superintendent Peter L. Parry recommended to the regional director of the Rocky Mountain Region that the boundaries of Arches National Park be changed to exclude the Grand County parkland. At that time, the property consisted of "an abandoned bridge abutment, concrete boat ramp, four man-made caves with steel doors and a dirt road and parking area, commercial dock and overhead utility poles and lines." The caves included the explosives magazine that had been used by the CCC to store dynamite during 1941–1942 for use in road building at Arches. Congress did not act on the exclusion recommendation, however, so in the General Management Plan draft of 1986, the boundary change was analyzed and dismissed and the acceptable uses of the patented lands were defined. However, the Solicitor General advised the regional director in 1986 that the NPS does not "have authority to restrict or specify the manner in which the County or its concessioner manage those uses granted in the patent" and recommended that the NPS enter into a cooperative agreement with the county to ensure that the developments were compatible with the national park.

The portion of Lions Park north of the Colorado River remains in essentially the same state as it was described in 1962 (Figure 4-14), consisting of a paved access road from US 191, a boat launch, the storage caves, and old bridge abutments. The access road was redesigned and repaved in 2008, when a pedestrian and bicycle bridge over the river was completed. The Lions Club and City of Moab next redeveloped the park south of the river in two sections on either side of Utah Route 128. The south side of the park was reconstructed as the Lions Park Transit Hub and the starting point of the Colorado River Pathway along Utah 128, and was opened for use with a grand opening May 31, 2014.²¹⁴ The north side, and main park area, has parking, restrooms, information kiosks, picnic tables, a skate park, climbing

boulders in the space between Utah 128 and the Colorado River, and the intersection of the paved hiker/biker trails along US 191 and Utah 128 (Figure 4-15). The newly remodeled main park was reopened to the public on March 11, 2016.²¹⁵ The boundary issue with Arches remains unresolved.



4-14. Lions Park north of the Colorado has not been further developed since 1962, other than the construction of a new pedestrian/bicyclist bridge. (Photo credit: David E. Purcell).

1969 Mining Trespass

Following the 1969 expansion of Arches boundaries to the Colorado River, Arches National Monument immediately found itself embroiled in a conflict with local mining interests. On October 23, 1969, the Silver Eagle Mining Company began construction of an access road beginning at the boat dock on the Grand County Lions Park parcel along the north bank of the Colorado River, now within the newly expanded monument boundaries; only about 0.2 miles of road were built before the National Park Service discovered the work and requested that work stop immediately (Figure 4-16).²¹⁶ Silver Eagle had claims to “iron and black sands” for use in recovering copper ore at a mine west of Blanding, but later changed that to deposits of gold and “black sands.” They intended to hydraulically mine the gravel bars of the Colorado River for the deposits, which would then be concentrated at a plant built on site, about



4-15. Panorama of Lions Park from the southern end of the bridge across the Colorado River, July 1, 2016. (Photo credit: David E. Purcell).

2 miles upriver from Lions Park. John Adams, president of the Silver Eagle Mining Company, estimated that the 4 million cubic yards of material that his company planned to remove was worth \$8–10 million, and that their claims were valid under existing mining laws. The National Park Service and local tour companies expressed concern about the effects of the operation on Arches National Monument and the scenic qualities of this reach of the Colorado River. Silver Eagle continued road construction after the NPS requested a halt and consulted with legal counsel.

The NPS obtained a restraining order against Silver Eagle Mining Company and three individuals in December 1969,²¹⁷ seeking to verify the validity of the claims.²¹⁸ Silver Eagle and two of the men were dropped from the injunction when it was discovered that letters written to the Department of Interior had used Silver Eagle stationery, although the company was not involved; four others were added as defendants.²¹⁹ Adams claimed in a public statement that the expansion of Arches was “undemocratic” and a “land grab” of their claims, which were first located and mined in 1931.²²⁰ Adams and C. H. Spaulding of Silver Eagle also stated their intention to work with the NPS to minimize the damage from the access road and mining operation, and offered that the site would make an excellent campground and picnic area when the operation was completed. The injunction required that samples of the ore be analyzed by the BLM to ensure a valid mining claim.²²¹ NPS witnesses testified against the validity of the claim in 1971.²²² At a hearing on the matter in Salt Lake City in 1971, George Patee, owner of the claims, finally waived his rights to them since he “couldn’t buck the government.”²²³

US 191 and Highway Corridor Development

The geologic conditions that created the unique landscape of Arches National Park place severe constraints on travel in the vicinity of Moab, Utah. Only two roads—US 191 and Utah Route 128—provide access to Moab from the north where the Union Pacific Railroad and US 6/50 and I-70 have historically connected southeastern Utah with more populous regions of the county. Utah 128 hugs the banks of the Colorado River, often within a narrow sandstone canyon from Moab to the Dewey Bridge, with little room for utilities development. Most of the route is also on federally owned lands. Consequently, the US 191 corridor has become the focus of development for both utilities and roadside commercial uses; by 1990, this corridor included four pipelines, three powerlines, telephone lines, the railroad spur from Crescent Junction to Potash, and US 191.²²⁴



4-16. Damage from an illegally constructed road along the right bank of the Colorado River in Arches National Park, 1970. ARCH 104/000548, SEUG Archives. Photographer unknown.

Part of the highway right-of-way falls within Arches National Park (Figure 4-17), and much of the landscape between Moab and Crescent Junction is visible from Arches, and vice versa. As with encroachment by oil and gas leases, Arches staff has been vigilant through the decades for incompatible development along US 191 that might affect the visitor experience, including viewshed, wilderness qualities, and dark skies. In 1986, the park boundary in Moab Canyon was identified as the number one priority issue for general management planning.²²⁵ Specifically, park staff was concerned about the ownership status of lands between the park and the (then) current road alignment, the lack of fencing (or even boundary survey), and possible threats to the bighorn sheep herd from the road.

What is (as of this writing) designated as US 191 began as a Mormon-built “dugway” wagon road that was upgraded to a “post” road in 1919.²²⁶ The road was numbered as Utah 9 until the federal highway system was developed in 1926 and the gravel-surfaced route became US 450, indicating that it was a lateral route connected with US 50. The CCC constructed numerous improvements, including masonry culverts and retaining walls in 1939–1940, when the road was paved and renumbered as US 160. Due to changes in the highway designation scheme, the road was redesignated as US 163 in 1970, and changed to US 191 in 1981. Utah did not relinquish the State Route 9 designation until 1977.



4-17. View along US 191 at the Arches National Park entrance, May 28, 2016. (Photo credit: Shann Marcak, National Park Service).

The portion of US 160 between Lions Park and the monument entrance was the scene of much potential encroachment activity in June 1955:

Moab Canyon from the river bridge to tis [sic] head is flowing with activity. The telephone line is being rebuilt, the new 139,000 volt power line construction is underway, the survey of the realignment of US 160 has been completed, the natural gas line will be laid soon, the Uranium sampling plant is handling 1-¼ million dollars worth of ore per month and to top it all off the construction of the new mill, started this week, which according to news reports will cost in the neighborhood of 12-½ million dollars. It is all interesting but difficult for us to comprehend the vast sums of money being spent.²²⁷

The portion of US 191 that is north of Moab Canyon has actually presented a greater encroachment challenge to Arches staff over the years, due to the inter-visibility of this area with the Windows section of Arches (Figure 4-18). Because the cliff west of the visitor center intercedes between US 191 and the park scenic drive as it climbs the Moab Fault, Moab Canyon west and northwest of the visitor center is not visible; this includes the tightest part of the canyon where the road, railroad, and utilities are in closest proximity. Much of the land south of the highway is BLM, and thus out of the control of Arches National Park. In 2001, the BLM permitted a cellular telephone tower to be constructed directly across from the Arches entrance, further impacting the cluttered viewscape of the canyon.²²⁸ Thus, the upper section of the canyon is really an issue for viewshed only in terms of being the northern approach to



4-18. The Windows, as viewed from US 191 near the Bar-M Chuckwagon entrance road, July 1, 2016. (Photo credit: David E. Purcell).

Arches (and Moab). Although the use of Moab Canyon as a primary utility corridor has impacted resources, the more pressing threat to Arches viewsapes is the section of US 191 beginning at the top of the canyon and extending north to Dalton Wells Road, including Canyonlands Field. Portions of this are in private ownership or are Utah state school sections, and Arches has monitored various development proposals over the decades, concerned about their visibility from Arches, and indirect impacts such as outdoor lighting, advertising, and the potential for groundwater pumping to affect springs in Arches.

When Utah realigned US 160 in 1957–1958, the change in right-of-way created six parcels totaling 6.41 acres that were narrow slivers of land located between the Arches National Monument boundary along the old US 450 alignment and the new roadbed.²²⁹ Three parcels were owned by the BLM, one by the Canyonlands Natural History Association, and two by Atlas Minerals. The 1989 General Management Plan for Arches identified this as an issue requiring resolution to prevent development of billboards or other eyesores along the park boundary. Between 1990 and 1995, the NPS sought to transfer all of the parcels to Arches; the CNHA donated their parcel to the NPS, Atlas Minerals promised to donate two more, and the BLM agreed to a transfer, provided that an existing stock driveway was maintained. As discussed in Chapter 3, the CNHA donation was not finalized until 2003, but acquisition of the other five parcels has yet to be completed.

The original alignment of the Mormon dugway was one of the earliest historic preservation issues for Arches National Monument. A well-preserved section that had been hand-cut into slickrock was located across the edge of the sandstone ridge west of the headquarters area. As noted in Chapter 3, naturalist Natt N. Dodge had proposed creating a trail from headquarters to this in 1940, with interpretive exhibits, but it was never implemented.²³⁰ In 1955, the Utah State Road Commission proposed realigning and widening US 160, a plan that included blasting through the ridge end where the dugway was located. Arches staff attempted to preserve this section of the dugway:

Information pretaining [sic] to the history of the Mormon Dug-Way has been gathered and will be submitted to your office soon. A request, in the form of a letter was made to O. Donald Miles, Utah State Road Commission, for a preliminary alignment map of proposed construction in Moab Canyon showing

*right-of-way boundaries, but so far we have had no response from Mr. Miles. Ranger Morris took a set of pictures showing the road-bed center line as it is now staked and three section of the Dug-Way.*²³¹

The expansion of US 191 partially destroyed the remaining visible rock cuts of the dugway. Improvements to the highway and growth of Moab have since made highway frontage property increasingly appealing for commercial development, potentially encroaching on the Arches viewshed and dark night skies.

During the late 1990s, Alan and Valerie Brown proposed to lease 29 acres of Utah State School Trust Land 3 miles north of the Arches entrance for the construction and operation of a Western-themed tourist attraction known as the “Bar-M Chuckwagon.”²³² This business had operated in Moab under the Brown’s ownership since 1993, and would continue a tradition of live Western show and cowboy suppers with a restaurant/dinner theater, saloon, gift shops, and staging for trail rides.²³³ The NPS commented on the proposed development, highlighting concerns about individual projects such as the Bar-M Chuckwagon being constructed prior to the completion of an area plan; construction of parking lots along US 191; unshielded outdoor lighting intruding on dark skies; impacts to bighorn sheep (especially transmission of domestic livestock diseases); and native vegetation (the NPS offered expertise on transplanting native vegetation for landscaping).²³⁴ Due to the NPS concerns, the Grand County Planning and Zoning Commission passed a resolution January 7, 1998, that sought to minimize visual impact encroachment on Arches and other local scenic areas while the county completed area development plans for the US 191 corridor, the Utah 128 corridor, and La Sal Loop Road.²³⁵ The interim resolution was to avoid visual impacts from the public rights-of-way of the three areas, minimize and mitigate improvements that cannot be avoided (such as by landscape screening), and prohibit applications for developments that are intrusive. However, the resolution permitted developments (meaning the Bar-M Chuckwagon) that were already under review to proceed. The Bar-M Chuckwagon operated during summer months, with cowboy dinner theater and mock gunfights, before closing in 2016. It remains available for parties and special events.²³⁶ As of 2017, the business was being remodeled as the Handlebar Ranch under John Hall’s ownership (Figure 4-19).²³⁷ This project had fallen through by 2018,²³⁸ but the property is likely to attract other businesses in the future.

Dramatically increased visitation to Arches and the Moab region eventually led to the need to widen US 191 to four lanes, a project actively under study by 2001. This also encroached on Arches National Park and the many historic resources within Moab Canyon, including the remnants of the original 1854 Mormon Dugway and later 1919 highway alignments.²³⁹ The Utah Department of Transportation widened US 191 to four lanes, plus turn lanes, between Utah 279 and 313 in 2004–2005.²⁴⁰ This included repaving the old US 450 roadbed to serve as a bike path that extends from the Courthouse Wash parking lot to the Bar-M Ranch entrance road. In the early 2000s, the Moab Area Travel Council established an 8-mile-long loop mountain bike trail that took off from the Bar-M parking lot. This Bar-M Loop was the first of a series of trails in the area. The owners of the Bar-M Chuckwagon were forced to deal with trash, human waste, speeding, and other conflicts with their business, which they cited as contributing to the demise of the restaurant, along with a sudden decrease in public interest in Western-themed businesses.²⁴¹



4-19. The now-defunct Bar-M Chuckwagon from “boot hill,” July 1, 2016. (Photo credit: David E. Purcell).

Utah State Lands and the Sagebrush Rebellion

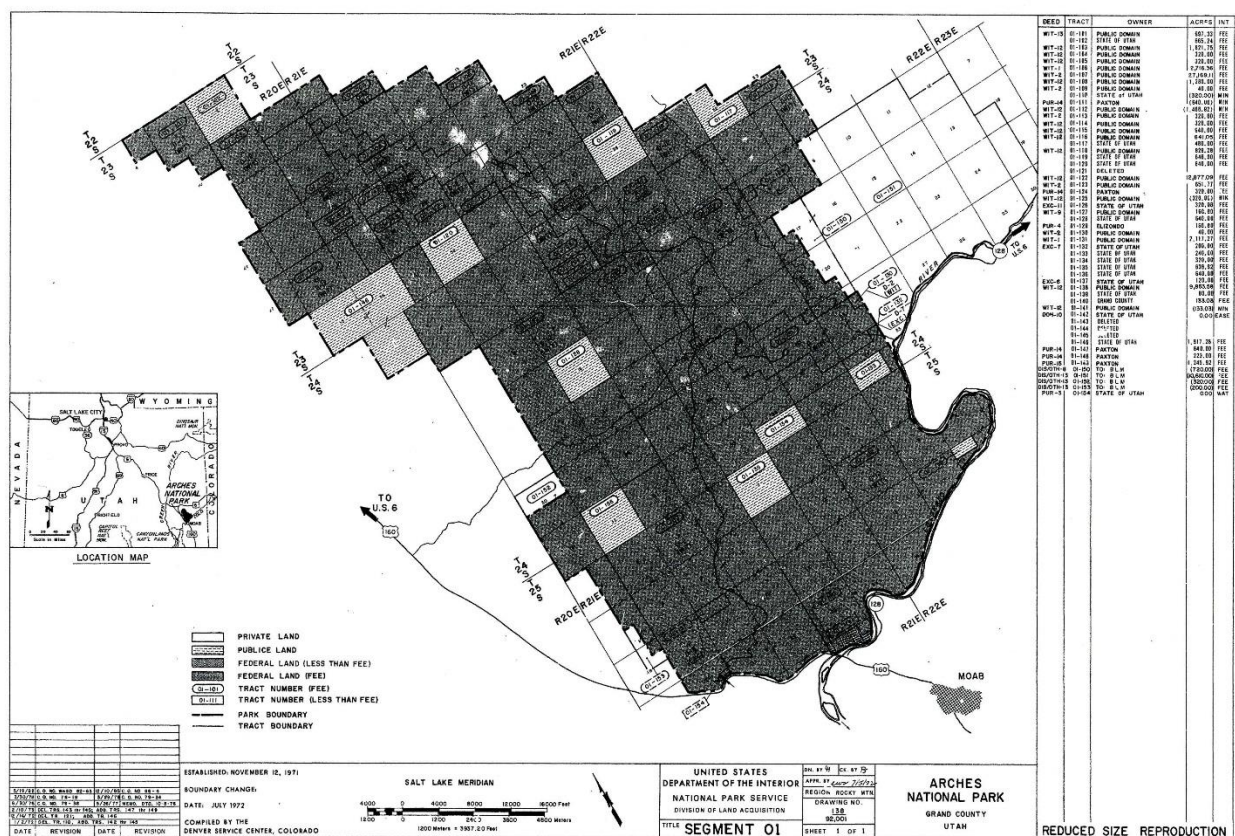
Utah has a deep history of pro-development, anti-preservation policies. Mistrust of the federal government derives from the long history of Mormon/federal interactions that are perceived in Utah as one-sided. Most of the territories and states surrounding Utah were created by the federal government in response to Brigham Young’s 1849–1850 proposal to create the State of Deseret, the Mormon Kingdom on Earth, centered in Salt Lake City but extending into lands that are now part of Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, and Wyoming.²⁴² Those states mostly consisted of lands owned by the federal government which had seized them by force from Mexico or Indian nations. The admittance of Utah as a state, however, came with the requirement that Utah cede vast tracts to the federal government. Members of the dominant Church of Jesus Christ of Latter Day Saints strongly believe in a positivist, agrarian version of Manifest Destiny, a view encapsulated by the Utah State Motto: Industry.²⁴³ Actively developing the state by expanding areas under cultivation, increasing the population, and extracting mineral resources is a goal shared by many of the Mormon faithful and the Utah legislature, which placed Utah at odds with the rising environmental movement of the 1970s.

Thus, although the state of Utah had been an enthusiastic early supporter of developing new national monuments and parks in Utah, as they had been with Arches (which Grand County and the state helped to build and maintain), the relationship has become strained as parks have been expanded and new units, such as Canyonlands, created. In particular, the Escalante National Monument proposal of the 1930s was viewed as an assault on the state of Utah. Prior to the Sagebrush Rebellion, the pro-development attitude was personified in Governor George D. Clyde, who stated in 1961 that “wilderness areas, national parks and monuments should be large enough only to preserve the historical, scenic or geologic areas of the state,” and he opposed the Wilderness Act because “the natural resources of Utah must not be locked up in proposed federal wilderness or national park areas if the state is to continue its industrial and economic growth.”²⁴⁴ The revenue brought to Utah from tourism is not viewed as equal to revenue from the extractive industry, yet Moab has grown and prospered as a tourist center following the demise of uranium mining. Superintendent Noel Poe did note that many Moab residents of the uranium period held tourism jobs in disdain due to the much lower wages paid relative to those in mining: “You could work in a uranium mine and make, you know, twenty dollars an hour versus five dollars an hour at McDonald’s or another burger shop.”²⁴⁵

President Lyndon B. Johnson’s use of the 1906 Antiquities Act to add 264,000 acres to Arches and Capitol Reef in 1969 created a new firestorm of ill-will in Utah, laying the groundwork for the Sagebrush Rebellion. *The Salt Lake Tribune* railed that the lands will be “locked up” because under the National Park Service “grazing will be phased out, mineral and oil prospecting barred, timbering strictly limited and hunting forbidden.”²⁴⁶ Relationships between Arches and the state of Utah did not ameliorate during the transformation of Arches into a national park, as the prevailing atmosphere was one of tension and ill-will towards all units of the federal government, including the NPS.²⁴⁷

The Sagebrush Rebellion began in Nevada in 1979 as a reaction to and disapproval of the “alphabet soup” of federal regulations,²⁴⁸ although the movement hearkened to an earlier rebellion over the National Forest Preserves.²⁴⁹ Opposition to the regulations was strongest and most vocal in the Western states due to their much greater percentages of federally owned lands. The movement was dubbed “The Sagebrush Rebellion” when the legislature of Nevada attempted to seize all Bureau of Land Management lands via a lawsuit against the federal government (the lawsuit was rejected on appeal in 1981).²⁵⁰ The movement helped propel California Governor Ronald Reagan to the Presidency of the United States in 1980.²⁵¹ The two goals of the Sagebrush Rebellion were to transfer control of most federal lands to the states in which they were located, and to sell off to private ownership or “privatize” much federal land.²⁵² Utah was one of the first, and most enthusiastic participants in the Sagebrush Rebellion.²⁵³ Utah fielded its own lawsuit seeking claim to the federal lands in Utah in 1980, the same year that Arizona, New Mexico, and Wyoming filed similar suits. Sometime between 1981, when Secretary of the Interior James Watt claimed that the Rebellion was over,²⁵⁴ and 1984 when Reagan administration policies refocused on AIDS, the War on Drugs, and the final acts of the Cold War, the Sagebrush Rebellion ended. Few actually tried to buy the land that was offered, and many Western state governments came to realize that they lacked the resources to possess and manage the federal lands, and in many cases the state lands that they already had.²⁵⁵ Watt visited Arches National Park May 21, 1983, and was greeted by anti-Watt graffiti painted on several of the park road signs.²⁵⁶ In remarks made at The Windows, Watt defended plans to conduct test drilling in Canyonlands for the proposed DOE nuclear waste repository, and the potential construction of such a facility against the boundaries of a national park.

The festering resentment of federal policy persists in Utah; it exploded into a neo-Sagebrush Rebellion when President William Clinton exercised his rights under the 1906 Antiquities Act and created the Grand Staircase–Escalante National Monument in 1996.²⁵⁷ Despite the rhetoric and local rage, the state of Utah in its dealings with the NPS has most often sought to drive the sharp bargain. In 1980, the NPS developed a proposal to acquire 11 Utah state inholding parcels in Arches (Figure 4-20) through land exchanges. In 1987, the Department of the Interior and Utah Governor signed a Memorandum of Understanding on the exchange, although the sides disagreed as to the valuation of the coal royalties included in the exchange.²⁵⁸ Negotiations over the exchange continued to be unsuccessful, and in 1989, Utah proposed to sell the land on the open market, noting in the sales prospectus that the parcels were especially suitable for use as a guest ranch or campground.²⁵⁹ The extreme negative publicity and public reaction to this caused the state to withdraw the proposal.²⁶⁰ Negotiations continued, however, as all parties agreed in principal to remove Utah state lands from federal land reserves, including Arches and Capitol Reef national parks, Dinosaur National Monument, and Glen Canyon National Recreation Area.²⁶¹



4-20. 1972 Utah state land inholdings within Arches National Park. ARCH 138/92001.0001, National Park Service, Denver Service Center, Technical Information Center.

The 1993 Utah Schools and Lands Improvement Act (PL 103-93) authorized the exchange of the 81,000 acres of state lands. Utah would receive fee estate of the Blue Mountain Telecommunications Site, fee estate of 3,000 acres adjacent to the Beaver Mountain Ski Resort, and coal royalties from five mineral tracts. However, this effort stalled again on the valuation of the coal royalties. Perhaps as another bargaining ploy, Utah issued an aircraft landing permit to John Ruhl in 1997, permitting him to land anywhere in the state on state lands (stipulations were added at the request of the NPS to exclude sensitive areas), opening the possibility of air tours landing within Arches National Park and other NPS units.²⁶² The Utah School Trust Administration subsequently sued the BLM, claiming that the valuation process used by the BLM was flawed.²⁶³ The school lands issue was not finally resolved until 1998, with the passage of the Utah Schools and Land Exchange Act of 1998 (PL 105-335), which exchanged 6,902.44 acres of state lands within Arches, and 320 acres of mineral rights, for BLM lands, coal royalties, and cash.²⁶⁴

Resolution of the state lands inholdings significantly reduced legal (and emotional) strain on the National Park Service and SEUG staff for more than a decade, and opened the door for renewed attempts to complete the long-stalled Wilderness designations for Utah parks. But this reprieve was short lived. Enactment of the Transfer of Public Lands Act (TPLA) by the Utah legislature in 2012 and the proclamation of Bears Ears National Monument entangled the land management issues of southeastern Utah into a rising tide of fascist, racist, anti-government militancy.²⁶⁵ The TPLA demanded that by December 31, 2014, title to all federal lands in Utah except for national parks and monuments (except Grand Staircase–Escalante National Monument), designated Wilderness areas, Department of Defense Lands, and tribal lands be transferred to the State of Utah for management and disposition. This would include all BLM, Forest Service, and Fish and Wildlife lands and the Glen Canyon National Recreation Area. The lands would be managed for the “principal or major uses of the land” or sold, with Utah retaining 5 percent and returning 95 percent of the sale price to the federal government. In anticipation of a transfer, the Utah legislature passed the Utah Public Land Management Act to create a state agency to manage the newly acquired lands. The deadline set by TPLA passed with no transfer, and Utah has not yet sued to attempt implementation. But the TPLA has emboldened anti-government groups and undermines the rule of law on federal lands. Environmental historian John Ruple traces a direct link from TPLA rhetoric to the 2014 violent standoff between the BLM and rancher Cliven Bundy and militia supporters in Bunkersville, Nevada; the 2014 violation of the closure of Recapture Canyon, Utah, by San Juan County Commissioner Phil Lyman and militia supporters, and the 2016 standoff in Burns, Oregon, at the Malheur Wildlife Refuge orchestrated by Ammon Bundy, Cliven’s son.²⁶⁶ Although Arches National Park is not currently a target of the state of Utah or militias, government employees and offices across the West have been targeted by death threats, a situation too familiar to SEUG employees who were on duty during the 1998 manhunt for three cop-killers from Cortez (see discussion in Chapter 7). Revised Statute 2477 (see below) claims against the NPS are a more immediate threat, as a legal decision in favor of Utah and its counties would immediately open thousands of miles of roads to uncontrolled off-highway vehicle (OHV) destruction, some leading to the boundaries of Arches National Park.

Revised Statute 2477

The controversy surrounding the repeal in 1976 of Revised Statute 2477 (RS 2477) under the Federal Land Policy and Management Act (FLPMA) has been an issue for SEUG, much more so in regards to Canyonlands than Arches so far, although Arches is potentially affected. RS 2477 was a component of the 1866 Mining Act (Section 8), which promoted development of Western public lands, reading in its

entirety: “The right of way for the construction of highways over public lands, not reserved for public uses, is hereby granted.”²⁶⁷ The FLPMA consolidated a large corpus of federal lands policy and laws, including environmental laws such as NEPA, under a single umbrella act. In repealing RS 2477, FLPMA (Section 701, 43 USC 1701) states that “nothing in the Act, or in any amendment made by this Act, shall be construed as terminating any valid lease, permit, patent, right-of-way, or other land use right or authorization existing on the date of approval of this Act.”²⁶⁸ One goal of repealing RS 2477 was to prevent logging companies from continuing to build roads in roadless areas of the Pacific Northwest and Alaska that were eligible for inclusion in the Wilderness Preserve System under the Wilderness Act.

Few objected in 1976 to this law. However, since then, RS 2477 has become a point of conflict in the West between the federal land management agencies, wilderness advocates,²⁶⁹ private landowners, and a people claiming to be “shared or open access” advocates, including OHV users, anti-government militias, and the state of Utah. The conflict hinges (legally) on conflicting interpretations of “highway” in RS 2477 and “road” in the Wilderness Act, as well as the meaning of “valid existing rights” under FLPMA.²⁷⁰ The Wilderness Act prohibits “permanent roads” within any block of 5,000 or more acres designated as Wilderness, effectively disqualifying those areas that do have “permanent roads.” However, Utah and the OHV groups have chosen to interpret the existence of any road or trail that was present before 1976, regardless of condition or historic use, as an RS 2477 road, with Utah then extending that interpretation to claim State right-of-way and ownership of all such roads, even on federal or private lands.²⁷¹ In 1992, the Bureau of Land Management conducted a detailed review of the land ownership status and history of RS 2477 roads in Arches National Park, at the request of Park Superintendent Noel Poe.²⁷² All of the roads were at that time classified as reserved, and were thus exempt from RS 2477 claims. As of 1993, no applications for RS 2477 right-of-way applications had been filed for Arches, Canyonlands, Capitol Reef, or Dinosaur, when the Southern Utah Wilderness Alliance made a Freedom of Information Act (FOIA) request of SEUG regarding RS 2477 roads.²⁷³ In 1997, SEUG Superintendent Walt Dabney discussed the real potential threat of RS 2477: the lack of clear guidance for the NPS if a local county decides to improve a road into an NPS unit.²⁷⁴

The use of the streambed of Salt Creek in Canyonlands National Park as a jeep trail brought the RS 2477 issue to a head in southeastern Utah. Salt Creek was used to access Angel Arch and other landscape features, but the road caused severe streambank erosion, allowed the spread of invasive species, and gave access to looters and vandals of archeological sites. The 1995 Backcountry Management Plan for Canyonlands restricted vehicle use along 8 miles of the route, upstream of Peekaboo Campground.²⁷⁵ The Southern Utah Wilderness Alliance (SUWA) filed suit in District Court alleging that the limited continued use of the stream as a road caused an impairment of park resources, and thus violated the Organic Act. The District Court agreed in 1998, and ordered that the stream remain closed to motor vehicles, a ruling immediately appealed by OHV user groups. The ruling was set aside in 2000 by the 10th Circuit Court of Appeals. In 2002, the NPS completed a new Environmental Assessment (EA) that concurred that vehicular use was an impairment, and the route was limited to foot and pack animal traffic only. The state of Utah and San Juan County attempted to assert an RS 2477 right-of-way, but their claims were dismissed for having failed to previously file a right-of-way claim. The final road closure rule was published in the Federal Register in 2003 and became final July 14, 2004. The issue of impairment was settled in 2005 with a ruling against the off-road user groups, concluding that the use of the stream as a road was an impairment of the Organic Act and the road closure under the 2001 Management Policies was a legitimate construct by the NPS.

Grand County has been less aggressive than San Juan County about pursuing RS 2477 claims, so Arches has been less affected than has Canyonlands, the focus of most of the problems. Grand County “expressed interest in claiming the Salt Valley and Cache Valley Roads under RS 2477” in 2001.²⁷⁶ But, in further discussions with Arches staff, Grand County described their desire to maintain access to Dry Mesa, and the old alignment of Salt Valley Road. Arches agreed to protect the county’s access if they did not file an actual right-of-way claim.²⁷⁷ But the larger issue has not gone away.

The state of Utah and several Utah counties have been particularly aggressive about pursuing RS 2477 right-of-way claims in the aftermath of the Salt Creek ruling, especially after the declaration of the Grand Staircase–Escalante National Monument. In 2012 Utah reorganized several state agencies to create the Public Lands Policy Coordinating Office (PLPCO) under the Governor’s office, specifically to litigate in an attempt to claim federal lands, including under RS 2477. In that same year, Utah filed more than 25 lawsuits claiming almost 36,000 miles of roads under RS 2477 claims.²⁷⁸ The suits were filed by each Utah county as the primary road maintenance agency, in co-ownership with the state, of the right-of-way.²⁷⁹ Rarely, RS 2477 advocates have prevailed in court. Based on historic use, title to the Skutumpah Road in Grand Staircase was granted under Quiet Title to Kane County, Utah in 2010. However, recent lawsuits asserting public right-of-way across private lands in Idaho and Colorado have been decided in favor of the private landowners.

The 2012 PLPCO lawsuits claimed title to White Rim Road and Salt Creek Road (among others) in Canyonlands and a number of roads leading to, but not into, the boundaries of Arches National Park; these include Salt Valley Road, Lost Springs Canyon Road, and Yellow Cat Road, among many others.²⁸⁰ The PLPCO also shows Winter Camp Ridge Road, Willow Springs Road, and Old Moab Canyon Roads as RS 2477 roads, but these are not listed in Grand County’s lawsuit. PLPCO (San Juan County)’s attempt to claim Salt Creek Canyon Road in Canyonlands under RS 2477 failed when the 10th Circuit Court of Appeals ruled April 28, 2014, against Utah and San Juan County in their claim that the road was a “public thoroughfare.”²⁸¹ Although the plaintiffs were able to demonstrate use of the road for at least 10 years prior to the creation of Canyonlands National Park, the court ruled that “while we agree uninterrupted use is necessary, it is not alone sufficient to demonstrate the existence of a public thoroughfare for purposes of RS2477. The Intensity of public use remains a component in determining the existence of a public thoroughfare.” Despite the fact that the basis used by Utah in this case was also the basis for all of the other lawsuits Utah has filed against the U.S. government, Utah Attorney General’s Office Public Lands Section Chief Harry Souvell vowed that Utah would continue to pursue its other suits: “It would be a mistake to consider this decision limiting us from going forward in our other road cases.” Grand County’s RS 2477 suit is still pending as of the completion of this administrative history.

Paleontological Resources and Sovereign State Lands

The 1934 Beckwith Expedition reported that the lands west and north of the original Arches National Monument boundaries were likely to contain well-preserved fossil remains, including dinosaurs. Subsequent boundary changes did not bring much of the most promising paleontological resources into NPS control, but Arches staff has had to deal with the proximity of high-quality fossil beds near the park ever since. Near Dalton Wells is a particularly rich deposit, located at the contact between Cretaceous and Jurassic formations.²⁸² In 1947 Custodian Russell L. Mahan confronted the owner of a private museum in Colorado as he was “busily engaged in loading a truck with some very fine specimens” that they had excavated between Arches and US 160.²⁸³ Although the land was under BLM management,

Mahan informed the collectors that an Antiquities Act permit was required to remove paleontological specimens from public lands; the crew unloaded all of their collected specimens and promised to contact the BLM representative in Moab for a permit. Many rich deposits are also located on Utah State Trust lands, including those at Dalton Wells.

Brigham Young University opened a fossil quarry at Dalton Wells in 1975, removing a number of specimens that were housed at BYU but not further studied.²⁸⁴ Another quarry was opened 12 miles northeast of Dalton Wells in 1992, and in 1994, BYU returned to Dalton Wells after discovering remains of a new species, named *Utahraptor* at the new quarry and in the 1975 Dalton Wells collections. The significance of the paleontological resources west of Arches boundaries has been compared with those of Dinosaur National Monument. Dalton Wells is also important as the location of a CCC camp and a Japanese internment camp, neither of which is protected and they are only minimally interpreted for the public.

With some regularity, fossil collectors continue to attempt to remove specimens from Arches or adjacent federal lands. In 1990, the BLM district manager sent a memorandum to the staff of Arches National Park with copies of the relevant laws pertaining to fossil collecting, including petrified wood, which is often found in the same deposits as vertebrate fossils.²⁸⁵ The particular issue at this time appeared to be commercial collecting, which requires both a permit and contract of sale. Private citizens could collect invertebrate fossils and petrified wood without a permit for recreational purposes, but fossils could not be mined using heavy equipment such as backhoes; collection of vertebrate fossils requires a permit under any circumstances. Because many visitors to Moab were likely to contact rangers at Arches with questions about collecting, the BLM manager felt that a reminder of the laws pertaining to fossil collection would be helpful. In 1993, the first paleontological theft enforcement in the history of Utah took place when the Grand County Sheriff issued two citations for thefts that took place in this locality.²⁸⁶

In the early 1990s, Arches worked with the Utah State Lands and Forestry Department on a number of lands issues, particularly those involving encroaching oil and gas leases. During this process, Utah agreed to remove some parcels adjacent to Arches boundaries from school trust status, and redesignate them as sovereign lands. Instead of being constitutionally required to use or sell those lands for the maximum gain to support Utah public schools, under sovereign designation the lands would be managed for public trust responsibilities, including preservation. Five parcels totaling 5,040 acres were identified by Arches in the area immediately west of the park boundaries and north of Courthouse Wash.

*These five sections are reported to be extremely rich in paleontological (paleo) resources and contain the site of the 1975 Brigham Young University excavation that found numerous dinosaurian species including Utahraptor. Hellmut H. Doelling's geological map shows that Jurassic and Cretaceous formations interface in these sections and this interface may provide scientists with important information about the mass extinction at the end of the Jurassic that saw the end of most but not all large dinosaurs and about the sudden rise of completely new and large dinosaur species in the Cretaceous. Because of this value, these sections need all the protection that can be provided for the paleo resources.*²⁸⁷

Surprisingly, given the often strained relationships between the NPS and the state of Utah, the Division of Lands and Forestry issued a record of decision to convert 5,359 acres to sovereign status on May 19, 1994.²⁸⁸ The Record of Decision included the requested lands in Priorities 2–4 and expanded the area requested in Priority 1 by nearly a whole section, but eliminated Priority 5, which was adjacent to the

Arches boundary. Although no explanation of the change was provided, Arches Superintendent Noel R. Poe supported the decision as recorded in Number 94-0602-Exch 48, and thanked the staff of Utah State Lands and Forestry.²⁸⁹ In 1997 the Grand County Sheriff signed an agreement granting SEUG rangers Level II law enforcement jurisdiction, specifically to have Arches rangers help patrol the paleo resources west and north of the park.²⁹⁰ In that same year, seven paleo sites were monitored, and some evidence of looting on both state sovereign lands and sites in Arches National Park was observed. Rangers coordinated and cooperated with Utah on investigations into the looting. Although Beckwith documented rich surface finds of dinosaur bones in 1934, a paleontological survey of Arches National Park was not started until 2000. This was only the fifth-ever paleontological survey in the national park system, and it was undertaken by NPS scientists and a volunteer group, with funding by the NPS Geological Resource Division.²⁹¹ Additional research by Jim Kirkland, Utah State Paleontologist, was undertaken in 2005 near Fiery Furnace.²⁹²



4-21. The Moab Giants Dinosaur Museum and Trail at the southwestern corner of US 191 and U 313, July 1, 2016. (Photo credit: David E. Purcell).

Although this protected most of the lands immediately adjacent to Arches, and the paleontological resources within them, the deposits with Jurassic and Cretaceous formations extend much farther west and north. During the preparation of this history, the Moab Giants Dinosaur Museum and Trail opened at the southwestern corner of Utah 313 and US 191, almost directly across the highway from the Bar-M Chuckwagon (Figure 4-21).²⁹³ The park includes a museum of dinosaur tracks, a geologic trail with life-sized dinosaur statues, a “5D Paleoaquarium,” a youth day-camp and simulated fossil excavation site, a section of the Moab Fault, and in situ dinosaur tracks; a gift shop, café, 3D theater, and amphitheater round out the property. The aquarium attraction was opened to the public August 25, 2016, completing the planned dinosaur park, which first opened to the public September 1, 2015.²⁹⁴ The 44-acre park was in planning for several years, and is backed by a partnership of Polish investors, with goals to “protect existing dinosaur track sites in the area, promote further paleontological studies, and increase public awareness and appreciation for such resources.”²⁹⁵ The for-profit project (a full-day pass for a family of five is \$70) is intended to be a hands-on learning facility focused on dinosaur tracks, according to the Science Director Martin Lockley.²⁹⁶ However, the PaleoAquarium feature, which has eight 3D movie screens to provide a realistic ocean experience, will also include periodic attacks by paleo-sharks, which will seem to crack the “aquarium” glass, providing entertainment with the scientific information. The park is located in a low spot and should not be directly visible from Arches National Park as the road prism of US 191 blocks most of the view of the buildings from the east.

Notes

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⁴ Russell D. Butcher, Utah’s National Parks: State of Siege. Plans for a nuke waste dump, strip mines, and tar sands development tighten the noose around our wildest Southwestern parks. National Parks, September/October 1982.

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⁹ Grand County Board of Commissioners, Ordinance No. 39: An ordinance submitting to the legal voters of Precincts 1 and 2 of Grand County, Utah, the question to require a land owner to fence his lands or be prohibited from obtaining damages from injuries done by trespassing animals running at large and defining what shall

constitute a lawful fence, all pursuant to Article 4, Chapter 5, Title 3, Utah Code annotated, 1943. September 3, 1946.

¹⁰ Grand County Board of Commissioners, Ordinance No. 124: An ordinance establishing a district within Grand County in which no free roaming of livestock will be permitted. September 2, 1975.

¹¹ Noel R. Poe, Superintendent Arches National Park, to E. C. Hindley, December 14, 1994, p. 1. Arches National Park Administrative Collection, ARCH 101/006-096, Southeast Utah Group (SEUG) Archives, National Park Service (NPS).

¹² Harold M. Ratcliff, Ecologist, Acting Assistant in Charge, Fish and Wildlife Service, Outline, Grazing in Arches National Monument. June 26, 1941. ARCH 101/006-093, SEUG Archives. Ratcliff's history is important because he had access to all of the early correspondence leading up to the proclamation of Arches National Monument, including Frank Wadleigh's first letter to Stephen Mather. Ratcliff apparently worked for the Fish and Wildlife Service, Section on National Park Wildlife (as the acting assistant to Victor H. Cahalane) in Washington, D.C. Cahalane mentions in a memorandum of May 28, 1941, to the Superintendent of Southwestern National Monuments that "I find that the Washington Office files have a considerable amount of correspondence on the extension of the boundaries of the Arches National Monument." This may have been the last time that all of the documents pertaining to the early years of Arches were extant and in a single location. By 1943, the NPS had been relocated to Chicago, and some of these documents had been lost or destroyed.

¹³ Victor H. Cahalane, In Charge, Section on National Park Wildlife, Fish and Wildlife Service, Memorandum for the Superintendent, Southwestern National Monuments, May 28, 1941. ARCH 101/006-093, SEUG Archives.

¹⁴ Ratcliff (June 26, 1941).

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¹⁶ Newton B. Drury, Director, National Park Service, Memorandum for the Secretary, February 15, 1943. ARCH 101/006-093, SEUG Archives.

¹⁷ Schmidt (1941).

¹⁸ Harold M. Ratcliff, Memorandum for the Regional Director, Region Three: This report covers a 7-day field trip to Arches National Monument to study grazing problems in that area. March 18, 1943. ARCH 101/006-093, SEUG Archives.

¹⁹ William B. Sloan, A Herd History and Restoration Plan, Desert Bighorn Sheep, Arches National Park, January 22, 1996. ARCH 101/007-025, SEUG Archives.

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³⁰ Mike Grosjean, Southeast Regional Manager, State of Utah Natural Resources & Energy, to Sherma Bierhaus, January 18, 1984. ARCH 101/006-121, SEUG Archives.

³¹ Sherma E. Bierhaus to Mr. Mike Grosjean, February 6, 1984. ARCH 101/006-121, SEUG Archives.

³² Eddy Eckley to Superintendent, May 13, 1995. ARCH 101/001-084, SEUG Archives.

³³ Sloan (1996), p. 6.

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Jehl, "Inmates Battling West's Fires Help States and Themselves," The New York Times, September 5, 2000. (Electronic document <https://www.nytimes.com/2000/09/05/us/inmates-battling-west-s-fires-help-states-and-themselves.html>, viewed July 20, 2018). In the Southeast Utah Group Squad and Staff notes, the group was identified by a number of alternate spellings ('Flame In Gos,' 'Flame n Goes,' etc.).

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⁷⁷ NPS (2015b). However, Raye C. Ringholz describes the process differently in *Uranium Frenzy: Saga of the Nuclear West*, revised and expanded edition (Logan: Utah State University Press, 2002), pp. 314–317. Atlas dragged their feet from 1978 until 1998, using loopholes in the Uranium Mill Tailings Radiation Control Act to do nothing. Under pressure from Grand County and *The Times-Independent* newspaper, Atlas eventually filed for bankruptcy in 1998, leaving only \$9 million in a fund they had set aside to cap the tailings.

⁷⁸ NPS (2015a).

⁷⁹ NPS (2015a).

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- ⁸⁵ EPA (2006), p. 4.
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5

Arches National Park, 1971–1990

As early as the 1930s, the Moab Lions Club began to campaign for Arches to be promoted to National Park status.¹ Its members hoped that such a proposal might push the National Park Service to take a greater interest in developing Arches, and provide at least the most basic amenities, which would also benefit Moab. Moab *Times-Independent* editor “Bish” Taylor led the charge. However, the controversy that erupted over the Escalante National Monument proposal (see Chapter 3) overshadowed his calls for an Arches National Park, and for the creation of Fisher Towers and Dead Horse Point monuments.² The National Park Service was unable to make any significant plans for Arches with the 1929 boundaries dividing the monument into two units, and confusion over how many units Arches encompassed. With the expansion of Arches in 1938, the Park Service was finally able to begin the development of visitor amenities, temporarily quieting calls for the establishment of Arches National Park.

Elevation to park status was revisited in 1948 by the Moab Lions Club³ and Carbon County Chamber of Commerce President J. A. Theobald, who envisioned a version of a “Grand Circle” of parks ringing southern Utah. Although this proposal did gain some supporters in the NPS and Congress, lingering mistrust between the NPS and Utah, and tight post-war finances, discouraged the idea from advancing further. The Grand Circle concept was advocated by founding NPS Director Stephen T. Mather as early as 1921, as described in Chapter 2. Following the Escalante proposal, the idea of a road crossing the Colorado River between Moab and Marble Canyon, Arizona, became popular with members of the Utah congressional delegation as a way for Utah to gain some control over the National Park Service and help to develop southeastern Utah. In 1961, Utah Senator Wallace F. Bennett (R) introduced a bill (S. 808) to create a Southern Utah National Parkway that would be administered by the National Park Service.⁴ It would replace the Hite ferry with a bridge, and link the southwestern Utah parks and monuments (Zion, Bryce Canyon, and Cedar Breaks) with those in southeastern Utah (Arches, Natural Bridges, Hovenweep, and the impending Canyonlands).⁵ The parkway was partly to counter the Kennedy Administration’s support for new park units and a Wilderness bill, but also in response to increasing frustration with what the Utah delegation perceived as the slow pace of development at Arches National Monument. Completion of the scenic road and campground at Arches was in the planning stages, but not yet fully funded.

Responding to local interest in seeing Arches “elevated” to National Park status, Bennett first introduced three bills in 1961 (S. 2233, S. 2234, and S. 2235) to create Arches, Capitol Reef, and Cedar Breaks national parks.⁶ He also sponsored a bill (S. 1239) to create a national recreation area in the Needles district, which would preempt the Secretary of the Interior Stewart Udall from including Needles within a Canyonlands National Park. Bennett noted that the Needles area had “great potential mineral wealth, particularly oil,” and he wanted to retain multiple-use management in the area, something that Udall had made clear would be prohibited in Canyonlands. Bennett also introduced bills before the 87th Congress in 1962 seeking to create an Arches National Park.⁷ These bills were opposed by the National Park Service because it preempted a larger NPS study of various units in the “Grand Circle” as potential candidates for National Park status. After the 1962 attempt failed, Bennett and Utah Congressman Laurence J. Burton (R) tried again in 1963, and were again opposed by the NPS, which instead supported

S. 1132, which would authorize Secretary of the Interior Udall to conduct “a comprehensive study of a number of areas within the States of Utah, Arizona, New Mexico and Colorado, by specifically authorizing the appropriation of funds for that purpose.” This would include evaluating Arches for National Park status, but in the meantime Arches was “being protected and developed in the same manner as if it were classified as a national park.” In testimony before Congress, Bennett noted that in 1962 Grand Canyon had 1,446,500 visitors, Zion had 622,100 visitors, and Bryce Canyon had 251,000 visitors but to Arches only 105,700: “A principal reason for the relatively small number of visitors is, I am sure, the fact that Arches has not received national park designation.”⁸

National Park designation for Arches and Capitol Reef, as well as significant expansion of their boundaries, was part of a proclamation prepared for President Lyndon B. Johnson by Secretary Udall in the waning days of his administration.⁹ News of the proposed 49,000-acre increase at Arches and 215,000-acre increase at Capitol Reef was leaked a few days in advance, infuriating Utah Senator Frank E. Moss (D), who demanded local public hearings. He did concede that the addition of two national parks would greatly boost Utah tourism. The expansion proclamation protecting 7.5 million acres nationwide was delayed while Johnson proposed to Congress the addition of 13 new Wilderness areas.¹⁰ The following day, Johnson signed five proclamations that expanded the national park system by only 300,000 acres, by creating Marble Canyon National Monument in Arizona and expanding Arches, Capitol Reef, and Katmai (Alaska) national monuments. Johnson did not attempt to authorize park status for Arches or Capitol Reef. In backing away from Udall’s much larger preservation program, Johnson stated the following:

*After careful review of these proposals, I have concluded that it would not be desirable to take executive action for the acquisition of this land in the last few days of my term. The proposals include over 7 million acres—an enormous increase in our total park holdings. I believe that taking of this land—without any opportunity for Congressional study—would strain the Antiquities Act far beyond its intent and would be poor public policy. Understandably, such action, I am informed, would be opposed by leading Members of Congress having authority in this field who have not had the opportunity to review or pass judgement on the desirability of the taking.*¹¹

Even before Johnson signed the proclamations, Utah Governor Calvin L. Rampton and the Utah Congressional Delegation were upset and demanded that public hearings be held.¹² Udall had assured Johnson that his own party was behind the larger expansion of the NPS, but he met stiff opposition from Representative Wayne N. Aspinall (D-Colorado), Chairman of the House Interior Committee, Moss, and other influential congressmen.¹³ Debate within the Johnson administration over the proposals grew so heated that Udall threatened to resign, and Johnson delayed signing the five proclamations until less than 2 hours before the end of his term to forestall Udall from taking any action that would further inflame the situation. Still, Utah ranchers and oil and gas producers reacted harshly. Daniel G. Freed, first vice president of the Utah Cattlemen’s Association, was blunt in his opposition: “I don’t know whether this action is vindictive or not, but Utah certainly has a role other than being a playground for Easterners. It’s not conservation, but preservation.”¹⁴ The next day the Senate Interior Committee announced field investigations and hearings on the monument expansions.¹⁵ Senator Moss also announced his intention to introduce bills to make the two areas national parks, and Senator Bennett promised to use hearings on his pending national parks bills as a forum for airing local grievances over the expansions as well.¹⁶ The Utah parkway bills were never acted on, but Senator Moss reintroduced them in 1969 just days after Johnson’s proclamations on Capitol Reef and Arches. By the end of January

1969, Moss had promised to introduce park bills for Arches and Capitol Reef using the expanded boundaries designated by Johnson, and Bennett introduced park bills using the pre-proclamation boundaries.¹⁷

Most of the outrage was directed at the timing of the proclamations—90 minutes before the end of Johnson’s term—but also focused on the imagined mineral wealth and grazing opportunities lost to the new boundaries. The *Ogden Standard-Examiner* reviewed the mineral and stock-raising potential of the proclaimed expansion areas and found all of the outraged claims to be exaggerated. Noting that the Arches expansion would affect some sheep range, they observed that the quality of the range was poor and grazing was likely to produce only a fraction of the potential revenue from tourism: “It is uniquely attractive country that is involved. Its maximum benefit to the people of Utah—and the nation—is in its recreational benefits, not in the exploitation of its questionable mineral resources or meager grazing use.”¹⁸ Almost every other newspaper in Utah, however, continued to inflate the potential value of the lands for grazing and mineral extraction.

Bennett and Burton conducted an aerial inspection of the expanded monuments on February 11 before kicking off hearings in Moab. Two hundred people gathered for the hearings, requiring a last-minute change of venue to accommodate them.¹⁹ Attendees largely represented grazing, mining, industry, and tourism, with most voicing opposition to the expansions and favoring multiple-use for the lands. Although Superintendent Bates Wilson publicly supported the addition and noted that each tourist car was estimated to bring \$30 per day to the Moab area, the Director of the Utah Geological Survey Dr. William Hewitt described vast deposits of tar sands beneath the Capitol Reef addition and the potential existence of potash and uranium deposits beneath the Arches expansion, although the latter was speculation based on proximity to known deposits, not on geological survey.²⁰ Although the comments made at Bennett and Burton’s 3-day road show of hearings were decidedly against the expansions, letters to the editor to newspapers across Utah were more balanced, with many writers challenging the “land grab” description, noting the economic value of tourism, and advocating for preservation instead of continuing to expand mining and grazing. By February 20, Moss had conceded that the expanded boundaries were likely to stay, and continued to promote National Park status for the two areas. While Moss and Bennett continued to push park bills, Aspinall attempted to block funding for the monument expansions.²¹ Senate hearings on the park bills were finally held May 15–17, 1969 in Richfield, Salt Lake City, and Moab. Unlike the previous hearings, the concerns of extractive industries were countered by the attendance of conservationists.²²

After reviewing the lands added to Arches by Johnson, the boundaries were revised in the House and Senate bills introduced in 1970, removing areas likely to contain minerals or grazing lands. Moss’s bills creating Capitol Reef and Arches national parks passed the Senate July 1.²³ The House held a hearing on Burton’s Utah park bills in September 1970, including one to make additions to Canyonlands, but awaited a reconciliation with the Senate versions.²⁴ The legislative session concluded without a final vote on the park bills, so Moss and Burton reintroduced them in 1971. The Senate passed four park bills on June 23, 1971, including measures making Arches and Capitol Reef national parks, expanding Canyonlands, and establishing Glen Canyon National Recreation Area by statute.²⁵ Burton’s House park bills were approved and reconciled with the Senate versions in November 1971, and sent to the White House for President Nixon’s signature.²⁶ The final bills included House amendments to complete a Wilderness Study in 3 years (to be carried out under the provisions of the Wilderness Act), to consult with affected county governments, to study adjacent road alignments, and to set limits on payments for

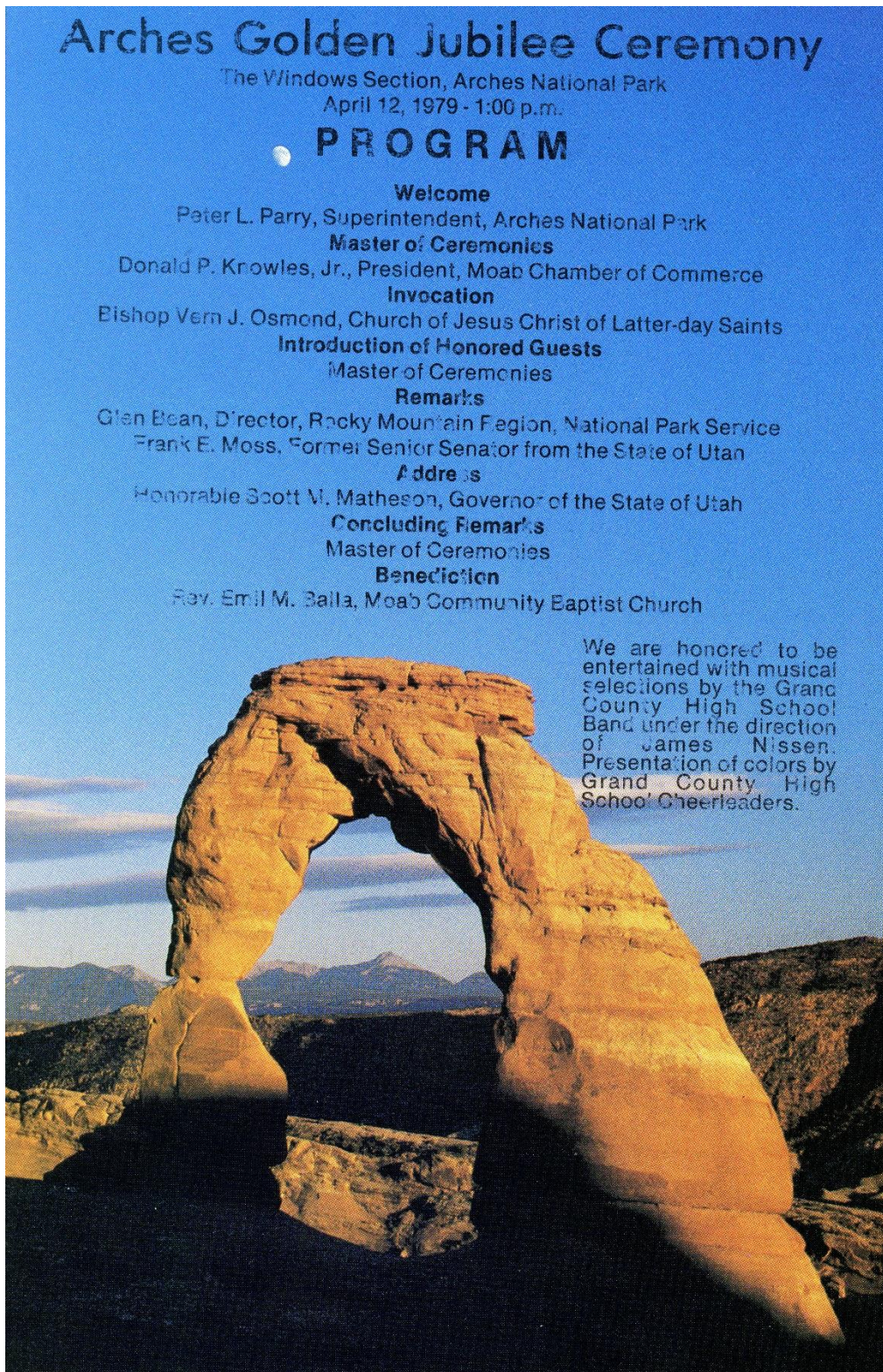
private inholdings and development of the park. The bill creating Arches National Park and modifying the park boundaries was finally signed by President Richard M. Nixon on November 12, 1971 (see Figure 4-19).

Arches National Park was formally dedicated May 13, 1972, to coincide with the centennial of the creation of Yellowstone National Park, which has led to some confusion over when Arches was founded.²⁷ Several souvenir items for sale in 2016 at the Moab Information Center were labeled “Arches National Park, Founded 1972,” confusing both the establishment of Arches as a national park system unit in 1929 with achieving park status in 1971, and the park establishment and dedication dates.²⁸ The park dedication was attended by Governor Calvin L. Rampton, Senator Frank E. Moss, Representative Sherman P. Lloyd (R-Utah), Representative Wayne N. Aspinall, and Department of the Interior Solicitor Mitchell Melich.²⁹ The event was made even more memorable when the distinguished guests had to be rescued from a paddlewheel boat that became stuck on a sandbar during its maiden voyage on the Colorado River. At the conclusion of the dedication, a plaque presented by the Canyonlands Natural History Association in honor of the event was unveiled, for later installation at the visitor center.

Arches National Park celebrated its 50th anniversary since establishment as Arches National Monument in 1979, with a gala celebration (Figure 5-1). The week-long celebration was headlined by Utah Governor Scott Matheson and former U.S. Senator Frank E. Moss. The jubilee started Sunday April 8 with an art exhibition in the visitor center, and concluded Sunday April 15 with the Annual Easter Sunrise Service at the La Sal Mountains Overlook.³⁰ The celebration included special tours for senior citizens, handicapped adults, and children, a commemorative Fiery Furnace walk, a cookout by the Moab Lions Club at Lions Park, and a campfire program at Devils Garden Campground led by former Ranger Lloyd Pierson. Cold, rainy weather postponed the children’s tour, but the senior citizens’ tour and Fiery Furnace walk were held as scheduled.³¹ The formal Golden Jubilee Day Reception took place on April 12 at the Arches Visitor Center, followed by the 50th birthday ceremony at the Windows section. The Moab Museum also hosted the exhibition “Utah Wilderness Photography,” by 16 noted photographers, with an open house on April 12 in honor of Arches’ 50th anniversary.³² An essay by Edward Abbey and a poem by Sam Hammill accompanied the images; the exhibition was part of a state-wide tour sponsored by the Utah Arts Council. *The Times-Independent* newspaper published a special edition in honor of the park’s milestone, featuring stories on the discovery and founding of Arches and important people in its development.³³ The celebration came to a crashing end just 4 months later when the Department of Energy announced a public meeting in Moab to discuss the potential use of Salt Valley for a major nuclear waste dump.³⁴

Planning, Compliance, and Management

The establishment of Arches National Park, and attendant changes in boundaries, came about during the rising environmental movement of the 1960s and 1970s. A groundswell of concern about the safety of air and water, destruction of historic buildings, unplanned development, and the general health of the planet pushed Congress to enact a series of sweeping environmental and cultural heritage laws with the goal of regulating industry and construction, and reducing pollution. The extent of these laws is still being tested in courts 50 years later, but the laws remain in effect, and have had a profound effect on the National Park Service. Additionally, and partly in response to these laws, the NPS underwent an extended period of change that has been characterized as “beaurocratization.”



5-1. The Arches Golden Jubilee was celebrated in 1979 with a week of events, culminating in a gala ceremony April 12 at the Windows section, with a keynote address by Utah Governor Scott Matheson. ARCH 101/001-132, SEUG Archives.

The new environmental laws were passed over a relatively long period, beginning with the Wilderness Act in 1964, but new policy and considerable implementation regulations were required to effect the changes required by these acts. Consequently the NPS and other resource management agencies spent nearly two decades responding or reacting to external planning demands.

By the 1970s, the NPS response to this legislative tsunami was to produce a series of management plans to address the specific requirements or mandates of the statutes, as well as to incorporate Park Service goals of the Organic Act and individual park unit proclamations. This remains the preferred management tool of the NPS, and older plans are routinely revised to accommodate new legislation and changing contexts. In theory, this allows current NPS management to respond in a legally defensible manner to any situation that might confront the park, whether internally or externally, and to remain current with local, national, and global events. However, the process of preparing these numerous plans consumes both time and personnel, leaving few resources for other than day-to-day routines. As a consequence, NPS management did not account for the development of new sports, recreation, and fitness activities in the 1970s and 1980s. Many of these activities were pioneered in the Western states, and very quickly went from an experiment to an industry in the span of weeks or months, with magazines, events, contests, and whole lifestyles dedicated to each new activity (see Chapter 6). The advent of the Internet accelerated this process exponentially from the 1990s onwards. Arches and the NPS have only been able to react, despite some well-intentioned efforts to get ahead of some activities, such as aircraft overflights and air tours. In the meantime, management has continued to fend off external threats from development and industry, while providing for the enjoyment and education of park visitors.

Contemporary management documents, such as the Superintendent's Compendium of 2015, have been referenced for most of the topics discussed in this chapter. Although the period of planning, compliance, and management marked the beginning of this process for the NPS and Arches, it is not the end. Many acts have been modified by amendments, and planning cycles require revisiting management documents at regular intervals.

The 1964 Wilderness Act was the first successful attempt to legislate permanent protections for vast swaths of the American landscape and was the culmination of a significant movement that had its roots in nineteenth-century Romanticism. The industrialization of the economy of Europe and its colonies and former colonies profoundly altered not only the socio-economic landscape, but also the physical landscape. Urbanization, now underway for nearly 10,000 years, dramatically accelerated under industrialization, which facilitated even higher population densities. Although trains, automobiles, and other mechanical conveyances opened previously undeveloped rural areas to recreational visitation, they also provided access for resource extraction industries (logging, mining, oil and gas production), ranching and agriculture, and further residential expansion and concentration (urbanization). Beginning with the publication of Henry David Thoreau's *Walden*, a growing segment of the American populace came to view the undisturbed American landscape as one of this country's greatest assets, and sought protection for those resources.³⁵ The development of the National Park Service and designations of National Forests and other reserved landscapes provided significant protection to millions of acres. But, the 1906 Antiquities Act specifies that the smallest-possible area be protected, rather than the largest, and many lands managed by the Departments of Agriculture (U.S. Forest Service) and Interior (Bureau of Land Management) were and are managed for multiple uses, including generating revenue for the federal government through leases to resource-extractive industries, ranchers, and other users. Once disturbed, such lands lose their connection with the naturally evolved landscape and their authenticity,

regardless of efforts at rehabilitation or restoration.³⁶ Some lands protected in the national park system were developed primarily to provide access to the public for their enjoyment, as specified in the Organic Act. It was on the latter point that the conservation movement fragmented among those seeking greater restrictions on access and use for wildlands, and those advocating no action or increased access for recreation.³⁷ The Wilderness Society was founded in 1935 to advocate for preserving untouched landscapes.³⁸ In 1936, they released a preliminary survey of potential Wilderness areas, and identified the canyon country of southeastern Utah as the largest roadless area in the United States.³⁹

The Wilderness Act (1964)

The Wilderness Act is remarkable in its brevity, defining wilderness, establishing a National Wilderness Preservation System, describing the permitted and prohibited uses of Wilderness areas, and providing a series of other provisions and stipulations in 258 lines in seven short sections.⁴⁰ The act imposed profound responsibilities on all federal land management agencies, and yet remains incompletely implemented many decades after its passage. For the National Park Service, the Wilderness Act has provided the opportunity for outside environmental groups and internal watchdog organizations to redirect NPS actions when there is a real or perceived threat to wilderness or potential wilderness, which the act defines as follows:

A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. An area of wilderness is further defined to mean in this Act an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation, which is protected and managed so as to preserve its natural conditions and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land or is of sufficient size as to make practicable its preservation and use in an unimpaired condition; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.

On the surface, the Wilderness Act and the NPS Organic Act seem to have similar goals, but for one crucial difference for the NPS: the Organic Act gives equal weight to preservation and visitor enjoyment “to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations.”⁴¹ This was interpreted by the NPS and by many federal courts in the early days of the park system as giving the NPS the right to construct sufficient roads, structures, buildings, and needed infrastructure to bring the public to the landscapes under NPS protection. While considerable thought is given as to how to do this with the least possible impact to the landscape, NPS infrastructure is a form of development, often including permanent habitations for NPS employees (or worse, temporary habitations that become used on a long-term basis, as in many parks). Ever-increasing numbers of visitors (300 million to the entire national park system in 2015) have pushed traffic counts and population density at popular frontcountry sites to near urban levels.⁴² A further stipulation of the Wilderness Act was instrumental in creating the “frontcountry/backcountry” management system of the NPS:

Within ten years after September 3, 1964, the Secretary of the Interior shall review every roadless area of five thousand contiguous acres or more in the national parks, monuments and other units of the national

park system and every such area of, and every roadless island within, the national wildlife refuges and game ranges, under his jurisdiction on September 3, 1964, and shall report to the President his recommendation as the suitability or unsuitability of each such area or island for preservation as wilderness.

The Wilderness Act then establishes a procedure by which the Secretary of the Interior submits Wilderness proposals to the President of the United States, who then advises the President of the Senate and the Speaker of the House of Representatives on his recommendations for designation of Wilderness status by Congress. Before doing so, however, the Secretaries of Agriculture and Interior must notify the public of their recommendations, hold public hearings in the affected state or states, and advise the Governor of each affected state. Any requested modifications to the original proposal are to be conveyed to the President as well. All of the potential Wilderness areas were to be identified within 10 years of the passage of the Wilderness Act. Regardless of the outcome, the Wilderness Act was not to “be construed to lessen the present statutory authority of the Secretary of the Interior with respect to the maintenance of roadless areas within units of the national park system.” In fact, §4(3) of the Wilderness Act is explicit that “nothing in this Act shall modify the statutory authority under which units of the national park system are created,” and that “the designation of any area of any park, monument, or other unit of the national park system as a wilderness area pursuant to the Act shall in no manner lower the standards evolved for the use and preservation of such park, monument, or other unit of the national park system in accordance with the Act of Congress of August 25, 1916” or any other relevant acts and decrees.

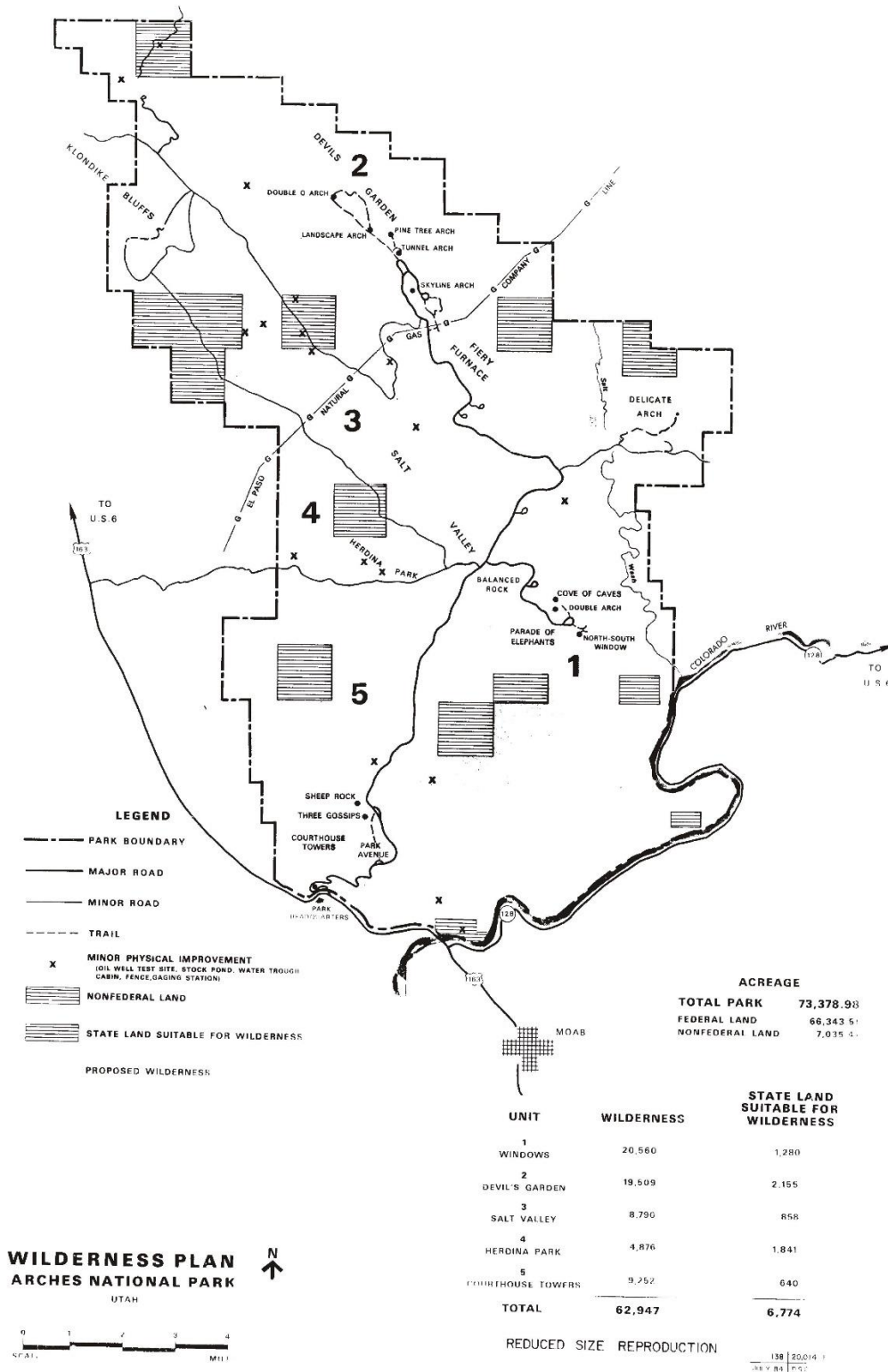
Implementation of the Wilderness Act proved to be sufficiently controversial that it has ultimately run into the brick wall of a deadlocked, partisan Congress.⁴³ Some agencies have been accused, probably factually, of having allowed development such as logging and oil and gas development (both of which require road building) to proceed in previously undeveloped areas, thereby removing them from consideration as potential Wilderness areas. In other cases, political pressure resulted in compromises, with remote and difficult-to-log mountain tops protected as wilderness, and more accessible lower elevation old-growth forests excluded so as to permit logging.⁴⁴ This was particularly the case in Alaska and the Pacific Northwest during the final years of the logging boom of the 1990s, when congressional riders to other bills allowed the Forest Service to clearcut old-growth forests with impunity. But wilderness advocates have also run afoul of river runners, ADA advocates, rock climbers, mountain bikers, and other recreationalists (as well as the motorized recreation communities) who are seeking new trails, larger areas for “other than hiking” recreation, and improved access to remote areas. The infighting fragmented the environmental movement, which was further tarnished by the advent of “eco terrorists,” who have burned buildings, damaged equipment, and hidden nails in old-growth trees in the name of protecting wilderness.⁴⁵ After designating some 109,511,966 acres of wilderness in more than 750 preserves between 1974 and 2009,⁴⁶ Congress has not designated any additional Wilderness areas, leaving the proposed wilderness system uncompleted. Until the political climate warms again to wilderness, large areas of NPS backcountry will remain “proposed wilderness,” to be managed as though it were Wilderness, but without the formal designation.

Basic provisions of the Wilderness Act have been incorporated into NPS planning documents, beginning with the Arches National Monument Master Plan draft of 1963. Although the Wilderness Act had yet to be passed, the Master Plan incorporated wilderness resources as one of the main goals of the park management:

*Development for visitor and administrative uses should be carefully controlled, under three main precepts: administer the area to protect the visitors and the significant natural resources; make a total park experience available for visitors by suitable roads, trails, overlooks, campgrounds, and a comprehensive interpretive program; and reserve appropriate portions of the Monument for proper wilderness uses.*⁴⁷

Superintendent Paul Guraedy summarized the “confusing” history of Arches Wilderness proposals in 1990, shortly before leaving his post.⁴⁸ The initial Wilderness Recommendation was completed in November 1974, in which 54,450 acres were proposed for Wilderness designation. Guraedy was careful to note that the recommendation excluded not only existing park infrastructure, but “future parking areas, pulloffs, public use-structures, management structures, and areas of high visitor concentrations.” President Jimmy Carter submitted this recommendation to Congress on May 23, 1977. Congress did not act on this recommendation. The proposal was revised in May 1982 to include 62,947 acres. The additional acreage followed the expiration of mineral leases or the acquisition of previously private lands totaling 9,050 acres.⁴⁹ Further revisions were requested in May 1983 (not specified but presumably by Congress), including the withdrawal of a non-wilderness trails corridor, and inclusion of additional lands (in particular, a strip at the southwestern edge of the park that was simply overlooked by previous recommendations); Guraedy notes that the map showing the trails corridor could not be located at the time of his review. Specifically, the increasing visitation and need for additional maintenance, and rampant inflation at the time, required the use of mechanized equipment on Landscape Arch and Delicate Arch trails, necessitating their removal from the recommendation.⁵⁰ In September 1984 the revised Wilderness Recommendation was completed, identifying 62,947 acres for Wilderness designation in five units (Unit 1: Windows, 20,560 acres recommended and 6,774 potential; Unit 2: Devils Garden, 19,509 acres recommended and 2,155 potential; Unit 3: Salt Valley, 8,790 acres recommended and 858 potential; Unit 4: Herdina Park, 4,876 acres recommended and 1,841 potential; and Unit 5: Courthouse Towers, 9,252 acres recommended and 640 potential; Figure 5-2). Guraedy noted that additional revisions would be required to accommodate the 1989 GMP, specifically due to inconsistency in how Willow Springs Road was to be managed, and the potential need to exclude part of The Windows area to provide a handicapped accessible trail, in anticipation of the requirements of the Americans with Disabilities Act (see below).

The Arches Administrative Collection holds more than 30 individual files on Wilderness recommendations, proposals, hearings, and maps, spanning 1956 (before passage of the Wilderness Act) to 1990, including Guraedy’s summary, discussed above.⁵¹ These records fill substantial portions of two boxes, as well as oversized map drawers, and represent one of the largest single-topic records in the Arches Administrative Collection. Although this represents, in part, the legal mandate to preserve records and the diligence of Arches staff in doing so, it also reflects the amount of work that Arches staff dedicated to this issue, particularly in the early to mid 1970s, when the initial wilderness lands studies were conducted and prepared for review by the U.S. President. In 1991 the BLM completed their wilderness study for statewide recommendations, and forwarded the results to the Utah Governor and congressional delegation.⁵² Individual counties were encouraged to hold public meetings on wilderness recommendations; Grand County held three. During this process, Grand County’s Council unanimously recommended that Lost Spring Canyon be added to Arches National Park, pending resolution of some minor management issues, rather than be included in the Wilderness proposal. Although Lost Spring Canyon was not included in the final Utah Wilderness bill sent to Congress, it was the genesis of the



5-2. The Arches National Park Wilderness Plan, July 1984. ARCH 138/20014E.0001, National Park Service, Denver Service Center, Technical Information Center. This is the most recent available map of proposed Wilderness for Arches.

most recent Arches boundary adjustment, described in Chapter 7. The 1998 addition of Lost Spring Canyon became contentious when the Sierra Club, Southern Utah Wilderness Alliance, and Wilderness Society opposed the addition on the grounds that Lost Spring Canyon would not be managed as wilderness, and it would adversely affect the potential Wilderness status of surrounding lands.

The status of Arches National Park's recommended Wilderness areas periodically re-emerges as potential legislation. In 1999, the same Utah Wilderness bill continued to move slowly through Congress. Because of the inaction on Wilderness designations, the NPS promulgated a new policy that all identified potential, proposed, or recommended wilderness would be managed as though it had already been designated.⁵³ Due to the amount of time that had been invested in the Wilderness designation process over the years, the NPS chose to reuse the previous recommendations with only minor revisions so that they would not have to repeat the NEPA process.⁵⁴ The biggest changes for Arches were an increase in acreage following the resolution of the Utah state lands inholdings in 2000, and the addition of most lands in the Lost Spring Canyon area; these had been excluded from the earlier recommendations. Also, some lands that had been considered non-conforming due to the presence of minor roads or mineral use had been abandoned and were now considered eligible for Wilderness status. Unfortunately, a map depicting the current Wilderness status is not available.

Alphabet Soup

The expansion of Arches and its elevation to National Park status were authorized by the same Congress of the United States that revised and amended the 1948 Federal Water Pollution Control Act as the Clean Water Act of 1972. Both actions were part of sweeping legislation following the Wilderness Act that addressed historic heritage, clean air, civil rights, and broader environmental policy.⁵⁵ Each act imposes on land managers the onus of considering how their actions will affect archeological, historical, and cultural sites; the effect on water, waterways, air quality, wildlife, and other aspects of the natural environment; the public's opinion on the proposed undertaking; and whether access for those with diminished mobility, vision, or hearing have been adequately provided for. One effect on the National Park Service was the proliferation of dedicated or part-time resource specialists from the 1970s into the 1990s. Canyonlands Complex had a single resource management position prior to 1983, but Resource Management did not develop as a separate division until it was phased in between 1985 and 1987.⁵⁶ This has expanded the rosters of process managers in administrative offices, but the perennial lack of funding for the NPS provided by Congress resulted in a diminished number of NPS personnel directly interacting with the public as interpretive rangers, law enforcement, and guides. As described in Chapter 7, fiscal austerity in the 1990s and congressional promotion of outsourcing has reduced the number of filled NPS positions, and now requires the use of contracted and collaborative specialists with increasing frequency. The acts that are most significant in the story of Arches are discussed below, but by no means exhaust the list of laws affecting the NPS.

National Historic Preservation Act (1966)

The National Historic Preservation Act of 1966 (NHPA)⁵⁷ was a direct response to urban renewal and the construction of the Interstate Highway System in the 1950s and 1960s. Thousands of the oldest buildings and structures in the United States were demolished during this period, often over the protests of local citizens. Central or inner city areas that had been abandoned by white, affluent residents in favor of new suburbs, and which had suffered significant economic reversals, were viewed as convenient locations for major highway interchanges.⁵⁸ The situation reached a tipping point when

the Massachusetts Department of Public Works demolished whole neighborhoods in Boston and threatened Revolutionary War landmarks,⁵⁹ and the Maryland State Roads Commission attempted to construct a highway through Fort McHenry (a national park),⁶⁰ the War of 1812 redoubt at which the “Star Spangled Banner” was written.⁶¹

In response, Congress passed the NHPA, which contains two significant provisions: it created the National Register of Historic Places (NRHP) and defined the standards by which buildings, structures, objects, districts, and archaeological sites could be nominated for inclusion; the act applied not only to federal lands, but to federally funded projects on non-federal lands, including private lands. NHPA was implemented shortly before Arches became a national park, but initially had relatively little effect on the management of Arches. The few standing historic buildings (Wolfe Ranch, Cordova Cabin, and later the Rock House) were known to resource managers, and were quickly evaluated for NRHP eligibility. Although the main park infrastructure was completed prior to the passage of NHPA, the footprints of the developed areas had been examined by park staff for obvious cultural resources during the planning stages (not in a formal, comprehensive sense, however). The route of the Delicate Arch road and the monument headquarters sewage disposal area were subjected to inventory in 1973 under Section 106 of the NHPA, which mandates archaeological investigation in advance of development.⁶² Another survey in 1975 inventoried a portion of the (then) northeastern portion of the park, under the direction of archaeologist Michael S. Berry.⁶³ At that time, Arches contained 59 known sites, with the survey documenting an additional 30, including 11 tool stone quarries, 5 cave/rock shelter sites, and 14 open campsites. In reviewing the survey results, Berry made an important observation regarding artifact collecting inside the boundaries of Arches: very few complete or even finished tools were found. Berry initially suspected that this reflected a prehistoric preference for using the area for tool stone procurement, with complete tools manufactured elsewhere:⁶⁴

The inference was plausible but incorrect. Moab residents freely acknowledge that Arches National Park used to be a good place to find arrowheads and pottery and the local museum boasts a collection of several hundred projectile points recovered from within the Park boundaries (see Figure 2 [a photograph of a replica of Delicate Arch made entirely from projectile points, attached to some hard, flat surface]). The new, and equally plausible, inference is simply that road development in national parks provides easy access to archaeological sites, attracting more amateur archaeologists than can reasonably be controlled by park rangers.

It was not until 1987 that the frontcountry (the paved road rights-of-way, Windows section and Devils Garden) was assessed with a comprehensive archaeological inventory under Section 106.⁶⁵ Under the direction of Karen Kramer, the Midwest Archaeological Center surveyed along all park roads (24 miles of paved roads and 3 miles of unpaved), all formal trails (14 miles), and block areas such as the interior spaces of the Windows Section Loop (approximately 40 acres). The project documented 26 archaeological sites (20 newly identified and 6 previously recorded) and 79 isolated finds, bringing the total known in Arches to 120 archaeological sites. As most (23) of the sites consisted of lithic artifact scatters, identification of local and non-local rock materials was an important focus of the project. Tidwell white chalcedony was the most common raw material, with Brushy Basin chalcedony, Dewey Bridge chert, quartzites, and a “minerally altered volcanic ash” also frequently encountered; all are locally available materials. Most of the lithic sites contained few cortical flakes, cores, projectile points, or other tools, suggesting that repair of existing tools and manufacture of tools from curated bifaces characterize the use of these locations. Additionally, the survey identified an artifact scatter with

ceramics, a petroglyph, and a historic site. To place the project findings in context, the final report contains a review of previous archaeological studies in Arches, a detailed description of the geological setting with a focus on knappable raw materials, and a discussion of the in-field artifact analysis results.

Ranger Lloyd Pierson had conducted informal surveys of archaeological sites in the late 1950s and early 1960s, but there was no legal mandate to do so, and his official duties were interpretation and visitor protection. Arches did not have a dedicated archaeologist on staff until 1991, when Nancy Coulam became the SEUG Archeologist (replacing Charles Cartwright at Canyonlands National Park), and was responsible for cultural resources at Canyonlands and Natural Bridges, in addition to Arches.⁶⁶ Coulam departed SEUG for the Bureau of Reclamation in Salt Lake City in 1998.⁶⁷ Eric Brunnemann EOD (Entered on Duty) to the SEUG Archaeologist position in January 1999, just in time to deal with the aftermath of the pipeline explosion.⁶⁸ In 2001, his final year at SEUG, Brunnemann oversaw the addition of Hovenweep National Monument, before he left and Chris Goetze took a lateral transfer from Glen Canyon National Recreation Area to fill the position.⁶⁹ Goetze used Vanishing Treasures funds to help build an integrated cultural resources program with additional staff. She retired from federal service in 2015 after overseeing the administrative history of Canyonlands National Park and starting the administrative history of Arches.

Section 110(a)(2) of NHPA requires that land managers inventory units for “all properties under the agency’s ownership or control by the agency, that appear to qualify for inclusion on the National Register,” a de facto requirement for comprehensive survey of the entire unit. This has yet to be accomplished in most NPS units, largely due to lack of funding. Comprehensive inventories have been made of Wupatki,⁷⁰ Bandelier,⁷¹ Pecos,⁷² and other small park units that are primarily preserved for cultural resources; natural resources units (Natural Bridges being an exception)⁷³ have in some cases been sampled, but it is unlikely that funding will become available for landscape-level park unit inventories in the near future. Arches, like many other NPS units, therefore remains technically out of compliance with the NHPA. Small-scale archaeological projects are undertaken for compliance with NHPA Section 106 on an as-needed basis.⁷⁴

Long-term management of the NRHP-eligible properties in Arches has required much more park staff input than has archaeological inventory. This is particularly the case for the maintenance and interpretation of Wolfe Ranch, which was listed in the National Register of Historic Places November 20, 1975 as a Historic District. The National Register currently lists six properties in Arches National Park: the Wolfe Ranch District and Courthouse Wash Pictographs (a.k.a. the Moab Panel, listed April 1, 1975), and the Julien Inscription Panel, Old Spanish Trail, Ringhoffer Inscription, and Rock House—Custodian’s Residence (all listed October 6, 1988).

VISITOR COMMENTS ON ENVIRONMENTALISM

“I love the park; it’s [sic] upkeep is fine, the rangers are friendly and helpful, BUT:

While visiting the visitor center I noticed that a sprinkler was on. Watering more sidewalk than grass. This is rather ironic considering it’s right across from a solar energy exhibit. So, water the lawn, not the sidewalk.”

Visitor from Dearborn, Michigan, August 22, 1980

“All permanent facilities should be retrofitted for energy conservation and use of solar energy. The value of this application, at a national park, as a public demonstration is considerable. Thanks for taking the time to consider this suggestion.”

Visitor from Golden, Colorado, September 14, 1980

Ranger Comment: “The visitors [sic] profession was working with solar energy. He was very interested in our solar display + the potential for solar energy at Arches.”

National Environmental Policy Act (1969)

The National Environmental Policy Act of 1969⁷⁵ (NEPA) was the first federal law to attempt to comprehensively address the effects of human actions on the natural, historic, and cultural environment of the United States. The law established an interdisciplinary approach to integrating human activity and any aspect of the environment potentially affected by those activities, through the preparation of Environmental Impact Statements for any “legislation and other major federal actions significantly affecting the quality of the human environment.” NEPA applies to all agencies, and requires that “the policies, regulations, and public laws of the United States shall be interpreted and administered in accordance with the policies set forth in this Act,” meaning that the provisions of the Organic Act and individual park proclamations are not exempt from the need to consider the environmental effects of NPS activities. As amended and implemented, NEPA now offers the opportunity to prepare shorter Environmental Assessments or to waive the review with a Categorical Exemption. However, a large component of NEPA is public involvement in the form of notifications and public scoping, which ensures that for good or ill (or both) public opinions are interjected into management decision making. For example, in 1992, resident of Monticello, Utah, and former Canyonlands Complex employee Owen Severence wrote to Arches National Park, concerned about a construction project that he had observed:

*A couple of weeks ago, while visiting Arches National Park, I saw a new building under construction adjacent to the Maintenance Yard. I checked the GMP/Development Concept Plan and did not see any mention of this building. Also, I did not receive an Environmental Assessment for this project. What is it and why wasn't the public allowed to comment on this project? It is being built in a visually sensitive area and in the floodplain. Why?*⁷⁶

Arches staff wrote a letter to Severence describing the project and its rationale, and they included the Project Checklist for Resource Protection, which identified the building site as highly disturbed and on the 500-year, not 100-year, floodplain.⁷⁷ Although an involved and engaged public helps to support environmental protection and resource conservation, it can, as in this instance, open the door to unnecessary micromanagement and nitpicking. It is difficult to imagine Bates Wilson having to respond enthusiastically to this sort of public input.⁷⁸ In fact, the NPS initially experienced considerable difficulties in the post-NEPA era. No one on the Canyonlands Complex staff was trained in the complex analyses and procedures that NEPA required, and the NPS as a whole was initially reluctant to admit that NEPA applied to virtually every project that might be undertaken in a park unit. Proposed development of the Confluence Road in Canyonlands National Park was the wake-up call for the Canyonlands Complex, as it required the assistance of a NEPA specialist from Region, and the participation of environmental activists as well as local and state authorities.⁷⁹ The NPS was genuinely shocked when their allies in the fight against the Confluence Road suddenly turned on them and questioned the need for any infrastructure at Hans Flat in Canyonlands National Park, even being accused by The Sierra Club of aiding and abetting the oil industry in accessing the tar sands deposits of the region by proposing to upgrade and pave the road to Hans Flat.

Although NEPA imposes a significant burden on Arches and every other NPS unit to evaluate the environmental effects resulting from management actions (or inaction), additional impact has resulted from the ways in which NEPA involves Arches in events outside of the park boundaries. NEPA calls upon agencies that may be affected by a development project to comment on its potential effects. Thus, Arches management and resource specialists have been required to be involved in regional oil and gas

development, disposition of the Atlas Mill tailings, uranium mining, and nuclear waste disposal projects that have the potential to affect Arches through diminished air and water quality. As discussed in Chapter 4, Arches staff have always monitored grazing and oil and gas leases for encroachment on Arches, but as a more direct threat.

Archaeological Resource Protection Act (1979)

Because the NHPA was primarily directed towards the protection of standing buildings and structures and did not clearly address how archeological sites lacking these features were to be protected (or even clearly defined as an archaeological site), archeologists pushed Congress to enact additional protections for archaeological sites and districts. In particular, predatory site looting in the Mimbres River valley of southwestern New Mexico in the 1960s and 1970s, and the rise of relic collecting conventions, demonstrated the vulnerability of prehistoric sites to destruction. In 1976 rangers found a screen device for sifting artifacts from soil in the Arches backcountry.⁸⁰ Although no one was apprehended at the site, Arches Unit Manager Larry Reed took the opportunity to publicize the finding, and remind the public that archaeological excavations were illegal under the 1906 Antiquities Act. The Antiquities Act had proven difficult to enforce, however, due to its vague language.

The Archaeological Resource Protection Act of 1979 (ARPA)⁸¹ was written to address these issues. It applies to federal lands (including Indian lands), but unlike NHPA, not federal funds. It legally defines an archaeological site as being at least 100 years old and consisting of “any remains of past human life or activities which are of archaeological interest.”⁸² Each land managing agency was tasked with providing a more specific site definition at a regional or unit level. Through the position of State Historic Preservation Offices, also created under NHPA, site definitions came to be established at a state level, although the act specified that “pottery, basketry, bottles, weapons, weapon projectiles, tools, structures or portions of structures, pit houses, rock paintings, rock carvings, intaglios, graves, human skeletal materials, or any portion or piece of any of the foregoing items” would be included and afforded protection.⁸³ Additionally, the ARPA defined vandalism and looting as crimes, specified the severity of the infractions, and established punishments for their violation; the law also created a permitting system for the legal excavation of archaeological materials. One section of the law, purportedly requested by then President Jimmy Carter, provided an exception to the removal of archaeological materials for projectile points and arrowheads from the ground surface.⁸⁴ As ARPA was implemented, some land managers either misinterpreted this exception, or, sympathetic with relic collectors, saw it as an opportunity to provide access to the lands that they managed. In 1981 NPS Associate Director Stanley L. Albright issued a stern memorandum in response to this situation:

We have learned that some area managers are allowing visitors to remove arrowheads from park lands because of their interpretation of Section 6(g) and Section 7(3) of the ARPA of 1979. It has been suggested that these provisions supercede [sic] those of the Antiquities Act of 1906. Any interpretation which concludes that arrowheads may be removed from a National Park Service area without an Antiquities Permit is in error.

The 36 CFR 2.20 is still in effect, and its prohibition against the removal of any object of antiquity or scientific interest from the public domain without an Antiquities Permit is to be enforced. Under these regulations removal of arrowheads or other artifacts is a misdemeanor, and such objects are to be confiscated; depending upon the circumstances misdemeanor penalties may be assessed. However, such

*collection of arrowheads from the surface of the ground, which are less than 100 years old, however, cannot be punished as a felony nor as a civil offense under the ARPA of 1979.*⁸⁵

Although the ARPA requires a permit only to excavate sites or remove archaeological materials, many federal land management agencies interpret this section as requiring an ARPA permit even to conduct non-collecting, non-disturbing survey. Unfortunately, although the act is clear that all provisions of the Antiquities Act remain in effect, Sec. 12(b) states that “nothing in this Act applies to, or requires a permit for, the collection for private purposes of any rock, coin, bullet, or mineral which is not an archaeological resource, as determined under uniform regulations promulgated under section 3(1).” Looters of historic sites, using metal detectors, have attempted to justify (even in court) their destruction of battlefields under the protection of the NPS using this language. Recreational metal detecting was emerging as a new hobby in the 1970s, but had not yet become the organized, competitive pilfering that had developed by the 2000s.

Arches contains no known historic battlefields and few structural prehistoric sites, so enforcement of ARPA has typically been an infrequent and usually minor component of park management, with the exception of vandalism to rock art panels. In particular, the vandalism of the Moab Pictograph Panel in 1980 stands as the most significant damage to any park resource in Arches history.⁸⁶ The Moab Panel is south of Courthouse Wash in Moab Canyon, and is visible and accessible from US 191. Although it is known for large, colorful pictographs, the panel also contains prehistoric petroglyphs and represents images of the Barrier Canyon (Archaic), Fremont, and Anasazi traditions. The Moab Panel was listed in the National Register in 1975. The vandalism, law enforcement investigation, and restoration of the panel are discussed in a later section (Figure 5-3).

Monitoring cultural sites for ARPA violations has been an on-again, off-again component of resource management over the years. Law enforcement rangers began ARPA training in 1985, and began to document increasing numbers of incidents of damage to archaeological sites through the 1990s.⁸⁷ An ARPA monitoring program was initiated at Arches in 1990 under the direction of Chief Ranger Jim Webster.⁸⁸ Dedicated ARPA Rangers Karyl Yeston and Judie Chrobak-Cox had received specialized ARPA training and routinely patrolled archeological sites. Varying numbers of sites were visited each season (March through October), but usually included the Moab Panel, Ute Panel, and Dark Angel Panel rock art sites, Salt Valley Spring, the La Sal Mountain site, and sites in Courthouse Wash including Poison Ivy Alcove. Funds were very limited for this program, so during many years, rangers checked on sites as they were in the area on other tasks. Due to cuts in staffing, the program went dormant in the late 1990s. In 2004, the program was again revived after Chris Goetze’s transfer to SEUG in 2001. Ten sites were monitored in FY 2004.⁸⁹

Americans with Disabilities Act (1990)

The Americans with Disabilities Act of 1990, as amended and codified as Title 42, chapters 5 and 126⁹⁰ has arguably had a greater effect on the NPS and its individual units than the other acts discussed previously. Whereas NEPA, NHPA, and ARPA are primarily regulations of land management by federal agencies, ADA is a civil rights act that applies to federal, state, and private entities, with few exceptions. ADA is intended to define disability and eliminate barriers to the movement, employment, and life activities of people with disabilities by requiring reasonable accommodations in construction, civil design, and transportation. Not only must all new construction accommodate the needs of people in wheelchairs, blind or with impaired vision, and deaf or with impaired hearing, but places of public access

(including private commercial property) must be modified to provide access unless the modifications significantly alter the character of historic properties or impose an undue hardship to the owner of the property. In fact, Sec. 12204(c) provides that the guidelines for Accessible Design issued by the Architectural and Transportation Barriers Compliance Board “shall include procedures and requirement for alterations that will threaten or destroy the historic significance of qualified historic buildings and facilities,” including places listed in the NRHP and designated as historic under state or local law. Earlier federal laws (the Architectural Barriers Act of 1968 and Section 504 of the Rehabilitation Act of 1973)⁹¹ had already mandated some level of accommodation for the disabled, providing some access for people of differing levels of ability at most parks. As virtually no NPS properties were ADA compliant in 1990, and most properties managed by the NPS are historic and are to be managed for their historic and architectural significance under the Organic Act and NHPA, the ADA presented an enormous challenge for the NPS, further exacerbated by lack of funding from Congress.



5-3. The Moab Panel, also known as the Courthouse Wash Rock Art Panel, as it appeared in 1976. ARCH 104/000346, SEUG Archives. (Photo credit: Jim Capps).

The ADA's scope is such that the NPS is affected as both an employer and as a place of public accommodation. In the instance of the former, NPS has worked towards compliance by constructing new administrative facilities, often effecting a savings by combining redundant facilities (as SEUG has done with the administration of Arches, Canyonlands, Hovenweep, and Natural Bridges) in newly constructed buildings that are fully ADA compliant. The administrative office building that SEUG and the U.S. Geological Survey lease in Moab was one such building, completed in 1994.⁹² Existing non-administrative facilities, such as visitor centers and maintenance shops, are more difficult to retrofit, although Arches staff has managed to work ADA compliance into other construction budgets. In 1993, for example, two handicapped parking spaces were added to the Delicate Arch parking lot when that was reconstructed, and Residence #5 was completely rehabilitated to ADA standards.⁹³ Some jobs, such as ranger and law enforcement, cannot be undertaken by people with certain disabilities as provided for in the job description; thus NPS is relieved from having to provide for those disabilities in the workplaces (trails and vehicles) of those employees. Director's Order 16A (May 4, 1999) created a framework for reasonable accommodation for job applicants and employees of the NPS with disabilities, incorporating many sections of ADA verbatim.⁹⁴

The ADA requirement for public accommodation is a more vexing issue for NPS, which manages exceptional properties and landscapes that impose extreme limitations on access to even able-bodied people. The 2010 ADA Standards for Accessible Design, §36.401(c), does provide an exemption for structural impracticability "where an entity can demonstrate that it is structurally impracticable to meet the requirements" but "only in those rare circumstances when the unique characteristics of terrain prevent the incorporation of accessibility features."⁹⁵ Most of the Arches frontcountry falls within this definition. However, if the entire facility cannot be made compliant, §36.401(c)(2) requires that "any portion of the facility that can be made accessible shall be made accessible to the extent that it is not structurally impracticable," and access shall be ensured to people with other types of disabilities (limited mobility, hearing, sight or mental impairments) if full accommodation cannot be made for people in wheelchairs (§36.401(c)(3)).

Arches National Park currently provides accessibility for those with physical/mobility disabilities, deaf/hearing loss, or blind/low vision, and for those who require service animals.⁹⁶ Arches ADA-compliant facilities are the visitor center, restrooms throughout the park, one campsite in the Devil's Garden Campground (#4H), the Park Avenue, Balanced Rock, and Delicate Arch viewpoints, the Balanced Rock Picnic Area, and the Wolfe Ranch Cabin and rock art panel. Additionally, the first 100 yards of the Windows Trail and the Devils Garden Trail to Landscape Arch are considered "barrier free," meaning that they "may contain minor obstacles, steeper grades and temporary washouts." Arches has received complaints regarding access from visitors in wheelchairs as well as those who can walk but have limited mobility, particularly regarding the stone steps on the Windows Trail.⁹⁷ Visitors with hearing impairments are accommodated by text and illustrations on all wayside exhibits, a variety of publications available at the visitor center, and closed-captioning of all audio-visual programs. Vision-impaired visitors may use the audio tour of the park scenic road (for purchase or rental) and the visitor

VISITOR COMMENT ON ACCESSIBILITY

"NICE DISPLAYS!

REMOVE STONE STEPS AT WINDOWS!

I WROTE THIS BEFORE + YOU NEVER RESPONDED [frowning face]

HANDICAPPED, GIMPY, OLD ALL NEED NO STEPS. MOMS WITH BABY CARRIAGES + WHEELCHAIR FOLKS ALSO NEED NO (ROCK) STEPS!

15 MIN VIDEO IS TOO 'SLICK', TOO MUCH OF AN AD AGENCY PRODUCT!

CLOSE DOWN MOAB'S CHAMBER OF COMMERCE!"

Visitor from Winter Park, Colorado,
October 22, 2005

center includes audio recordings and exhibits that may be touched. Service animals are permitted everywhere in the park.

VISITOR COMMENTS ON ACCESSIBILITY

"This letter is to compliment your service on their activities to help the handicapped. My family and I spent August in Colorado, Arizona, Montana, Utah, Washington, Oregon and California. We camped most nights in your parks. The Convenience for the handicapped is unbelievable. The people in the parks were very helpful and the total experience exciting.

Thank you and all the parks people for making a new era for handicapped persons. A great effort for the International Year of the Disabled. I am a quadriplegic and appreciate that these efforts are being done on a low budget. What great results at low cost."

Visitor from Irvine, California, October 22, 1981

"Spent 4 days in the park and enjoyed every minute of our stay. Rangers are very courteous. Do suggest that you give some consideration to those with impaired hearing when the ranger talks at the evening meetings. A speaker would certainly be appreciated by those who do not hear well."

Visitor from Eugene, Oregon, May 26, 1981

ADA does not provide an exemption for historic properties: even if it is determined that "it is not feasible to provide physical access to an historic property that is a place of public accommodation in a manner that will not threaten or destroy the historic significance of the building or facility, alternative methods of access shall be provided" that can include using audio-visual materials to depict areas of a facility that cannot be accessed by wheelchairs. However, the historic properties exemption only applies to those properties that have been reviewed by the State Historic Preservation Officer, who must determine that the ADA compliance would threaten or destroy the historic significance of the building or facility.⁹⁸ Unlike NPS units that are primarily cultural places, Arches has been able to provide access to all historic resources open to the public (Wolfe Ranch) and the historic Mission 66 Visitor Center was modified to provide full accommodation. The new (2005) visitor center was designed with full accessibility from the start. Beginning in 2012, the NPS began development of a 5-year plan to increase accessibility for the whole park system. The plan—*All In! Accessibility in the National Park Service, 2015–2020*—is designed to "create a welcoming environment for visitors with disabilities, ensure that new facilities and programs are accessible, and upgrade existing facilities to improve accessibility."⁹⁹

The ADA also addresses access to Wilderness areas, stating that wheelchairs are to be permitted in Wilderness areas but "no agency is required to provide any form of special treatment or accommodation, or to construct any facilities or modify any conditions of lands within a Wilderness area in order to facilitate such use."¹⁰⁰ As more than 80 percent of Arches is backcountry, managed as wilderness, this exemption removes a large part of Arches from ADA consideration, other than as noted above. Significantly, in light of the situation described below, the ADA also defines a wheelchair as "a device designed solely for use by a mobility-impaired person for locomotion, that is suitable for use in an indoor pedestrian area." Arches does permit the use of Segway devices (a motorized, upright, gyroscopically stabilized personal conveyance) for those with disabilities.¹⁰¹ Segways can be used in any area where wheelchairs can be used if the operator has a physical impairment and holds a valid American the Beautiful access pass; Segways are not permitted under any circumstances on the park roads for the safety of the user.

Mountain Bike or Wheel Chair?

Dr. Jeffrey J. Cain initiated a complex test of National Park Service regulations that pertain to both the ADA and the Wilderness Act in 1998, when he sought permission to use a mountain bike as mobility aid on trails in Rocky Mountain and Arches National Parks.¹⁰² Cain had lost part of one leg and received

severe damage to the other in an accident in 1996, which restricted his ability to walk more than a few blocks at a time. In 1998, Cain was prohibited from riding his bicycle in Arches National Park:

*One and a half years ago, while traveling to the Arches National Park, we brought my bicycle with the anticipation of being able to use it on hiking trails and public areas. At the ranger station, we were told that bicycles were by definition banned from trails and public roads in the national [sic] Park System. They would make no accommodation for the bicycle as an accessibility device, and offered no alternatives to access to trails given my inability to walk more than short distances.*¹⁰³

Cain next contacted Susan Garland, the ADA Accessibility Representative for the Intermountain Region, who helped him prepare a request to John Cook, Regional Director of the National Park Service.¹⁰⁴ Cook denied the request on the basis that a mountain bike is not a mobility assistance device under federal regulations, and he provided the definitions for wheelchairs and bicycles to Dr. Cain. Cain next approached Jack Andre at the national Equal Opportunity Office, and Dave Park in the NPS Washington Office, but was again denied permission. Cain then contacted U.S. Representative Diane DeGette in 1999, requesting that Representative DeGette initiate an inquiry into the NPS, as no offer of accommodation had been extended to him:

*The national response has been that a bicycle is by definition not an assistive device as it is not a wheelchair. No alternative or reasonable accommodation has been offered to accommodate my disability. On the national, regional, and local level, all have told me that other visitors to the park would not understand or tolerate a bicycle being used as an assistive device on a trail that is otherwise closed for bicycles.*¹⁰⁵

Cain noted that he had in each instance offered to modify his bike with handicapped placards and different tires, and to restrict his speed to walking speed, but despite this, he had not been granted permission. He noted that service dogs are allowed on trails that are otherwise closed to dogs. Representative DeGette contacted Maureen Finnerty, Associate Director, Park Operations and Education in Washington, D.C. Finnerty responded in January 2000 that the issues raised by Dr. Cain were undergoing review.¹⁰⁶ In June of that year, Finnerty sent another letter to Representative DeGette, in which she stated that the review was completed.¹⁰⁷ In it, she noted that the NPS does have the authority to ban bicycles, but at the same time, Department of the Interior regulations (43 CFR Part 17, Enforcement of Nondiscrimination on the Basis of Handicap in DOI Programs) require accommodation when and where reasonable. She recommended that Dr. Cain directly contact the Superintendents of Arches (Jerry Banta) and Rocky Mountain (Randy Jones). She also noted in closing that the NPS “Accessibility for Visitors with Disabilities in National Park Service Programs, Facilities, and Services” had recently been updated and was scheduled for release later in 2000.

SEUG staff debated the issues pertaining to Dr. Cain’s request. Phil Brueck at Canyonlands outlined several of these in an email to other staff, including the potential for opening the park to requests “for the dirt bike, or for the ATV or for the _____???”¹⁰⁸ Additionally, he noted that few of the trails in Arches could be negotiated on a bike due to slickrock or deep sand, unlike Canyonlands where much of the park can actually be enjoyed from a vehicle on the existing roads. Despite his concerns about “a precedent that allows any bicycle use on trails” the staff continued to discuss the situation with Dr. Cain, and were preparing to offer him a special use permit by October 2000.¹⁰⁹ During the process of preparing the permit, Rocky Mountain decided that Dr. Cain’s request fell under the Wilderness Act, which specifically prohibits bicycles under any circumstance, but permits wheelchairs, provided the

agency makes no modifications for such use.¹¹⁰ An intense debate ensued among Jim Reilly (Denver), Jim Walters (SWRO-OSFT), and Randy Jones at Rocky Mountain, who concluded that the request to use the bicycle was not a wilderness issue, in part under the belief that Dr. Cain had a “regular” bike and wanted to access the frontcountry trails. But during a phone conversation between Chief Ranger Jim Webster (Arches) and Chief Ranger Joe Evans (Rocky Mountain), the situation changed:

*It is fundamentally important that you understand that this is, indeed, a wilderness issue. Dr. Cain DOES have and wants to use a mountain bike to access park lands, whether they be wilderness or not. For example, he made it very clear he would not be satisfied with the 4% of RMNP that is not proposed wilderness.*¹¹¹

Using the decision tree in the Wilderness Access Decision Tool, bicycles are prohibited in Wilderness areas without exception,¹¹² and Dr. Cain indicated that he was not interested in riding horses, which are permitted in Wilderness or proposed Wilderness areas. Webster noted in early 2001 that discussion of the issue had continued at Arches and Rocky Mountain, and that he was concerned that “ROMO and ARCH are responding very differently to this request, for different reasons (wilderness at ROMO vs. visitor/resource safety at ARCH).”¹¹³

SEUG Superintendent Alford “Jerry” Banta prepared a draft memorandum for the park files in which he stated that Dr. Cain would be accommodated through a special use permit with nine special conditions, including a restriction of the access to the Park Avenue Trail, Balanced Rock Accessible Trail, Windows Trail excluding the Turret Arch-Main Trail “north spur” and the Windows Primitive Trail, the Delicate Arch Trail to Frame Arch (after which the bicycle must be walked), Delicate Arch Viewpoint Trail to the “Lower Viewpoint,” Sand Dune Arch Trail to the entrance to the “fin,” and Devils Garden Trail to Landscape Arch. Meanwhile, deliberations continued at Rocky Mountain National Park, with Superintendent A. Durand Jones requesting a formal opinion from the Solicitor’s Office on Cain’s request. In it, he notes the following:

As the debate now stands, we have been encouraged by WASO staff to work with Dr. Cain by recognizing his mountain bike as an “accessibility devise” [sic]. However, I am uncomfortable proceeding with issuing a Special Use Permit to Dr. Cain without a formal opinion. To do as suggested would not disguise, what I see as, an obvious conflict with current policy and law regarding wilderness and accessibility. The recommended action could potentially have serious national ramifications for the National Park Service as well as other agencies that manage wilderness areas.

*Dr. Cain has chosen the mountain bike as his personal mode of transportation. Is the National Park Service obligated to allow any mode of transportation a person with a disability selects to use to access wilderness? There are other modes of transportation suitable for persons with disabilities that are allowed in wilderness by law and policy (e.g. horseback and wheelchair). Dr. Cain has been offered those options, however still insists on using his mountain bike to access recommended wilderness. Is the issue one of law or policy?*¹¹⁴

The last entry regarding this issue in the SEUG Archives is an email from Jim Webster, noting that Arches still intended to grant Cain a special use permit, but that Rocky Mountain had pursued direction from the Solicitor’s Office. Webster closed by asking “Where do we go from here?” The files do not include a completed special use permit or any further correspondence about this matter, and squad and staff meeting minutes do not report a final resolution of the issue. The Department of the Interior Solicitor’s

Office does not report an official opinion regarding Dr. Cain's request.¹¹⁵ The absence of subsequent documentation suggests that Dr. Cain did not pursue the matter further, but the episode marked an important episode in the clashing requirements of the Wilderness Act and ADA, as well as the different perceptions on the part of individual NPS staff as to their interpretation.

Dr. Cain is also a life-long skier, a sport to which he returned within a few months of his accident (a plane crash).¹¹⁶ Although he was able to make runs standing, the pain in his damaged foot was such that he had to take frequent breaks. In fact, he eventually had the crushed foot amputated (circa 2002), and uses a sit-down "ski bike" to ski. He is a national advocate for their use for disabled skiers and teaches other skiers how to use them.

Native American/American Indian Consultation

From the earliest exploration of the Arches area, it was apparent that, in comparison with Hovenweep, Mesa Verde, or Chaco Canyon, the landscape of Arches National Monument had witnessed only modest visitation prehistorically or in historic times. This led the Master Plan of 1940 to allocate only 10 percent of the interpretation to ethnology, but 50 percent to geology.¹¹⁷ Downplaying the significance of archaeological and ethnographic resources in Arches has since continued over the decades. For example, the Arches Administrative Collection documents only a single interaction with native communities. In 1992, elders of the Ute Tribe contacted Arches National Park with concerns that the proposed new entrance road alignment might impact a stand of purple sage (*Poliomintha incana*).¹¹⁸ Purple sage is used in ceremonial tobacco mixtures to smooth the smoke. Most of the sage actually grows on the sand dunes to the south of US 191, which were being affected most by OHV activity. As this is BLM land, rather than NPS, Arches staff responded by providing the Ute elders with BLM contact information and notifying SEUG Archaeologist Eric Brunnemann for possible further consultation with the tribe. As plans for the realigned entrance progressed, it was discovered that a stand of purple sage was located where the new entrance would meet US 191.¹¹⁹ SEUG Botanist Steve Budelier mapped the plants, which were transplanted before construction took place. The Ute Tribe did not have any additional concerns about the purple sage, which was important to them in part because of the accessibility of the plants from the highway.¹²⁰ Consultations regarding the relocated entrance took place from 1999 to 2002, but these are the only tribal consultation records in the SEUG Resource Management Administrative Files.¹²¹ Ongoing consultations have not yet been archived.

A consortium of indigenous people founded the American Indian Movement (AIM) in 1968 to draw attention to neglect of treaty rights, racism, poverty, and encroachment by outside interests to Native reservations.¹²² Since that time, AIM has pursued a 20-point agenda through direct action, lawsuits, and development of schools and programs for American Indian people. Beginning with the American Indian Religious Freedom Act of 1978 (AIRFA),¹²³ federal agencies have been required to consider the effects of undertakings on Native spiritual practices. Unfortunately, the courts have often failed to support the intention of Congress in interpreting AIRFA. The 1990 Native American Graves Protection and Repatriation Act (NAGPRA)¹²⁴ more explicitly requires consultation regarding ancestral human remains, unmarked graves, associated funerary objects, and sacred or ceremonial objects. Federal agencies and museums were required to inventory their collections for these items and document their collections. SEUG completed a Summary of Human Remains and Funerary Objects in 1992.¹²⁵ SEUG was hampered by having inadequate curation and storage facilities, with records and artifacts stored in the Rock House until they were moved to a climate-controlled room in the new headquarters building in 1994.¹²⁶ In that

same year, SEUG conducted a reburial of one set of human remains from Canyonlands and associated objects. Three sets of human remains from Arches or Canyonlands had been reburied before the implementation of NAGPRA. The status of NAGPRA consultation at all four SEUG units was reported in 2009, but no plan had been developed for dealing with inadvertent discoveries—a very likely situation at Hovenweep, and possible at the other three units.¹²⁷ This deficiency was not immediately rectified, in part because the repatriation of thousands of remains and objects from Mesa Verde and Chaco Canyon consumed much of the attention and energy of national and regional NAGPRA programs and staff during the remainder of the decade.¹²⁸ SEUG did begin NAGPRA consultation in 1995. The disposition of human remains that are inadvertent discoveries at the four SEUG units became a formal initiative in 2011 through a CPCESU collaboration with the Museum of Northern Arizona. Much of the initial discussion was focused on Hovenweep with its many large Ancestral Puebloan villages, but the final agreement will apply to all SEUG units.¹²⁹ The Arches Administrative History will be complete and published before that consultation is completed.

National Park Service Planning

The culmination of the period of regulation in the history of Arches was the preparation of a series of management plans for every conceivable aspect of the operation of Arches National Park. The initial development of Arches National Monument was guided by a series of Master Plans, finalized in 1940, 1956, and 1965. These described the purpose of the monument and assembled the design plans and concepts of the various field trips and reconnaissance surveys to briefly describe the environment and how visitors would be given access. The first Master Plan was completed in 1940 to guide the CCC in developing the new park scenic drive and headquarters area. Following the withdrawal of the CCC and World War II, the Master Plan was not updated until 1956 as part of Mission 66 planning for the monument.¹³⁰ Park Naturalist Stanley G. Canter prepared a new plan in 1962 under the supervision of Superintendent Bates Wilson,¹³¹ who recommended that the plan be forwarded for approval by the director of the National Park Service in 1963. This Master Plan was revised in 1964 and 1965, but final approval was not obtained until 1967.¹³² Establishment of Arches National Park required a new Master Plan, which was prepared in 1972 by outside contractors, who also undertook a transportation study.¹³³ The Arches plan was completed in 1973, but did not receive regional approval until January 18, 1974.¹³⁴

After monument development was completed in 1965, and with the advent of the Wilderness Act, NHPA, and NEPA, the focus shifted to developing management documents. These fall into two distinct categories: the General Management Plan or GMP, and specific resource management plans. The General Authorities Act of 1978 (U.S. Public Law 95-625) required that all NPS units develop a General Management Plan.¹³⁵ The GMP expands upon the language of the Organic Act and the specific unit enabling legislation to clearly identify the nature and character of Arches (or any other unit), the NPS mission in general and at the unit specifically, the significant resources and values, the policies that are to guide preservation and use, and other guidelines. The GMP provides guidance regarding the visitor experience and how the park is organized and operated, and gives a design analysis for further development, rehabilitation, or preservation of park facilities. Arches GMP was prepared in the late 1980s and received final approval in 1989.¹³⁶ The GMP divided Arches into four management zones—natural, cultural, development, and special use—as the resources, management issues, and visitor experiences in each zone are different.

Bridging the period and purpose of the Master Plan to the GMP is the Statement for Management (SFM). This document presents much of the same information as the Master Plan, but is intended to identify potential issues and management objectives to deal with those issues: “It does not involve any prescriptive decisions on future management and use of the monument, but it provides a format for evaluating conditions and identifying major issues and information voids.”¹³⁷ The first SFM was prepared in 1978, with subsequent SFMs in 1985, 1988, and most recently 1990.¹³⁸ One of the most important functions of the SFM is to review the status of existing plans and studies, and their adequacy. In 1990, 23 documents were reviewed, of which 10 were regarded as “current,” 6 were identified as being in the process of being updated, 2 had not yet been prepared and were regarded as “needed,” and 5 needed to be updated, revised, or completed, or supplementary studies needed to be completed. The Foundation Document (2013) has since replaced the SFM, and incorporates some of the language and purpose of the GMP as well.¹³⁹

The specific resource plans fulfill several roles for park management. First, they expand upon the general objectives and policy outlines in the Master Plan or GMP. Second, they address the specific resource issues of federal legislation other than the Organic Act, including the Wilderness Act, NEPA, NHPA, ARPA, OSHA, ADA, and others. While NEPA, NHPA, and ARPA directly affect the operations of the park in terms of development, demolition, and rehabilitation of facilities, OSHA and ADA affect the relationship between park management and park employees, and ADA affects the relationship of the park to employees and visitors. During the 1970s to 1990s, Arches National Park personnel responded to these directives by producing a series of management documents, mostly produced under the direction of Superintendents Paul Guraedy and Noel Poe. The list below illustrates the range of topics encompassed by these plans and the frequency with which they were produced, and should not be considered a comprehensive review of all of the management plans that have been created for Arches National Park.

- Arches Backcountry Management Plan (1978)
- Emergency Medical Services Plan for the Canyonlands Complex (1985)
- Fire Management Plan Arches National Park (1987)
- Emergency Operation Plan Arches National Park (1988)
- Search and Rescue Plan: An Annex to the Arches National Park Emergency Operation Plan (1988)
- Structural Fire Plan Arches National Park (1989)
- Wildland Fire Management Plan Arches National Park (1989)
- Tamarisk Management Plan for Arches National Park (1989)
- Southeast Utah Group Geographic Information System Plan (1990)
- Integrated Solid Waste Alternative Program Southeast Utah Group (1992)
- Environmental Education Plan Arches National Park (1992)
- Arches National Park Emergency Medical Services Plan & Protocols (1993)
- Rocky Mountain Region Housing Management Plan: Southeast Utah Group–Arches National Park (1995)
- Resource Management Plan Arches National Park, Utah (1996)
- Housing Management Plan for Arches National Park (1997)
- Arches National Park Emergency Medical Services Needs Assessment (1997)
- Trails Management Plan (1999)
- Water Resources Management Plan (1999)

These plans are prepared by resource specialists at the park, group, or regional level, and are then reviewed and approved by successive levels of NPS management. They are updated every 10 years on average, or when significant changes occur in NPS organization (for example the replacement of the Rocky Mountain Region with the Intermountain Region, or change from Canyonlands Complex to Southeast Utah Group), legislation, or resource impacts (as with the Rock Climbing and Canyoneering Management Plan, described in Chapter 6). Many of the management plans prepared after the creation of SEUG have been group-wide plans, rather than specific to a single unit, such as the SEUG Trails Plan (1999), Water Resources Plan (1999), and SEUG Road Maintenance Plan (2005).¹⁴⁰

In terms of future administration of Arches, it is likely that much of the hard work has already been completed for resource management plans. Revisions usually incorporate the same basic needs and purpose information, updated with new statistics on visitation, park employment, resource impacts, and legislative changes. Given congressional inactivity during the past several decades, new proactive legislation is unlikely to be passed, although some existing statutes may be modified or repealed. Even if Congress does repeal significant acts, it is the management plans that guide the day-to-day operations of the park now. Thus, in the unlikely event that OSHA were to be repealed, for example, NPS, SEUG, and Arches policies for the maintenance of a safe and healthy workplace would not be repealed, as the appropriate management plans establish and support the safe workplace, unless the act repealing the existing law specifically excised supporting regulations and policies. As discussed in Chapter 6, outside events may require that some topics be revisited with a management plan, as in the instance of rock climbing and canyoneering and bicycles. A draft plan to manage rock climbing in Arches was completed in 1992 but never finalized; the highly publicized climb of Delicate Arch in 2006 placed external media and advocate pressure on Arches National Park to address this activity. At the national level, mountain biking enthusiasts worked with the NPS to develop a plan to expand the use of bicycles in the national park system on a park-by-park basis. The just-released (2012) bicycle plan will, undoubtedly, result in requests for trail access in Arches, requiring a park- or group-specific bicycle management plan.

Canyonlands Complex to Southeast Utah Group: Further Reorganization

After Bates Wilson retired in 1972, new Canyonlands Superintendent Robert Kerr began the process of developing the Needles District in Canyonlands National Park, completed by his successor Peter Parry. Late in Kerr's superintendency, the structure of the Canyonlands Complex was changed to a Unit Manager/Interpretation and Resource Management format, different from "traditional" NPS structure, and unit superintendents were redesignated as unit managers. As Canyonlands National Park had always operated under this model, the change affected Arches to a greater degree. With the advent of legislation such as the National Environmental Policy Act in 1969 and other environmental laws, this structure was poorly suited to the sort of analysis and planning now required.¹⁴¹ Furthermore, over time some of the districts within Canyonlands National Park had come to operate as though they were discrete entities, and were not fully implementing park- or system-wide policies. To Regional staff, Canyonlands had developed a reputation as being run by "ultra-green purists" who were actively resisting NPS efforts to improve the quality of employee housing and the visitor experience.¹⁴²

In October 1987, at the beginning of FY 1988, the Canyonlands Complex was dissolved and reconstituted as the Southeast Utah Group under Superintendent Harvey Wickware (1982–2017).¹⁴³ Within the Canyonlands Complex, park functions across the three units had centralized. Each unit was overseen by

(depending on the year) a unit manager or superintendent, but many specialist positions operated within all three parks:

*The overall approach for the new organization is actually very simple: We are instituting a traditional organization that has proven successful over the course of time, in nearly all of the diverse areas the Service administers, in lieu of a unique Complex for which the level of success is, at best, questionable. We expect many benefits from a streamlined organization but the initial primary objectives are to install clear lines of responsibility and to place more staff in the field.*¹⁴⁴

The new organization was to be decentralized, with each park unit resuming responsibilities for management of just that unit, and returning Arches and Natural Bridges to “full” park status as equals, not subordinates, to Canyonlands. The other main goals were to develop a functioning interpretive unit at Canyonlands, return the buildings and facilities at Canyonlands to acceptable conditions, and improve the shortage of staff housing.

In reality, this reorganization was less dramatic than described above. The Canyonlands unit manager became the assistant SEUG superintendent, thus maintaining a Canyonlands-centric administration. The Arches and Natural Bridges unit managers again became park superintendents. Some of the recommended changes, such as streamlining the administrative staff, had already been effected as early as 1986. A 1984 dispersal of the Canyonlands Complex buildings and maintenance portion of Central Maintenance would be reversed to a more centralized condition.¹⁴⁵ In fact, it was noted in the prospectus that the reorganization had largely already taken place: “At present, the specialized functions are centralized and only clerical support has been relocated to the field. It is not intended at this point that Arches and Natural Bridges would become or even work towards administrative independence.” One major change was a requirement that rangers live in their district or park, not in Moab or Blanding, so that they were available to immediately deal with issues.¹⁴⁶ Some resource management positions such as archeologist and biologist remained at the group level and personnel in those positions were utilized by all of the group units.¹⁴⁷ This aspect of the reorganization became much more important when Hovenweep National Monument moved from administration by Mesa Verde National Park to being the fourth unit of SEUG in 1998. SEUG also retained a group-wide trails crew that was finally dissolved in 2003 to make way for individual park crews.¹⁴⁸

The dissolution of the Canyonlands Complex was instigated by Regional Director Lorraine Mintzmyer, who directed Wickware to “shake up” the Canyonlands organization.¹⁴⁹ In addition to the structural changes to the organization of Canyonlands, Arches, and Natural Bridges, multiple employees were transferred out to other units of the NPS. Chief Ranger Dean Garrett exchanged positions with Tony Schetzle at Big Horn National Battlefield in Montana. Assistant Superintendent Nick Eason was transferred to Dinosaur National Monument in Colorado. Gail Menard was transferred in as administrative officer, replacing Danny R. Simms who was sent to Curecanti as acting superintendent. Garrett and Eason were reportedly unhappy about the involuntary reassignments.¹⁵⁰

Understaffing was a major problem for supervisors at the time of the reorganization. As of March 1987, Unit Manager Paul Guraedy had an administrative clerk to assist him in managing the divisions of Interpretation, Resource Management/Visitor Protection, and Maintenance.¹⁵¹ But most of the positions within those divisions were vacant: Interpretation was staffed by a supervisory ranger and one park ranger with five vacant ranger positions, and the supervisory ranger and six ranger positions were vacant in Resource Management/Visitor Protection, which had only a single ranger on staff. Only

Maintenance had more positions filled (five: carpenter, maintenance worker, painting worker and two laborers) than vacant (four: three maintenance workers and one custodial worker). Arches had a staff of 10 people to tend to the needs of 468,916 visitors in that year. By 1988, Superintendent Guraedy still had an administrative clerk, only two interpretive rangers, four resource/visitor protection staff, and five maintenance workers, but had added John McLaughlin as chief ranger and Frank Darcey as the worker foreman for Maintenance.¹⁵²

Research and Interpretation

A Resource Management Plan was prepared for the Canyonlands Complex in 1972, but it sat dormant during review by region until 1974, when Superintendent Robert Kerr directed his unit managers to proceed with implementation, using available funds and personnel.¹⁵³ No active projects were described for Arches at that time. Thirteen research projects were to be implemented in each of the Canyonlands units: deer management; control of feral animals; livestock grazing; archaeological survey, protection and research; maintaining ornithological check lists and establishing an observing program; research on ichthyology, mammology, and reptiles and amphibians; investigation of mines and mineral claims; missing or decimated species studies; non-native flora and fauna; geologic research; and studies of parklands carrying capacity.¹⁵⁴

Assessing Needs

By 1980 Canyonlands Complex Superintendent Peter L. Parry had identified six research topics for Arches,¹⁵⁵ and prioritized them for funding: (1) pictograph–air quality relationships; (2) lichen–air quality relationships; (3) ecology and distribution of endangered, threatened, and rare or endemic plants; (4) tamarisk control through application of herbicides; (5) ecology of tamarisk and the Canyonlands riparian community; and, (6) tamarisk–riparian fire ecology. Essentially these were three research domains (air quality, plant communities, and invasive tamarisk) broken into individual projects more likely to receive funding. Air quality issues (discussed in Chapter 4) became a topic of regional and national importance during the 1980s. Plant communities studies began with Jayne Belnap’s arrival in 1987 (see below). Tamarisk and its effects on the native landscape also came to the forefront as a pressing resource problem.

The War on Tamarisk

Tamarisk (*Tamarix ramosissima*, colloquially known in Utah as saltcedar) is a native of Eurasia, imported to the United States in the late 1800s as an ornamental plant and sometimes used for windbreaks.¹⁵⁶ During the early twentieth century, it escaped cultivation in the West and spread rapidly throughout riparian areas, especially during the drought years of the Dust Bowl. Tamarisk outcompetes native riparian tree species such as cottonwood and willow by drawing down the water table through heavy use and by blocking sunlight.¹⁵⁷ In particular, tamarisk is a successful invader because its leaves excrete salts onto the ground beneath the canopy, raising the local salinity to levels intolerable to native species and often creating a mono-culture stand of trees.¹⁵⁸ Cattle, through erosion of streambanks, are implicated in the spread of this weed, which also spreads by producing millions of seeds carried on the wind and by floodwaters. Tamarisk has higher tolerances not only for saline, but also for dry, cold, and hot conditions, and it produces its seeds over a period of months, giving it greater opportunities to take root.¹⁵⁹ Tamarisk was initially used by the Park Service for erosion control in Arches National Monument, but following flash floods on August 17, 1965, “salt cedar transplanting was done in back of the spider

fence in Salt Wash near the Delicate Arch Trail and the fence was rebuilt to protect the trail from erosion.”¹⁶⁰ In many locations on the Colorado Plateau, tamarisk has completely displaced all native vegetation, although it sometimes shares riparian areas with native willows and cottonwoods, and with Russian olive, another invasive Eurasian species. The control and removal of tamarisk and Russian olive became an important natural resource problem for all federal land management agencies on the Colorado Plateau, but especially for the National Park Service, which tries to maintain a natural environment within park units. Tamarisk eradication is not easy. “Deciduous tamarisk is difficult or impossible to kill by fire, drought, freezing, hypersalinity, prolonged submersion, and repeated cutting at ground level.”¹⁶¹ Within the regional environmental movement and in the NPS, tamarisk removal took on a greater character than just resource management, becoming something of a QUEST by the late 1980s:

*As with most projects, there will be critics, both in-house and from the public. The tamarisk eradication program in the Western U.S. is beyond this stage now, and removal methods are well proven. The need to remove exotic tamarisk is paramount. It threatens to reduce the natural diversity of many riparian systems throughout the watersheds of the Western States.*¹⁶²

Arches’ pilot program to control tamarisk was a proposal to burn 4 acres of tamarisk around Salt Valley Spring in 1987. It quickly became controversial, among the largest public controversies in the history of the park. In March of 1987, former Arches ranger Jim Stiles found a cache of equipment at the spring:

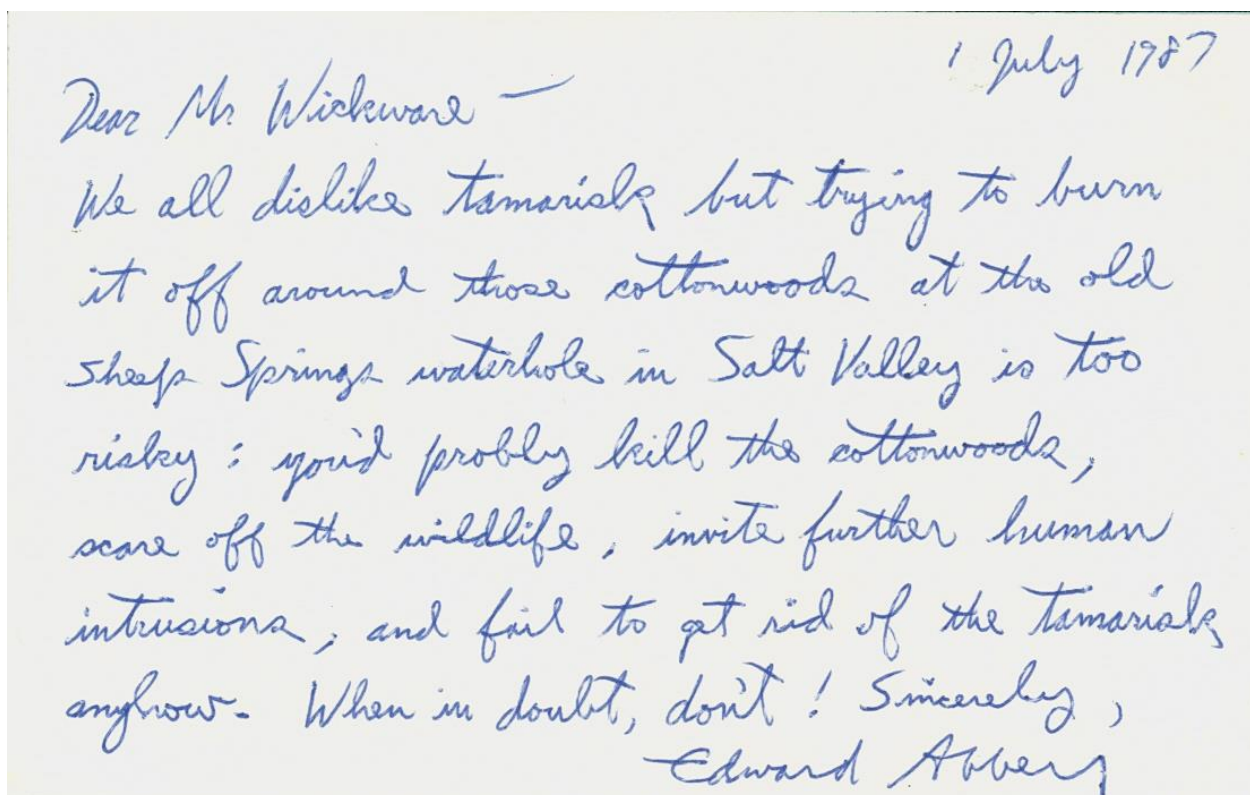
*The cache consisted of a chain saw, axes and shovels. They were to be used for a prescribed burn, originally planned for March 27. This proposal is inconsistent with established policy regarding raptor nesting areas. I observed the Coopers hawk near the nest on March 25, and I believe this is an inappropriate time to even consider a prescribed burn. Further, I have not once seen a burn that effectively eliminated or even retarded the growth of tamarisk. It is an exercise in futility and a waste of money.*¹⁶³

Stiles’s letter to Arches Unit Manager Paul Guraedy also noted the presence of cottonwood trees near the spring, and the use of those trees as summer nesting for great horned owls. Stiles copied his letter to the Southern Utah Wilderness Alliance (SUWA) and the National Parks Conservation Association (NPCA), both organizations that act as self-appointed watchdogs to NPS practices. Guraedy replied to Stiles, noting that the burn plan considered the potential impacts to nesting Coopers hawks and the cottonwood trees, and mitigated them by conducting the burning before egg-laying season and by placing fire lines and crews to protect the cottonwoods.¹⁶⁴ Stiles replied with a three-page rebuttal in which he questioned whether the proposed fire date would not affect the Coopers hawks and the efficaciousness of a fire line to protect cottonwoods, and he noted the presence of prehistoric and historic cultural resources in the area. He also brought to light the underlying reason why the project was problematic for him.¹⁶⁵ “In the 10 years since I found the spring, I have tried to limit myself to 2 visits a year, so that it could remain isolated and untouched.” Despite the presence of “an old cowboy trough and tank near the spring” Stiles demanded a full Environmental Assessment under NEPA, including a cultural resources survey, but also requested that the project be abandoned and the site left alone:

I may not work at Arches anymore, but that doesn’t mean I have stopped loving it or caring about it; Arches was and always will be the center of my life. To me, it is about more than a place to generate revenue for the NPS, so that it can perpetuate these kinds of projects. I will continue to pursue whatever

*legal actions are available to stop this senseless plan, and I intend to bring public scrutiny to the park's contradictory application of its resource management policy whenever and wherever possible.*¹⁶⁶

Stiles's letter was copied to SUWA, and unsurprisingly, to Edward Abbey. Like Abbey, Stiles had evidently made a very personal connection with the landscape of Arches, and had become deeply disillusioned with the National Park Service. Abbey himself wrote a postcard to SEUG Superintendent Harvey D. Wickware, urging him not to burn the tamarisk (Figure 5-4).¹⁶⁷ Unsatisfied with Guraedy's response, Stiles wrote to Wickware, the new superintendent at the Canyonlands Complex, with copies of the earlier letters: "The National Park Service is supposedly dedicated to preserving and protecting these natural areas. In the 11 years I was a seasonal ranger at Arches, I increasingly found it necessary to protect the park from the Park Service itself."¹⁶⁸ Wickware's reply that "I have confidence that our Resources Management staff will fully evaluate the effects of actions to remove tamarisk"¹⁶⁹ did not placate Stiles.¹⁷⁰ "I know that you are new here, and I would like to give you the benefit of the doubt, but many of the facts in your letter of May 27 were incorrect." Stiles's four-page rebuttal to Wickware's letter was even more emotional, personal, and angry than previous letters, with the NPS "interpreting my concern as a somewhat selfish gesture, that I was trying merely to protect my 'private playground.'"¹⁷¹ At this point, probably alerted by Stiles, former park ranger and the chairman of the Grand County Historic Preservation Commission Lloyd M. Pierson also wrote to express his concerns about historic resources at the springs.¹⁷² Reacting to the controversy, park staff decided to subject the project to a full Environmental Assessment, as Stiles had requested.



1 July 1987

Dear Mr. Wickware —

We all dislike tamarisk but trying to burn it off around those cottonwoods at the old Sheep Springs waterhole in Salt Valley is too risky: you'd probly kill the cottonwoods, scare off the wildlife, invite further human intrusions, and fail to get rid of the tamarisk anyhow. When in doubt, don't! Sincerely,

Edward Abbey

5-4. Postcard from Edward Abbey to Superintendent Harvey Wickware, July 1, 1987, regarding the plans to burn invasive tamarisk at Salt Valley Spring. ARCH 101/011-001, SEUG Archives.

At this point, the controversy became public, with Stiles writing a letter to the editor of the Moab *Times-Independent*¹⁷³ and Pierson being interviewed in an article in the same newspaper.¹⁷⁴ The Grand Junction *Daily Sentinel* wrote a review of the controversy in July of 1987, during which it was noted that a full EA was planned for the project, even though Arches staff felt that it was “overkill” and expensive for a project of that size.¹⁷⁵ Evidently it took longer to prepare the EA than anticipated, as a *Times-Independent* article in January 1988 noted that the 30-day public comment period for the EA would open soon, ending February 12, 1988.¹⁷⁶ Canyonlands Complex Resource Management Specialist Kate Kitchell reviewed the comments and prepared an analysis of the EA, finding it inadequate as it was currently written:

*Although we thought when the EA for this project was released that we had thought this proposed action through completely, the criticism received from the public reveals otherwise. While we received several supportive comments on the proposed action and EA, there was also some strong negative, but very constructive criticism that has led me to conclude that the proposed action should be postponed until we have better defined project objectives, answered several questions about possible environmental impacts, and further evaluated associated costs and benefits.*¹⁷⁷

Before the burn plan could be revised and implemented, however, the director of the National Park Service banned the use of prescribed burns of any type.¹⁷⁸ Arches staff developed a Tamarisk Management Plan in 1989, and it was implemented that same year with a cutting and herbicide treatment of tamarisk stands in Salt Valley. During 10 weeks in 1991, 378 person-hours were expended in tamarisk treatment (plus 310 hours in travel, administration, etc.) that resulted in cutting 1,371 stems/trunks larger than ½ inch. The 1989–1991 program was monitored, showing a 94 percent kill rate when Garlon-4 (an herbicide brand) was applied to the stems; 450 ounces were used in Arches in 1991. In assessing the success of this program, Ranger Gary N. Salamacha observed the following:

Substantial amounts of time and labor have been expended on this project. The success of the project is dependent upon the funding of a conscientious follow-up program. The areas that were cut should be monitored, cut and treated on an annual basis. The areas where eradication was completed are controllable. There are similar areas where tamarisk can be successfully controlled in this manner. Surveys should be done to determine and map these areas. This is expected to be accomplished during the 1992 field season at ARCH.

*Eradication of exotic species is a means of preserving the resource and restoring areas to their natural state for future generations.*¹⁷⁹

The tamarisk controversy illuminates some of the difficulties encountered during the transition from top-down decision making at the national, regional, or park level, to the modern era of management plans, public scoping, and external oversight. Because implementation of the many environmental regulations was still relatively new in the mid to late 1980s, park staff made some mistakes in their selection of locations to treat, how the project was planned, and their interactions with the public; these were acknowledged in the final analysis of the EA.¹⁸⁰

The project also ran afoul of a backlash against this planning process within the environmental movement, as discussed in terms of Edward Abbey and his involvement with radical environmental groups (Chapter 8). Despite the huge legislative victories that the mainstream environmental movement achieved in the 1960s and 1970s, the processes of deliberation and analysis required by NEPA rarely

stop projects completely. Many of the angrier, iconoclastic, and idiosyncratic environmentalists realized that the limits of activism are reached when you get what you asked for, but did not consider all of the implications, and discover that you don't like the result.¹⁸¹ The Arches staff had the misfortune that their project ran directly into several such environmentalists whose personal sense of disappointment at the situation overflowed into the public involvement of the project.¹⁸² Edward Abbey died in 1989 and was not able to comment further on the project.

Jim Stiles never abandoned his crusade; in 2004, as editor of *The Canyon Country Zephyr*, Stiles filed a Freedom of Information Act (FOIA) request for all materials related to eradication of Russian olive and tamarisk at Arches National Park.¹⁸³ Stiles was bitterly disappointed that the NPS had not notified him of the Tamarisk Management Plan, or the results of its implementation. Although he had not yet received the FOIA documents, Stiles published an overview of the controversy, beginning with his discovery of the "Secret Spring" in 1977.¹⁸⁴ When he returned to the location of the spring after the tamarisk eradication, he discovered that the spring had dried up, and that its presence had likely been the result of the tamarisk stabilizing the banks of Salt Wash, allowing the small seep to become a surface pool. Since then, however, the tamarisk removal has encouraged the growth of native willows and cottonwoods, and no large tamarisk have returned, although reports of the presence of surface water are contradictory.¹⁸⁵

Since the pilot removal project at Salt Valley Spring, NPS and USGS scientists routinely monitor removal sites for evidence of regrowth and to document the return of native species. Removal continues from 1991 to the present using volunteer service organizations such as the Sierra Club (see Chapter 7).

NPS, NBS, and USGS Resource Programs

Research Ecologist Jayne Belnap joined the NPS in 1987 and immediately established an ecological studies program designed to provide hard data about resources that could better inform management decisions.¹⁸⁶ The program also provided her with data for her dissertation research (PhD in Botany, Brigham Young University, 1991) which focused on the effects of pollution from coal-fired power plants on soil crusts and rock lichens in dryland environments.¹⁸⁷ Soil crusts, formerly known as cryptobiotic or cryptogamic soils and more recently as biocrusts, are a surface community of fungi, lichens, mosses, and cyanobacteria that form a natural protective layer that keeps sediments from blowing or washing away and add nutrients to the soil. Soil crusts are one of the first topics to emerge from this ecological program. Grazing, off-road driving, and even walking off of established trails breaks up and can kill the fragile crusts, exposing the sediments to erosion.

Belnap and SEUG Biologists Tim Graham and later Charlie Schelz, Arches Resource Protection Ranger Gary Salamacha, and others were involved in establishing or maintaining monitoring programs for many species and communities. Many of these were maintained for years or even decades and are even ongoing today.¹⁸⁸

- Devils Garden Breeding Bird Survey: Started in 1983, monitoring nesting sites in pinyon-juniper woodland settings for abundance and territories. The program ended in the 2000s.¹⁸⁹
- Raptor Nest Monitoring: Nests of eight species of birds of prey were monitored for fledgling success beginning in 1983, primarily by Arches Ranger Gary Salamacha and Student Conservation Association interns. The program was redesigned in 2015 and is ongoing through the SEUG Resource Division.

- Roadside Breeding Bird Survey: Conducted along the park roads since 1989 to evaluate the abundance of species in various park habitats. The program ended by 2001.
- Riparian Bird Monitoring: Arches employee Damian Fagan monitored birds during nesting season, along riparian transects in the 1980s to mid 1990s, with Sonja Daw adopting the project for the next decade after Fagan left. NCPN contracted out the monitoring in 2007 when Daw left, with slightly more rigorous methods but less actual monitoring.
- Great Blue Heron Monitoring: Beginning in 1998, a great blue heron rookery along the Colorado River was monitored for fledgling success for more than 10 years, largely by Student Conservation Association interns supervised by park staff.
- Tamarisk Monitoring: Areas from which tamarisk had previously been removed continue to be monitored and resprouts treated for years after removal.
- Bighorn Monitoring: Existing herds at Canyonlands and later Arches are monitored after they were reintroduced between 1985 and 1995. Monitoring was extensive through 2011, and more opportunistic since then.
- Small Mammal Monitoring: Originally carried out at vegetation plots and then relocated to other sites to prevent trampling, this program was discontinued in 1991 due to potential exposure to Hantavirus and the departure of lead investigator Tim Graham.
- Long-term Upland Vegetation Monitoring: Sixteen plots were developed and have been monitored since 1987, including re-photography to document changes. Nine of these have been monitored continuously since then, with four more added around 2000 in the Lost Spring Canyon addition.
- Lost Spring Canyon: Riparian vegetation was monitored for a few years in Lost Spring Canyon after it was added to the park in 1998. Raptor nests have been monitored at varying frequencies since the addition, to the present time.

The research priorities outlined for 1992 illustrate how research priorities change, and in a relatively short time. The priorities for 1992 funding were as follows:¹⁹⁰ (1) excavate mammoth skeleton; (2) identify the impact of external development on the economic and aesthetic values of the park; (3) conduct a floodplain assessment around Wolfe Ranch; (4) mitigate an archaeological site being washed away by Courthouse Wash; (5) conduct a program of sound monitoring for baseline data; (6) conduct a baseline survey of night sky condition; (7) document dinosaur megatrack site; (8) evaluate the feasibility and methodology for revegetation/rehabilitation; (9) monitor vegetation differences between portions of the park fenced against livestock and those that are not; and (10) complete a comprehensive archaeological inventory of the park. A comprehensive archaeological inventory has yet to be initiated, but items 5, 6, 7, and 8 have been undertaken to varying degrees (see Chapter 7).

Belnap worked for the NPS until 1993 when the National Biological Survey (NBS) was created by Interior Secretary Bruce Babbitt in response to major problems in Department of Interior science relating to spotted owls.¹⁹¹ Scientists from the NPS, BLM, USFS, and Fish and Wildlife Service were reassigned to the new agency. Only a year after its creation, the 104th Congress and the “Contract with America” targeted the NBS for allegedly threatening private property rights, so in 1995 Secretary Babbitt changed the agency’s name to the National Biological Service. This semantic sleight-of-hand did not placate conservatives, so in 1996, after Congress cut the agency’s budget by 15 percent, the agency was folded into the U.S. Geological Survey as the Biological Resources Division (BRD). Belnap was transferred to the

NBS in 1993 and rode through the years of turmoil. The USGS-BRD office in Moab is within the same building as SEUG Headquarters, and Belnap and other BRD scientists have continued to provide ecological expertise to the SEUG units to the present. The relationship between SEUG and the USGS-BRD somewhat blurs the distinction between Park Service and outside science.

Outside Science

Scientists not affiliated with the NPS initiate many projects in NPS units, including Arches. As exceptional, even unique, protected landscapes, NPS units often provide the only laboratory in which to research certain topics. Arches' change in status to a national park in 1971 revived interest in the scientific potential of this landscape, perhaps in response to concerns expressed within Utah about the potential mineral wealth within the expanded park boundaries. Records on research and collecting projects archived at SEUG begin with this transition. Scientific or educational collections requests in the Arches administrative collection span from 1971 to 1984, and include 20 permit applications from 10 colleges or universities: Eastern Kentucky University (1971), University of Oklahoma (1974), Mercer County (New Jersey) Community College (1976), Oakland Community College (1978), University of Wisconsin (Oshkosh Campus 1978, Eau Claire Campus 1982, and not specified 1984), Bowling Green University (1982), Texas Tech University (1980), University of Texas at Austin (1981), Utah State University (1982), and Brigham Young University (1983 and 1984).¹⁹² Independent researchers, the USGS, and the Department of Energy also made collections requests. Botanical or floral collections were the most common collections requests (7), followed by geological studies (6), and soil or stream studies (3). Two requests were specifically for insects or arachnids (two other permit applications were not for scientific projects and may have been misfiled). More recent research, science, and resource projects are catalogued within the SEUG Archives with the SEUG Resource and Science Stewardship records, as discussed in Chapter 7.¹⁹³

Three collections requests from the 1980s demonstrate the wide-ranging topics covered by these projects, as well as the intrinsic difficulties for park management presented by some of the requests. In 1981, a group of botanists visiting from the Soviet Union were granted permission to make limited collections of plant specimens from Arches, Canyonlands, Capitol Reef, Colorado National Monument, Cedar Breaks, and Zion.¹⁹⁴ The expedition was sponsored by the Cary Arboretum of the New York Botanical Garden. The Soviet botanists were limited to no more than 10 specimens of any given species, prohibited from collecting rare, threatened, or endangered plants, and advised not to grow the seeds of collected plants out-of-doors to prevent introducing non-native plants to their local environment. Biologists from the University of Wisconsin, Eau Claire requested permission to collect soil and water specimens and leaves of typical plants (2–3 of each) as part of an ecology field trip in 1982; permission was granted to do so.¹⁹⁵ Also in 1982, Arches received a request from the Department of Geology at Bowling Green State University to collect small samples of faults or deformation bands in the Entrada and Navajo rock formations from Arches National Park.¹⁹⁶ This request was denied, and Acting Superintendent James E. Jones suggested that researcher William C. Haneberg use photographs and measurements to collect his data, or secure his samples from outside of the park boundaries.

Unquestionably, the most important outside research conducted during this period was the survey for and documentation of arches.

Arch Hunting

It seems odd, but Arches National Monument was created without any real idea of how many arches (and other unusual formations) the park contained. Early discoveries were made by local residents, park employees, and visitors. Subsequently, “arch hunting” became an informal competition among a group of dedicated explorers. Arch hunting was pursued by both park staff and outside researchers, and thus mixes NPS and outside science; furthermore, much of the “hunting” was about recreation as much as scientific discovery and documentation.

Early Discoveries. As described in Chapter 2, Ringhoffer, Bell, and Beckwith named some of the most visible and accessible arches, including Delicate Arch and Landscape Arch, although early names often changed. Bell was the first to permanently identify individual arches, by carving the name he gave, along with his name and the date at the base of the span. His inscription of “Minaret Bridge” remains visible at Tower Arch, and his “Double-O Arch” inscription is also extant at Double O Arch, but the name “Twinbow Bridge” for Double Arch was inscribed on a loose rock and has since disappeared.¹⁹⁷ Harry Reed began the first list of known arches with measured or estimated dimensions in 1938 when 48 large arches (35 feet or greater) and 21 small arches were known.¹⁹⁸ Ribbon Arch was reported in 1939, and in April 1940, Custodian Harry Reed identified Arch No. 81 (not named) in the Courthouse Towers area.¹⁹⁹ Later that same year, the new Custodian Hugh G. Schmidt initiated a program to place numbered bronze benchmarks at each arch, tied to a map and table of measurements and descriptive information about each. During the next 2 years, 11 of the 81 arches then known were so recorded before Schmidt was transferred and the project ended.²⁰⁰ The monthly reports of the custodians to the Southwestern Monuments Superintendent in Arizona often documented new arch discoveries, such as the November 1940 finding of Arch #82 in the Great Wall, and April 1941 discovery of Arch #83 in The Windows, half a mile from Balanced Rock.²⁰¹ Perhaps the most interesting finding of this period was the discovery of two small “window” arches north of Devils Garden, one of which had “R.C.” and “1876” carved in its buttress. Superintendent Bates Wilson discovered Surprise Arch on Friday, December 13, 1963, while exploring the Fiery Furnace for the route of a loop trail. “It was named Surprise [sic] Arch because one comes upon it suddenly in a very narrow canyon.”²⁰² In 1967 Arches staff began to gather information to create a base map of the then-known 89 arches within the monument as “the location of many of them is unknown to the present staff.”²⁰³

The Arch Hunters. During the 1970s, researchers Dale Stevens and Robert Vreeland began to develop standardized nomenclature and measurement methods for the arches.²⁰⁴ To be classified as an arch, an opening must measure at least 3 feet in any direction and allow light to pass through. The types of arches defined by Stevens (Free Standing, Cliff Wall, Pot Hole, Bridging, Perforated Alcove, Jug Handle, Alcove Pillar, Alcove Beam, and Natural Tunnel) and other rock openings that are not arches (Joint, Bedding Plane, Rock Fall, and Tunnel Openings) were classified according to how the opening formed and in what type of formation.²⁰⁵ Illustrations and examples of named arches of the types described were also developed. Arches Ranger Ed McCarrick located many arches and co-authored several books with Stevens and Chris Moore. McCarrick’s discovery of the 200th arch, known as Highway View Arch, in 1982, was news enough for the park to release a statement to the press.²⁰⁶ Reuben Scolnik and Doug Travers often joined with McCarrick and Stevens on summer vacation arch hunts.²⁰⁷ Travers’ sons often accompanied his visits to Arches, and attempted to pass a football through each opening they discovered. Other early “arch hunters,” as they came to be known, included Jay Wilbur and Steven Frederick.

During the early days of arch hunting, finding arches was not the problem, but keeping them all straight was, with separate lists maintained by Stevens, Travers, and the NPS. Some arches appeared more than once on some lists, and there was confusion over names and locations, and how to count formations with multiple openings, such as Double Arch, which actually has three openings. To avoid duplication in the pre-GPS era, each arch was photographed, building on Travers' collection, which dated to his first visits in 1964. In 1978, Scolnik donated his collection of color photographs of the 125 then-known arches to Arches National Park, allowing the Park Service to expend the funds for a photographic survey elsewhere.²⁰⁸ Travers also donated his collection to Arches, where it is now part of the visitor center exhibits.²⁰⁹

In 1988, Wilbur and Danny Horowitz helped found the Natural Arch and Bridge Society (NABS), which included Vreeland, Stevens, and McCarrick.²¹⁰ The group began to publish a newsletter (SPAN) beginning in August of 1988. Early issues were concerned with organizational development, including incorporation as a non-profit organization, election of officers, establishment of dues, and information on natural arches. NABS began holding conventions in 1990 (the first in Grand Junction, Colorado) and has since promoted from one to three events (including field trips) each year in different venues. The organization has also supported members who have self-published books on arches, including Robert Vreeland's guide books, Dale Stevens's "The Arches of Arches National Park," and F. A. Barnes's "Canyon Country Arches & Bridges."²¹¹ NABS member Tom Van Bebber has recently compiled information on more than 3,560 arches worldwide; this work is available for purchase as a subscription, or as CDROMs of the entire database or just the 2,000+ arches in Arches National Park.²¹²

2,000 and Counting. Systematic census of the arches of Arches National Park took place in the late 1980s and early 1990s, with the 1,000th arch reported in 1989, the 1,500th in 1990, and the 2,000th (named "2000th Arch") in 1995.²¹³ The project was a collaboration between Resource Management and Interpretation and the NABS arch hunters.²¹⁴ With the expansion of NABS research worldwide, the taxonomy of arches has been revised to include arches in caves, arches formed by lava, and arches in marine environments.²¹⁵ Arches National Park has simplified their definitions accordingly, to just the four types found in the park: Cliff Wall Arch, Free-standing Arch, Pothole Arch, and Natural Bridge.

As Hoffman describes in detail, Arches has witnessed many changes to named places, resulting in confusion over the locations of some of the arches, many of which also do not have descriptive names, or have more than one.²¹⁶ Interest in tracking the growing number of arches was enhanced in 1975 when CANY Complex Interpretive Specialist David D. May proposed assigning numbers to all of the arches.²¹⁷ The current system advocated by NABS identifies each arch using its Universal Transverse Mercator (UTM) zone and coordinates.²¹⁸ Using the meter (one millionth the earth's measured circumference at the equator) as the basis for a grid projected over the surface of the globe, the UTM system provides a unique two-dimensional location for any point on the surface.²¹⁹ This system is recommended for all new arch discoveries; the three primary references for arches in Arches National Park each use a different cataloging system. UTM coordinates are easily and accurately determined with virtually any hand-held Global Positioning System (GPS) receiver, and many current smartphones and tablets also contain GPS capability that is accurate enough to relocate a landscape feature as large as an arch (<10 m accuracy). Significant arches do have names in addition to locational coordinates, however. The 1,000th arch discovered was appropriately dubbed "One Thousand Arch."²²⁰

One other aspect of outside research on arches also deserves mention. For many years, Arches National Park had described Landscape Arch as being 291 feet in length in park brochures.²²¹ In 1983, Reed Blake measured Kolob Arch in Zion National Park as being 310 feet long using a triangulation method, which appeared to make Kolob the longest arch in the world.²²² During the 1980s, several expeditions were undertaken to accurately measure the spans of Landscape and Kolob arches. Dale Stevens used photographic analysis of Kolob Arch in 1984 to obtain a measurement of 292 feet for the “widest light opening.” Stevens also measured Landscape Arch in 1984 using a complicated system of levels, tapes, plumb-bobs, and other traditional surveying tools, to document a maximum opening of 306 feet, seemingly returning the title of longest arch crown to Landscape.²²³ Robert Vreeland measured Landscape Arch in 1986 and reported a span of 290.4 ± 0.15 feet, also using hand surveying tools.²²⁴ The discrepancies in the measurements, which resulted from different definitions of widest opening and in the measuring methodology, and the issue of which arch has a larger opening, were finally resolved by Jay Wilbur, who used a laser range finder to measure the arches with great precision. In 2004, Wilbur reported that Landscape Arch has a span of 290.1 ± 0.8 feet,²²⁵ and in 2006 he reported Kolob Arch as being 287.4 ± 2.0 feet.²²⁶ Landscape Arch again, and finally, rules supreme as the longest known natural arch span in the world.²²⁷ Until it collapses (see Chapter 7).

Interpretive Programs

New wayside exhibits were installed in 1974,²²⁸ although the first interpretive prospectus for Arches National Park was not created until 1975,²²⁹ following a museum prospectus for the new visitor center in 1956. This document notes that the one-way, linear arrangement of the park tended to divide the visitor use into three areas: most visitors experienced the visitor center to the Windows section; a more adventurous group continued on to Devils Garden; and the most involved used four-wheel-drive vehicles to access Klondike Bluffs and Herdina Park at the northwestern end of the park. The future need for a mass-transit system was identified but not seriously considered in 1975: “At the present time, the park staff recognizes that there are only a few days of the year when the park nears its visitor

capacity. The long-range trend in increased park visitation, however, anticipates the need to study the feasibility of alternate transportation systems.” The prospectus described in detail the layout and exhibits in the visitor center and wayside exhibits, as well as identifying research needs. The latter included further investigation of geologic formation processes other than erosion, comprehensive survey of the park for cultural resources, an inventory and classification of the park’s arches, and a study of vehicular flow patterns in the park, in support of some of the observations presented regarding visitation.

An important change to interpretation came in 1976, when the General Authorities Act was amended to provide the NPS with a clear mandate to authorize law enforcement personnel within units of the national park system.²³⁰ The creation of protection rangers did not immediately apply to all park units, as some states, including Utah, had right of jurisdiction for certain criminal offenses (those against people) even on federal lands, where rangers had jurisdiction only for resource crimes.²³¹ Prior to 1976 the Grand

POSITIVE VISITOR COMMENTS ON INTERPRETATION

“Here we saw the best slides we’ve ever seen in the visitor’s centers. Also the comments [sic] was very inspirational and clear. It was unique. Geoffrey Poister and Eleanore Inskip-Spinkerman were very nice people and helpful!”

Visitor from Hilversum, The Netherlands, August 28, 1978

“Four adults ages 76–52 enjoyed your slide show and felt it was extremely well presented and most enjoyable. Without a doubt it was the best I have ever viewed – and I have seen many. I was more than happy to give these remarks!”

Visitor from San Bernardino, California, May 29, 1981

County Sherriff answered all criminal complaints in Arches. In 1997, the SEUG and Grand County Sherriff signed an agreement giving Utah misdemeanor authority to NPS level 1 rangers to complete their existing felony authority.²³²

During 1986 park interpretive staff conducted a detailed survey of the visitor use and impacts along the Landscape Arch Loop Trail to measure the effects of visitors leaving the trail.²³³ The pilot study divided the location into seven sections (A–H). During the period from March 29 to September 3, 1986, rangers and volunteers counted the number of visitors who left the trail and collected information on their age, distance traveled from the trail, and reason for doing so. Thirteen percent of hikers left the trail, with the largest number aged 15–30 (43%) who traveled 5–20 feet from the trail (52%) either for unknown reasons (48%) or to take photographs (36%). Ironically, five of the impact zones were in proximity to Landscape Arch; three of the zones (beneath, above, and behind the arch) were closed in 1991 following rock falls from the arch, thus eliminating the impacts of visitation.

The Arches interpretive program has included many different activities over the years. For example in 1989, 11 different hikes and walks and 18 evening programs were undertaken, with a total of 231,870 visitors contacted by interpreters.²³⁴ Environmental education was also part of the program, both on-site and off-site at local schools. Guided walks, including Fiery Furnace, were the most popular, growing from 10,444 visitor activity hours in 1988 to 16,744 in 1989; campfire programs were also popular. Former Chief of Interpretation Diane Allen noted that the interpretive themes at Arches have changed relatively little over the years, primarily with the addition of history to the main geological story.²³⁵

Arches finally received funding to update the interpretive wayside exhibits for FY 1993, with the design work done at the Harpers Ferry Center in West Virginia. However, during this period the NPS was in the process of adopting a uniform design language across the service. Upon reviewing the draft layouts of the new “UniGuide Format” waysides, Chief of Interpretation Diane Allen, Rocky Mountain Region Interpretive Planner Marie Marek, and Arches Superintendent Noel Poe were in agreement that the format was too stark and regimented for Arches wayside exhibits.

Poe wrote to the chief of the Division of Wayside Exhibits at Harpers Ferry to express their concerns and to request a “softer” approach to the design.²³⁶ When finally completed, 16 locations in the park received new porcelain-enamel wayside panels, in 1994, installed with the assistance of Sierra Club volunteers.²³⁷

NEGATIVE VISITOR COMMENTS ON INTERPRETATION

““Hey you guys”!

Quality of your 11 min film. The film attempts to entertain at the 2nd grade level. (It should be more informative – what types of rock – Re-inforce, visually in color, the aspects illustrated in your photographic exhibits (which are excellent for we laymen!). Provide more definite information regarding this area; perhaps present the film via a combined driving and walking tour of the area – Perhaps this will encourage more people to stay longer and walk and learn!! Forget the artistic angle; it is trite + he was not a very good artist anyway! Thank you –”

Visitor from Logan, Utah, July 17, 1971

“Slide show disappointing from standpoint of information. Arches, etc. should be mentioned by name and area. I feel it is what you would hear in a home sound-slide showing. Beautiful, but not universal.”

Visitor from Glendale, California, September 11, 1971

“I think your slide show is terrible. For such a beautiful park – all slides

- taken w/same lens
- coloring does not reflect real colors or at different times of day
- no comments on birds, flowers, wildlife

It really ought to be redone – this place is too beautiful for such a mediocre show.”

Visitor from Ketchikan, Alaska, May 29, 1985

Another important interpretive program is called SEUG Canyon Country Outdoor Education (formerly Moab Outdoor Education). The Southeastern Utah non-profit Canyonlands Field Institute led a program in the 1980s and 1990s to take local elementary school kids on science field trips, and in the late 1990s, Arches Interpretation Chief Diane Allen found funding to expand the program to all elementary grades, led by the NPS with assistance from other organizations. The program offices are in the Arches entrance area. The first NPS CCOE program director, Christine Beekman, expanded the program to San Juan County in 1997, adding a secondary base in Monticello, Utah. Heidi Wainer has been program director since 2002.

Canyonlands Natural History Association

The Canyonlands Natural History Association (CNHA) was founded in 1967 to assist the BLM, Forest Service, and NPS in their educational and scientific efforts.²³⁸ CNHA replaced the Southwestern Monuments Association, providing a local rather than regional focus for education and outreach.²³⁹ Like similar cooperating associations throughout the United States, CNHA was founded to address the perennial lack of funding for interpretation and education by federal agencies. CNHA operates 15 retail outlets on the Colorado Plateau, including the multi-agency Moab Information Center in Moab, and the Arches and Canyonlands visitor center gift shops. Twenty percent of CNHA's sales are donated to fund the agencies' educational programs; as of 2014, \$11.38 million had been donated by CNHA.²⁴⁰ CNHA has regularly funded Student Conservation Association internships and their park housing. The interns assist Arches Interpretive staff, the SEUG CCOE program, and the SEUG Resource staff.²⁴¹ Visitors are able to purchase books, maps, observational tools (such as binoculars), and educational souvenirs. For many years, CNHA operated from the Rock House, the old superintendent's house in Arches. In 1990, Arches and CNHA began discussions about expanding the sales area, due to the increasing visitation to the park. In 1991, the CNHA board voted to donate \$30,000 to Arches National Park to assist the park in expanding the visitor center. Although the project experienced some delays due to funding and bureaucratic problems, the expanded visitor center was completed in 1993.²⁴²

CNHA also initiated programs on their own, or at the request of NPS personnel. Frustrated at the lack of a good guide book to Arches, Canyonlands Complex Superintendent Peter Parry instigated the creation of a comprehensive guide to Arches, and CNHA contracted with historian John Hoffman in 1978 to write it in preparation for the Golden Jubilee in 1979.²⁴³ The book *Arches National Park: An Illustrated Guide* took longer to research and write than anticipated (as has this administrative history), but was finally completed in 1981, and first published by CNHA (it was reissued in 1985 by Western Recreational Publications). To celebrate this milestone, an author's party was held at the Arches Visitor Center in October 1981, attended by 250 people.²⁴⁴ Hoffman signed copies of the book, which were available for sale in the gift shop (Figure 5-5). Although it is long out of print, Hoffman's book remains the most definitive single reference for the history, archeology, ecology, geology, and interpretation of Arches National Park.



5-5. Historian John F. Hoffman signs copies of his *Arches National Park: An Illustrated Guide* in the visitor center, October 25, 1981. ARCH 104/.001092, SEUG Archives. (Photo credit: M. L. Friley).

The relationship of CNHA with the NPS was not always a smooth, amicable affair, due in part to the personalities involved. SEUG Superintendent Walt Dabney characterized the situation in 1991:

*When I first got there CNHA was limping along with a couple of hundred thousand dollars a year in sales, maybe it's a little more. It was a very adversarial relationship and [the] CNHA executive director spent a lot of time just causing problems, very tough to deal with and there were constant problems, especially at Arches, but at Canyonlands as well with just unreasonable day to day exchanges and bad relationships with CNHA, specifically, Eleanor Inskip [spelled phonetically] who was the executive director.*²⁴⁵

Dabney attempted to resolve the issues diplomatically with Inskip, and working with CNHA board members, including former Canyonlands Complex Superintendent Pete Parry, but “it got to the point that part of every one of my days was sorting out issues with them and talking to Pete Perry or others about the issue.”²⁴⁶ Dabney finally threatened to dissolve the relationship with CNHA unless the board conducted an investigation. As a result, Inskip was replaced by Brad Wallace, the relationship between NPS and CNHA improved dramatically, and “the whole tenor of everything turned around, sales went through out the roof ... well over a million dollars.”²⁴⁷ Greatly increasing visitation at this time undoubtedly accentuated the positive resolution of the personnel problems.

CNHA's improved financial situation was not universally beloved. In 1998, SEUG formed a committee to review the items for sale at the Moab Information Center after complaints from local merchants, who felt that items that were not of a strictly interpretive nature were being offered for sale.²⁴⁸ Although SEUG Chief Interpreter Paul Henderson expressed some skepticism about the validity of the complaints, puzzles and magnets were removed shortly after the first committee meeting, but they remained available for sale at the CNHA warehouse. Yet, former chief of interpretation Diane Allen noted that things like hand puppets of animals were a good way to reach and educate children who might not be interested in reading a book on the topic, and that in this capacity, CNHA and other cooperating associations work as “sort of an extension of the interpretive program in the park.”²⁴⁹ Additional changes in the operation of the Moab Information Center followed in 1999. During the first 5 years of its operation, each of its federal partners (NPS, BLM, and USFS) provided uniformed personnel to help man the center, and were assisted by staff from Grand County and CNHA.²⁵⁰ The CNHA Board of Directors decided to waive federal assistance, hiring dedicated employees who were provided with a generic uniform and rigorous training on federal lands and policies.

Dark Skies and Astronomy in the Parks

The advent of electric lighting and the expansion of urban areas in the twentieth century have significantly reduced views of the night skies, not only as viewed from urban and suburban areas, but often at great distance due to light pollution emanating from the domes of bright light over urban areas.²⁵¹ Worse, fear of the dark and paranoia have driven many rural residents to install “security” lights that are visible for miles.²⁵²

Light pollution and its effects on national park qualities first became an issue of resource management during the period of DOE test drilling for potential nuclear waste dumps in southeastern Utah. Although the potential dump site adjacent to Arches failed to advance to final consideration, the threat to Canyonlands National Park was profound. As described in detail by Schmieding,²⁵³ the DOE refused to communicate with or involve the NPS in the planning process, placing the NPS in a defensive position. The early decades of management at Canyonlands had, by necessity, focused all of the park resources

on developing basic infrastructure, with almost no research on the resources contained within the park. During the fights over the waste dump and oil tar sands development in the region, park staff realized that much basic research was needed into all of the resources of Canyonlands Complex units, including air quality, dark skies, quiet, and water quality.

In 1992, an Inventory and Monitoring program was proposed for SEUG; it was eventually implemented in a somewhat different form in 1999 as the Northern Colorado Plateau Inventory and Monitoring Network (NCPN). Independent of the impending national research program, water quality monitoring began right away at SEUG, in 1983, and continues to this day, and other monitoring programs were begun in the ensuing years, addressed elsewhere in this document.

In 2001, one of the first research programs of the NCPN was the Night Sky Monitoring Program, which used high-resolution cameras to document the natural night sky conditions above SEUG units and the source and intensity of light pollution.²⁵⁴ Six datasets were collected at Arches before the program was defunded and suspended after 2003.²⁵⁵ A formal Night Sky Preservation Program was initiated at SEUG in 2000 when the International Dark Sky Association and local dark sky advocates met with SEUG staff during a squad meeting, seeking support for a county-wide night sky preservation effort.²⁵⁶ They requested support from the NPS, and Superintendent Jerry Banta promised to send a letter to the City of Moab and Grand County describing how dark skies are important to the NPS. As part of the discussion, SEUG staff evaluated the installation of shields on the visitor center exterior lights and the flashing yellow warning lights on the entrance station. Light shielding was installed throughout the SEUG park units in the following years, encouraged by the direction of SEUG Superintendent Kate Cannon. In 2002 CNHA donated \$8,000 to Arches to obtain technical equipment to conduct night sky monitoring, which continued to 2004,²⁵⁷ after Region had pulled the funding for this program in 2002.²⁵⁸ The 2000 lighting ordinance did not pass, but renewed efforts in 2018 look more promising.²⁵⁹

National parks, many of which contain significant wilderness or potential Wilderness areas, and are often in the more remote regions of North America, have become important locations at which amateur astronomers can view the sky unimpeded, as well as locations for professional and amateur astronomers to practice public outreach through star parties. Arches has been involved in astronomy outreach since August 1979, when approximately 100 people visited Panorama Point to view the Perseid meteor shower.²⁶⁰ Five weekend nights in the summer of 1980 were devoted to special sky-watching events to view the rare conjunction of five planets (Saturn, Jupiter, Mars, Venus, and Mercury) appearing together in the sky.²⁶¹ For the return of Halley's Comet on March 22, 1986, Arches hosted a 3-hour observation program with the assistance of the University of Utah, attended by 632 people.²⁶² During the late 1980s and early 1990s Arches hosted star parties by the Salt Lake Astronomical Society (SLAS); the 1992 event required a special use permit, as discussed below. SLAS has since relocated their outreach events to Bryce Canyon National Park, where they participate in weekly events that are part of the park's interpretive program, as well as the annual Astronomy Festival.²⁶³ Arches still hosts astronomy events, including a viewing of a partial annular solar eclipse May 20, 2012, at the Devils Garden Amphitheater, and the Transit of Venus on June 5, 2012, at the Panorama Point and Sand Dune Arch parking lots.²⁶⁴ The significance of Arches and other National Park units in conserving natural dark is emphasized by the International Dark-Sky Association, which prominently features a nighttime image of Delicate Arch silhouetted against the Milky Way to headline "5 Things You Can Do to Protect the Night Sky."²⁶⁵ Currently, 13 parks host dedicated weekly solar and/or nighttime observing programs, and nine parks host full moon hikes, led by rangers or other guides.²⁶⁶ Fourteen parks host astronomy

festivals or special events, including SEUG member Hovenweep National Monument. Fifty-nine NPS units are identified as having night sky resources, including Arches.

Historic Preservation

The NHPA required immediate action on the part of park management, but came with little guidance as to how that was to be accomplished. New Arches Superintendent Robert I. Kerr first requested the identification of all National Register of Historic Places–eligible properties in the Administrative Complex, then requested of interpretive staff (no cultural resources specialists were then assigned to Arches) a list of “all structures (excluding archaeological sites) which might be classed as “historic”” by September 15, 1974.²⁶⁷ Interpretive Specialist Larry D. Reed identified just two: Wolfe Cabin and Cordova’s Cabin (which was brought within Arches National Park by the 1971 expansion).²⁶⁸

The lack of any dedicated cultural resources or historic preservation staff for Natural Bridges, Arches, and Canyonlands provided a logistical problem for all subsequent development or repair projects. While the Midwest Archaeological Center provided support for the bigger Section 106 compliance projects,²⁶⁹ the units of the Canyonlands Complex did not have any means to properly document archaeological sites reported by visitors or discovered by interpretive staff during the course of other activities. In 1983, F. A. Calabrese, Chief of the Midwest Archaeological Center, requested that park personnel in the Canyonlands Complex complete Intermountain Antiquities Computer System (IMACS) site forms for known but undocumented sites already identified, and as they were discovered.²⁷⁰ The forms would be forwarded to MWAC for completion by archaeological technicians, and then copies returned to the appropriate park for curation. In 1986, Arches Seasonal Park Ranger Jim Stiles and VIP Reuben Scolnik recorded 35 rock art sites, consisting of 57 individual petroglyph and/or pictograph panels; five known panels remained undocumented at the end of the season.²⁷¹

An ARPA monitoring program was finally established at Arches in 1990 at the request of Chief Ranger Jim Webster.²⁷² Monitoring was undertaken as schedules permitted by interpretive staff and preservation specialists, as no money was allocated for the program in 1992 or 1993. At that time, the park had only two Level I sites (open to the public), both rock art sites: the Moab Panel (42Gr605, also known as the Courthouse Wash Panel) and the Ute Panel (42Gr297), which is near Wolfe Ranch. All other sites were classified as Level III (closed to the public with no information released), and it was recommended that this classification remain unchanged. Archaeological site designations have since changed to Class I (open to the public and interpreted), Class II (not signed or on maps but information regarding the site can be released if visitors ask about the site), and Class III (no information about the site is to be released and the site is closed to all visitation). Thirteen sites were monitored in 1993; some were visited at regular intervals and more remote sites were monitored just once.

Concern about visitation to archaeological sites was also an issue in dealing with the increasing commercial use of Arches National Park. In 1991, First Light Adventure Photography proposed a photographic workshop at Arches, including a night shoot, in conjunction with REI, Inc. and the Canyonlands Field Institute. In response to the comprehensive and informative prospectus for the workshop, Acting Superintendent Gail Menard appreciated the guidance offered to participants about the etiquette of visiting archaeological sites, especially prehistoric ruins, but expressed additional concern about photographing ruins:

We appreciated receiving a copy of the material that you provide to your clients and are especially interested in the information you provide on visiting archaeological sites. Enclosed is additional information on cultural site etiquette to aid your very worthwhile effort to minimize impact on these sensitive areas. In the past year the parks have documented markedly increased detrimental impacts to cultural sites directly attributable to published photographs of certain sites causing significant increases in visitation.

We believe a discussion with your students, concerning publishing or displaying of photographs regarding sensitive and fragile archaeological resources, would be important.

*This is becoming a growing “photo-ethical” concern. How do you photograph these sites in such a way so as to not give away their location? How do you prepare captions for such photographs to protect their location? Park staff could be available to participate in such a discussion.*²⁷³

Archaeological site locations are protected information under NHPA and ARPA, and are exempt from Freedom of Information Act requests for disclosure. With the advent of hand-held GPS receivers, smart phones, and social media sites and apps that allow users to “geo tag” digital photographic images, the responsibility of photographers to protect irreplaceable archaeological resources is all the more important today.

As the CCC-built buildings aged, historic preservation and the need to maintain the historic fabric of historic structures and buildings became an issue for maintenance personnel at Arches. Frank Darcey’s first task as Chief of Maintenance in 1988 was to repair the entrance road culvert following the flash flood in Bloody Mary Wash. Darcey had been exposed to historic preservation issues while working at Gettysburg National Battlefield, and brought this experience to Arches; repairs to the culvert were achieved without compromising the historic integrity or appearance of the culvert, yet improved the structural integrity of the culvert and undertook some necessary repointing of the more than 40-year-old masonry.²⁷⁴ The historic nature of this culvert had apparently been forgotten by 1999, when it was recorded as an historic site during a survey for the new alignment of US 191; SEUG Archaeologist Eric Brunnemann researched the culvert and demonstrated that despite earlier alterations and repairs, it was eligible for the National Register of Historic Places and that this would have to be evaluated in plans to move the Arches entrance road.²⁷⁵

Rock House Restoration

The Rock House proved to be more difficult to rehabilitate in 1991 when CNHA vacated it and various Arches personnel offices (including the superintendent’s office and chief of Maintenance) were relocated there.²⁷⁶ The historic hardwood floors were preserved and protected beneath carpet that was placed with “tackless” installation to deaden sound for a better office environment, but Darcey discovered that the exterior walls had been built with Portland cement rather than mortar cement:

*However, there’s a big difference between like Portland cement, which is very very hard, and mortar, brick mortar, which is very, very soft. And what happens, cement doesn’t expand and contract like mortar does, and so there’s not as much give.... If you use cement, the temperature variations with the cement would actually cause the stone or the brick to break, to crack and break, and that was one of the first things I noticed on the Rock House was that, boy, they, when the CCC built this, they built it using cement, not mortar.*²⁷⁷

Darcey proposed removing the cement and repointing the walls with mortar, but this was not a funding priority at the time. Darcey also sought to replicate a white picket fence shown in a 1949 photograph of the Rock House to restore its appearance and to keep foot traffic off of the lawn, but he was overruled by Archaeologist Nancy Coulam, purportedly because Darcey was unable to demonstrate that the picket fence had been installed at the time the Rock House was completed in 1941.²⁷⁸ Custodian Lewis T. McKinney built the picket fence (which extended to the headquarters area) between 1942 and 1946 following the 1942 landscaping plan,²⁷⁹ but it was not painted until 1947.²⁸⁰ Coulam was correct that the fence did not date to 1941, but the landscaping, including the fence, was planned for and is properly part of the historic design and appearance of the building.

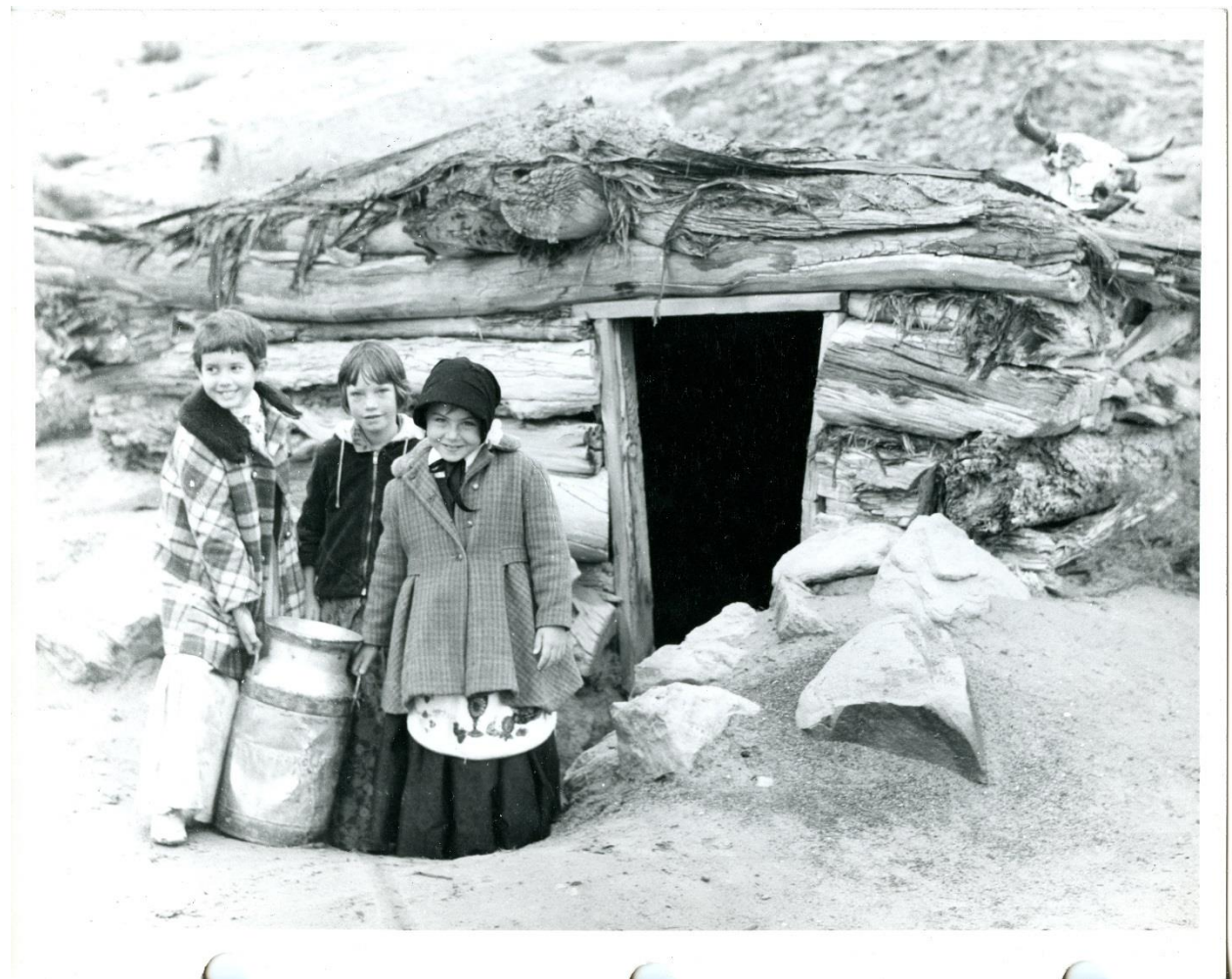
Beyond the wall fabric and picket fence, by 1991 the Rock House had accumulated deferred maintenance needs and required immediate re-roofing, as well as repairs to the porch columns, trim and siding, foundation regrading, removal/trimming of vegetation, and painting the exterior.²⁸¹ Kelly Shakespear led a crew from the Bryce Canyon maintenance staff, who performed the repairs in the spring of 1991, earning a letter of commendation from Darcey for the speed and quality of their work.²⁸² In addition to providing needed office space, the Rock House was used to store the Arches central files until 2012, when the central files and additional records that were kept at an off-site storage unit were completely catalogued by Archivist Vicki Webster and moved to the SEUG headquarters building as part of the SEUG Archives.²⁸³ Since 2006, the Rock House has housed the Canyon Country Outdoor Education offices, as well as other administrative offices.²⁸⁴

Wolfe Ranch Environmental Study Area

Wolfe Ranch has a peculiar and complicated place in the history of Arches National Park: it is the only visible, interpreted evidence of Euroamerican occupation prior to its inclusion in the national park system, it links Arches with the Civil War and westward expansion, and it was the part-time home of Arches' first custodian, with the latter status obscuring its true age and significance until the 1960s. Hoffman discusses the history of Wolfe Ranch at length,²⁸⁵ and Wolfe Ranch is the focal point of the Arches interpretive program on culture history, thanks to the diligent research of Maxine Newell and Dave May in the 1970s and 1980s.²⁸⁶ The ranch buildings themselves, which include the third cabin built by John Wesley Wolfe, however, are a perennial maintenance headache. Almost every Superintendent's Annual Report mentions some project relating to keeping Wolfe Ranch intact. "Turnbow Cabin," as it was known to the NPS, was also a legal problem during the early development of the park because it was a private inholding that sat (inconveniently) at the best access route to Delicate Arch.²⁸⁷ In fact, Custodian Schmidt actively protested efforts by Susie Turnbow to prove up the homestead at Wolfe Ranch after her husband was killed in a car crash in 1940.²⁸⁸ In the late 1960s, Wolfe Ranch became the focus of some new interpretive programs at Arches National Park, which grew out of a school project:

*In 1968, an innovative school teacher, Mrs. Helen Madsen, gave her group of gifted six [sic] grade students a history assignment: Solve the riddle of John Wesley Wolfe. Their quest led them to a series of failures, until, finally, they hit a bonanza that lifted the weathered cabin from obscurity. The contact was Mrs. Esther Stanley Rison, granddaughter of John Wesley Wolfe, who in her childhood lived with her parents and her grandfather on Wolfe Ranch. Mrs. Rison wrote a letter for the sixth graders which became the foundation of the Wolfe Ranch History, a permanent part of NPS history, and the basis for years of intensive research to unravel the life story of John Wesley Wolfe.*²⁸⁹

After the Wolfe Cabin, root cellar, and pole corral were stabilized in 1967, Arches National Monument designated the Turnbow Cabin Environmental Study Area in 1968, one of the first in the country.²⁹⁰ During 1969–1971, the program brought hundreds of teachers and students out into the desert to learn about the environment and the history of how pioneers adapted to it.²⁹¹ The Grand County School District, teacher Louise Hetzel, and the NPS worked together to create a curriculum that was later exported to ESAs around the country (Figure 5-6a and b). When the true story of Turnbow Cabin was discovered, and the story of John Wesley Wolfe became an interpretive priority of Arches National Park, the program was formally renamed Wolfe Cabin ESA in 1971. A re-dedication ceremony was attended by more than 100 people, including Wolfe’s granddaughters Esther Stanley Rison and Volna Stanley (Figure 5-7).²⁹²



5-6a. Grade school students pose with a dairy can in front of the dugout at Wolfe Cabin, 1969. Wolfe Ranch Historic District Collection 1862–1991 (bulk dates: 1955–1991) ARCH 124/2.1-22.05. (Photographer unknown).



5-6b. The Turnbow Cabin Environmental Study Area (renamed Wolfe Cabin ESA in 1971) taught Moab school kids about the natural and cultural history of Arches National Monument. Wolfe Ranch Historic District Collection 1862–1991 (bulk dates: 1955–1991) ARCH 124/2.1-22.06. (Photographer unknown).



5-7. Esther Rison (center, in white) at the Wolfe Ranch Environmental Study Area dedication, May 18, 1971. Arch 124/02.1-22.011. (Photographer unknown).

In 1975, the newly discovered information about Wolfe Ranch formed the basis of a National Register of Historic Places nomination; that same year, the Wolfe Ranch Historic District was listed in the National Register.²⁹³ The cabin and root cellar were again stabilized during 1976–1977, and pit toilets were installed near the Delicate Arch trailhead parking lot. Arches National Park celebrated what was then believed to be the 90th anniversary of Wolfe Ranch on July 24, 1978.²⁹⁴ The event was hosted by the Daughters of the Utah Pioneers in period costume (Figure 5-8) and was attended by many members of the public.

Because the historical importance of Wolfe Ranch was not understood or appreciated during the primary period of development at Arches (1947–1964), a swinging pedestrian suspension bridge was constructed across Salt Wash in the vicinity of Wolfe Ranch in 1955. As documented in Monthly Narrative Reports from the late 1950s to 1968, the bridge became a favorite target of vandals; over the years, the bridge was almost completely reconstructed multiple times. Additional alterations of the historic landscape surrounding Wolfe Ranch took place in 1984 (split-rail fence built along Delicate Arch trail), 1990 (pit toilets removed and vault toilets installed at parking lot entrance), 1993 (parking lot enlarged and paved, additional parking lot built to south, and Delicate Arch road paved), and in 1994–1995 (construction of low-water crossing and completion of road paving).



5-8. Daughters of the Utah Pioneers display a sheet cake and cookies marked with John Wolfe's DX brand for the July 24, 1978 celebration of the 90th anniversary of Wolfe Ranch (later discovered to be the 80th anniversary). ARCH 104/001092, SEUG Archives. (Photographer unknown).

By 1997 park staff had decided it was time to replace the bridge because it was a maintenance headache and safety hazard, and was not compliant with ADA (although the remainder of the trail is not handicapped accessible). The Arches proposal to replace the bridge triggered a review by the Utah State Historic Preservation Office, which required changes to the project as well as changes to the general setting of Wolfe Ranch.²⁹⁵ SEUG Archaeologist Nancy Coulam worked with Chief of Maintenance Frank Darcey to document the existing bridge before it was removed. To mitigate the appearance of the new bridge, the SHPO required changes to the overall appearance of Wolfe Ranch, including removing the split-rail fence in front of the cabin and moving garbage cans, a bicycle rack, and bulletin board away from the cabin. More difficult to address was local opposition to removing the swinging bridge, which many long-time residents recalled as being older than it actually was. The Grand County Historical Society requested that the old bridge be left in place as an exhibit.²⁹⁶ In 1997, the National Park Service began a Cultural Landscape Inventory of the Wolfe Ranch Historic District, as required under Section 110 of the NHPA.²⁹⁷

Continued weathering of Wolfe Ranch led to complete re-roofing of both the cabin and the dugout in 2001. Park maintenance staff obtained oak through a Forest Service permit and cottonwood from the BLM to repair the roofs using materials identical to the original fabric; soil was obtained on site to match the existing colors.²⁹⁸ Although these efforts to stabilize the historic structures of Wolfe Ranch were

successful, the cumulative impacts of decades of NPS development in the vicinity sufficiently altered the historic fabric of the area. The Cultural Landscape Inventory, completed in 2002, concluded that the historic district was not eligible to the NRHP as a cultural landscape due to loss of integrity; the Utah SHPO concurred in 2004.²⁹⁹ Wolfe Ranch retains its listing in the NRHP as an historic district—a different level of commemoration—and is currently looked after through routine cyclical maintenance.³⁰⁰

Vandalism

Over the decades, Arches has unfortunately experienced several incidences of serious vandalism, both to rock art panels and to park landmarks such as Delicate Arch (Figure 5-9). The first documented apprehension of visitors for graffiti was in 1948 at Double Arch.³⁰¹ Periodically, Arches staff has worked with service organizations such as the Cub Scouts of America to clean up the graffiti (Figure 5-10). In 1980, the Moab Panel was assaulted with wire brushes and a caustic commercial abrasive cleaner, seriously damaging the main section of the Barrier Canyon–style pictographs (Figure 5-11). This vicious attempt to erase history unfortunately stands as one of the darkest moments in the story of Arches National Park, as much as for who may have perpetrated the crime and why, as for the damage itself.



5-9. Vandalism to Delicate Arch in 1968. ARCH 104/000933, SEUG Archives. (Photo credit: C. R. Parkinson).



5-10. Cub scouts scrubbing off graffiti in 1963. ARCH 104/000001, SEUG Archives. (Photo credit: Stan Carter).

The Moab Panel

The Moab Panel, known officially in the National Register of Historic Places (listed 1975) as the Courthouse Wash Rock Art Panel, is located on a massive cliff face that overlooks the floodplain of the Colorado River where it is joined by Courthouse Wash.³⁰² The panel includes both petroglyphs and pictographs; large anthropomorphs painted in colors of dark red, blue, and white are the most visible elements (Figure 5-12). The “ghost-like” figures are attributed to the Barrier Canyon Style, which dates to the Late Archaic Period. The Moab Panel was the easternmost known panel of this style at the time it was listed in the National Register. Figures of people on horseback and Ancestral Puebloan petroglyph elements indicate that the panel has been added to for centuries, reaching into historic time. Prior to 1980, some graffiti and bullet holes had been documented, but few of these directly impacted the images themselves, only the overall aesthetics of the panel. A detailed drawing and recording of the panel (Panel 1) had been completed early in 1980 by a team from the American Rock Writing Research organization as part of a larger project to document significant rock art panels in the Canyonlands region.³⁰³ Tragically, in April, 1980, the panel was discovered to have been defaced:³⁰⁴



5-11. The Moab Panel following 1980 vandalism. ARCH 101/001-116.02, SEUG Archives.

In the afternoon of 4/18/80 Visitor Protection Specialist, Tom Wylie, reported someone had badly vandalized the Moab Panel, University of Utah archaeological survey #42Gr204. Investigation the following morning indicated water had been carried to the pictographs and a brush or cloth used to scrub the pictographs. It appeared someone was trying to remove the art work and had done so for the most part. There were also numerous impact marks possibly from a hammer on and below the panel. There were no clues at the site with the exception of the recent scratching of "fuck you willie begay" below the panel. The vandalism appeared to have been done in the last week. A phone check was made with the sheriff, highway patrol, and "Tex" across from the panel which turned up no new information.³⁰⁵



5-12. The pictographs of the Moab Panel as they appeared in March 1964. ARCH 104/001459, SEUG Archives. (Photographer unknown).

Based on a comment by Assistant Superintendent Gary Howe that he had recalled “seeing a vehicle and 4 or 5 dark skinned men with black hair with a bucket” at about 6 PM on the evening of April 14, Arches law enforcement and the Federal Bureau of Investigation launched an investigation into the vandalism, focusing on connections with Navajo people living in Moab.³⁰⁶ Willie Begay, a resident of Moab and employee of Atlas Minerals, was interviewed. He indicated a history of interpersonal problems with Evan and Albert Black. Upset at what had transpired, the Begay family visited the panel for themselves; between April 21 and 23, they reported that additional vandalism had appeared. The phrase “Willie if you want” had been faintly scratched into the lower part of the panel, directly above the previous graffiti to read “Will Kill Begay If You Want Me to.”³⁰⁷ By April 27, “fuck you” had also been added.³⁰⁸

During the course of the investigation, several anonymous individuals pledged \$1,250 as a reward towards the arrest and conviction of the Moab Panel vandals. On April 27, John Noxon and Deborah Marcus of the American Rock Writing Research organization revisited the Moab Panel at the request of the NPS. In addition to describing the damage much as the case incident report had done, Noxon and Marcus further discussed the chemical used in the obliteration of the pictographs:

At the present time, the chemical solvent applied to the pictographic elements has been apparently absorbed into the rock art panel surface. As there is the possibility that rainfall on the panel may

*reactivate the chemical's erosive affects [sic]. It is strongly recommended that immediate action be taken to determine what chemical was utilized and what measures can be taken to neutralize it. This is particularly important for the pictographic elements on the western end of the panel which have had this solvent splashed on them, and which are still currently salvagable [sic].*³⁰⁹

Noxon and Marcus also suggested trying to restore the panel using artificial desert varnish and authentic native pigment mixes. At this time, the additional graffiti aimed at Willie Begay had appeared, and Noxon and Marcus speculated whether “connections exist between the recent BLM Cedar Mesa pot hunter’s trials in Salt Lake City and this overt act of vandalism near the Moab District Offices.” This references the pioneering ARPA trial involving Casey Shumway of Moab, a career thief and cultural resources vandal.³¹⁰ Although Shumway was a member of a notorious family of criminal pothunters, some members of the local LDS community did not (and still do not) see looting as a crime, and were unhappy about the ultimately successful prosecution of Shumway.³¹¹ The damage to the Moab Panel did not happen in isolation; as documented by the American Rock Writing Research Newsletter, several other vandalism incidences in Canyonlands took place about the same time.³¹² As a result, the NPS contracted with American Rock Writing Research to expand their program of rock art documentation to resources within the Horseshoe/Barrier Canyon unit of Canyonlands, including the Great Gallery Panel (42Wn418), the type site for the Barrier Canyon Style and “among the most elaborate and spectacular pictograph sites in North America.”³¹³

Arches law enforcement collected a sample of the chemical agent used in the attack and submitted it to the FBI crime laboratory for analysis on May 9, 1980.³¹⁴ Specimen Q1 was found to be an alkaline substance containing quartz particles and a phosphate material, attributes consistent with commercially available scouring powders, although a specific brand could not be determined.

A number of Navajo people in Moab and Mexican Water, Arizona (south of Bluff) were interviewed, but no one was identified as a suspect. Arches Unit Manager Larry Reed did hear one story that might explain the apparent involvement of Native Americans in a crime against a priceless Native work of art:

*I was in the Highway Patrol office when Fred Day (City Police Department) and Doug Squires (Jailer) started talking about hexes and talk they had heard about the pictograph vandalism. Fred Day said “Linda Cly” and/or “Irene Tso” know who did the vandalism. The talk is that Irene’s family is hexing the Cly family and that the pictographs are involved. I was told that Linda Cly has left the country [sic] and is in Idaho. Irene is Anna Begay’s sister. Doug Squires thinks both families live in Holiday Haven Trailer Court.*³¹⁵

Reed’s discussion of hexes between Navajo families was suggested by several conversations that he had during the course of the investigation. In particular, Kenny Ross of Bluff, Utah, related to him a story about vandalism to ancient rock art panels near Bluff that apparently were done in response to unexplained deaths in one family.³¹⁶ They believed that the deaths were the result of witchcraft by someone named “Wolf Man,” who had hexed them through the rock art panels. Neither the practice of witchcraft nor the involvement of Navajo people was ever proven by arrests, indictments, or convictions for the crime, which remains unsolved.

To address the damage to the rock art itself, the NPS hired rock art conservator Constance S. Silver of Brattleboro, Vermont to assess the damage and suggest mitigation measures. Silver examined the site on May 18, 1980, and noted that the vandalism had affected not only the rock art, but also the condition

of the desert varnish on which the elements had been painted or pecked.³¹⁷ She was unable to evaluate the full extent of the damage due to the presence of a film of scouring powder across the panel, as noted by Noxon and Marcus previously. Silver then experimented with techniques to remove the cleanser, concluding that “the most successful technique entailed the use of the Wishab dry cleaning sponge and fine sable brushes used under a magnifying lens.”³¹⁸ To mitigate the damage, Silver then suggested that Arches could continue to investigate other cleaning methods, or have her clean the entire panel as described above, immediately. Like Noxon and Marcus, Silver also advocated some retouching of the graffiti to make it less visible on the panel.

Conservation of the Moab Panel was undertaken in September 1980, under the direction of Constance Silver. She was assisted by Dr. John Asmus, and John Noxon and Deborah Marcus, who photo-documented the restoration process.³¹⁹ Asmus was planning on using a xenon flash lamp to physically disintegrate the final layer of scouring power residue, but after testing the device, the conservators decided that the lamp itself would cause significant damage to the pigments.³²⁰ The shield elements proved to be the most badly damaged part of the panel, and were essentially removed during conservation.³²¹ Based on the superpositioning, the shields are now attributed to either Fremont or Piute additions to the panel.³²² In fact, beneath the shields were five additional Barrier Canyon figures, not previously visible. The cleaning process revealed that the Barrier Canyon pictographs were covered by a thin layer of desert varnish, which prevented the penetration of the scouring chemicals and the physical wiping or brushing.³²³ After cleaning the panel of the remaining scouring power residue, old latex mold material, and chalk that had been used to outline the figures for better photography, it was discovered that the pictographs were largely intact (other than the shields), with the main damage being that the colors were duller than before (Figure 5-13). The scouring powder used by the vandals actually damaged the unpainted rock surfaces more than the pictographs.³²⁴ Silver also retouched the graffiti by filling the deeper gouges with a mixture of lime and local sand, then retouching (presumably with a dark paint, although this was not described) all of the visible names and dates. The restoration, the first undertaken on aboriginal rock art by a fine-arts conservator, was deemed a success, leaving the pictographs with “more of their original form” than had been visible in years.³²⁵

Graffiti and Paintballs

In 1986, Ranger Laura Houck observed an extensive area of graffiti carved into or near the base of Delicate Arch:

*Although much of the area within reach of humans has been impacted, the areas with the most severe destruction are on the sandstone floor between the arch and to the east, where over 100 carved initials and dates (from 1/8" to 5/8") have been incised. Also heavily carved was the north leg of the arch itself, with approximately 60 names incised, averaging 1/8" deep. The total area of the deeply carved inscriptions covers approximately 600 square feet, with approximately 200 additional square feet of sandstone with carvings less than 1/8" deep.*³²⁶

This “incident” clearly represents an accumulation of graffiti over time, but also highlights the extent of the problem. Early in 1987, the Moab Panel was again defaced with the initials “RO” scratched over some of the painted elements.³²⁷ Later in 1987, Ranger Steve Swanke directed a graffiti cleanup program. With electric drills powered by a portable generator (prior to the advent of cordless drills) and wire brushes, all non-historical graffiti was removed from all of the arches that are shown on the USGS topographic quadrangle (historic inscriptions on North Window and Tower Arch were left in place as

part of the cultural resources of Arches).³²⁸ Swanke then developed an interpretive signing proposal to try to reduce the graffiti. This program offered several possible options, including additional signage, new trail registers, and a “sacrifice boulder” of sandstone in front of the visitor center where vandals could carve their names, instead of on the arches.³²⁹ El Morro National Monument was reported to have installed such a boulder in 1965, reducing graffiti at the monument by half; the boulder was so heavily used that it was replaced with another in the 1970s.



5-13. The pictographs of the Moab Panel as they appeared in January 2017, under overcast lighting conditions. (Photo credit: David E. Purcell).

Other incidents of vandalism have been incidental to other activities, but damaging nonetheless. In 1997, members of a Boy Scout Troop from Woodland Hills, Utah, marked rocks in Fiery Furnace using blue paintballs, which they either threw or broke open and squeezed onto the rocks.³³⁰ The leader of the hike later learned of the incident and reported it to Ranger Kyle Nelson, who subsequently interviewed the boys involved and took them back into Fiery Furnace to clean the paint from the cliff walls. Unfortunately, some of the paint had been thrown as high as 20 feet from the ground and could not be removed. SEUG Superintendent Walter D. Dabney wrote a strongly worded letter to the leader of the Utah National Park Council of the Boy Scouts of America, in which he noted that the Entrada High

Adventure Camp leader Steve Kearney had been the subject of frequent previous discussions with park staff regarding the operation of the camp in Arches National Park.

The Ute Panel (42GR297), located along the trail from Wolfe Ranch to Delicate Arch, has attracted graffiti for many decades. Arches staff studied the management and conservation issues pertaining to this and two other rock art sites in 1992.³³¹ In 1998, the park undertook a graffiti mitigation project at the Ute Panel.³³² Constance Silver returned to Moab to assist in the conservation of the Ute Panel³³³ and to assess the extent of further vandalism to the Courthouse Wash Panel.³³⁴

Unbeknownst to park staff, a hidden area southeast of Sand Dune Arch had become a popular area for people to carve names, initials, and dates, suggesting either a common reason for visitors to stray off the trail to this area (such as to relieve themselves) or dissemination of the location through social media. Regardless of the mechanism, park volunteers found the area and alerted resource staff to its existence in 2013.³³⁵ Much like the Delicate Arch discovery, the Sand Dune Arch graffiti represented an accumulation of vandalism over many years, as evidenced by the weathered condition of some names. A government shutdown in the fall of 2013 slowed the park's response, but in November of that year Mark Miller, Chief of Resource Stewardship and Science at SEUG observed multiple rock faces covering an area of 20 by 30 feet with deeply etched graffiti. Superintendent Kate Cannon issued a directive on April 8, 2014, to close the area to the public to break the cycle of damage and to allow the trail crews to remove the graffiti with cordless grinders.

Soon after restoring the Sand Dune Arch area, rangers discovered another area of very deeply carved large names and dates on Frame Arch in April 2016. These new incidents represent a disturbing national trend in vandalism, where the goal is apparently to share the crime through social media, with at least some of the graffiti made by criminal gangs. The problem was so severe at Joshua Tree National Monument in 2013 and 2016 that several areas of the park were closed to visitation to clean the graffiti (spray paint in some areas and incised names in others) and to try to break the retaliatory nature of the activity.³³⁶ The Frame Arch graffiti measured 5 by 6 feet and was so deeply incised that staff evaluated whether it would be better to fill the letters with some sort of material that would conceal them, rather than grinding them off as is typically done.³³⁷ Superintendent Kate Cannon noted that although social media seemed to be a driver in the current wave of vandalism, graffiti had also just become more popular among visitors.

Search and Rescue

“The saving of human life will take precedence over all other management activities” (National Park Service Management Policies).³³⁸

The first recorded serious accident in Arches National Monument occurred when Oras Krumbolts, a professor at Arizona State College, fell approximately 30 feet while climbing to the top of Wall Arch in September 1948. He broke his pelvis and suffered multiple abrasions and bruises, and had to be carried by stretcher approximately a mile and a half to the trailhead.³³⁹ Frederick Semisch was the first fatality, falling from the fin above Landscape Arch on May 29, 1950.³⁴⁰ The 19-year-old “was 200 yards off of the trail and attempting to traverse a slope which would require ropes and a thorough knowledge of mountain climbing.”³⁴¹ He fell 200 feet and hit the cliff sides at least three times on the way down, before his body came to rest in a narrow crevice. In his report on the accident, Bates Wilson noted that “the only prevention I can see is education of the general public, but I am afraid there will always be those who will try the impossible.”³⁴²

The Arches Search and Rescue (SAR) program began in the 1950s under the direction of Bates Wilson, an active climber and participant in searches (Figure 5-14). Edward Abbey describes the search for and recovery of the remains of a lost visitor at Canyonlands in *Desert Solitaire*. In sparsely populated Grand County, the Arches Search and Rescue team was often called upon to render assistance on SAR missions for the Utah Highway Patrol, the Grand County and San Juan County Sheriff, and other federal agencies.³⁴³ Although composed of volunteers, the SAR team trained frequently; for example, 21 person-hours of training were devoted to the use of a new Stokes basket that the team acquired in 1964.³⁴⁴ Monthly Narrative Reports of the 1950s and 1960s document the training and incidents requiring the team’s expertise. Records of SAR events were not systematically documented until the late 1970s, with most accidents or saves reported in Superintendents’ Annual Reports or periodic staff meeting minutes. Additionally, SAR operations were often not distinguished from Emergency Medical Services (EMS) responses until the early 2000s. Due to growing concern on the part of the media about the safety of the national parks, and the rising costs of SAR, the NPS began to track search and rescue operations (Table 5-1). Between January 1, 1974, and October 30, 1986, Arches experienced 11 major searches, 33 rock rescues, and 212 medical emergencies.³⁴⁵ The earliest documentation of SAR operations using a Search and Rescue Operations matrix in the Arches Administrative Collection is from 1977.

VISITOR COMMENTS ON SEARCH AND RESCUE

“My wife and I wish to express our gratitude for the wonderful job performed by the rescue team as a result of my being injured on the guided hike with Jennifer Wallace on May 13, 2007. The members of the rescue team performed a service which is almost beyond description, and undoubtedly, they placed themselves in danger in extracting me from a very rugged and difficult terrain.

My knee was seriously damaged in the fall, and I anticipate having surgery in the next several weeks. Hopefully, I will be able to once again hike in such wonderful places as Arches, and you can rest assured, I will be back.

Please extend our heartfelt thanks to all who were a part of the effort and who came to my rescue. Please accept the enclosed donation to the park as a small token of our gratitude.”

Visitor from Dayton, Ohio, June 4, 2007

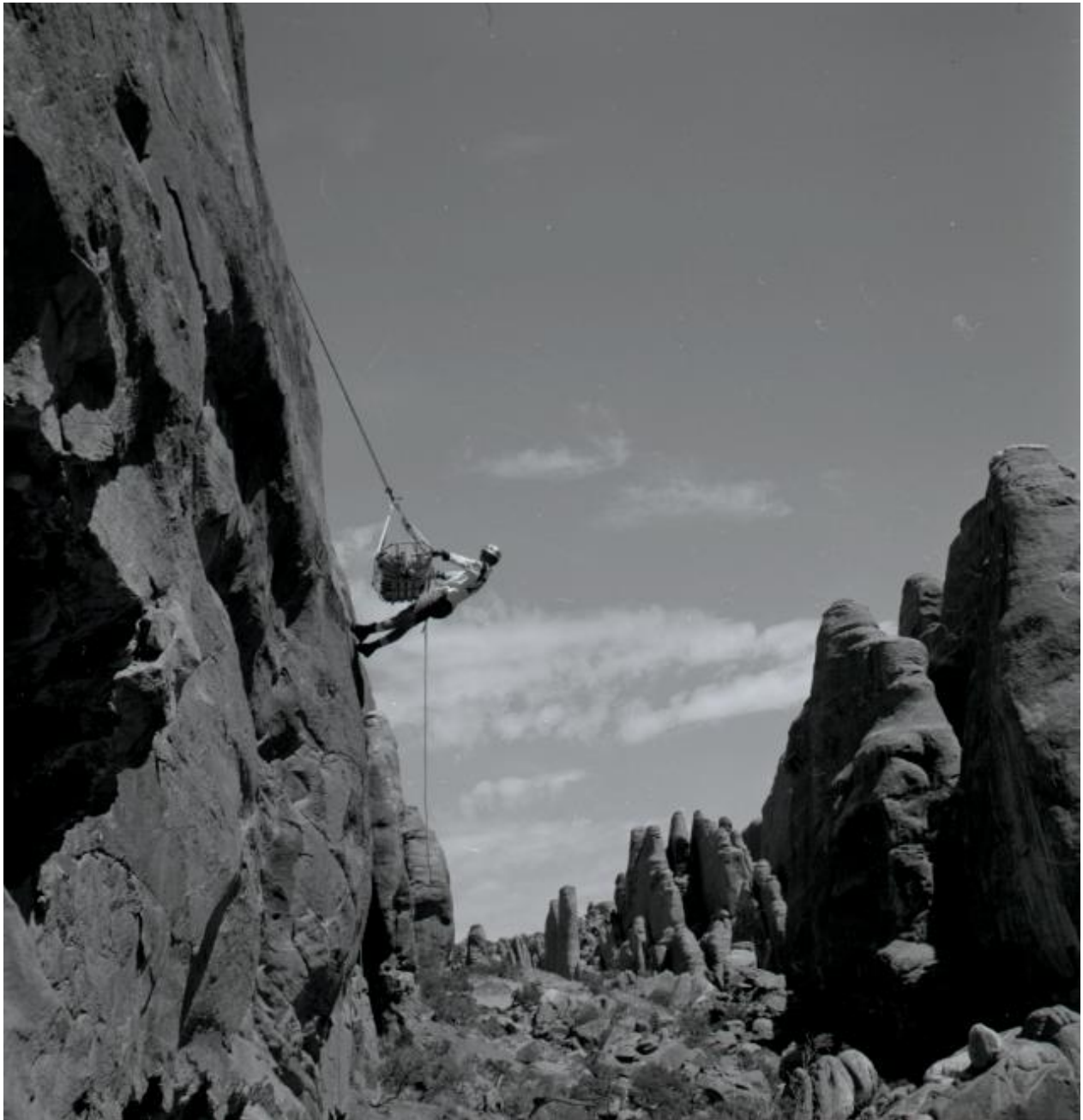
“Sunday, May 10th, my mother and I visited ‘Delicate Arch’ at Arches National Park located in your beautiful state of Utah.

I got myself in a perilous situation and was rescued by four park rangers under your supervision namely, Charlie, Mary, Steve and Scott.

You can be very proud of these four individuals for they worked promptly and efficiently to get me back up safely out of the “bowl.” Not only were they efficient and prompt but they were friendly and courteous. It is good to know such excellent teams exist and I’ll remember them for a long time to come.

I have related my experience to many people, letting them know that the park rangers, be they men or women, are the greatest.”

Visitor from Birmingham, Alabama, May 27, 1981



5-14. Search and Rescue demonstration of rappelling with the Stokes Basket by R. Pennie for a troop of Explorer Scouts from New York, 1979. ARCH 104/001045, SEUG Archives. (Photo credit: Tom Mulhern).

Table 5-1 tracks the number of operations per year, the number of saves (lost or injured visitors whose lives would have been lost had they not been found and transported to safety by the SAR), fatalities, and cost. The format for reporting changed significantly in 1986 and 2003, providing slightly different data than previously collected, or in a different format. In 1984, the NPS established specific criteria for what sort of event constitutes a reportable SAR incident; some of those reported prior to that date do not meet the criteria.

Table 5-1. Search and Rescue Statistics 1977–2004

YEAR	NUMBER OF					COST	
	SAR ¹	MAI ²	Fatal ³	Injury ⁴	Saves ⁵	Total	Unprogrammed/MAI
1977	10	0	0	2	4	Not reported	Unprogrammed/MAI
1978							
1979							
1980	8	4	0	1	18	Not reported	
1981							
1982	13	4	2	7	0	\$692	\$544
1983	6	0	0	1	4	\$379	\$121
1984	3	0	0	0	2	\$9550	\$0
1985	3	1	1	1	2	\$9,665	\$8,448
1986	3	1	1	0	0	\$2,715	\$2,601
1987	6	0	0	1	0	\$1,472	\$1,080
1988	10	0	1	3	0	\$3,868	\$3,222
1989	10	0	0	3	0	\$3,016	\$2,563
1990	9	0	0	4	1	\$9,173	\$4,904
1991	20		0	14	1		
1992	12	0	0	2	0	\$1,514	\$632
1993	11	1	0	1	0	\$2,002	\$1440
1994	15	0	0	2	0	\$2,813	\$2,441
1995	43	4	0	25	3	\$18,218	\$8,012
1996	49	2	1	21	8	\$27,108	\$8,010
1997	38	2	1	13	6	\$48,121	\$44,644
1998	37	4	1	22	2	\$26,923	\$20,676
1999	25	2	0	16	0	\$13,013	\$8,931
2000	25	5	0	16	2	\$30,929	\$20,737
2001	23	1	0	32	1		
2002	27	2	1	13	2	\$20,283	\$6,064
2003	24	8	0	14	3	\$16,087	\$9,600
2004	30	1	2	27	1		

¹ Search and Rescue operations total, including Mutual Aid for other agencies.

² Mutual Aid Incidents.

³ Fatalities within Arches National Park; does not include MAI fatalities.

⁴ Includes injuries and illness; SAR operations that did not result in a fatality, injury/illness, or save account for the balance of the number of operations.

⁵ Does not include MAI saves.

Shaded cells = no data available; data for 2001 and 2004 were obtained from the Superintendent's Annual Narrative Report for those years.

From 1977 until 1986, SAR incidences were categorized as lost person, air crash, illness, drowning, miscellaneous accident, or climbing, with “saves” reported as “no. of persons rescued from stranded position.” Beginning in 1986, the SAR operations annual report included a summary that cross tabulated the number of incidents, injuries/illnesses, fatalities, and non-injury/illness incidents by the type of activity: hiking, skiing, climbing, boating, SCUBA, vehicle, aircraft, and other. In 1986, 1 climbing and 5 hiking incidents were reported. In 1988, 8 hiking and 2 climbing incidents were reported. In 1989 all 10 incidents involved hikers. In 1990, 5 hiking, 2 climbing and 2 “unfounded” (i.e. someone was reported as missing but it was a miscommunication, not a lost person) incidents occurred. In 1992, 6 hiking, 3 climbing, and 3 unfounded incidents were reported. Incidents relating to livestock were added to the type of incidents reported in 1994, a year in which 10 hiking and 5 unfounded incidents took place. The definitions of SAR events that require reporting were further refined in 1995 to distinguish EMS events from SAR: “A situation is more likely to be a SAR if it occurs in the backcountry (off paved roads) and if there is a significant commitment of time by the rescuers.”³⁴⁶ The costs associated with rescues were also changed at this time to exclude costs not borne by the government, such as private air ambulances.

The purpose of many SAR events is to rescue hikers who have scrambled or climbed to a position from which they cannot or are unwilling to descend from, a position referred to as being “rimrocked.” Arches staff have periodically tracked where in the park these events have taken place, to gain insight to problem areas that might require better signage, warnings in brochures, or enhanced ranger presence.

Between 1977 and 1986, 63.6 percent of major searches and 57.6 percent of rock rescues were initially reported at Devils Garden. In 1995, the distribution reporting was refined: 35.0% Devils Garden, 17.0% Fiery Furnace, 15.0% Delicate Arch, 12.5% Windows, 7.5% Courthouse, 2.5% other areas of Arches, 2.5% other NPS, and 7.5% Grand County. Hiking was the main activity (66.7%) in which people were engaged and subsequently required SAR, with scrambling (activities off trail, 25.6%) also common. Events involving vehicles (2.6%), biking (2.6%) and climbing (2.6%) were relatively uncommon. Although snow and ice on trails presents an obvious hazard, and the Primitive Loop Trail was rerouted to avoid a particularly icy spot, in 1995 none of the SAR events took place in winter months (November–January); May, June, July, and September were the peak months, reflecting not only higher visitation during those months but the higher percentages of visitors who lacked equipment and skills in the backcountry. Carryouts were the most common SAR event (56.8%), with searches constituting 29.5 percent and rimrock rescues 13.8 percent. In 1999, the percentage of hikers involved in an SAR event appears to have dramatically increased to 80 percent, but mutual aid (16%) and climbing (4%) were the only other reported activities, suggesting that “scrambling” had been rolled into hiking; in 1996, the combined hiking/scrambling SAR events were 92.3 percent of reported events.

The way in which safety and protection was reported changed in 1998, and again in the early 2000s. At the beginning of 1998, all case incidents were reported on the Case Incident Reporting System (CIRS) in order to be compliant with uniform reporting of major crimes and other incidents.³⁴⁷ Beginning in 2000, the lost time hours instead of dollar amounts were to be documented for employees, and for visitors only those who required transportation or medical attention were to be reported.³⁴⁸ Property damage was not to be reported anymore. The new NPS Park Search & Rescue Report of 2003 dramatically expanded the information reported for SAR events to include the age and sex of victims, type of terrain, duration of the search, rescue method(s), vertical and horizontal movement of the victims from their point of origin in the park, and 20 specific activities. Day hiking (70.83%) was the most common activity, followed by climbing-scrambling (25.0%) in 2003. Victims were slightly more likely to be 20–29 years old

(32.0%) than any other age group, and female (53.57%). The new format splits SAR events from EMS events, which were formerly mingled with searches, making it difficult to directly compare events after 2003 with those before. Yet another new system, the Incident Management Analysis and Reporting System, was mandated for the Department of the Interior for FY 2008, but due to problems with software vendors, implementation did not take place until 2013.³⁴⁹ Search and Rescue statistics for Arches National Park are not available from 2005 to 2018.

Although most visitors who are injured accept responsibility for their actions, some seek legal redress for what they view as negligence on the part of the NPS. In 1987, young visitor Carin Dehne fell from South Window, and her family subsequently filed a tort claim in the amount of \$500,200 claiming that “the National Park Service failed to adequately warn her of the dangers of climbing on slickrock.”³⁵⁰ The trial was scheduled for 1990 but was postponed until 1991 after the U.S. Attorney in charge of the case visited Arches and reviewed the evidence. Ultimately the case was dismissed and Dehne’s family received nothing from the NPS when it was revealed that she had stopped to read the informational bulletin board before beginning her hike but her mother told her that they did not have time, and they started down the trail.³⁵¹ Because the bulletin board had warned of the dangers of climbing on slickrock and the family chose not to read it, the court ruled that the NPS was absolved of responsibility.

Many of those who are assisted or saved by Search and Rescue show their appreciation by making donations to help cover the cost of those services. For example, in 1997, \$1,050 was donated to Arches by people who had received search and rescue services, and an additional \$192 was contributed by people who had been assisted by rangers with vehicle problems or other minor crises.³⁵²

Notes

¹ Christine L. Madrid, Arches National Park Main Entrance Road, Beginning at U.S. Highway 191, approximately 6 miles North of Moab, Moab Vicinity, Grand County, Utah. HAER No. UT-70. Photographs, Written Historical and Descriptive Data. (Washington, D.C.: Historic American Engineering Record, National Park Service, Department of the Interior, 1993a), p. 13.

² Samuel J. Schmieding, *From Controversy to Compromise to Cooperation: The Administrative History of Canyonlands National Park*. (National Park Service, 2008), p. 69.

³ “Would Raise Arches to Status of Nat. Park,” *The Times-Independent*, September 30, 1948. Arches National Park Records, ARCH 101/005-061, Southeast Utah Group (SEUG) Archives, National Park Service (NPS).

⁴ “Sen. Bennett Sponsors Southern Utah Parkway,” *The Times-Independent*, February 16, 1961.

⁵ “Utah’s Four Congressional Delegates Team Up on Bridge at Hite,” *The Times-Independent*, August 31, 1961.

⁶ “Senator Bennet Proposes 3 New Parks for Utah,” *National Wildland News*, September 1961.

⁷ A. Clark Stratton, Acting Director, National Park Service, to Legislative Council, Office of the Solicitor, Memorandum: S. 1736 – To Establish the Arches National Monument as the Arches National Park, August 29, 1963. ARCH 101/006-042, SEUG Archives.

⁸ Congressional Record – Senate, “National Park Designation for Arches,” June 19, 1963, pp. 10463–10464. ARCH 101/006-42.

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¹¹ *Weekly Compilation of Presidential Documents*, Monday, January 20, 1969. ARCH 101/005-081, SEUG Archives.

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¹³ “Withdrawal Sparks Johnson, Udall Feud,” *Desert News*, January 21, 1969.

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- ²⁰ Dorothy O. Rea, “‘Land Grab’ Hearing In Moab,” Deseret News, February 11, 1969.
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- ²⁴ “House Hearings on Park Measures Completed; Final Action Awaited,” The Times-Independent, September 17, 1970.
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- ³⁴ “DOE Sets Moab Meet to Discuss Possible Nuclear Waste Site,” The Times-Independent, August 16, 1979. ARCH 101/005-091, SEUG Archives.
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- ³⁷ Christopher J. Bosso, *Environment, Inc.: From Grassroots to Beltway*. (Lawrence: University of Kansas Press, 2005), pp. 3–6.
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- ⁴² National Park Service, Arches NP Report Date: Oct 2015. (Electronic document <https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Park%20YTD%20Version%201?Park=ARCH>, viewed December 4, 2015). In 2014 Arches received 1,284,767 visitors to an area of 119 square miles; averaged, this is 3,519.91 people per day or 29.58 people per square mile per day, including all of the backcountry. The 2014 U.S. Census lists the estimated population of Dallas, Texas, as 1,281,047 in an area of 385.8 square miles, for a population density of 3,645 persons per square mile. However, most of the visitors to Arches never leave the frontcountry, which can be approximated as the 1.81 square miles examined by the 1987 archaeological survey; in this area, daily average population density is 1,942.0, slightly higher than the 2015 population density of Taiwan or Richmond, Virginia, the 45th highest population density metropolitan area in the United States.
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- ⁵⁴ Penny F. Jones, Southeast Utah Group, Squad Meeting, November 30, 1999. CANY 743/01-014.4, SEUG Archives.
- ⁵⁵ Nelson, *Why the Sagebrush Revolt Burned Out*, *Regulation*, May/June 1984, Table 1. Key Environmental Legislation with Preservation Objectives Since 1964.
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- ⁸² ARPA, Section 3(1).
- ⁸³ ARPA, Section 3(1).
- ⁸⁴ ARPA., Section 7(a)(3).
- ⁸⁵ Stanley L. Albright, “Collection of Arrowheads on National Park Service areas, April 30, 1981.” ARCH 101/001-136.

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- ⁸⁸ Marc Yeston, Memorandum: 1993 ARPA Monitoring Summary, Arches National Park. October 7, 1993. ARCH 101/004-018, SEUG Archives.
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- ¹⁰² Jeffrey J. Cain, M.D. to Ms. Csuenne Conklin C/O Representative Diane DeGette, October 7, 1999. ARCH 101/006-090, SEUG Archives. Either the ranger was in error in stating that bicycles are prohibited on the roads in Arches (they are allowed), or Cain was in error in his recollection of the encounter.
- ¹⁰³ Cain (October 7, 1999), p. 1.
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- ¹⁰⁶ Maureen Finnerty, Associate Director, Park Operations and Education, National Park Service, to Honorable Diane DeGette, Member, U.S. House of Representatives, January 14, 2000. ARCH 101/006-090, SEUG Archives.
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6

Didn't See it Coming: Non-Conforming Activities at Arches

Following World War II, new technology, improved transportation, a robust economy, and the demographics of the Baby Boom placed millions of people in the national parks, many seeking experiences outside of “traditional” National Park Service interpretation.¹ The 1940 Master Plan for Arches envisioned the entire corpus of recreation activities suitable for the national monument as consisting of rough hiking and horseback trips, aesthetic enjoyment, and the opportunity to “study a peculiar and unusual phase of erosional activity.”² The newly mobile and restless recreationalists took a broader view of the recreational opportunities, asking “why?” versus “why not?”³ Daredevil Evel Knievel’s long-standing (1968–1971) proposal to jump the Grand Canyon on a motorcycle (a stunt he eventually performed with a rocket over the Snake River in Idaho in 1974) is an extreme example of this conflict in uses.⁴ The Department of the Interior denied Knievel’s permit application for Grand Canyon as a “non-conforming activity” that was likely to cause resource damage and impair the enjoyment of other park visitors, but this did not end the trend towards increasing non-traditional uses of national parks. Beginning with rock climbing in the late 1930s, Arches has witnessed new recreational activities in every decade that have challenged the management of the park.⁵ Many of these activities have developed very quickly, often catching the staff unawares. Some non-traditional events such as musical performances are sanctioned by the Park Service, but all still fall far outside the limited scope of activities envisioned in 1940.⁶

Between 1985 and 1991, for example, Arches National Park was the setting of the Dark Angel State Bicycle Race, an annual road race that eventually became a “classic” of the U.S. Cycling Federation schedule.⁷ The race was run over the course of a few hours on the park’s scenic drive, attracting increasing numbers of participants and spectators over the years. In 1992, Park Superintendent Walt Dabney denied a special use permit to the organizers to stage the race that year. In response, the United States Cycling Federation contacted the office of Utah Senator Jake Garn seeking to appeal this decision. Garn wrote to Robert M. Baker, Regional Director, Rocky Mountain Region of the National Park Service, seeking additional information.⁸ Baker’s response to Garn noted that the permit was denied because the race was inconsistent with NPS regulations, it had become too large, and the race organizers had previously agreed to move the race to another road outside of the park.⁹ Baker’s defense of the permit denial succinctly explains the NPS position regarding events staged in national parks:

*National Park Service regulations require that special event permits be issued only when 1) there is a meaningful association between the park and the event, 2) the event contributes to visitor understanding of the significance of the park and 3) the event does not unduly interfere with normal public use of the park.*¹⁰

However, many of the non-traditional activities pursued by park visitors are not formal, public events, but private undertakings for which park management cannot deny permission, since the participants have not applied for permission in the first place. The recent manifestation of people performing gymnastics and yoga poses within or beneath various arches strikes some as “inappropriate behavior” but it violates no park edicts.¹¹ Evel Knievel could not hope to enter Grand Canyon National Park with a large film crew and assistants and perform his motorcycle jump undetected, and it would not have created the public (televised) spectacle that he sought, but individual recreationalists can easily perform

their own stunts, as was done by climber Dean Potter in 2006.¹² Potter climbed Delicate Arch in violation of standing park rules regarding rock climbing, although the NPS realized that the rules were sufficiently vague that Potter could not be successfully prosecuted.¹³ Many of the new recreational activities promote a strongly narcissistic ethic of being the first to accomplish a stunt, whether it is a rock climbing route,¹⁴ or parapenting from a prominent landscape feature.¹⁵ The relatively recent development of portable, durable, and small digital video cameras and enhanced imaging capabilities of most smart phones has accelerated (or exacerbated) this trend. In his analysis of rock climbing ethics, Rocco Mastrantoni notes that the release of a professionally produced film on rock climbing inspired “a lot of rock climbers that are looking for fame in the sport.”¹⁶ Similar films for other sports, as well as the advent of the X-Games, “unscripted” television, and YouTube, inspires many others to create their own *cinema verite*.¹⁷ Potter posted still and video images of his Delicate Arch climb to the Internet the next day, proving that he had “bagged” the route.¹⁸ YouTube exhibits untold thousands of videos of would-be Evel Knievels and Dean Potters engaged in stunts in their backyards, neighborhoods, and in national parks, creating, or hoping to create the Next New (Big) Thing.¹⁹ The performance of the activity may be widely distributed, but the activity itself is often clandestine. If Arches had the resources to monitor social media and pursue criminal or civil penalties against the perpetrators of the non-conforming activities (which it does not), it would still be after the fact, and the damage already done.

Park personnel have, in some instances, missed out on the existence and potential impacts of these activities due to a focus on other issues. For example, the 1990 Statement for Management provides great detail on threats from adjacent lands and external sources, including energy exploration, sonic booms, incomplete park fencing (livestock encroachment), livestock contamination of surface water, proposed toxic waste incinerators in Cisco and Green River, and regional air pollution; however, the performance of recreational activities in the park is only discussed in terms of the ever-increasing visitation and the increasing number of requests to hold permitted special events in the park (identified as dramatic performances).²⁰ The failure to “see it coming” may reflect the orientations of specific age cohorts within the NPS, a focus on process and paperwork and a trend away from rangers patrolling on the landscape, or the prevailing focus of news media or advocacy organizations such as the Southern Utah Wilderness Alliance and Grand Canyon Trust. Many outdoor recreationalists participate in multiple sports,²¹ which themselves frequently schism or calve-off new activities.²² It can be anticipated that some reviewers and users of this document will question the relevance of discussing Evel Knievel, but were surprised when remote aircraft (drones) were suddenly being reported at The Windows on a frequent basis. How quickly will self-driving cars be programmed to drive on trails, race, or perform choreographed dance routines? Part of the thrill is in confounding the old and straight; if the “squares” know about what you are doing, then for many, it is time to switch activities and go underground again.²³

Rock Climbing

Rock climbing has presented park staff with perhaps the most serious management issues of all of the recreational activities due to the length of time it has been undertaken in the park and the general compatibility of rock climbing with the Organic Act. This has been compounded by hypocrisy on the part of many climbers regarding the physical and aesthetic impacts of climbing²⁴ in a national park setting. Although the initial concerns about the impacts of rock climbing tended to focus on the creation of social trails and visual impacts to cliff faces, more recent studies have examined the cliff ecosystems of

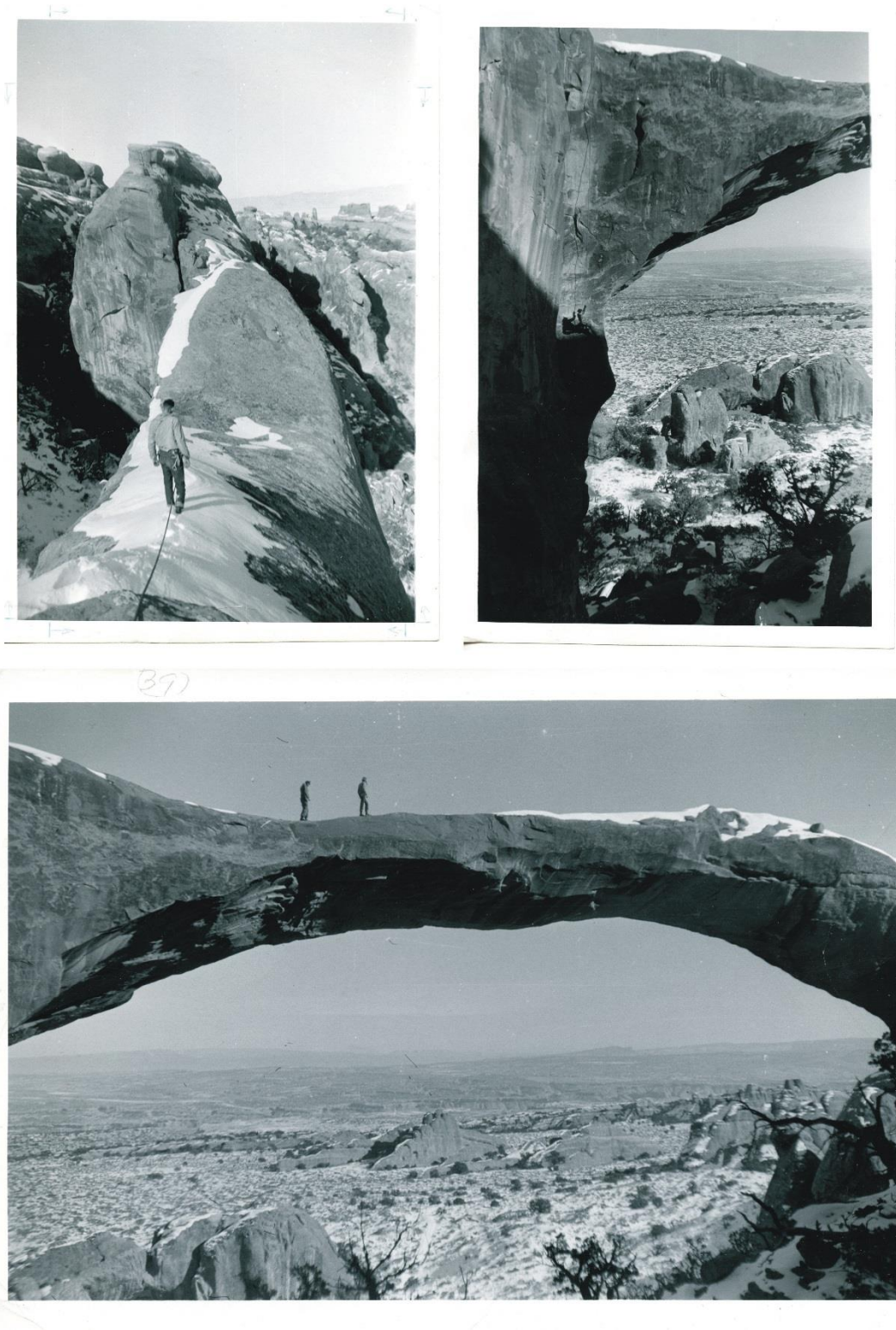
plants and animals, as well as impacts farther afield at staging areas.²⁵ While rock climbing at Arches National Park is a destination activity for some, Arches represents only a small segment of the activity in the Moab area. The “Wall Street” area along the Potash Road and Fisher Towers are two areas of much more intensive climbing activity, and are outside the park. Thus, while rock climbing has been perceived by park staff as a significant recreational activity, climbing in Arches is simply one locale of many in the area for climbers to explore.²⁶

Landscape Arch and Other Early Climbs

The first documented ascent of a named arch in Arches National Monument took place September 3, 1939, when Philip S. Miner climbed Landscape Arch.²⁷ Miner, just 19 years old at the time, was a member of the Wasatch Mountain Club in Salt Lake City. The climbing party, including four young women, was guided to Landscape Arch by Custodian Harry Reed. According to Hoffman, Miner made the climb without setting protection, walked across the span to the opposite side and walked back to the south buttress before climbing down; he was joined on the climb by a companion whose name was not recorded.²⁸ Landscape Arch is actually oriented on a northwest to southeast axis, with the “south” end located closer to the Devils Garden Trailhead. Climber Fred Ayers and his sister Irene were the next to successfully climb Landscape Arch on August 19, 1949, following an aborted attempt in 1947.²⁹ Ayers set two pitons and two expansion bolts on their route, also on the south buttress of the span. Ayers and his sister also crossed the span but rappelled down from the north end. It is unclear from Hoffman’s description whether the Ayers had permission to climb or not. The Ayers also climbed Turret Arch, Elephant Butte, Double Arch, North and South Window, and Skyline Arch between 1949 and 1953.³⁰ The third known ascent of Landscape Arch took place in 1958, with permission of monument staff; Cecil M. Oullette, Jim Eslinger, and Mike Boorghoff climbed the south face of the eastern end of the arch, walked across the span, and rappelled 110 feet off of the northern end for *Desert Magazine* (Figure 6-1).³¹ Hoffman provides a lengthy narrative of the early climbs at Landscape Arch, contrasting the successful ascents with the first documented fatal accident in Arches National Monument—the May 29, 1950 fall of Frederick Semisch as he attempted to reach Landscape Arch from the high fin to the north, with no climbing equipment (see Chapter 5).

Many other known arches were climbed during the 1940s–1960s, but surreptitiously, as rock climbing was not allowed in the park.³² Custodian Russell L. Mahan discovered hidden climbing equipment in 1946:

On September 29th, while on contact work in the Windows section, I discovered a 60' ladder in an out of the way cove, between the Garden of Eden and the Windows parking area, which had evidently been used to gain access to the top of the ledge above the Cove of Arches and Double Arch. From the base I noted a runged ladder at the top of the ledge, which ran for a short distance, and a rope strung out through a notch above this, evidently for use as a hand hold to gain the top. The ladder is, without doubt, quite old as the lower 10' of the pole has rotted away, and is unsafe, so I did not try to gain access to the top. I have made inquiries of several parties in Moab, but as yet have been unable to learn who went to all the work of constructing this ladder, etc. I have scouted this ledge, for possible access to the top, but have never found a passable route.³³



6-1. 1958 climb of Landscape Arch. Three photographs from the Cecil M. Ouellette article "Over the Top of Landscape Arch," *The Desert Magazine*, March 1958. Upper left image ARCH 101/005-136.01, upper right image ARCH 101/005-136.02, bottom image ARCH 101/005-136.03; SEUG Archives. (Photo credit: Mike Borghoff).

The towers (Argon, The Three Gossips, Sheep Rock, and The Three Penguins), however, witnessed more attempts as the technical abilities of rock climbers increased during the 1960s. Layton Korr of Grand Junction and two companions were apprehended by a ranger in January 18, 1964, while attempting an anchor bolt climb of Sheep Rock.³⁴

VISITOR COMMENTS ON ROCK CLIMBING

“(1) The rock climbing equipment on the Pine Tree Arch is an eye sore and should be removed as soon as possible – before it gives other non-thinking individuals similar ideas.

(2) We were impressed with the revegetation efforts in process and the general care of the Park by the National Park Service Personnel. We commend your staff on a job well done.”

Visitors from Tonawanda, New York, July 14, 1985

“Might as well ban the rock climbers now! They will mar the rocks, & the few we saw were causing massive car jams on the roads – people stopped right in the middle of the road. Easier to prevent than to try to back track. We’ve been through that in Colorado.”

Visitor, June 3, 1999

Rock climbing can take several forms, with greater and lesser impacts to the rock face.³⁵ Rock climbing in Arches National Park historically has been technical climbing or bouldering.³⁶ Technical climbing involves the use of specialized climbing equipment, including ropes and protection for rappelling (controlled descent) and belaying (ascent with fall arrest; Figure 6-2). Traditional or free climbing is technical climbing that does not use permanent protection for support, but uses minimum impact devices such as chocks/nuts/hexes/stoppers (passive installation), and cams (active installation). Bouldering involves short climbs without rope, where protection is provided by impact-absorbing pads placed below the boulder or cliff face. Although bouldering typically does not involve the use of hardware, magnesium carbonate powder (chalk) is frequently used to improve grip. Clean aid climbing is climbing that does not involve the use of permanent hardware or hardware that can scar the rock face;³⁷ reliance on chalk in bouldering means that it is not considered clean aid climbing, as the chalk residue is transferred from the hands to the rock face. Heavily used routes can become readily

visible from chalk-print handholds, especially when the chalk is white and contrasts with the rock face, and chalk and skin oils can damage rock art panels, if those are traversed in the climb.

Protection in Sandstone: Bolting and Other Permanent Fixtures

Due to its friability, sandstone is not the preferred medium for technical rock climbing, although the massive cliff-forming formations (such as the Entrada found at Arches) are the sturdiest sandstones.³⁸ Protected climbing involves setting hardware (temporary or permanent anchor points) for a rope intended to arrest the fall of a climber who has slipped, or to support a static load such a “portaledge” to bivvy (bivouac) on a long route.³⁹ The lead climber sets the anchors in cracks and crevices, using nuts or chocks (temporary) or pitons or bolts (permanent) as frequently as possible in order to keep any potential falls as short as possible.⁴⁰ Although technical climbs involve the use of a secure body harness and purpose-engineered rope, a climber can still be injured by striking the wall or from sudden deceleration. Until the development of portable battery-powered (cordless) hand drills in the 1980s, permanent protection required hammering a piton into an existing crack or hole. Cordless drills, which have become increasingly powerful with each generation of new batteries, now provide a means to set protection anywhere.



6-2. Bates Wilson rappelling as part of training for the Arches National Monument Search and Rescue, 1961. ARCH 104/000020, SEUG Archives. (Photo credit: “Reddy”).

Development of Climbing Rules

The popularity of rock climbing at Arches and in the Moab area increased dramatically during the 1980s and 1990s, although development of routes at Arches came relatively late compared with other Moab locales. During the physical fitness movement that began in the early 1980s, analysis of the physical training required to perform many rock climbing maneuvers demonstrated that rock climbers were among the most highly conditioned athletes, which in turn helped move the public perception of rock climbing from an outlaw stunt to a serious sport, and increased its popularity. Consequently, Arches National Park began development of a management plan for rock climbing in the late 1980s, completing a draft in 1992 that was merged with a similar plan for Canyonlands National Park for group-wide application in SEUG. At that time, approximately 150 routes had been documented, although most of the climbing observed by park staff was on ten popular routes (Chinese Eyes, Dark Angel, Doil, Heart of the Desert, Nutcracker, Owl Rock, Portable Thrash Unit, Sheep Rock, Zenyatta Entrada on the Tower of Babel, and Zippy Zebra) that were mostly crack climbs with established rappel/belay anchors.⁴¹ Although climbers view their sport as low impact, and themselves as part of the overall “environmental

movement,” an Environmental Assessment (EA) of the impacts of rock climbing at Arches identified some specific impacts to the natural and cultural resources of the park:

The development of approach routes to popular climbing areas leads to soil compaction, trampling [sic] of native vegetation, destruction of microbiotic soil crusts, and increased soil erosion with resultant gullying.

On the rock itself, climbing activity can lead to chipping and/or the placement of permanent anchors such as expansion bolts and pitons. The practice of “cleaning or gardening” a route to facilitate the placement of protection and the enlargement of hand or foot holds can result in the removal of naturally occurring vegetation and the dislodging of rock flakes.

During certain times of the year, climbing activity in certain areas of the park impacts nesting raptors, bighorn sheep, and other wildlife.

Cultural resources such as petroglyph and pictograph panels, and archaeological sites are irreplaceable. Sites can be destroyed if approach routes to climbs pass through them. Rock art panels are extremely sensitive and can be easily destroyed by the repeated touch of human hands. The park is concerned that climbing routes might be established either directly on top of, or in close proximity to rock art sites.⁴²

Some climbers are so focused on the logistics of the climb that they are oblivious to the presence of prehistoric rock art on the cliff surface, which is a big problem with some of the climbing routes on “Wall Street.” Furthermore, the draft EA noted potential social impacts of rock climbing on the non-climbing visitor’s experience, including “excessive noise, the sight and sound of battery powered equipment such as power drills, chalk marks on sandstone, brightly colored webbing festooning cliff faces, and the draping of fixed ropes on certain climbs.”⁴³

Rock climbing presents a unique challenge for park management, different from the activities discussed below, because National Park Service management policies encourage mountain and rock climbing as recreational activities that are “consistent with applicable legislation, that promote visitor enjoyment of park resources through a direct association or relation to those resources, and that are also consistent with the protection of the resources.” The Draft Rock Climbing Management Plan evaluated whether or not rock climbing as it was practiced at Arches met the standards of NPS Management Policies Chapter 8:3, and concluded that rock climbing does impact the resources of the park, and should be managed through a partial closure to rock climbing, and specific regulations. The closure was to include any arch named on the 1:50,000-scale Arches National Park USGS topographic map, on Balanced Rock, and climbing between January 1 and June 30 on the formation “Bubo” and the route “Industrial Disease” on Devils Dog spire. The regulations required the use of brown or earth-colored webbing for belay and rappel

VISITOR COMMENTS ON ROCK CLIMBING

“PLEASE, Ban ALL Technical Climbing on ‘The Sheep’ AND ALL Park Features THANX!”

Visitors, October 20, 1997

“On Friday, October 17, 1997, my husband and I were at Arches National Park, the place that I find most peaceful in the US. There were two rock climbers on the Sheep!! We drove back to the Visitors Center to report this, and were told by Park Ranger Lisa that climbing was permitted on anything in the Park except named arches. I would like to register my complaint about this ~~practice~~ policy; the climber’s shoes are knocking sandgrains loose and hastening erosion. Piton placement and ropes also contribute to erosion. I would like to suggest that Park policy be changed to forbid climbing on any named formations. This would permit climbers to climb at other places in the park while preserving the named features of your beautiful Park as long as possible. Thanks for your consideration.”

Visitor from Tuscaloosa, Alabama, October 17, 1997

anchors, prohibited the use of chalk, prohibited the use of powered drills in non-developed areas (more than 150 feet from the centerline of any road, except for paved roads which extended the non-developed area to 300 feet from the centerline), prohibited modification of a rock surface except for the placement of bolts for rappel or belay anchors, prohibited the placement of bolts for protection (although any existing bolt or piton could be replaced if unsafe), and prohibited climbing within 10 feet of any rock art panel or climbing, walking or camping within any archeological site.⁴⁴

For a number of reasons, the draft Rock Climbing Management Plan was never finalized in that form. One issue was the proliferation of new activities since the 1980s. Park staff was confronted with the need to manage these activities, but each required an analysis to determine if the activity was compatible with park uses, and whether the activity was a variant of an existing activity for which some direction had already been provided. As canyoneering developed as a recreational activity at Arches, including applications from commercial guiding services for guided expeditions (and guided tours that took place without permits), park staff revisited the rock climbing management plan draft and incorporated canyoneering as a related activity.⁴⁵ Canyoneering—a relatively new term for cross-country hiking and exploration of canyons (especially the narrow “slot” canyons common in southeastern Utah)—has been popular for decades, but Arches was not explored in this way until the 1980s. Because canyoneering often involves moving between canyons that head at waterfalls or pourovers (sheer cliffs over which water falls), technical climbing techniques are often a significant component of the adventure.⁴⁶ Likewise, canyoneering also involves the same set of potential impacts identified for rock climbing. Many commercial guide services had placed permanent routes, including hardware and ropes, in areas of the park that were supposed to be managed as wilderness.⁴⁷

Wilderness advocates perceived Arches staff as being at least complicit in violating the Wilderness Act prohibition against permanent installations in areas designated as or eligible for designation as Wilderness, which in their view, includes climbing hardware. The Draft Rock Climbing Management Plan permitted existing hardware to remain in place, and the replacement of unsafe hardware; this point was another obstacle to the completion of the draft plan. As Jim Stiles described in the *Canyon Country Zephyr*, the distinction between “technical rock climbing” and canyoneering had become confused, park staff was unaware that commercial tour companies were already operating in the Arches backcountry, and the Park Service was left without an actionable commercial services permitting program while Congress continued to debate a bill on the topic.⁴⁸ Stiles was concerned not only about the installation of climbing hardware in the Arches backcountry, and other direct resource impacts, but in the long term about the establishment of an entrenched for-profit canyoneering industry that could later challenge Park Service regulations, as the motor river guiding industry had done previously. Despite Stiles’s concerns, and a meeting with staff by the Sierra Club, SUWA, and Grand Canyon Trust about the areas impacted by canyoneering, the park issued Desert Highlights a categorical exemption under NEPA and an “incidental business” permit in 2002 and again in 2003 for canyoneering routes in the backcountry.⁴⁹ Arches staff investigated managing climbing and canyoneering by updating the Wilderness and Backcountry Management plans in 2005, rather than revisiting the earlier climbing plan.⁵⁰

The Delicate Arch Climb

Dean Potter’s solo free-climb of Delicate Arch on May 7–8, 2006, was the event that triggered renewed efforts on the part of park staff to complete a comprehensive climbing plan.⁵¹ Potter was a top technical climber known for fast solo ascents of big walls such as El Capitan and Half Dome in Yosemite.⁵² Potter

was also a climbing ambassador for Patagonia, Inc., the high-end climbing and outdoor apparel company, which promotes its products through publicized outdoor adventures. Although Patagonia did not instigate the climb, they did not immediately disavow it when the climb became public knowledge.⁵³ Potter used a top rope and chalk, but no hardware⁵⁴ to make the climb, which he did several times, posing for still and video photographs which were widely disseminated the following day, appearing on the daily news in Salt Lake City.⁵⁵ The video of the climb instigated a swift and vocal backlash against Potter, Patagonia, and the National Park Service on the part of both Utah citizens and other climbers.⁵⁶ Delicate Arch was the centerpiece of the 2002 Winter Olympics, was then featured on the Utah license plate, and had become the unofficial symbol of the state, as described in Chapter 8. In 2000, photographer Michael Fatali had damaged Delicate Arch while photographing at night. Potter's climb was widely seen as a publicity stunt that had, or could have, further damaged Delicate Arch, and was likely to be an inspiration for further transgressions. Potter's position as a Patagonia ambassador lent some credence to the publicity stunt theory.

The climbing community's reaction to the climb, and Potter's published responses, exposed some of the hypocritical "pseudo-environmental" rationalizations of some segments of the climbing community.⁵⁷ When asked why he made the climb, Potter replied "Mankind is totally separating himself from nature—drilling for oil in the wildest places, jack-hammering footsteps that lead to the Arch, paving roads and parking lots so that people can just sit in their cars and view nature. At a way intuitive level my mind was like a monkey's mind, going after a banana in a tree. When I saw the Arch, I wanted to climb it."⁵⁸ Other climbers pointed out the potential for damage to the arch, the poor image that the stunt created for climbers in general, and most importantly the breach of trust between climbers and the National Park Service.⁵⁹ Many predicted the tightening of rules on climbing in Arches; new rules were, in fact, implemented 2 days after the event and were prominently posted on the park website.⁶⁰

Climbing & Canyoneering Management Plan

Although the Draft Rock Climbing Management Plan had examined the compatibility of rock climbing with the legislative history pertaining to the NPS and Arches National Monument/Park, it did not consider some of the other pertinent plans and policies, many of which had only recently been completed, or were not finalized at the time of the draft plan. These included the 1989 Arches National Park General Management Plan, the 1988 Backcountry Management Plan, the 1993 NPS Commercial Services Plan, and the 2006 revision of the NPS Management Policies. It is in the latter, referenced in an earlier version of the draft climbing plan, that the National Park Service makes clear that it will

*encourage recreational activities that are consistent with applicable legislation, that promote visitor enjoyment of park resources through a direct association or relation to those resources, and that are also consistent with the protection of the resources. Recreational activities that may be allowed include ... mountain and rock climbing.... However, not all of these activities will be appropriate or allowable in all parks; that determination must be made on the basis of park-specific planning. Restrictions placed on recreational uses that have been found to be appropriate will be limited to the minimum necessary to protect park resources and values, and promote visitor safety and enjoyment.*⁶¹

To meet these goals, Superintendent Kate Cannon assembled an interdisciplinary team of employees in 2010 to develop a rock climbing and canyoneering management plan. Six alternatives were developed and considered, but only a no-action (existing policy) and two action plans moved forward. The final selected plan was characterized as "active management," a significant semantic departure from the

draft rock climbing plan's "partial closure" approach. The approach adopted by the final 2013 management plan favors active management and monitoring of rock climbing and canyoneering, focusing on seven areas of concern: access routes, group size limits, permit requirements, establishment of new routes, treatment of fixed gear (hardware), monitoring, and closures and the provision for further modification of the plan. The final plan was subjected to public scoping, agency consultation, and tribal consultation before the final active management plan was adopted. Existing and new regulations were modified or created for rock climbing and canyoneering:

- Rock climbing groups are limited to five persons per group.
- Rock climbing must be free climbing or clean aid climbing. The installation of pitons is prohibited.
- The physical altering of rock from its natural position such as chiseling, breaking rocks to reinforce crevices and pockets as anchors, glue reinforcement of existing holds, and gluing new holds is prohibited. The intentional removal or "gardening" of lichen or plants from rock is prohibited.
- The use of white chalk is prohibited. Chalk or chalk substitutes used in the park are required to be similar in color to the rock that is being climbed.
- Use of motorized drills within wilderness boundaries is prohibited. Use of motorized drills outside of wilderness boundaries requires a special use permit.
- If an existing item or fixed anchor is judged unsafe, it may be replaced, in kind, without a permit. Bolts, hangers and chains must be painted the color of the rock surface or primed brown. Software left in place is required to match the rock surface in color.
- Leaving fixed ropes in place for more than 24 hours is prohibited, unless the park has been notified.
- Slacklining (or "highlining") and BASE jumping are prohibited.
- Bivvying overnight requires a backcountry permit, and must abide by the same rules and regulations set forth for backcountry camping. Bivvying overnight will be at least one mile from any designated road and one-half mile from any designated trail.
- Guided rock climbing services are prohibited.

The final management plan is available to the public through the Internet on the Arches National Park website, which also provides links to the online registration of climbers and canyoneers, as well as useful information regarding safety and etiquette. This site also lists the landscape features that are subject to permanent closure (any arch, named or unnamed, with an opening larger than 3 feet; Balanced Rock, and the Arches Boulders or Highway 191 Boulders) or any temporary closure. The temporary closures are used to accommodate wildlife, particularly birds that are nesting or with young.

Every attempt was made to scope the opinions of the public, including the climbing public, and consider those views in the final plan. Of the 25 organizations that identified themselves as interested parties to the preparation of the plan, at least 12 could be considered climbing, canyoneering, guiding, or public lands access organizations. Since its release, there seems to be little visible public comment on the plan and the new regulations, although less visible forums such as member-only chat rooms may witness a different commentary. An analysis of values and management preferences regarding rock climbing in northern Arizona documented that most of the communication among rock climbers is by word of mouth.⁶² A letter to the editor of the *Moab Sun News* in 2016 regarding the recent cancellation of Fiery

Furnace permits for commercial guide services claimed that his “business isn’t the only one that is being harmed by inept management: The entire climbing community has been blocked out without an updated plan for a decade now,” indicating some level of frustration on the part of guide services, although it is unclear if this frustration extends to other members of the rock climbing community.⁶³ Given the number of routes that are open in Arches, the large number of routes available in the Moab region, and the fact that the rock climbing plan is actually only a few years old, this is likely the view of a minority of climbers, or perhaps just one disgruntled guide.

Jeep Jamborees

Immediately after World War II, the United States experienced enormous growth in motorized recreation of all kinds.⁶⁴ Auto racing, hot rodding, automobile vacations, and off-highway driving developed out of the unique situation of the late 1940s: pent-up desire to travel that had been suppressed by rationing in the war years, cheap fuel, and a sudden surplus of vehicles. Automobility became one of the hallmarks of the mid-twentieth century. The U.S. military dumped millions of surplus vehicles on consumers, including the one-quarter-ton General Purpose truck (GP [jē pē] or “jeep”), a

VISITOR COMMENTS ON OFF-ROAD VEHICLES

“We enjoyed our stay at the Arches. After a trip from Santa Fe to Alberta and back to the Arches we have decided that the Arches is the cleanest and best maintained park we have been to. Don’t allow the born again budget cutters to destroy our national parks. They are one of our most valuable resources.”

Suggestion: “Keep motor bikes Dune buggies & chain saws out of park.”

Visitor from Santa Fe, New Mexico, July 27, 1981

“We love Arches. I think you should keep jeeps on paved roads only [illegible]. We hiked a loop to tower arch part [sic] on the jeep road & I picked up numerous cigarette butts & small litter on the road. Keep the jeeps down on the uranium jeep trails in Canyonlands.

Also – put up a monument to Cactus Ed Abby [sic] at the site of his trailer.

Also – consider cutting a long hiking trail loop through the petrified dunes. Thanks!”

Visitor from Felton, California, April 1, 2007

four-wheel-drive motor vehicle that permitted ordinary people access to remote locations that were previously only accessible on horseback or by walking. Willys-Overland, the original manufacturer of the Jeep, also offered a new civilian version after the war.⁶⁵ Arches National Monument bought two surplus jeeps from the Atomic Energy Commission (“one that would run and one for spare parts”) to patrol the boundaries for trespass by uranium prospectors using similar surplus jeeps during the 1950s.⁶⁶ In southeastern Utah, many of the four-wheel-drive roads currently in use were developed during the uranium prospecting boom of the 1950s.⁶⁷ Subsequently, these roads became the focus of recreational drivers, intent on exploration or challenging the abilities of driver and machine. Moab became a center of off-highway recreation (Figure 6-3).

The Moab Chamber of Commerce initiated the first Jeep Safari in 1967.⁶⁸ For many years the Jeep Safari took place over Easter Weekend. In 1979, the Jeep Safari was held in conjunction with the Arches 50th Anniversary celebration and the Easter Sunrise service;⁶⁹ 300 participants were expected. A special guided jeep tour of the old Willow Springs entrance road was scheduled as part of the celebration, led by Mitch Williams and Larry Reed.⁷⁰ The event remained an informal one-day drive on trails around Moab until 1982, when the Bureau of Land Management

required a special use permit and insurance for the event; at that time, the Chamber of Commerce requested that the Red Rock 4-Wheelers club take over organization of the event, now 9 days in duration. During 1995, the Jeep Safari included a leg on the road along the north side of Sevenmile Canyon and the west side of Courthouse Wash within Arches National Park, if an alternate to the



6-3. Bates Wilson and his family shared a picnic lunch with Willys Jeep CJ3-B (manufactured 1953–1968). ARCH 3489a, SEUG Museum Collection. (Photographer unknown).

“Pipeline Route” was needed.⁷¹ Arches staff recommended the use of the pipeline access road outside of the park for the Jeep Safari in 2004, to avoid an impassable section of road within the park (the road was not identified).⁷² In anticipation of the Jeep Jamboree’s 50th anniversary, Fiat Chrysler Corporation announced plans in 2016 to release 50 copies of a special edition Jeep Wrangler Hard Rock, named the Red Rock in honor of the Moab-based Red Rock 4-Wheelers Club.⁷³

Jeeps were the beginning of the development of off-road recreation, which has grown to include vehicles with two, three, four, and six wheels. Small and portable motorized scooters and small motorcycles were first offered for sale in the 1950s. By 1960, some visitors to Arches were caught riding in the monument:

Two motorcycle trick riders were given a rake each to use in the obliteration of their tracks made over backslopes and 100 yards off the roadway. They also received a lecture along with the exercise and I doubt if they will return to use the area as a cycle course. Our most recent headache along these lines is the Tote-Goat, a two wheeled, low geared scooter which will climb most any grade. A group of twelve were rounded up last Sunday on our trails and informed of their violation of our regulations and that we had plenty of rakes for a second offense. I doubt if this particular group will return with their vehicles, but there will be others and we have erected signs warning them to stay on the roadway and off the trails.⁷⁴

Courthouse Wash is often used as an unauthorized access route for off-road vehicles.⁷⁵ Known as off-highway vehicles (OHVs), off-road vehicles (ORVs), or all-terrain vehicles (ATVs), this class of motor vehicle includes those that can be licensed for use on public highways and those that cannot, due to the absence of required lighting, windscreens, noise suppression, etc. All jeeps, motorcycles and four-wheel-drive vehicles that enter any unit of SEUG must be legal for highway use in Utah, and the operator must possess a valid driver's license and an NPS off-road license; all other off-road vehicles are prohibited.⁷⁶ Because of deep sand, four-wheel drive is required to use several of the backcountry roads in Arches, providing jeep enthusiasts and other OHV users the rare opportunity to pursue their activity within a national park. This includes Willow Springs Road, the Klondike Bluffs Jeep Trail, and the road from Herdina Park, which the NPS requires to be driven only from north to south due to pockets of deep sand on some slopes. Although Arches rangers have sometimes had to respond to OHV trespass and resource damage in the park, the Moab region provides abundant opportunities for off-road driving of almost any skill level, so there is little inducement to risk a ticket or worse by off-roading in Arches. As documented by the Visitor Experience and Resource Protection (VERP) social pullout study, most of the damage from driving off-road in Arches is from cars pulling off the scenic drive in unapproved locations.⁷⁷ Canyonlands National Park, on the other hand, has persistently experienced trespass by off-road vehicles, including organized jeep tours. Moab tour operator and rockhound Lin Ottinger accumulated multiple NPS and state citations for off-road driving in the late 1970s, although these misdemeanor infractions were judged not sufficiently serious to result in the cancellation of Ottinger's tour permits.⁷⁸

Hang Gliding, Parapenting, and BASE Jumping

Because Arches National Park contains many cliffs, towers, spires, and the eponymous arches, it has attracted practitioners of various forms of non-motorized or non-powered flight, including hang gliders, parapenters (or paragliders), and parachutists. Gliders were developed from tethered kites as early as A.D. 875, and are the devices from which powered, fixed-wing aircraft developed in the late nineteenth and early twentieth centuries.⁷⁹ Design refinements moved away from airfoils to a flexible, triangular cloth wing (the Rogallo wing) by early 1963, when hang gliding became a popular adjunct to water skiing.⁸⁰ Gliding in fixed-wing aircraft is another popular way to experience non-powered flight. Parachutes are fabric air-brakes that allow for controlled descent from high elevation; sky diving, BASE jumping, and parapenting are all variations on parachuting. The first parachute descents were made from hot air balloons, with the first rip-cord deployed free-fall descent made in 1919.⁸¹ Parachutes were immediately adopted as a safety device for balloons and fixed-wing aircraft, then later as a means of delivering combat troops to the battlefield in World War II. Parachuting became a formal international sport in 1951, popularly known as sky diving.⁸² BASE jumping and parapenting have developed as specialized forms of parachuting. Those jumping from Buildings, Antennae, Spans, or Earth Features with a parachute or "wingsuit" are known as BASE jumpers.⁸³ In the 1990s, wingsuits were developed that add airfoil-like fabric surfaces between the legs and along the sides (between the arms and legs) of a jumper, extending air time, providing additional directional control, and approximating flight, although a parachute must be deployed to end the jump.⁸⁴ Parapenting utilizes steerable parachutes called parasails to fly from cliffs or other high places.⁸⁵

Yosemite National Park was the early focus of hang gliding and BASE jumping. El Capitan is the location at which BASE jumping was first defined as such, although similar jumps had been made prior to that date at other locations.⁸⁶ Yosemite Superintendent Leslie P. Arnberger (formerly a Regional Naturalist involved with plans to stabilize Delicate Arch in the 1950s) brought the issue of hang gliding in national

parks to the attention of the NPS Western Region in April 1974 in a memo to the regional director.⁸⁷ Arnberger noted that he had already conferred with the U.S. Attorney and the U.S. Magistrate for his region about attempting to apply Section 2.2(b) of the NPS general regulations to hang gliding: 36 CFR 2.17(3) prohibits “delivering or retrieving a person or object by parachute, helicopter, or other airborne means, except in emergencies involving public safety or serious property loss, or pursuant to the terms and conditions of a permit.”⁸⁸ Both the U.S. Attorney and Magistrate felt that this policy was too vague to form the basis of successful prosecution against hang gliders, and that a specific written policy was required. On this basis, the NPS sought to create a system-wide policy before the sport expanded further. Canyonlands Assistant Superintendent Thomas L. Hartman sought information from the Canyonlands Complex unit managers regarding this sport.⁸⁹ Among the questions that he asked them to consider were “Must the National Parks accommodate all varieties of recreation? Is this a recreational event that has its own built-in value and reward that need not be enjoyed within a National Park?” And other topics.

The Proposed Powerless Flight Regulation was published in the Federal Register on December 11, 1975, permitting park superintendents to authorize hang gliding through a permit system.⁹⁰ The NPS received many comments and objections to an earlier version, which had sought to ban hang gliding, except within recreation areas. Under the final rule, in the Canyonlands Complex, hang gliding was permitted in Canyonlands except at the Green River and Grandview overlooks and the Neck area, with participants required to present a Class IV or higher-rated hang gliding license, obtain a backcountry permit, and provide a means to pick up the glider on the White Rim. In Arches, hang gliding was banned “anyplace where flying would infringe upon the rights of other park visitors, create a hazard, damage park resources, detract from the primitive environment, or if the flyer has inadequate equipment, lack of qualifications, or if the weather is inclement [sic].”⁹¹ The first formal request for information on hang gliding in Arches was received by park staff in 1979, following a hang gliding tournament that was staged at Dead Horse Point State Park. Hang gliding has rarely been attempted in Arches because it requires bulky equipment and is typically undertaken from locations where the gliders can be transported using motor vehicles (which are prohibited off-road in Arches), then unloaded and assembled for launch at the top of an elevated landform for launch. Because BASE jumping and parapenting parachutes pack into a backpack, and can easily be transported to elevations by hiking or rock climbing, these sports have been attempted in Arches more often than hang gliding.

In 1987, *Outside Magazine* profiled parapenting in an article that depicted John Bouchard flying from cliffs in Arches and Canyonlands National Parks. The article was brought to the attention of Arches National Park Unit Manager Paul D. Guraedy, who wrote to the editor of *Outside Magazine* to point out that the National Park Service prohibited parapenting (and BASE jumping) from all units of the Park Service, for visitor safety.⁹² During the process of developing the 2013 Rock Climbing and Canyoneering Management Plan for Arches National Park, some public scoping comments expressed interest in opening the park to BASE jumping. BASE jumping remains prohibited by the management plan, and would require a formal proposal to make it a new visitor experience, followed by a planning process to determine the appropriateness of BASE jumping at Arches.⁹³ Arches National Park is closed to the use of hang gliders, paragliders, and parachutes, and BASE jumping is prohibited under 36 CFR 2.17 (a)(3) and NPS Management Policies 2006, 8.2.2.7.⁹⁴ Despite the prohibition, illegal BASE jumping in Arches has increased in frequency, particularly with people hiking into the park and jumping from the cliffs along the Colorado River.⁹⁵

Safety is the primary issue with BASE jumping in national parks in general, and with Arches specifically. Parapente and BASE parachutes must be deployed soon after jumping from a spire, tower, or cliff edge, providing abundant opportunities for the chute to become entangled or caught on cliff projections. Sudden changes in wind, which are typical on the Colorado Plateau, may push a jumper, even with a wingsuit, into a cliff face, causing stranding, injury, or death. Dean Potter and a companion were killed May 18, 2015, in Yosemite under these circumstances, after flying (illegally) into the park in wingsuits from a launching point outside park boundaries. Between 1981 and 2012, at least 200 BASE jumpers have been killed performing stunts, including 50 wearing wingsuits.⁹⁶ The potential risks to rescuers and those who are retrieving the bodies of those killed under such circumstances are the major opposition to allowing any parachuting or BASE jumping. A 29-year-old wingsuit BASE jumper was killed January 12, 2016, in the Paria River Canyon in northern Arizona, but due to inclement weather, ice, and the terrain, his body was not recovered until January 20. The jumper's family hired a private professional technical climbing group to rappel down the cliff face to the body, and assist the Arizona Department of Public Safety and Coconino County Sheriff's Office Search and Rescue in the recovery.⁹⁷

Due to the number of hikers and climbers who become stranded, stuck, or injured, Canyonlands Complex and SEUG have maintained trained rock climbers and search and rescue units since the 1950s, as described in Chapter 5. Many of the rescues in Arches involve visitors, with no rock climbing skills or equipment, climbing rock fins and becoming stranded at the top when they realize how high they are and the poor traction for the descent offered by tennis shoes, sneakers, or flip-flops. Parachutes and gliders would provide opportunities for visitors to become stuck and/or injured in even less accessible locations, increasing the risk of injury or death to the victims and rescuers alike.

Mountain Biking

Bicycles, which have been popular since the late 1800s, have undergone a series of changes over the years to enhance enjoyment, efficiency, and performance. Road racing bikes and bicycle moto-cross (BMX) reached peak popularity in the 1970s. During the late 1970s, groups of bike riders and racers in California and Colorado began staging off-road mountain descents using old "clunker" bikes.⁹⁸ The invention of the first true mountain bike is variously attributed to bike racer Gary Fisher and race promoter Charlie "CK" Kelly, who created a specialized off-road racing bike (using existing parts), which Kelly dubbed a *mountain bike* in 1979,⁹⁹ or to Joe Breeze, winner of the first mountain bike race and the first to create a purpose-built mountain bike frame.¹⁰⁰ Mountain bikes have frames with extra-sturdy tubes of various materials, lower gears, heavy-duty brakes (originally sourced from motorcycles), and wide, knobby tires; more recent developments include front and rear springs and shock absorbers, disc brakes, and additional gears.¹⁰¹ Mountain bikes enjoyed immediate popularity in the Western states where thousands of miles of dirt roads and trails already existed on public lands. Just as quickly, mountain bikers soon created social trails on public lands and came into conflict with other trail users and management regulations.¹⁰² Furthermore, mountain bikers soon became caught up in the controversies surrounding implementation of the Wilderness Act, which defines bicycles as motorized conveyances and specifically prohibits their use in Wilderness Areas.¹⁰³ Mountain bikers, as with rock climbers and other outdoor athletes, consider themselves to be part of the general environmental movement, and often orient their entire lives around being able to pursue their chosen sport.¹⁰⁴ And, like rock climbers, some mountain bikers can be hypocritical about the potential and actual impacts to the landscape, cultural and natural resources, and other landscape users that mountain biking entails.¹⁰⁵ Because hikers and bikers sometimes share the same trails, controversy surrounding mountain bikes in

general, and in the national parks in particular, developed quickly.¹⁰⁶ This remains an area of conflict that the 2012 Final Rule on bicycles in the National Park Service has not yet extinguished.

Bicycles and the NPS

Bicycles have long been permitted in units of the national park system, on a unit-by-unit basis. Bicycle use is welcomed and encouraged at C & O Canal National Historical Park, on the National Mall in Washington, D.C., on the strand at Arcadia National Park in Maine, and at many of the national battlefields, where bicycles provide a quiet, efficient way to cover the many miles of the bigger battlefield parks such as Gettysburg, Antietam, and Shiloh. Bicycles are explicitly banned from many trails in Western “landscape” parks, although they are permitted on paved roads. The NPS did not consider mountain bike use on a system-wide basis until 1990, when it conducted a survey to which 215 units responded.¹⁰⁷ Bicycles have been permitted at Arches for decades on all public roadways within the park, including the dirt road through Salt Valley to Klondike Bluffs.¹⁰⁸ Ostensibly, bikes are banned from trails primarily for safety issues (real or perceived), as bikes can move much faster than hikers, cyclists can startle equestrian riders and hikers, and bikes occupy a wider space than a hiker (at the handlebars), crowding other trail users.¹⁰⁹ Opponents of bikes on trails claim that bikes damage trails and lead to accelerated erosion, although some recent studies show that hikers and bikers contribute equally to trail erosion.¹¹⁰ The 1990 survey also found that ideological issues underlie much of the trail use conflict:

*Conflicts between mountain bikers and other trail users is where backcountry use of mountain bikes has occurred. Of particular concern is the strong opposition voiced by many hikers to sharing a trail with mountain bikers. This opposition clearly includes factors of aesthetics, personal beliefs, and desire of solitude as well as factors of safety. Horseback riders are generally opposed to sharing a trail with mountain bikers on the basis of safety.*¹¹¹

Some of the controversy surrounding mountain bikes derives from a climate of hyper-sensitivity. In 1993, a concerned citizen/activist observed an advertisement of G. Joannou Cycle in *Bicycling* magazine that superimposed images of a bicycle and a reclining man on a photo of Delicate Arch and the bowl, with the admonition “You’re only on Earth about 26,000 days. Enjoy.” Although the remainder of the text does not encourage unlawful riding, the offended reader was inspired to write to the bicycle shop and Arches National Park with his concerns:

*I saw your Signal ad in the February “Bicycling.” It is not environmentally friendly. Rather, by superimposing the dude and his bike on the delectable but untouchable slickrock bowl of Delicate Arch you are tempting people to put skid marks on a perfect place.*¹¹²

Arches National Park Superintendent Noel Poe was sufficiently concerned that he responded to the concerned citizen and to the bicycle shop, noting that “it is unfortunate that the ad implies that bikes

VISITOR COMMENTS ON BICYCLES/SHUTTLE BUSES

“MY HUSBAND AND I VISITED YOUR PARK ON 9.23.08. WE HAD BEEN TO ZION AND APPRECIATED THE SHUTTLE SERVICE. WHEN WE GOT TO ARCHES, WE WERE AMAZED THAT THERE WAS NO SHUTTLE BUS. AT TIMES WE FELT THAT A PARADE OF CARS WAS GOING BY. I MIGHT ADD THAT WE WERE ON BICYCLES, AND ARCHES IS NOT BIKE FRIENDLY. YOU NEED BIKE RACKS AT ALL PULLOUTS! YOU SHOULD BE ENCOURAGING ENERGY CONSERVATION IN THIS DAY AND AGE. BEING SO CLOSE TO MOAB, YOU SHOULD BE BIKE SAVVY! IT SHOULD ALSO BE CHEAPER TO BICYCLE IN YOUR PARK (AND OTHER PARKS).

ARCHES IS A SPECTACULAR PLACE. SAVE IT BY IMPLEMENTING A SHUTTLE BUS SERVICE.”

Visitor from Bend, Oregon, October 9, 2008

“INDUSTRIAL TOURISM AT ITS WORST.

You are the McDONALDS OF THE NPS.

Why don’t you get shuttles like Zion?”

Visitor from Bend, Oregon, September 23, 2008

may be ridden to this feature. Hopefully park visitors won't arrive expecting to ride to Delicate Arch."¹¹³ Poe requested that, in the future, they add a disclaimer to their advertisements asking bike purchasers to respect the land and laws. He also thanked the person who sent him the ad, noting that the park does have trouble patrolling its boundaries, and has had problems with inconsiderate mountain bikers encroaching on the park from adjacent BLM lands.¹¹⁴ In 1997 the Fat Tire Festival in Moab requested permission for four groups of 15 bikers each to ride in the park on the scenic drive.¹¹⁵ Although the ride required some road closures (for safety on the downhill section of the switchbacks), since it was not a competitive event, SEUG Superintendent Walt Dabney authorized the event. In a similar vein, May 8, 2004 witnessed 200 bicyclists riding from Moab into the park as part of a Lance Armstrong-sponsored Ride for Survival.¹¹⁶ Chief Ranger Jim Webster felt that the event, which was conducted under a special use permit and a film permit, went well. Somewhat ironically, 2 days after the Fat Tire Festival in 1997, Journalist Bill Radiker from NBC Evening News visited Moab to do a story on vandalism and "the use of the parks and activities that did not exist 15 years ago."¹¹⁷

Actual and potential conflicts among trail users are a difficult issue for advocates of bicycles in national parks (and elsewhere) to navigate.¹¹⁸ Multiuse trails provide access for horseback riders, hikers, and bicyclists, with trail right-of-way in the same order: hikers and bikers are to give equestrians and pack trains the right-of-way, bikers are to give hikers the right-of-way. The opponents of bicycles on trails in national parks claim that bikes will be ridden recklessly or too fast, and that equestrians and hikers will be startled, crowded, or struck.¹¹⁹ Several analyses of hiker and biker attitudes towards other trail users have documented a markedly asymmetric attitude of hostility by hikers towards bikers, despite similarity in demographic populations.¹²⁰ Unfortunately, some trail users of every group practice poor situational awareness through inattention, distractions such as headphones or conversations, or the inappropriate use of trails, such as walking abreast rather than single file. A harder prejudice to overcome is the belief that the only way that nature can be experienced is by walking, and that bicycles are machines and therefore inherently destructive to the environment.¹²¹ Edward Abbey saw a place for bicycles in national parks as an alternative to cars on the park scenic roads, a sentiment that many visitors to Arches share (see the sidebar comments regarding bicycles and shuttle buses).¹²² Regardless, all contemporary guides to mountain biking emphasize trail etiquette,¹²³ and mountain bikers are among the most likely recreational group to belong to an advocacy organization to ensure that they remain participants in management decisions.¹²⁴

In 1990, Arches staff estimated 2,000 mountain bike users, with associated ongoing management problems that included at least 200 incidents of illegal trail or off-road use; additionally, Arches had received at least 100 requests to use bicycles in Wilderness areas.¹²⁵ Despite the occasional trespass onto a hiking trail by a mountain biker, most of the conflicts involving bikes are on the narrow, two-lane paved roads of the park, and involve conflicts with cars. Bicycles in Arches are prohibited from riding side by side to prevent cyclists from obstructing the narrow roads of the park.¹²⁶ As with rock climbing, Arches National Park is not the main destination for mountain bikers in the Moab area, although the Willow Flats Road is recommended as an easy trail for riders seeking to acclimatize to southeastern Utah.¹²⁷ Crowther's *Ultimate Mountain Bike Book* singles out rides on the Moab Slickrock Loop Trail and the White Rim Trail in Canyonlands as premier mountain biking experiences, not just in Moab, but world-wide.¹²⁸

Working with the International Mountain Biking Association, the National Park Service recently finalized new rules relating to bicycles in the park system.¹²⁹ While the new rule affirms the right of bicyclists to

use all paved roads and parking areas that are otherwise open for use by motor vehicles, it establishes a procedure to open NPS administrative roads to bicycles, open existing trails to bicycles, and establish new trails especially for bicycles.¹³⁰ All trails, existing or new, including administrative roads, must be subjected to a NEPA analysis and a written determination must be developed that bicycle use is consistent with the park values. The public is to be notified and asked to comment as well. A key component of the new rule is the delegation of authority to make decisions about bicycle use to individual park superintendents, in the belief that they will be more familiar with the resources at risk, the nature of the local stakeholder communities, and other park-specific issues such as the need to move bicycles off of paved roads to relieve congestion.

Opposition to the new rule is based on two issues: the Wilderness Act, and conflicts with other trail users. The Public Employees for Environmental Responsibility and the Association of National Park Rangers have publicly opposed the new rule, claiming that potential Wilderness areas could be disqualified by the creation of new bike trails in backcountry areas.¹³¹ Although the NPS has publicly stated that bicycles would not be permitted in any Wilderness area, proposed Wilderness area, or area identified as having wilderness characteristics, the Association of National Park Rangers claims that the new rule will place superintendents in areas with lucrative bicycle rental businesses under pressure to open closed areas of the parks (the Moab-area economic impact of mountain biking on the Slickrock Loop Trail alone was estimated at \$8 million in 1997).¹³² This is the essence of the controversy surrounding a proposed 10-mile multiuse trail in Big Bend National Park that pitted the International Mountain Biking Association against the National Parks Conservation Association.¹³³ NPCA has advocated for designating parts of Big Bend as Wilderness “in the future.” Many of the opponents to bicycles in national parks cite the potential to scare or harm wildlife as the main reason to oppose the new rule; however, many of the people with this opinion would like to see most of the visitor and other activities removed from the parks as well. Impacts to wildlife will be a primary consideration of the NEPA analysis of any individual park bicycle plan. However, some preliminary studies of wildlife/bicycle interactions show little difference between the effects of hikers versus bikers (or equestrians) on wildlife such as bighorn sheep.¹³⁴

Kokopelli's Trail

A unique aspect of the mountain biking issue at Arches is the Kokopelli's Trail, which was developed by local enthusiasts to provide bicycle access along the Colorado River between Grand Junction, Colorado, and Moab. This is actually the first leg of a proposed Colorado Plateau Mountain-Bike Trail System, initiated by the Colorado Plateau Mountain-Bike Trail Association of Grand Junction, with links to some existing roads and trails such as the Slickrock Loop Trail and La Sal Mountain Loop Road.¹³⁵ Most of the trail is located on BLM lands, and it was a BLM press release on February 16, 1989, that issued a call for volunteers to help build the trail. Apparently, Arches staff became aware of the trail plans for the first time at a public meeting on March 17, 1989, which was attended by Arches Superintendent Paul Guraedy after being alerted about it (but not invited).¹³⁶ Guraedy noted that among those in attendance were the main trail project organizer Timms Fowler, a representative from Colorado Congressman Ben Nighthorse Campbell's office, and two BLM staff members. (Utah Representative Howard C. Nielson and Campbell each wrote letters supporting the project, and pledging to seek funding in Congress for its construction.)¹³⁷ The main route of the trail does not impact Arches, but a spur trail for use during late fall and early spring would route bikers along “Wintercamp Ridge to the boundaries of Arches NP, just north of Delicate Arch. From there it would parallel the boundary and descend [sic] into Cache Valley and

intersect with the Delicate Arch Road. Through the Park, it would go along the Main Road and the Willow Flats Road.”¹³⁸ The BLM would provide primitive campsites outside of the Arches boundaries, to prevent illegal camping in the park. Although clearly disappointed that Arches had been left completely out of the planning process, Guraedy noted that all segments of the local community were in support of the project:

*The group has asked for a letter from Arches NP supporting the trail in general and its crossing of the National Park. Since they are determined to have their trail and there is nothing we can do to keep them off the route they propose, I recommend that we join this effort and get as much publicity from it as we can.*¹³⁹

A few days later, SEUG Superintendent Harvey Wickware sent a letter of support to Timms Fowler, with copies to Congressmen Nielson and Campbell, noting that it is “quite appropriate and will serve the dirt bike users very well.”¹⁴⁰ The trail extends 128 miles from the Loma Boat Launch in Loma, Colorado, to the Slickrock Bike Trail head in Moab, with alternate routes along Utah Route 128, Onion Creek Road, and Castle Valley Road.¹⁴¹ Most of the trail actually utilizes existing roads and trails, but did require the construction of 10 miles of single-track trail during the spring of 1989. The trail was completed and dedicated on May 6, 1989.¹⁴² Arches staff did not examine the route through the park until September 16, 1989, when both car and bicycle were used to survey for potential locations where trail users would be inclined to leave the trail.¹⁴³ Most of the route was found to be uninviting (Mancos shale and low desert shrubs), especially if only used in the winter, but a water pocket in Salt Wash and slickrock along the western end of Willow Springs Road were viewed as areas where off-trail biking might have an impact on vegetation, especially cryptobiotic soil. Jayne Belnap, SEUG Resource Management ecologist, developed a monitoring protocol and forms for use to assess impacts along the bike trail. Because of staff shortages, this was modified for use by rangers on regular patrol, which was estimated to require about 1 hour for the entire length of the trail.¹⁴⁴

Airspace Violations

The scenic wonders of the United States have been viewed from aircraft since before the National Park Service came into existence; the location of the first powered fixed-wing aircraft flight in 1903 was NPS unit Wright Brothers National Memorial in Kill Devil Hills, North Carolina.¹⁴⁵ The airspace above all units of the national park system is the jurisdiction of the Federal Aviation Administration (FAA), however, not the NPS. Private pilots and organized tour companies may use national park airspace with few restrictions. Ironically, the FAA was created in 1958¹⁴⁶ in response to the tragic collision of two commercial airliners in 1956 over Grand Canyon National Park, an event recently commemorated by the listing of the crash sites in the National Register of Historic Places.¹⁴⁷ Although the FAA is a regulatory agency, private pilots (through the Aircraft Owners and Pilots Association) and the air tour industry exert considerable influence on policy that affects or restricts access to scenic locations. Despite decades of efforts to restrict, reduce, or remove the air tours from national park airspace (especially that of Grand Canyon National Park), air tours continue to operate, negatively affecting the visitor experience for some in the backcountry.¹⁴⁸ The primary impact of aircraft on national parks is noise, which affects both the visitor experience and wildlife.¹⁴⁹

Until recently, Arches and other park units were affected by three types of aircraft intrusions: overflights by military and private pilots in fixed-wing aircraft (or less commonly helicopters), the use of ultralight aircraft (essentially powered hang gliders), and organized tours using hot air balloons, fixed-wing

aircraft, and helicopters. The recent development of remotely piloted aircraft (“drones”), often equipped with still or video cameras, has added a fourth category. Remote-controlled aircraft (RC aircraft) flying has been a popular hobby for decades; most are gasoline powered scale models of real fixed-wing planes or helicopters, and are relatively expensive to own and operate. New aircraft, using sets of four, six, or eight counter-rotating helicopter blades, and often powered by batteries, have been developed for the public using technology pioneered by the U.S. military. These new drones are quieter, often smaller, and can be very inexpensive, but can fly very low, appear with little warning, and often carry cameras. Drones have been banned in all but a few units of the park system pending further study and regulatory clarification from the FAA.¹⁵⁰ Drones are also banned from Wilderness areas and wilderness study areas by the language of the Wilderness Act; since Arches backcountry is managed as wilderness, drones are prohibited there regardless of other restrictions. A decision on citizen operation of drones was released as the Small Unmanned Aircraft Rule (Part 107) on June 21, 2016,¹⁵¹ but from the NPS perspective, drones involve the same issues that apply to overflights, ultralights, and air tours: the safety and wilderness experience of park visitors.¹⁵²

Overflights

Violation of the airspace over Arches National Monument first became a problem in the late 1960s, when military fighter jets flying at supersonic speeds began to disturb visitors and cause physical damage at multiple park units in the West.¹⁵³ Monuments with fragile Indian ruins such as Canyon de Chelly, Mesa Verde, and Navajo National Monument were particularly affected by the vibrations caused

by sonic booms. Inscription House, a spectacular thirteenth-century cliff dwelling in an isolated area of the Navajo Nation and part of Navajo National Monument, had part of a roof collapse. Because of fears that sonic booms and visitor foot traffic would dislodge the sediments on which Inscription House was built, as well as ongoing vandalism, the NPS closed the ruin to public visitation in 1968 and it remains closed today. Rangers conducted an evaluation of the impacts of sonic booms at Arches on February 16, 1967.¹⁵⁴ The Air Force conducted a supersonic overflight of Arches at 48,000 feet, which produced a mild sonic boom and no noticeable effects to the monument formations. “Much stronger booms are noted from time to time but come as a surprise and generally not at a time when we are able to make observations of the more fragile formations.”¹⁵⁵

VISITOR COMMENT ON MILITARY OVERFLIGHTS

“At 11:45 a.m., a single small jet, fighter or recon, buzzed the Windows area, fairly low, flying E. from Double Arch; he did a barrel-roll and flew away. The noise was intense and extremely disturbing. The reminder of human arrogance was infuriating. If I can help in any way, to insure performance is not repeated, let me know.”

Visitor from Flagstaff, Arizona, May 2, 1985

In 1972 NPS Director George Hartzog testified before Congress about the problem of sonic booms, after the NPS had been rebuffed by the U.S. Air Force. Hartzog stated that Arches National Monument had also been affected when a sonic boom triggered a landslide in 1971 that blocked the scenic drive for a day. He also noted that Arches staff feared that Landscape Arch would collapse every time the area was swept by a sonic boom. By 1972, Arches was experiencing sonic booms on a nearly daily basis, and more than 5,000 had been recorded in NPS units during 1968–1972. In response to huge public outcry over the sonic booms following Hartzog’s testimony and a widely circulated news article about it, President Richard M. Nixon signed an executive order directing the Air Force to no longer permit routine sonic booms over or near national parks.¹⁵⁶ Military supersonic flights were prohibited below 30,000 feet over land, and pilots had to add one-half-mile horizontal distance to a park boundary with each 1,000 feet of flight altitude.

By the early 1980s, civilian and military air traffic over Arches had increased dramatically, and park staff and visitors witnessed an increasing number of aircraft in violation of minimum flight levels. Arches staff, in anticipation of pending legislation on national park overflights, began to compile records of overflights. A list prepared in 1990 identified the number and type of complaints by year: 1982 (nothing); 1983 (7); 1984 (nothing); 1985 (11); 1986 (13); 1987 (5); 1988 (2); 1989 (2), and 1990 (1).¹⁵⁷ Of these, one complaint identified the vehicle as military and nine complaints were for sonic booms, which could only be created by a military craft (the only supersonic commercial aircraft, the Concorde, did not fly over Arches at supersonic speeds). Helicopters were noted as the aircraft in seven incidents, including a 1988 repeated fly-through of the North Window by a British Broadcasting Corporation film crew, a stunt that resulted in a revocation of their commercial filming permit. Some of the aircraft in violation were operated by commercial air tour companies, including Redtail Aviation, which was cited for repeated violations in 1991.

In 1991, FAA advisory circular 91-36C was issued in response to mounting concerns about aircraft overflights, recommending minimum safe altitudes for aircraft operation over or near “noise sensitive areas” (such as national parks) as “not less than 2,000' above the surface” of “the highest terrain within 2,000' laterally of the route of flight, or the uppermost rim of a canyon or valley.”¹⁵⁸ As part of NPS documentation of the overflights of national parks, park staff, especially law enforcement and interpretation rangers, keep detailed records of all overflights below the 2,000' ceiling. As with the records from the 1980s, military craft were responsible for the greatest number of incidents (despite President Nixon’s orders). Early in 1994, SEUG Superintendent Walter D. Dabney prepared recommendations for a proposed Draft Aircraft Overflight Plan for the Southeast Utah Group, containing very specific requirements for each park. For Arches, a minimum flight level was proposed of 8,000 feet above mean sea level (rather than above ground level—Arches has a maximum elevation of 5,600 feet), as well as modifications to the approach and departure flight paths from Canyonlands Field to avoid Arches and placement of any commercial scenic flights under a concession permit.¹⁵⁹ Ten considerations for all NPS areas were also proposed, including banning military flights below 20,000 feet over parks and the development of an enforcement mechanism. However, by May of that year, Dabney was recommending that Arches, Natural Bridges, and parts of Canyonlands be established as flight-free zones entirely, with a buffer of at least 2 miles around park boundaries free from all air tours.¹⁶⁰

In some of the events involving general aviation, the pilots were unaware of the 2,000-foot advisory, but maintained at least 500 feet above ground level; in many instances in which the Arches staff were able to identify the pilots (through observing the aircraft registration number or driving to Canyonlands Field to locate a specific aircraft that they had observed) the pilots apologized for their error and the case was dropped. However, in at least one incident in 1995, the pilot chose to escalate the situation, demonstrating that selfish attitudes were behind the actions of some low-flying aircraft. On October 3, 1995, Ranger Gary Salamacha observed a fixed-wing aircraft flying as low as 182 feet (the top of Balanced Rock) over the park, making several passes before flying off up the Moab Valley towards Canyonlands Field.¹⁶¹ The following day, Ranger Salamacha identified the plane at the airfield, and contacted the FAA registry to identify the owner, David Kelsey. When he was informed by Canyonlands Field staff that the NPS was trying to contact him regarding a low overflight of Arches, he became belligerent and refused to cooperate with Arches rangers. Ultimately, following lengthy adjudication, the FAA stripped Kelsey of his pilot’s license in 1996 for the incident over Arches, as well as other, prior transgressions.¹⁶² Kelsey appealed the suspension to the National Transportation Safety Board, but the

suspension was upheld. Believing that the FAA and NPS were involved in a “grand conspiracy” against him, Kelsey wrote letters to the Arches superintendent, the FAA, and Texas Senator Phil Gramm complaining about Ranger Salamacha, the prosecutor, and the regional FAA legal counsel. In doing so, Kelsey impressed everyone involved that he was simply obnoxious, and not the victim of dark government forces. Dwight S. Williams, Supervisory Attorney for the FAA, was actually moved to write to Jim Webster, Chief Ranger, Arches National Park “to commend Ranger Salamacha for the time and effort he has given this matter” and to assure him that the FAA was “not aware of any improprieties with regards to this case involving Inspector Salamacha.” Although this incident ended in favor of the NPS and FAA, the incident required considerable staff time to investigate and adjudicate, and overflights continue to be reported by visitors or witnessed by rangers. Arches established a fixed sound monitoring station at The Windows in 1994, but moved it in 1995 to the Klondike Bluffs to monitor and document aircraft overflight noise associated with Canyonlands Field.¹⁶³ Since the mid-1990s, the FAA rules regarding national park overflights have been posted at Canyonlands Field to ensure that private pilots are aware of the situation. But at the same airfield in 1996, SEUG Superintendent Walt Dabney noted the presence of billboards depicting a helicopter flying around Delicate Arch.¹⁶⁴

Ultralights

With the wide availability of stable, safe, and reliable hang gliders by the mid-1970s, it did not take long for someone to attach a small gasoline engine (typically from a lawn mower or similar device) and propeller to a hang glider to create a powered ultralight aircraft.¹⁶⁵ The addition of a motor permitted longer flights and launches from locations without topographic relief. Thus, by 1982, Arches staff had become concerned that the park would become the focus of those seeking a beautiful, challenging landscape over which to fly. Because 36 CFR 2.36 specifically banned takeoffs and landings of aircraft within the park, park policy was extended to explicitly ban ultralights. However, this regulation does not exclude flights that originate from outside the park, and the concern was that generally low-altitude ultralight flights “could create a safety problem by conflicting with low flying scenic air tours, many of which are illegally below designated minimum altitudes.”¹⁶⁶ The potential for ultralight pilots to fly through the spaces beneath the larger arches was also a concern. Unfortunately for the NPS, in September 1982 the FAA published their final rule on ultralights, removing them from FAA regulation if they met several criteria of weight, fuel capacity, maximum speed, and single-occupancy.¹⁶⁷ At this time, the FAA estimated the sale of ultralights at approximately 20,000 per year. Because the FAA regulation banned ultralights from any congested area or habitation, the NPS anticipated that national parks would be viewed as a favored ultralight destination.¹⁶⁸ NPS developed policy that treated ultralights in the same manner as hang gliders, banning them from national parks unless permitted by an individual superintendent. Arches National Park prohibited, and continues to do so, the use of ultralight aircraft anywhere within the park.¹⁶⁹ Yet, they are sometimes operated within park boundaries. In 1999, a group of French paragliding enthusiasts flew into the park from the Canyonlands Field, with two landing at the Balanced Rock parking lot to meet their chase vehicle.¹⁷⁰ Arches rangers seized their equipment and ticketed them, later meeting with the whole group to explain the regulations and the need for natural quiet in the park. The pilots paid their tickets and were returned their paragliders.

An interesting side note to this issue was the development of a hang gliding resource file at the national level of the NPS that included information on clubs, trade groups, manufacturers, and other ephemera. By the time ultralights arrived, the NPS had begun to take a more proactive approach, collecting information and making it available to interested unit managers.¹⁷¹

Air Tours

Powered flight pioneer Charles Lindbergh was one of the first to promote the advantages of viewing landscapes from the air.¹⁷² Aspects of the landscape not readily apparent from the ground may be visible from low-altitude aircraft, including some large-scale archeological features such as intaglios;¹⁷³ pilot George Palmer is credited with helping to discover the famous geoglyphs of the lower Colorado River valley in Arizona and California, including the Blythe Intaglios in 1932.¹⁷⁴ Traveling by air is also a means for people who cannot or will not walk to experience large scenic landscapes, a point that representatives of the air tour industry never fail to point out. While it is true that the NPS cannot fully accommodate people truly disabled by injury or illness, the vast majority of those participating in air tours are fully able-bodied. As Arches has become more crowded, viewing the park by air is one way to bypass traffic jams at the entrance and throngs of visitors at viewpoints (Figure 6-4).¹⁷⁵ Air tours of Arches were being actively promoted in local newspapers by 1974.¹⁷⁶



6-4. Aerial view of the fins in the Fiery Furnace, used in the Self Guiding Auto Tour brochure, circa 1952–1957 (curated in ARCH 101/005-143). ARCH 104/001425, SEUG Archives. (Photographer unknown.)

In 1997, Arches Chief Ranger Jim Webster learned of an attempt to develop an air tour operation on Utah state lands inside of Arches National Park:

We received information that an individual purchased a bunch of maps to Arches and Canyonlands from the MIC [Moab Information Center]. Someone applied for a permit from the state to provide sightseeing on state lands within national parks. Heli-sight-seeing, heli-biking, and heli-picnicking is what was applied for. The permit has been submitted to the State and is awaiting signature. Jim has been working with Jan Parmenter of the State office in Moab and is now working on a letter to the State to comment on the permit approval.¹⁷⁷

The incident appears to have been another bargaining ploy by Utah in resolving state land inholdings, similar to the previous announcement that they intended to sell one of the sections for a tourist lodge, but the timely passage of the Utah Schools and Land Exchange Act of 1998 ended this threat without recourse to legal action by the NPS. At the time this history was being prepared, air tours of Arches include fixed-wing aircraft (Moab Adventure Center and Redtail Aviation) and helicopters (Pinnacle Helicopters) operating out of Canyonlands Field north of Moab, and hot air balloon tours (Canyonlands Ballooning). Other companies offer charter hot air balloon trips over any national park in Utah (Skywalker Balloons, Park City), and Southwest Safaris offers fixed-wing tours of the entire Four Corners region, including Arches, from Santa Fe, New Mexico.¹⁷⁸ These are regulated under the National Parks Air Tour Management Act of 2000 (NPATMA) (14 CFR 136), which directs the FAA to develop Air Tour Management Plans for parks that are not exempt from the requirement by having fewer than 50 commercial air tours per year.¹⁷⁹ Although Squad Meeting records indicate that Air Tour Management Plans for Canyonlands and Arches were underway in 2000, within a mandated 90-day development period, they have apparently never been completed or implemented.¹⁸⁰ The ATMPs are initiated cooperatively by the FAA and NPS through the National Parks Overflights Advisory Group, which was created in 2001 under Section 805 of NPATMA, and includes representatives from the FAA, NPS, general aviation (currently a member of the Aircraft Owners and Pilots Association), commercial air tour operators (currently including Redtail Aviation and two other companies), environmental concerns, and Indian tribes from lands adjacent to national parks whose lands (such as Monument Valley Tribal Park on the Navajo Nation) are also being visited by air tours.¹⁸¹

Air tours over Arches are currently regulated under 36 CFR 2.17, but have not been banned as Superintendent Dabney had proposed.¹⁸² Visitors still complain on a fairly regular basis about air traffic over Arches, although the frequency of complaints seems to have diminished from a high point during the mid-1990s.¹⁸³ Since 2013, air tour operators are required to report the number of tours over NPS units (including exempt units).¹⁸⁴ In the most recent report (for calendar year 2016, released November 2, 2017), 54 NPS units were exempted based on 2015 data. Arches National Park had 274 reported commercial air tours in 2016, the 15th highest number of tours; national parks of the New York Harbor Management Unit registered 18,638 tours, the highest number. As of 2018, ATMPs had been completed for Big Cypress National Preserve and Biscayne National Park, and were being pursued at Badlands National Park and Glen Canyon National Recreation Area.¹⁸⁵ The status of an ATMP at Arches was not reported. An Aviation Management Plan for SEUG was signed in 2015, but it is an NPS document to manage agency aircraft and air travel, not commercial air tours.¹⁸⁶

Events and Special Use Permits

Use of federal lands that falls outside of the activities allowed under the requisite agency mandates requires a special use permit or a commercial permit. Almost any activity falling outside of normal visitation could require one, including guided photographic and backpacking trips, or the installation of radon gas samplers in the visitor center.¹⁸⁷ In 1981 the Society for Creative Anachronism, a Medieval re-enactment group, staged a festival in Arches National Park.¹⁸⁸ The event brought together groups from Salt Lake City and New Mexico, and involved displays of handicrafts, fencing, and mock battles. Arches became a popular location for weddings beginning in the late 1980s. The 1991 special use permit Log lists nine permits issued that year, one for stock trailing (to Colin Fryer) and eight for weddings (it is hoped that none of the weddings took place during the cattle drive).¹⁸⁹ One wedding did not take place; of the other seven, four were at Delicate Arch and three were at Double Arch, which was popular because it reminded people of interlocking wedding bands.¹⁹⁰ One individual approached Arches in 1991 about using a remote-controlled blimp as a platform for personal photography; it is unclear from the archived records whether this was undertaken or not (it is not listed in the Special Use Permit Log). Permits issued for 1992 included two weddings at Double Arch, one at Delicate Arch, one at Turret Arch, and one at The Windows; locations of two others were not identified and they may not have taken place.¹⁹¹ One 1992 special use permit was issued to the Salt Lake Astronomical Society for a public star party at Panorama Point. With increasing focus on dark night skies as an important natural resource in national parks (see Chapter 7), events such as this are now encouraged as educational outreach and fully compatible with park purposes.

Some special events are recurrent, with the annual Easter Sunrise Service the longest running special event at Arches. During the 1940s, Easter Sunday was the day of peak visitation for the monument, but a formal event was first proposed in a letter to the editor of the Times-Independent in 1950.¹⁹² C. W. “Stubby” Peterson suggested that a service be held at the base of Delicate Arch. Beginning in 1951 with 250 people in attendance, it has been held every year since.¹⁹³ The first service was actually held at The Windows, and in 1952 Devils Garden was the setting, but the La Sal Mountain Overlook quickly became the preferred location. “All Protestant” Easter Services were announced for 1960 at the La Sal Mountain Overlook, concurrent with the completion of new exhibits at the Mission 66 Visitor Center; all Moab residents were invited to attend.¹⁹⁴ The service also marks the end of the Jeep Safari each year, and is promoted by that event.¹⁹⁵ During the 1960s, Arches experienced its single greatest number of visitors on Easter Sunday for the Sunrise Services; in 1964, 1,032 park visitors were counted that day.¹⁹⁶ Typically, several hundred people actually attend the Sunrise Service itself, with the numbers reported in the Annual Superintendents’ Report (Figure 6-5).

VISITOR COMMENTS ON INTERPRETATION SCIENCE

“Very beautiful park – My complaint – the last two sentences of the second to-last paragraph of the pamphlet are: “This is the geologic story of Arches – probably. The evidence is largely circumstantial.”

Well, of course it is circumstantial – all geology is. But this “probably” is very misleading – it sounds as if the Federal Government is talking to “creationists.”

Please say “This is the scientific evidence.” Science is not perfect, but it is the best we have – That smoking causes cancer is only circumstantial – but anyone would be silly not to believe this.”

Visitor from Waterton, Massachusetts, no date

“Please present Creationist theory also of how this area was formed (i. e. ~~Noah’s Flood~~ a worldwide Catastrophe such as Noah’s Flood) This ~~suggestion~~ presentation is appropriate since supporters of this theory also pay the taxes which support the National Park.

(see Apologia Science for scientific evidence of a worldwide catastrophe)”

Visitor from Tulsa, Oklahoma, no date



6-5. 1964 Easter Sunrise Service at La Sal Mountains Viewpoint. ARCH 104/000029, SEUG Archives. (Photo credit: Stan Carter).

Also in 1992, Arches staff was contacted by the International Society for Krishna Consciousness of Colorado, Inc. (ISKON of CO), a chapter of the Hindu religious sect better known as the Hare Krishna Movement, seeking a location at Arches for proselytizing and distribution of literature.¹⁹⁷ During the 1970s, the Hare Krishnas became a frequent sight at airports and other public venues, highly visible in yellow saffron robes, seeking converts and donations.¹⁹⁸ In some instances, this proselytizing became very aggressive, and by the 1990s the Krishnas had developed a poor image in the public view. Arches staff consulted with the regional federal solicitor, who informed them that “the Hare Krishna organization may request permission at NPS areas to sell T-shirts and distribute information,” based on a 1992 U.S. Supreme Court ruling regarding Hare Krishna solicitation in the New York Port Authority terminals (distribution of literature was allowed under the First Amendment, but begging was prohibited).¹⁹⁹

Arches staff developed specific permit conditions for the Krishnas that prohibited harassment, misrepresentation, obstruction of sidewalks and doors, violation of any park rules, or sale or distribution of food or drink.²⁰⁰ It is not known if the Krishnas actually applied for a permit or used the Arches Park as

a base for proselytizing; however, a First Amendment forum remains a designated part of Arches National Park, located near the visitor center. Although some visitors have requested that exhibits at Arches (and other NPS units) be rewritten to interpret landscapes as the product of a cataclysmic Biblical flood, the NPS is required to refrain from promoting personal or religious views.²⁰¹ The First Amendment forum is available to Creationists as well.

The Southern Utah Wilderness Alliance applied for and received a permit for the distribution of printed material in 1994, for the First Amendment forum.²⁰² It was discovered that SUWA was soliciting donations, in violation of their permit conditions, and the permit was not reissued. However, SUWA sued, and the permit was reinstated after the U.S. Department of Interior Solicitor advised that their interpretation of 36 CFR 2.52 did not disallow SUWA's actions.

Artistic Performances

Arches National Park has been the setting for artistic performances including symphonic, theatrical, and dance, pioneered by a modern dance performance in 1970 by University of Utah dance students. Twelve dancers performed and were filmed at Wolfe Ranch, the swinging bridge, and Delicate Arch: "The Creative arts in nature is one of the most overlooked opportunities in out [sic] National Parks and Monuments."²⁰³ Although the first performance was initiated by outsiders, artistic performances are not necessarily non-conforming activities. An Artist-in Residence program was started in 1973 as part of a national NPS initiative; the first in Arches was painter Joe Miller.²⁰⁴ A participatory Art Walk was introduced in 1974 as part of the interpretive program; led by a Volunteer in the Parks, participants were encouraged to sketch during a slow walk that began at the Devils Garden Campfire Circle.²⁰⁵

The 1976 Bicentennial of the United States provided the inspiration for an entire year of artistic events at Arches. The schedule included of a series of poetry performances by the Utah Poetry Society in the visitor center, two concerts by the Capitol English Brass Band (one in the Moab City Park and one at the Arches Visitor Center), and a dance recital at Double Arch, performed by six dancers of the Ririe-Woodbury Company.²⁰⁶ The popularity of these special events early in the year led to an expanded schedule of performances, with the addition of the Shupe Family Fiddlers in the Devils Garden Amphitheater in August.²⁰⁷ Later in August, the American Players performed appearances by famous figures in American History, also at Devils Garden. These events were followed by Mark Nelson (singer), the Bill Evans Dancers, the Deseret String Band, and the Human Ensemble Repertory Theater. These paved the way for some larger events during the 1980s. Each event was permitted by the National Park Service for the educational aspects of the performances. Although it is clear from comments made by park staff regarding the Utah Symphony performances that some of these events did impose a considerable burden on park employees, the archived Arches Administrative Collection does not provide additional information on why there have been few subsequent requests for other performances. The Utah Symphony and the Classic Greek Festival continue to perform and conduct outreach to the public, at venues other than Arches.

Utah Symphony 1981–1984

The Utah Symphony (based in Salt Lake City) presented annual symphonic concerts over a 4-year period at the Devils Garden Campground under a special use permit.²⁰⁸ The orchestra was set up near the Devils Garden Trailhead (Figure 6-6), with folding chairs near the stage for guests; the rest of the



6-6. View of the Utah Symphony Orchestra performing August 7, 1981, near the Devils Garden Trailhead. This print was apparently displayed in a frame for many years, as sunlight bleached the colors from the area exposed in the opening. ARCH 2885, SEUG Museum Collection. (Photographer unknown).

audience brought additional chairs, and coolers, and filled the spaces between the Devils Garden loop of the scenic drive and the sandstone fins (Figure 6-7). During the 1981 concert, many guests climbed onto the adjacent fins (Figure 6-8), but this was regarded as a potential safety hazard and was discouraged during subsequent years. Dogs, which had wandered around during the first several years, were also subsequently discouraged, although the 1983 debriefing notes identified loose children as the real hazard and distraction of that season. Parking and access for emergency vehicles was one of the biggest issues that arose; during the 1981 performance, visitors ended up parking along both sides of the Devils Garden loop, leaving only a narrow lane for vehicular access, too narrow for an ambulance or other emergency vehicle. During the 1982–1984 performances, NPS staff took a more active role in parking cars, and ran a shuttle bus from the visitor center to reduce the number of private vehicles at the concert site. Unfortunately, the 1982 event was rained out, and had to be performed in the Grand County High School gym in Moab, the planned backup location.²⁰⁹ By 1984, parking was again a problem, with 36 cars and 13 buses along both sides of the loop and attendance of 2,600 people. In addition to parking, Arches staff assisted the musicians in unloading, moving, and setting up and tearing down the

orchestra, and even in providing dinner following the concert, with most of the food donated by the Canyonlands Natural History Association (one of the sponsors) and local merchants.



6-7. Even with shuttle buses, Devils Garden loop was still densely packed with vehicles for the 1984 concert, with some serving as elevated viewing platforms. Many concert-goers planned ahead and brought folding chairs or coolers to supplement the few hundred folding chairs provided by the concert organizers. ARCH 281.003, SEUG Museum Collection. (Photographer unknown).

Directed by Robert Henderson under Music Director Varujan Kojian, the first season concert was held at 7:30 PM on August 7, 1981.²¹⁰ The performance included 11 light classical or “pops” pieces: Mancini’s “Strings on Fire,” Rogers and Hammerstein’s “The Sound of Music,” Calliet’s “Pop Goes the Weasel,” Bart’s “Oliver,” and Copland’s Buckaroo Holiday from “Rodeo.” There was then an intermission, followed by William’s “Theme from *Superman*,” Anderson’s “Fiddle Faddle,” Nobis-Henderson’s “Grand and Dandy George,” the Bee-Gee’s “Saturday Night Fever,” Williams’s “Star Wars,” and Sousa’s “El Capitan.” The inclusion of so many movie themes and musical theater reflected both the appeal to broad, popular tastes among the community and the prevailing orientations of symphonic composition during the mid-twentieth century.²¹¹ An estimated 2,000 people attended the first year. In 1982, the concert was August 13 at 7:00 PM, but at the request of park management, the 1983 and 1984 concerts

were held on July 15 at 7:30 PM. Concerts of the following seasons featured a similar playbill. Although indoor venues were planned just in case, all performances except 1982 enjoyed beautiful weather.



6-8. The view from the fins above the orchestra was the best seat in the house in 1981, but park staff saw a potential safety hazard and banned climbing on the fins for the performances in 1982–1984. ARCH 101/006-110, SEUG Archives. (Photographer unknown).

Art and Performances as a Continuing Tradition

Following the pioneering performances of the Utah Symphony, theater, music, and resident artists have continued the tradition at Arches. On October 7, 1989, the University of Utah Classical Greek Festival performed Euripedes' comedy *Helen* at Double Arch. The event was sponsored by the Canyonlands Art Council, the University of Utah Theater Department, the Utah Endowment for the Humanities, the Utah Arts Council, and the Associated Students of the University of Utah, with support from local businesses and Arches National Park personnel.²¹² The performance began at 8:30 in the morning, following a lecture in Salt Lake City the previous evening by University of Utah Professor Jim Svendsen on the Trojan War, the setting of *Helen*, which was written in 412 B.C.²¹³ The play was free, although audience members had to pay the park entrance fee of \$3. Shuttle buses provided access to parking after the Windows section parking lot was full. The production of *Helen* was part of the 17th year of the Classic Greek Festival.

The Classical Greek Theater Festival, as it is currently known, remains in production. In September 2014, the festival toured Utah with a performance of Euripides' *Hecuba*. In its 44th season, the Classical Greek Theater Festival is partly underwritten by the Greek Orthodox Community of Salt Lake City, and involves professors from Westminster College and the University of Utah, with performances at Westminster College, Weber State University, Brigham Young University in Springdale, Utah, and the Red Butte Garden Amphitheater in Salt Lake City.²¹⁴ As described in the promotional materials for the 2008 season, the festival "is an annual theatrical event created to introduce and sustain the appreciation of ancient Greek theatre throughout communities and campuses in various southwestern and western states."²¹⁵

Double Arch and North Windows Arch were used as the settings for an Environmental Dance and Poetry Performance March 18–19, 1989. Organized by dancers Jeri McAndrews and Linda Hoeksma, the free event included performances by Terry Tempest Williams (poet), Art Goodtimes (poet), Susan Jamieson (dancer), and Mark Doherty (musician). The environmental dance staged at Arches followed in a tradition of dance performances relocated from the stage to non-traditional venues such as "rotundas or atriums, in front of civic monuments or even on park lawns or city streets."²¹⁶ Environmental dances date to the 1969 performance of Twyla Tharp's *Medley in Central Park* and *Dancing in the Streets of Paris and London* in the Metropolitan Museum of Art, and Meredith Monk's 1970 *Needle-Brain Lloyd and the Systems Kid* at Connecticut College in New London. In this sense, "environment" is any place other than a theater, but it is clear that the Arches event was more explicitly about the natural environment and landscapes of Arches.

Musical performances continue at Arches, but on a smaller scale and performed infrequently. On January 14, 2009, Christopher Layer and other musicians performed *Drive the Cold Winter Away*, "a rustic program featuring the 18th century music of John Playford as well as a collection of Celtic tunes from Scotland and Ireland" at the visitor center.²¹⁷ This was the most recent performance at Arches, held in cooperation with the Moab Music Festival.

Arches artistic endeavors continue with the Community Artist in the Parks (CAIP) program.²¹⁸ Artists who create in media that can be easily transported apply for a position through the CAIP Coordinator at the SEUG. They must meet a series of requirements: be a resident of Montezuma County, Colorado, or San Juan or Grand counties, Utah; be willing to work in all four SEUG units; serve between April 1 and October 31 with required training in March; and commit to 24 hours of visitor contact per month. Additionally, as part of their residency the selected artist must conduct at least one public outreach event, create a short video for display on the park website, provide artworks for sale at CNHA outlets, and be able to schedule field locations. Recent artists have worked in a variety of media and techniques including plein air watercolors (Kathy Cooney, 2011), plein air oil paintings and sketches for studio paintings (Serena Supplee, 2014), linoleum block prints (Chad Niehaus, 2009), and marker and pencil drawings on found paper (Pete Apicella, 2010).

Notes

¹ In 1978, Interpretive Ranger Dave May returned to Arches from an interpretive planning meeting in Tucson, Arizona, at which many ideas were discussed pertaining to NPS interpretation. "One of the ideas presented was that perhaps we should do a survey of visitors to find out what they are doing when they aren't doing what we have planned – such as attending a campfire program. Should we plan something else for them, or would they rather be left alone?" Many of the new, non-conforming activities were developed during the late 1970s. Marjorie

E. Foy, Canyonlands Complex Staff Meeting minutes, April 12, 1978. Canyonlands National Park Administrative Collection, CANY 339/001-053, Southeast Utah Group (SEUG) Archives, National Park Service (NPS).

² National Park Service, "Master Plan for Arches National Monument" (1940), General Information, III Policy and Objectives, B. Recreational Activities. Arches National Park Administrative Collection, ARCH 101/003-001, SEUG Archives.

³ Robert E. Rinehart and Synthia Sydnor, "Proem." In *To The Extreme: Alternative Sports, Inside and Out*, edited by Robert E. Rinehart and Synthia Sydnor. (Albany, New York: State University of New York Press, 2003), pp. 1–20.

⁴ Wikipedia, Evel Knievel. (Electronic document https://en.wikipedia.org/wiki/Evel_Knievel, viewed September 1, 2015).

⁵ National Park Service, "Arches National Park, Rock Climbing Management Plan." ARCH 101/006-125, SEUG Archives. This file contains two draft rock climbing management plans, neither of which is dated or has an identified author. A memorandum is included as a cover sheet, dated May 1, 1992, that identifies Paul Cowan as the author of a draft plan in March 1992. This memo notes that it was decided to combine the draft plans for Arches and Canyonlands, then submit the draft plan first to WASO, then to the general public for comment by the spring of 1993. The final Rock Climbing and Canyoneering Plan contains little of either draft plan.

⁶ National Geographic, Issues Facing National Parks: Visitor Experience. (Electronic document <http://travel.nationalgeographic.com/travel/top-10/national-parks-issues/>, viewed December 4, 2015). "Today's visitors also use parks in new ways. Snowmobilers prowl Yellowstone and pilots fly visitors over the Grand Canyon. Mountain bikers, motorboaters and many others all hope to enjoy their favorite pastimes in their favorite parks."

⁷ Del Brown, District Representative, United States Cycling Federation, to Senator Jake Garn, December 30, 1991. ARCH 101/006-088, SEUG Archives.

⁸ Jake Garn, United States Senator, to Robert M. Baker, Regional Director, Rocky Mountain Region, National Park Service, January 15, 1992. ARCH 101/006-088, SEUG Archives.

⁹ Robert M. Baker, to Honorable Jake Garn, Received February 13, 1992. ARCH 101/006-088, SEUG Archives.

¹⁰ Baker (1992), p. 1.

¹¹ Peter Bungart, Interview with Jayne Belnap, June 9, 2018, Clip 0007.

¹² Paul Foy, "Park Service Bans Climbing of Utah Arches," *The Associated Press*, May 10, 2006. (Electronic document <http://www.washingtonpost.com/wp-dyn/content/article/2006/05/10/AR2006051000394.html>, viewed September 2, 2015).

¹³ Jared Hargrave, "Arches National Park Revisits Climbing Rules," *Utah Outside.com*, July 28, 2010. (Electronic document <http://www.utahoutside.com/2010/07/arches-national-park-revisits-climbing-rules/>, viewed September 2, 2015).

¹⁴ Rocco Mastrantoni IV, *On the Rock: An In-Depth Look at Social Perceptions of Nature within Rock Climbing*. (Flagstaff: Unpublished MA Thesis, Northern Arizona University, Department of Applied Sociology, 2010), p. 124.

¹⁵ Rinehart and Sydnor (2003), p. 5.

¹⁶ Mastrantoni (2010), p. 124.

¹⁷ Rinehart and Sydnor (2003), p. 4. Many of the other essays in this volume discuss corporate appropriation and co-optation of extreme sports: "The Disney Corporation, ESPN, ESPN2, ABC, MTV, the Discovery Channel, and large corporations such as Pepsi, Coke, and Nike have essentially appropriated and determined much of the electronic imaging of extreme sports to the world. Grassroots athletes are acknowledged by these imaging giants, but rarely privileged." A subtext of this volume equates "authenticity" with grassroots or underground movements (pp. 9–10).

¹⁸ Pat Ament, *A History of Free Climbing in America: Wizards of Rock*. (Berkeley: Wilderness Press, 2002). Potter dominates the later pages (325–335) of this history, which was published before the Delicate Arch climb. Potter is rightfully credited as a major free climber, and one of the pioneers of "speed climbing," although Potter claimed in 1998 to be more concerned with enjoying the day and the act of climbing than with setting speed records. By 1999, however, Potter and his associates were smashing speed records everywhere.

¹⁹ Rinehart and Sydnor (2003), pp. 12–13.

²⁰ National Park Service, *Statement for Management, Arches National Park*, March 1990. (Denver: Rocky Mountain Region, National Park Service, 1990), pp. 19–26. ARCH 101/001-078, SEUG Archives.

- ²¹ Kerry E. Nodal, Values and Management Preferences of Rock Climbers in Northern Arizona. (Flagstaff: Unpublished MS Thesis, Northern Arizona University, Department of Forestry, 2001), p. 53.
- ²² Nicky Crowther, *The Ultimate Mountain Bike Book*. (Buffalo, New York: Firefly Books, 2002). The photograph on the first page of the glossary (unpaginated) depicts a mountain biker in flight over an alpine landscape, suspended by a parapente-style parachute, with a passenger on the back of the bike saddle wearing downhill skis.
- ²³ Rinehart and Sydnor (2003), pp. 5–6.
- ²⁴ Mastrantoni (2010), p. 19. “While up on the walls, climbing developers often times pry off loose pieces of rock, drill holes in the cliff face in order to screw bolts onto the rock face, rip plants out of the cracks and crevices of the climb and trim back plant growth so that it would not effect [sic] the flow of the climb.”
- ²⁵ Joseph Peter Walka, *The Development of a Monitoring System to Assess Impacts at Climbing Areas in Northern Arizona*. (Flagstaff: Unpublished MS Thesis, Northern Arizona University, Department of Forestry, 2004), pp. 24–28.
- ²⁶ Kyle Copeland, “The Moab Area; New Climbs Report 1988.” January 16, 1989. ARCH 101/006-125, SEUG Archives.
- ²⁷ John F. Hoffman, *Arches National Park: An Illustrated Guide*. (San Diego: Western Recreation Publications, 1985), cited in *Climbing & Canyoneering Management Plan*, August 2013. (Moab: National Park Service, U.S. Department of the Interior, 2013), p. 1.
- ²⁸ Hoffman (1985), pp. 83–85.
- ²⁹ Hoffman (1985), pp. 83–87.
- ³⁰ Hoffman (1985), p. 83.
- ³¹ Cecil M. Oullette, “Over the Top of Landscape Arch ...,” *Desert Magazine*, March 1958.
- ³² National Park Service, *Climbing & Canyoneering Management Plan*, August 2013. (Moab: National Park Service, U.S. Department of the Interior, 2013), p. 3.
- ³³ Russell L. Mahan, Memorandum for the Regional Director, Region III, Arches, Moab, Utah, October 28 [19]46. ARCH 101/001-007, SEUG Archives.
- ³⁴ Bates E. Wilson, Superintendent’s Monthly Narrative Report-1 M1 for January 1964, February 6, 1964. ARCH 101/001-025, SEUG Archives.
- ³⁵ National Park Service, Definitions. Rock Climbing – Arches National Park. (Electronic document <http://www.nps.gov/arch/planyourvisit/rockclimbing.htm>, viewed September 1, 2015).
- ³⁶ Greg Child, *Climbing: The Complete Reference*. (New York: Facts on File, 1995).
- ³⁷ Child (1995), pp. 53–54.
- ³⁸ Child (1995), p. 58. He calls the Entrada “desperately soft.”
- ³⁹ NPS, Definitions.
- ⁴⁰ Child (1995), pp. 3–32.
- ⁴¹ Anonymous, “Rock Climbing Management Plan and Environmental Assessment for Arches National Park (Draft).” No date. ARCH 101/006-125, SEUG Archives, p. 4.
- ⁴² Anonymous, “Rock Climbing Management Plan,” p.5.
- ⁴³ Anonymous, “Rock Climbing Management Plan,” p. 5.
- ⁴⁴ NPS, “Arches National Park, Rock Climbing Management Plan,” pp. 7–8.
- ⁴⁵ NPS, *Climbing & Canyoneering Management Plan* (2013), pp. 4–5.
- ⁴⁶ Special Use Permit: Outfitter Services/Canyoneering. Permit #IMR CANY 5300 02-CYN-01, dated 3/21/2002. ARCH 101/001-152, SEUG Archives.
- ⁴⁷ Jim Stiles, *Arches and Loopholes and the NPS: A Weak Climbing Policy and a Non-Existent Commercial Permitting System Do a Diservice to the Arches Backcountry*. (Electronic document <http://www.canyoncountryzephyr.com/oldsephyr/aug-sept2002/arches-loopholes-nps-html>, viewed September 2, 2015).
- ⁴⁸ Stiles, *Arches and Loopholes*.
- ⁴⁹ Penny F. Jones, Squad Meeting, March 26, 2002, CANY 743/01-14.7, SEUG Archives; and Penny F. Jones, Squad Meeting, February 25, 2003, CANY 743/01-14.8, SEUG Archives.
- ⁵⁰ Penny F. Jones, Squad Meeting, October 4, 2005, CANY 743/01-14.10, SEUG Archives.
- ⁵¹ Hargrave (2010).

- ⁵² Rock & Ice, “Dean Potter On Laws, Modern America and Soloing Delicate Arch,” Rock & Ice, No. 153, September 2006. (Electronic document <http://www.rockandice.com/lates-news/dean-potter-on-laws-modern-america-and-soloing-delicate-arch/>, viewed September 2, 2015).
- ⁵³ Rick Bolger, “Patagonia and Potter Admit Bad Judgement in Delicate Arch Climb,” Slackpacker.com. (Electronic document <http://www.slackpacker.com/delicate.html>, viewed September 2, 2015). An update to the original story on May 18, 2015, states that “Dean Potter and Graham Hunt were killed on impact during an illegal jump at Yosemite National Park.”
- ⁵⁴ Bolger, “Bad Judgement in Delicate Arch Climb,” pp. 1–2. Slackpacker.com makes a confusing distinction between Potter pounding “a huge piton into the rock of freedom” and climbing Delicate Arch “with few aids, and apparently no drilling.”
- ⁵⁵ Rock & Ice (2006), p. 1.
- ⁵⁶ Bolger, “Bad Judgement in Delicate Arch Climb.” Slackpacker.com initially called for a boycott of Patagonia, Inc., and urged the National Park Service to enact stronger rules to protect Delicate Arch. When Potter and Patagonia admitted to poor judgement June 16, 2006, Slackpacker.com called off the boycott, but noted that “the Park Service appears to have started a knee-jerk overreaction to overprotect meaningless stuff in addition to Delicate Arch.”
- ⁵⁷ Mastrantoni (2010), pp. 19–21.
- ⁵⁸ Rock & Ice (2006), p. 2. The parallels between Potter’s statement and Edward Abbey’s rationalization for stoning to death a rabbit in *Desert Solitaire* provide an interesting window into this ethos.
- ⁵⁹ Bolger, “Bad Judgement in Delicate Arch Climb.”
- ⁶⁰ Rock & Ice (2006), p. 1.
- ⁶¹ NPS, “Arches National Park, Rock Climbing Management Plan.”
- ⁶² Nodal (2001), pp. 54–55.
- ⁶³ Mike Coronella, “Letter to the Editor: Time for a Change at Arches,” Moab Sun News, December 22, 2016.
- ⁶⁴ James M. Flamming and the Auto Editors of Consumer Guide, *Chronicle of the American Automobile Over 100 Years of Auto History*. (Lincolnwood, Illinois: Publications International, Ltd., 1994).
- ⁶⁵ Flamming et al. (1994), p. 198.
- ⁶⁶ Amy Korpieski, *Jacks of All Trades: Transcription of Interview with Lloyd and Marion Pierson*, June 28, 1991, p. 6. Papers of Lloyd M. Pierson CANY 579, Folder 4, SEUG Archives.
- ⁶⁷ Raye C. Ringholz, *Uranium Frenzy: Saga of the Nuclear West*, revised and expanded edition. (Logan: Utah State University Press, 2002).
- ⁶⁸ Red Rock 4-Wheelers, Inc., Jeep Safari. (Electronic document <http://www.rr4w.com/>, viewed November 30, 2015).
- ⁶⁹ “Moab’s Jeep Safari to Draw Hundreds,” Salt Lake City Tribune, March 23, 1979. ARCH 101/005-091, SEUG Archives.
- ⁷⁰ “Old-time Arches Staffers Will Add Spice to Big Golden Jubilee Fete,” The Times-Independent, April 5, 1979. ARCH 101/005-091, SEUG Archives.
- ⁷¹ Noel R. Poe, to Martin Avalos, Land Use Officer, Red Rock 4-Wheelers, March 17, 1995. ARCH 101/006-087, SEUG Archives.
- ⁷² Penny F. Jones, Southeast Utah Group, Squad Meeting, March 9, 2004. CANY 743/01-014.8, SEUG Archives.
- ⁷³ Davey G. Johnson, Jeep Wrangler Red Rock Concept Debuts at SEMA, Production Version Coming. (Electronic document <http://blog.caranddriver.com/jeep-wrangler-red-rock-concept-debuts-at-sema-production-version-coming/>, viewed November 25, 2015).
- ⁷⁴ Bates E. Wilson, Superintendent’s Monthly Narrative Report-1 M1 for March 1960, March 30, 1060. ARCH 101/001-021, SEUG Archives.
- ⁷⁵ Penny F. Jones, Southeast Utah Group, Staff Meeting, May 20, 1998. CANY 743/01-014.3, SEUG Archives.
- ⁷⁶ Anthony J. Schetzle, “Off-highway Motor Vehicle Regulations for Backcountry Use: Superintendent’s Directive 2005 N-2.”
- ⁷⁷ Penny F. Jones, Southeast Utah Group, Squad Meeting, January 4, 2000. CANY 743/01-014.5, SEUG Archives.
- ⁷⁸ “Tomorrow the Times Independent will publish a Letter to the Editor written by Lin Ottinger complaining about the treatment from Canyonlands Rangers. He claims the right to drive where he wants to or where he has driven

before. Some of the routes he uses have not been designated as roads. Park Service employees have met with Mr. and Mrs. Ottinger, written letters to them, erected signs, and put up rock barriers to prevent problems. Three Federal citations and three State citations [sic] have been issued to Mr. Ottinger for off-road vehicle use. Off-road travel is a misdemeanor and not serious enough to warrant cancelling his permit.” Marjorie E. Foy, Canyonlands Complex Staff Meeting Minutes, September 13, 1978. Canyonlands National Park Administrative Collection CANY 339/001-053, SEUG Archives. For a summary of Ottinger’s relationship with the NPS, see Samuel J. Schmieding, *From Controversy to Compromise to Cooperation: The Administrative History of Canyonlands National Park*. (National Park Service, 2008), p. 175.

⁷⁹ Rick Carrier, *Fly: The Complete Book of Sky Sailing* (New York et al.: McGraw-Hill Book Company, 1974).

⁸⁰ Carrier (1974), pp. 19–25.

⁸¹ Dan Poynter, *Parachuting: The Skydiver’s Handbook*. 6th revised edition. (Santa Barbara: Para Publishing, 1992), p. 83.

⁸² Poynter (1992), p. 95.

⁸³ Child (1995), p. 24.

⁸⁴ Todd Glasenapp, “BASE Jumper Dies at Paria Canyon,” *Arizona Daily Sun*, January 13, 2016. (Electronic document http://azdailysun.com/news/local/crime-and-courts/base-jumper-dies-at-paria-canyon/article_6df4440b-542e-53c2-bae2-8a607801337f.html, viewed March 9, 2016).

⁸⁵ Jon Krakauer, “Flight of the Hybrid: The Newest Way to Fly in the Face of Convention,” *Outside Magazine*, August 1987.

⁸⁶ Wikipedia. BASE Jumping. (Electronic document https://en.wikipedia.org/wiki/BASE_jumping, viewed September 21, 2015.)

⁸⁷ Leslie P. Arnberger, Memorandum: Hang-gliding Policy, April 5, 1974. ARCH 101/006-124, SEUG Archives.

⁸⁸ National Park Service. [36 CFR Part 2] Powerless Flight. *Federal Register*, Vol. 43, No. 239 – Thursday, December 11, 1975. ARCH 101/006-124, SEUG Archives.

⁸⁹ Thomas L. Hartman, “Hang-gliding Policy.” ARCH 101/006-124.

⁹⁰ National Park Service, 36 CFR Part 2, Powerless Flight.

⁹¹ Larry D. Reed to Mr. Philip Vangel, March 7, 1979. ARCH 101/006-124, SEUG Archives.

⁹² Paul D. Guraedy, to John Rasmus, Editor, *Outside Magazine*, August 28, 1987. ARCH 101/006-124, SEUG Archives.

⁹³ Pippa Thomas, “Fewer Climbs, no Jumps in Arches,” *Moab Sun News*, February 5, 2014. (Electronic document http://www.moabsunnews.com/news/article_0557c64e-8de4-11e3-bc7d-0017a43b2370.html, viewed September 21, 2015).

⁹⁴ Kate Cannon, “Superintendent’s Compendium: Of Designations, Closures, Permit Requirements and Other Restrictions Imposed Under Discretionary Authority – 36 CFR 1.7(b).” (Electronic Document <http://home.nps.gov/arch/learn/management/upload/2015-Arches-Superintendent-s-Compendium.pdf>, viewed November 25, 2015).

⁹⁵ Peter Bungart, Interview with Jim and Vicki Webster, March 19, 2018, Clip 0001.

⁹⁶ Glasenapp (January 13, 2016).

⁹⁷ “BASE Jumper’s Body Recovered,” *Arizona Daily Sun*, January 20, 2016. (Electronic document http://azdailysun.com/news/local/base-jumper-s-body-recovered/article_49ab772d-f7a5-525d-9a5f-a6de769f6125.html, viewed March 9, 2016).

⁹⁸ Crowther (2002).

⁹⁹ Wikipedia, Gary Fisher. (Electronic document https://en.wikipedia.org/wiki/Gary_Fisher, viewed September 3, 2015).

¹⁰⁰ Crowther (2002), p. 9.

¹⁰¹ Mike Strassman, *The Basic Essentials of Mountain Biking*. (Merrillville, Indiana: ICS Books, 1989). See also Crowther, *The Ultimate Mountain Bike Book* (pp. 16–19) for a more current review of the components.

¹⁰² Grant P. Brodehl, *Preliminary Observations on the Physical Impacts of Mountain Biking in the Southwestern United States* (Flagstaff: Unpublished MA Thesis, Northern Arizona University, Department of Rural Geography, 2005), p. 53.

- ¹⁰³ The Wilderness Act. In *Mountain Bike Adventures in the Four Corners Region* (Seattle: The Mountaineers, 1990, pp. 12–13), Michael McCoy presents an impassioned defense of the prohibition of bicycles and other motorized/mechanical conveyances from wilderness: “Like motorized trail bikes, mountain bikes are vehicles, though not as noisy or as potentially destructive to the terrain. Even on many trails where mountain bikes are permitted by law—most nonwilderness U.S. Forest Service trails, for instance—they are often not an appropriate means of travel.”
- ¹⁰⁴ Strassman (1989).
- ¹⁰⁵ Amy Leinbach Marquis, “Wheels of Change: A growing number of Americans are hopping on mountain bikes as a way to connect with the natural world. But do knobby tires belong on national park trails?” National Parks Conservation Association. (Electronic document <http://www.npca.org/news/magazine/all-issues/2012/spring/wheels-of-change.html>, viewed September 3, 2015).
- ¹⁰⁶ Brodehl (2005), pp. 6–23.
- ¹⁰⁷ James T. Tilmant, “Mountain Bike Use Within National Parks: A Report on a 1990 Survey. Draft, June 1991.” ARCH 101/006-126, SEUG Archives.
- ¹⁰⁸ Cannon, “Superintendent’s Compendium,” pp. 14–15.
- ¹⁰⁹ Crowther (2002), pp. 128–129. Crowther includes a section entitled “trail protocol” that includes a 10-point guide to manners, and notes in three places that bikers need to be especially careful in approaching horses, which are often spooked. He notes that “in fragile areas, such as the desert of Moab (see pp. 162–3) or on tundra like that found in Iceland or Canada, vegetation can take more than 50 years to grow back, so if you’re in doubt, don’t ride over it.”
- ¹¹⁰ Marquis, “Wheels of Change,” p. 2.
- ¹¹¹ Tilmant, “Mountain Bike Use Within National Parks,” unpaginated.
- ¹¹² Jeffrey Bedford, to G. Joannou Cycle, March 8, 1993. ARCH 101/001-057, SEUG Archives.
- ¹¹³ Noel Poe, to G. Joannou Cycle, March 19, 1993. ARCH 101/001-057, SEUG Archives.
- ¹¹⁴ Noel Poe, to Jeffrey Bedford, March 19, 1993. ARCH 101/001-057, SEUG Archives.
- ¹¹⁵ Penny F. Jones, Southeast Utah group, Staff Meeting, October 15, 1997. CANY 743/01-014.2, SEUG Archives.
- ¹¹⁶ Penny F. Jones, Southeast Utah Group, Squad meeting, March 9, 2004. CANY 743/01-014.8, SEUG Archives.
- ¹¹⁷ Penny F. Jones, Southeast Utah Group, Staff Meeting Notes, October 15, 1997. CANY 743/01-014.2, SEUG Archives.
- ¹¹⁸ Felicity Barringer, “Making Way for More Bikes in National Parks,” *The New York Times*, July 6, 2013. (Electronic document http://green.blogs.nytimes.com/2012/07/06/making-way-for-more-bikes-in-national-parks/?_r=0, viewed September 3, 2015).
- ¹¹⁹ Marquis, “Wheels of Change,” p. 2. See also selected on-line comments to the article. See especially Harrison (March 22, 2015), Mike Vandeman (November 20, 2014), and Tree Hugger (August 28, 2013).
- ¹²⁰ Brodehl (2005), pp. 10–12. Brodehl credits part of the conflict to media-driven misrepresentation of mountain bikers as reckless. This includes not only op-ed pieces and sensationalized accounts of resource damage, but perhaps more insidiously, commercials that depict mountain bikers as seeking thrills or tearing up trails in muddy conditions.
- ¹²¹ Marquis, “Wheels of Change.” See selected comments to the article, especially bilguana (May 3, 2013), mjevande (both posts May 3, 2012), and Bob (May 3, 2012).
- ¹²² Edward Abbey, *Desert Solitaire: A Season in the Wilderness*. (New York: Ballantine Books, 1968 [1971 Reprint]).
- ¹²³ Crowther (2002), pp. 128–129; McCoy (1990), pp. 12–13, 15.
- ¹²⁴ Brodehl (2005).
- ¹²⁵ Tilmant, “Mountain Bike Use Within National Parks,” Tables 1, 4, and 5.
- ¹²⁶ Cannon, “Superintendent’s Compendium,” p. 15. Group riding is an important part of the road-cycling culture, and riding away from the road edge is both the legal right of the rider(s) and desirable behavior for a number of safety reasons. John Allen, “Rules to Ride By: The Road Code.” In *Bicycling Magazine’s Complete Book of Road Cycling Skills: Your Guide to Riding Faster, Stronger, Longer, and Safer*, by Ed Pavelka and the Editors of Bicycling Magazine (Emmaus, Pennsylvania: Rodale Press, Inc., 1998), pp. 70–86. Unfortunately, a militant subsector of dedicated road cyclists use these facts as an opportunity to obstruct automobiles when given the chance, such as

on narrow park roads. Other, more casual cyclists are just self-absorbed tourists, who behave in a manner on vacation that they would never do at home.

¹²⁷ McCoy (1990), pp. 140–142.

¹²⁸ Crowther (2002), pp. 159–163.

¹²⁹ Marquis, “Wheels of Change,” p. 2.

¹³⁰ International Mountain Bike Association, Frequently Asked Questions: National Park Service New Rules for Mountain Biking. (Electronic document <https://www.imba.com/resources/land-protection/nps-rule-faq>, viewed September 15, 2015).

¹³¹ Barringer (2013), p. 1.

¹³² Brodehl (2005), p. 16.

¹³³ Marquis, “Wheels of Change,” p. 3.

¹³⁴ Brodehl (2005), pp. 17–18.

¹³⁵ Colorado Plateau Mountain-Bike Trail Association (COPMOBA), Kokopelli’s Trail Map. ARCH 101/003-076, SEUG Archives.

¹³⁶ Paul D. Guraedy, Memorandum: Kokopelli’s Trail. March 17, 1989. ARCH 101/003-076, SEUG Archives.

¹³⁷ ARCH 101/003-076, SEUG Archives.

¹³⁸ Guraedy, Memorandum, March 17, 1989, p. 1.

¹³⁹ Guraedy (1989), p. 2.

¹⁴⁰ Harvey Wickware to Timms R. Fowler, March 20, 1989. ARCH 101/003-076, SEUG Archives.

¹⁴¹ COPMOBA, Kokopelli’s Trail Map.

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7

Arches Discovered: Visitation, Resources, and Rockfalls in the Age of Political Gridlock, 1990–2018

National Park Service planning and the preparation of management documents culminated in the final General Management Plan (GMP) in 1989, opening a new era for Arches National Park.¹ Noel Poe transferred to Arches in 1990 as superintendent and immediately set about implementing the GMP, addressing dramatically increased visitation, but doing so within a rapidly changing and increasingly polarized political landscape.² The use of Arches National Park for other than personal sightseeing and enjoyment had moved to the forefront, most visibly by an explosion in commercial filming within the park (Chapter 8), propelled by the release of blockbuster movies *Indiana Jones and the Last Crusade* in 1989 and *Thelma & Louise* in 1991. The media exposure, particularly of Delicate Arch, has driven park visitation to more than 1.5 million visitors per year (as of 2016). In fact, by the time the GMP was approved in 1989, visitation had already exceeded the projection for 2005.³ As a result, Arches was selected in 1992 as the pilot unit for Visitor Experience and Resource Protection (VERP), the NPS program that evaluates the “visitor carrying capacity” of a park unit and mitigates the effects of crowding through management decisions. NPS attempts to control or slow the rise in visitation have been affected by a number of factors beyond agency control: the rise of a strongly anti-environmental populist political movement that is hostile to science and the documented human impacts on the global environment,⁴ intensified tourism promotion campaigns by Moab and the state of Utah, and the rise of social media. Efforts to understand and manage the natural resources of Arches have been overshadowed by dramatic events: the 1998 explosion of a natural gas pipeline along US 191 (Chapter 4); the 9/11 terror attacks and War on Terror; and the 2002 Olympic torch run beneath Delicate Arch (Chapter 8). Despite the burdens imposed by these events, and government shutdowns, Arches National Park and the Southeast Utah Group have participated in multiple large-scale resource research and monitoring programs; redeveloped or refurbished the Devils Garden Campground, Delicate Arch road, visitor center landscaping, parking lots, overlooks, and trails; and added the backcountry delights of Lost Spring Canyon to the park.

Visitation, a Malthusian Curve

Over the eight decades (and counting) that Arches has been a unit of the national park system, it has witnessed a dramatic transformation from being one of the least visited and most remote units (an estimated 500 visitors in 1929) to approaching the threshold of exceeding its visitor carrying capacity, with more than 1.5 million visitors per year (3,000% or 35% per annum increase, averaged). Arches visitation has climbed since the monument opened in 1929, but the rate of increase has not been “smooth” (Table 7-1). Estimated visitation actually dropped in the first years following the monument’s proclamation, reaching a historic low of 275 in 1934,⁵ a decline that is attributable to the deepening of the Great Depression during the 1930s. In 1937, Arches hosted an estimated 1,000 visitors, the first year that the visitation exceeded the 1929 total. However, after climbing to a new peak of 3,737 in 1941, visitation plummeted during World War II, dropping as low as 642 in 1944. Only seven people visited in March 1942, leading Custodian Schmidt to beg “PLEASE – someone send me some visitors. Our sandrock road is not very hard on tires.”⁶ By 1947, annual visitation had reached 5,028 and it climbed steadily through the following years: In 1949 visitation passed 10,000 (13,270); in 1962 it passed 100,000 (105,700); in 1988 it passed 500,000 (520,455); in 2010 it passed 1 million (1,014,405); and in 2016 it passed 1.5 million (1,585,718).

Many factors affected the precision of the visitation numbers, and these should be considered in evaluating some of the visitation fluctuations. Custodian Harry Reed patrolled the monument 8:00 AM to 5:00 PM, 6 days a week when he could, although in some months it was as infrequently as 2 days, and he admitted in one monthly report that “I have no way of determining the exact number of persons who visited the Arches this month.”⁷ Reed proposed a register of visitors in February 1938, but had no place to keep it. New Custodian Bates Wilson reported the following in May 1949:

*Again the all-time record for any single month was broken by the arrival of 1684 visitors in 507 cars. This total would have been higher, but one weeks [sic] registration sheets at the Delicate Arch parking area were devoured by hungry cows. We are proud of our registered stock, but would appreciate it very much if they would refrain from making a box lunch out of our travel count.*⁸

Table 7-1. Arches National Park Visitation, 1929–Present

YEAR	VISITORS	CHANGE	YEAR	VISITORS	CHANGE	YEAR	VISITORS	CHANGE
1929	500	–	1959	59,800	+49.12 %	1989	555,809	+6.79 %
1930	400	-20.0 %	1960	71,600	+19.73 %	1990	620,719	+11.68 %
1931	405	+1.25 %	1961	90,700	+26.68 %	1991	705,882	+13.72 %
1932	480	+18.5 %	1962	105,700	+16.54 %	1992	799,831	+13.31 %
1933	425	-11.45 %	1963	118,200	+11.83 %	1993	773,678	-3.27 %
1934	275	-35.29 %	1964	99,700	-15.65 %	1994	777,178	+0.45 %
1935	300	+9.09 %	1965	143,900	+44.33 %	1995	859,374	+10.57 %
1936	400	+33.33 %	1966	128,000	-11.05 %	1996	856,016	-0.39 %
1937	1,000	+150.00 %	1967	120,300	-6.02 %	1997	858,525	+0.29 %
1938	1,448	+44.80 %	1968	125,600	+4.40 %	1998	837,161	-2.49 %
1939	1,775	+22.58 %	1969	162,600	+29.46 %	1999	869,980	+3.92 %
1940	2,512	+41.52 %	1970	178,500	+9.78 %	2000	786,429	-9.60 %
1941	3,737	+48.77 %	1971	202,100	+13.22 %	2001	754,026	-4.12 %
1942	1,205	-67.75 %	1972	225,128	+26.12 %	2002	769,672	+2.07 %
1943	776	-35.60 %	1973	274,900	+22.10 %	2003	757,781	-1.54 %
1944	642	-17.27 %	1974	166,900	-39.28 %	2004	733,131	-3.25 %
1945	682	+6.23 %	1975	236,100	+41.46 %	2005	781,670	+6.62 %
1946	2,301	+237.39 %	1976	294,800	+24.86 %	2006	833,049	+6.57 %
1947	5,028	+118.51 %	1977	313,400	+6.31 %	2007	860,181	+3.26 %
1948	8,870	+76.41 %	1978	326,948	+4.32 %	2008	928,795	+7.98 %
1949	13,270	+49.61 %	1979	269,840	-17.47 %	2009	996,312	+7.23 %
1950	16,257	+22.51 %	1980	290,519	+7.66 %	2010	1,014,405	+1.82 %
1951	18,603	+14.43 %	1981	326,508	+12.39 %	2011	1,040,758	+2.60 %
1952	28,683	+54.19 %	1982	339,415	+3.95 %	2012	1,070,577	+2.86 %
1953	30,853	+7.57 %	1983	287,875	-15.19 %	2013	1,082,866	+1.15 %
1954	31,300	+1.49 %	1984	345,180	+19.90 %	2014	1,284,767	+18.64 %
1955	31,800	+1.59 %	1985	363,464	+5.29 %	2015	1,399,247	+8.91 %
1956	28,500	-10.38 %	1986	419,444	+15.40 %	2016	1,585,718	+13.33 %
1957	25,400	-10.88 %	1987	468,916	+11.72 %	2017	1,539,028	-2.94 %
1958	40,100	+57.87 %	1988	520,455	+10.99 %	2018	1,663,557	+8.09 %

Several custodians had commented on the apparent disparity between the number of people or cars observed in the monument and the number of people who had registered during the 1940s. Wilson installed an automated car counter in June 1950, and demonstrated that many parties were not registering. Wilson also suggested using an average of 3.2 people per car clocked by the counter as the new measure of visitation, based on his observations of visitor group size.⁹

In June of 2015, when Arches was forced to close over parts of Memorial Day due to overcrowding, the total visitation for the month (189,073) exceeded every year's total through 1970, and exceeded the total number of visitors to Arches from its inception to the summer of 1955 (the July 2015 visitation total was even higher at 195,748). During the 69-year span from 1946 to 2015, visitation declined in only 15 years: 1956, 1957, 1964, 1966, 1967, 1974, 1979, 1983, 1993, 1996, 1998, 2000, 2001, 2003, and 2004. Ironically, the first two of these declines were years during which Edward Abbey was a seasonal ranger, ranting about "industrial tourism" and increasing visitation. Three years of decline in the 1960s were bracketed by years of substantial growth, and do not seem directly attributable to national events such as the Vietnam War. However, the declines in 1974 and 1979 reflect the dramatic increases in gasoline prices and fuel shortages during the Arab Oil Embargo (1973–1974) and the Second Oil (or energy) Crisis of 1979–1980 (or beginning in 1978, if the federal CAFÉ standards for automobile fuel economy are considered as the trigger). To date, Arches National Monument and Park has been visited almost 30 million times, although some are undoubtedly repeat visitors.

Some of the important visitation milestones have been publicly celebrated. The 100,000th visitor within a year (not identified) "received local press and radio coverage" in October 1962.¹⁰ At 9 AM, October 3, 1979, Arches welcomed the 4-millionth cumulative visitor to the park, Mr. and Mrs. Richard Beauvais of San Antonio, Texas.¹¹ The Beauvais were photographed, given a personal tour of the park by Chief Interpreter Jim Capps, presented with an engraved plaque, a bumper sticker identifying them as the 4 millionth visitors to Arches, and the coffee-table book *Utah* by photographer David Muench; they were also provided with lodging (Apache Motel) and meals (Mi Vida and Golden Stake restaurants). Only 11 years later, on April 26, 1990, the 8-millionth visitors were similarly celebrated. Bill and Arlene Ahles were awarded a plaque and given several gifts, including lodging, in a small ceremony attended by Canyonlands Complex Superintendent Harvey Wickware, Arches Superintendent Paul Guraedy, Moab Mayor Tom Stocks, and Moab Chamber of Commerce President Theresa King (Figure 7-1).¹² In 2010, Victoria Carlson of Santa Fe, New Mexico, was honored on November 20 as the 1-millionth visitor in a single year; she was given an America the Beautiful – National Parks and Federal Recreational Lands Pass, a coffee-table book, a T-shirt, and a ball cap.¹³

Over the past 10 years Arches has experienced an astonishing 75.24 percent increase in visitation (65.31% over the past 20 years). In just one of those years (2014), visitation increased nearly 20 percent, a rise attributed to the "Mighty 5" advertising campaign underwritten by the state of Utah.¹⁴ This campaign targeted Western European countries. Promotion of the NPS Centennial of 2016 also contributed to this rise, with entrance fee waivers, numerous special events, and support from outdoor-oriented retailers such as REI, Inc.¹⁵ Projecting forward, Arches will welcome between 2.12 and 2.25 million annual visitors by 2025 (using the 20-year and 10-year visitation averages). The last significant decline in visitation (-15.19 %) was in 1983; all subsequent drops have been less than 10 percent.



7-1. Bill and Arlene Ahles, the 8-millionth visitors to Arches National Park, after being awarded a plaque and other prizes by Canyonlands Complex Superintendent Harvey Wickware (left), Arches Superintendent Paul Guready (right), Moab Mayor Tom Stocks (second from right), and Moab Chamber of Commerce President Theresa King (third from right). ARCH 2810.8, in 101/001-128, SEUG Archives. (Photo credit: unknown)

Carrying Capacity

The idea that the national parks are being “loved to death” is not new. It is implicit in the rationale of the Wilderness Act of 1964, and Edward Abbey clearly articulated this perspective in *Desert Solitaire* (1968). The National Park Service, until recently, has been slow to embrace this perspective. Visitation is a measure of a unit’s “success” or “popularity” within the national park system and is a factor in allocating resources across the NPS; for outside concessionaires, visitation numbers are carefully tracked as a direct measure of economic impact (and sometimes declines in visitation are blamed on NPS policies or actions). Yet, as visitation at popular national parks and recreation areas increased in the post-war era, so did the impacts to resources. The General Authorities Act of 1978 (U.S. Public Law 95-625) required that all NPS units develop a General Management Plan.¹⁶ One of the stipulations of this law was that each park unit GMP must include a means to identify visitor carrying capacity within all areas of the park unit, and implement regulations to manage visitation. Carrying capacity is a concept developed within ecological studies that seeks to identify how many animals can live in a given environment before significant biological or ecological impacts occur.¹⁷ In particular, this has been used to gauge minimum resources needed to sustain a natural environment for specific index species. This

has become an important part of the biological studies required under the Endangered Species Act to identify at what point a proposed project (undertaking) will trigger environmental repercussions that result in species decline or extinction.

Carrying capacity was not immediately incorporated into NPS management, despite the requirements of the General Authorities Act.¹⁸ As discussed in Chapter 5, the NPS in general and individual units in particular were completely overwhelmed by the requirements of the series of acts passed between 1964 and 1990. In many instances, GMPs simply measured the “facility capacity” based on parking spaces and other developments, and/or projected visitation rates to identify a year in which the park unit would be “full.”¹⁹ At Arches, completion of an Environmental Impact Statement for proposed Wilderness was the priority in the late 1970s to early 1980s and funding for a GMP had been reallocated to other parks.²⁰ Arches staff members were able to tackle smaller, individual management plans, but were unable to complete a comprehensive GMP until 1989. Although the issue of visitation and carrying capacity was a consideration in many resource management decisions made at Arches during this period, the more immediate needs of commercial filming, new recreational activities, and outside encroachments were a higher priority in allocating scarce personnel and funds. At a national and local level, the lack of compliance with the carrying capacity requirement, and growing criticism of increasing park infrastructure footprints led to the development of a new approach.

VERP evolved from a series of more narrowly focused studies of visitor carrying capacity that were developed by university-based social- and recreation-science scholars, and they included programs such as Limits of Acceptable Change (LAC, 1985), Carrying Capacity Assessment Process (C-CAP, 1986), Visitor Impact Management (VIM, 1990), and Visitor Activity Management Process (VAMP, 1991). LAC and VIM have primarily been used to evaluate wilderness settings, with more recent evolutions such as VERP being designed to include frontcountry and backcountry settings, as well as wilderness areas.²¹ In 1989, the program was known as the Visitor Impact Management Program (VIMP). VIMP required many of the same actions as VERP, including articulating the purpose of the park, identifying management zones (natural, historic, developed, and special use zones) and visitor experience zones (frontcountry, backcountry motorized, and backcountry non-motorized), and determining prescriptions and management actions.

Arches staff prepared and implemented a visitor survey under VIMP in 1989; 72 visitors participated.²² Nine of the 21 survey questions focused on visitor experience. Although visitors felt that there was a slight degradation of the experience of silence, solitude, and wilderness from that expected, most of the visitors enjoyed their stay: 55 percent felt that facilities were adequate for those with special needs, most felt that the park was only slightly crowded (3.9 average on a scale of 1 to 9 [not crowded to extremely crowded]), that the number of trails was about right (86%) and that they were adequately maintained (83%), and that the park was not environmentally degraded (72%). Most (51%) felt that the least enjoyable aspect of their visit was the heat; only 5 percent thought that the least enjoyable aspect was crowds. Arches staff also requested statistical analyses of visitor statistics from graduate students at Brigham Young University and Williams College.²³ Unfortunately, these did not address the issues of carrying capacity, and Arches staff discovered that social science research had not yet developed practical methods for measuring, quantifying, and analyzing visitor experience. An analysis of monthly visitation statistics for 1985–1990 did reveal some major changes in when Arches was being visited. Although the total visitation increase over that interval was 53 percent, off-season (December–February) visitation increased 22 percent, busy season (April–September) increased 46 percent, and

shoulder season (March and October–November) grew by 117 percent.²⁴ Most of the data available to park staff consisted solely of counts of visitors by zip-code or country.²⁵ Because these statistics do not address carrying capacity or the quality of visitor experience, in 1990 Arches formally requested social science assistance from the Rocky Mountain Region.²⁶

Arches Superintendent Paul Guraedy headed the VIMP team as of May 1, 1990, consisting of CANY Complex Assistant Superintendent Dave Morris, Arches Chief of Interpretation Diane Allen, Arches Chief Ranger John McLaughlin, and Arches Chief of Maintenance Frank Darcey (by November Noel Poe, Arches Superintendent, replaced Morris and Jim Webster replaced McLaughlin).²⁷ After the team reviewed the GMP and status of current statistics, Acting Superintendent Tony Schetzle issued a formal request to Region for social science assistance in fall of 1990.²⁸ Meanwhile, VIMP evolved into VUMP (Visitor Use Management Program) in 1992. Apparently the request was not funded, as another request for a visitor services survey was submitted to Region for fiscal year 1993 on February 26, 1992, following a visit to Arches by the NPS VUMP planning team.²⁹ Under Team Leader Marilyn Hof, the VUMP Team included NPS specialists Joel Kussman, Michael Rees, John Austin, Allen Hagood, and Jim Hammett, and outside recreational management specialists Dave Lime, Bob Manning, and Chris Marvel. The team again visited Arches April 20–23, 1992, for “scoping Arches for a visitor use management plan.”³⁰ Hof was one of the principal designers and authors of VUMP, which transitioned again in 1992 into VERP, as the design of the Arches pilot project was being finalized.

Visitor Experience and Resource Protection (VERP)

In 1992, the NPS assembled a new interdisciplinary team to develop the Visitor Experience and Resource Protection (VERP) program.³¹ Completed in 1993, the VERP plan contains nine elements, and is intended to be part of the GMP process but could be used as a stand-alone program when conditions require it. VERP was to be implemented to fulfill the missing carrying capacity analysis of the 1989 GMP, but was eventually to be subsumed as part of the GMP process the next time the document was revised.³² The nine VERP elements are specific actions within the more general realms of Framework Foundation, Analysis, Prescriptions, and Monitoring and Management Actions:³³

1. Assemble an interdisciplinary team.
2. Develop a public involvement strategy.
3. Develop statements of park purpose, significance, and primary interpretive themes; identify planning constraints.
4. Analyze park resources and existing visitor use.
5. Describe a potential range of visitor experiences and resource conditions (potential prescriptive zones).
6. Allocate the zones to specific locations within the park (prescriptive management zoning).
7. Select indicators and specify standards for each zone; develop a monitoring plan.
8. Monitor resource and social indicators.
9. Take management actions.

Arches National Park was selected as the unit for pilot implementation of the VERP program due to its relatively small size, high visitation rates, and seemingly easily defined frontcountry landscapes.³⁴ This began as the details of VERP were being finalized at the national level.³⁵ The park was experiencing rapid growth in visitation, but park staff had been struggling to identify visitor carrying capacity during the

process of preparing the GMP.³⁶ In fact, visitation was growing so quickly that it appeared that the projected 2005 visitation totals would be reached by 1991. The 2005 threshold was identified in the GMP as the trigger to initiate a visitor impact study because that date was tied to periodic facility upgrade funding. Arches selection as the pilot NPS unit for the VERP program is one of the keystone events in the history of the park, according the park a prominent place in the NPS as the testbed for a milestone NPS program. Arches' continuing struggles with visitation in the post-VERP period underscore the difficulty of successfully implementing a program of such broad scope, as well as with integrating outside technical experts with NPS management and resource teams.³⁷

VERP analysis began in the summer of 1992 at Arches with the development of a visitor survey interview form by Dave Lime and Bob Manning,³⁸ to be administered by two graduate students, Rick Monagle and Paul Nordin, during July.³⁹ Concurrently with VERP, the Denver Service Center devised and implemented a year-long Visitor Use Survey.⁴⁰ This was devised to provide the baseline visitor data, such as ethnicity, zip-code, travel characteristics, and visit characteristics, to support the more specific measures of visitor impact and visitor experience that were being collected by VERP. On July 14, 1992, Arches Superintendent Noel Poe led a public scoping meeting for the Grand County Commissioners, Moab City Council, Moab Chamber of Commerce, Grand County Travel Council, Moab Times-Independent and Canyon Country Zephyr newspapers, U.S. Forest Service, BLM, Dead Horse State Park, pack tour permittees (Tag-a-Long Tours and Pack Creek Ranches), Red Rock 4-Wheelers, Canyonlands Field Institute, Southern Utah Wilderness Alliance, and Western Land Users Association.⁴¹ The progress of VERP was tracked and presented to the public in a series of newsletters, which described the VERP process, milestones attained, changes in the project, and preliminary results. In Newsletter #3 (August 1993), and at a meeting open to the general public on August 25, 1993,⁴² Arches presented the preliminary management zones for the park:⁴³

- The developed zone
- The motorized sightseeing zone
- The pedestrian zone
- The hiker zone
- The trekker zone
- The motorized rural zone
- The motorized semi-primitive zone
- The primitive zone
- The sensitive resource protection zone

VISITOR COMMENTS ON CROWDING

"Since the 20 years since I was last here, the park has gotten a lot more crowded, as it is now very hard to get good pictures of some of the arches. The main problem is people sitting under an arch for a long time.

I suggest that you post the "DON'T BE AN ARCH HOG" sign around the bases of many of the arches. It may not solve the problem, but it should make it a little easier to get a good picture.

Another suggestion: develop trails to other smaller arches so you could spread the people out a little more. It would also give people willing to hike a nice view."

Visitor, July 21, 2000.

"I have been hearing talk of limiting the amount of people entering the park each day. I feel that is a great idea, limiting the people coming in will help the park to be kept clean and conserved.

I also have a compliment towards the aluminum recycling bins but, you should think about getting bins for others like cardboard & plastic."

Visitor, April 8, 1993

"My husband and I noticed a problem with visitors approaching and posing at the arch at sunset while photographers were trying to photograph the landscape, especially at the last crucial minutes, perhaps 1) some explicit signage could be posted regarding photography etiquette, 2) a ranger could be posted at sunset to regulate traffic flow, or 3) particular evenings could be set aside for photographers only."

Visitors from Hoschton, Georgia, April 14, 2006

The boundaries and character of the trekker zone, basically the backcountry with only trail cairns and primitive trails present, was reduced in size by Newsletter #4 in June 1994.⁴⁴ It was also renamed the backcountry zone; the changes resulted from public input during the VERP process. The preliminary results of the social research were also reported in Newsletter #4. The visitor use study focused on the characteristics of the visitors—their itinerary and the patterns of their use of Arches National Park. The VERP survey consisted of in-depth interviews of 1,536 park visitors, and completed survey questionnaires from 241 users of the unpaved park roads and 79 backcountry users. A key component of the interview was the use of photographs of key landscape features and trails, altered by computer simulation to show different levels of use (Figure 7-2).⁴⁵ By October 1994 (Newsletter #5), the indicators and standards had been developed.⁴⁶ The condition of cryptobiotic soil crusts, relative soil compaction levels, and the number of social trails and road social pullouts were the physical indicators; social indicators were the number of people present at one time on a trail or at an attraction, the number of parties visible from a trail or backcountry road, the ability to camp away from any other parties in backcountry and primitive areas, and the level of traffic congestion in the major park roads. In particular, the number of people at one time (PAOT) at major park features was a key social indicator, with a maximum of 30 PAOT at Delicate Arch adopted by VERP as one indicator of quality.⁴⁷

The standards and monitoring requirements that emerged from VERP were, unlike the relatively short list of indicators, complicated because the standards differed by management zone. Thus, the basic standards for visitor experience indicators (the number of people encountered or visible) and for resources (the amount of intact cryptobiotic soil and the degree of soil compaction) and level of monitoring required was specific to each management zone. In the backcountry and primitive zones, social trails are the resource indicator. The density of trails in 1995 was to be mapped, with no more than 10 percent of additional linear feet of social trail per square mile to be permitted in total. In addition to monitoring the number and locations of social trails, Arches resource staff also worked to educate visitors and deter the continued use of social trails. As discussed in Chapter 3, some social trails, such as the one to Sand Dune Arch, were reconstructed and formally designated as part of the trail system. In the instance of hundreds of other trails, resource staff began in 1997 to install signs on social trails with the message “STOP! This is not a Trail!”⁴⁸ The sign campaign was undertaken in conjunction with a new exhibit on cryptobiotic soils at the visitor center to educate visitors about the impacts of walking off-trail.⁴⁹ Social indicators included the number of parties encountered and backcountry camping. The visitor experience in these zones would be out of standard and require management action if

*4 or more parties are seen per day while travelling off-trail in 10% or more of the samples collected during the monitoring period; if 5 or more parties are seen per hour while traveling on-trail in 10 % or more of the samples collected during the monitoring period; or if 10% or more of the backcountry parties sampled cannot camp out of sight and sound of other parties during the monitoring period.*⁵⁰

This program does not examine how many people seeking the silence and solitude of the backcountry would want to be interviewed by NPS standards monitors, but the subsequent discussion of proposed management actions notes that “the Park Service is not proposing to take new actions in these zones, as



7-2. Images of the Devils Garden Trail prepared for VERP visitor surveys of crowding. The VERP team prepared two other sets of images for Devils Garden, and sets for Delicate Arch and the North Window. Unprocessed accession, SEUG Archives.

there is no indication now that conditions are out of standard.”⁵¹ Should monitoring of those standards indicate the need for management actions, those could include various permits for backcountry users or even eliminating overnight use. The seven pages required to describe the management zones, indicators, standards, and management action must have appeared intimidating to someone contemplating a visit to Arches during this period.

The implementation of VERP at Arches was a 3-year program, culminating in the June 1995 publication of the Visitor Experience and Resource Protection (VERP) Implementation Plan, Arches National Park. However, VERP was intended as a component of the GMP, and was to operate in perpetuity as a feedback loop to maintain Arches within its carrying capacity. To do so involved ongoing monitoring (of both physical conditions and visitor experience) and implementation of management actions to mitigate those situations that exceeded the appropriate use of the park. Monitoring began in 1995. Social trails in all the pedestrian, hiker, motorized sightseer, and sensitive resource protection zones were monitored by two biotechnicians during June 1995 by using a 100-meter measuring tape.⁵² The tape was placed at varying distances from roads, trails, and parking areas, and at every 5 meters the soil crust index was measured and recorded. Social trails were monitored by establishing permanent photo points around Landscape Arch. In the absence of frequent and reliable low-altitude aerial photography, and before the advent of GIS, “slides taken from photo points were projected onto a white wall, then social trails were identified and traced on Mylar.”⁵³ Soil crust conditions were found to be out of standard at all of the locations tested in the four zones, and social trails were present in the closed sensitive resources zone. Natural resource indicator monitoring was judged to be both effective and efficient. Social indicator monitoring, however, was not.

At Windows and Delicate Arch trailheads, visitors were contacted as they were completing a hike, 10–14 times a day at each site, between 11:00 AM and 1:00 PM or 2:00 PM and 4:00 PM.⁵⁴ These

visitors were shown the computer simulation photoboards that had been developed for the initial VERP interviews and asked to identify the conditions that they experienced. Parking was controlled during these times to prohibit any overflow parking, and the number of cars present was counted every 15 minutes. This required the time of an interviewer and two park rangers. The social indicators were also found to be out-of-standard at both attractions and a trail segment in the hiker zone: 50 percent of the 1,190 visitors interviewed at The Windows reported out-of-standard conditions, about 40 percent of the 764 interviewees at Delicate Arch reported out-of-standard conditions, and 15 percent of the 619 trail hikers witnessed conditions out of standard. Many of the visitors were interested in the monitoring program, and only about 1 percent refused to be interviewed; some would even wait a few minutes for their turn to be queried. Based on the preliminary monitoring project, changes to the social monitoring were recommended to assess conditions during all times of the day and year and to increase the

VISITOR COMMENTS ON SOIL CRUSTS

“We hiked + backpacked N. from Dark Angel. If a trail were clearly marked, would have preferred to follow it; instead felt somewhat guilty about unavoidably putting footprints into cryptogamic soil etc.”

Visitor from Wallingford, Pennsylvania, July 12, 1981

“Since most of the visitors to the park have seemed to be German every time I’ve come here during the past twenty years it seems to me that it would be a good idea to have either signs or a movie IN GERMAN to advise them NOT TO STEP ON THE CRYPTOBIOTIC SOIL. We saw many of them doing this, we are certain, from ignorance. We have travelled to Germany enough to know that Germans are generally polite, respectful – especially of nature, and eager to do the right thing IF they are informed adequately enough for them to determine what the right thing is. How I wish my fellow citizens were as reverent!!!”

Visitor from Clayton, California, June 4 (no year).

efficiency and lower the cost of the program. Regardless, the monitoring required additional funding, which was requested in 1996:⁵⁵

To meet P. L. 95-625 requirements for addressing visitor carrying capacity in park planning, the VERP process was developed at Arches. The 3-year effort, funded by DSC, was intended as a servicewide model, and included extensive public participation and park staff involvement. Social and biological indicators and preliminary use levels were established for major park attractions. However, all previous effort and expense will be futile if the critical step of implementation is not taken. One-time funding is requested for essential infrastructure changes such as trail construction, fencing, and parking lot delineation. Funding for additional biomonitoring and social research to test the results and refine the methodology upon which use limits are based, is also requested.

Although the carrying capacity of the major sights at Arches had been established by the VERP surveys, the capacity of the entire park had not been evaluated. The infrastructure changes identified by VERP involved carefully controlling the parking at major attractions and along the park roadsides. Park staff decided that constructing barriers to prevent “overflow parking” near the paved lots at Wolfe Ranch, Devils Garden, and Windows, and at social pullouts along the park road, would alleviate the feeling of crowding that many visitors were experiencing in the park. But the funding request also included additional social research to refine research methods to establish the standards of quality, determine the overall park carrying capacity, and develop and test monitoring procedures.⁵⁶ However, some of the management actions proposed for trails adjacent to sensitive resource zones may have unintentionally affected the trail accessibility for people in wheelchairs. While widening and hardening the trail surface probably improves the experience for someone in a wheelchair, it is difficult to imagine that “elevating the trails’ surfaces or edging trails with rocks” would improve accessibility.⁵⁷ At least one self-described “disAbility Advocate” found wheelchair access at Arches to be poor as recently as 2007, and wrote a detailed letter with photographs, indicating the problem areas.⁵⁸

Implementation of VERP at Arches exposed some problems in its design and how VERP was executed. In their 1997 retrospective of VERP, Hof and Lime noted that for Elements 1–3, the Arches test revealed the importance of “creating an institutional setting in which **all levels** of the management system are **committed to** and **held accountable for** implementation of the process” [emphasis in original].⁵⁹ The specific employees or management sections at Arches to which this statement referred were not identified, but the situation was apparently serious enough that Hof and Lime recommended that agencies using a VERP/LAC type of program should include an evaluation of implementation as part of employee performance reviews. In discussing this aspect of VERP, Hof and Lime noted that the NPS decided to strip the carrying capacity indicators, standards, monitoring, and management from the GMP, removing some or all of the institutional requirements to undertake the elements of VERP: “It is feared some managers could use this flexibility as administrative discretion to postpone action, perhaps indefinitely.”⁶⁰ A more serious obstacle was the lack of dedicated funding for GMP development, with Hof and Lime noting that “fewer than half of the National Park Service’s 374 units” have GMPs that are up to date or approved. Hof and Lime also took issue with how monitoring (Element 8) was implemented, although they acknowledged that the Arches monitoring plan was only then being developed:

*Monitoring is an integral part of these and related frameworks—they are **not** add-on’s. Often, we fear, monitoring of selected indicators of quality is seen as some sort of extracurricular activity that is separate*

*from the overall process. And, as we learned during the Arches test, monitoring activities need to be thoughtfully considered **during** the formulation of indicator variables, not **after** they are agreed upon. That is, monitoring is much dependent on the way in which indicators and standards are defined and expressed. As such monitoring cannot occur unless there is a clear understanding of what needs to be measured and in what context (Lime and Lewis 1996).*

VISITOR COMMENTS – FOR SIGNS

“The trails need to be better marked in places. I got lost on Devil’s Garden trail, the loop trail from the campground to Broken Arch + Sand Dune Arch + the primitive trail from the Windows back to the parking lot. Sometimes the trails were overmarked with cairns every 20 feet or so when the trail was obvious. In other places the trail would peter out and there was no marking as to which way to go and I found myself wandering around. I did find Arches very interesting and fascinating and all in all enjoyed it very much. I would appreciate a reply on my comment [Thank You!](#)”

Visitor from Denver, Colorado, September 28, 1980

“When Landscape Arch is reached, a Park sign listing the other 3 arches shows arrows to right. The trail is not marked well enough for us to follow – Use posted signs so we can be sure we are headed right. We were prepared to hike the 2 mi to Double O Arch & had to turn around.”

Visitors from Chicago, Illinois, July 8, 1971

“Post signs at trail heads noting there is no water along trails and people that are hiking should take water and/or appropriate provisions along.”

Visitor from Salt Lake City, July 1, 1985

“Don’t hesitate to fence off, block off, bar sensitive areas. I like the sign [This is not a trail!](#) In many areas you may need signs in German + Japanese!! Protect the beauty even if it may “mar” the experience for the trampers.”

Visitor, June 3, 1999

*Our experience in implementing VERP at Arches National Park and elsewhere reconfirms the lack of understanding or agreement about what is a standard. From our perspective, standards are minimally acceptable conditions or thresholds of acceptability for indicator variables. That is, if a particular standard is not violated, the condition is considered to be within an acceptable limit. When the standard is violated, the condition is deemed unacceptable and management should initiate action to bring the condition back within the acceptable limit. Standards should not be viewed as management goals, targets, or desired future conditions.*⁶¹

VERP monitoring continued with a 3-year project (1997–1999) that sought to refine the process using tests of the existing program to verify standards of quality and to verify the simulation model.⁶² Specifically, standards of quality were evaluated to see if there were changes in response if the placement of people in the photos was different, or if people were shown one photo at a time or all at once, if there is range bias, if regional standards of quality are being met (by conducting surveys at other Colorado Plateau parks and comparing the differences), and what visitors were willing to do to guarantee an acceptable visit. The simulation was evaluated using traffic counters, tour bus route information, and specific model components for Windows and Devils Garden. A final report on the project was completed in 2001.⁶³ In 2002–2004, Arches Resource Management and Visitor Protection staff conducted 2,100 VERP monitoring surveys each year at locations throughout the park.⁶⁴

Monitoring apparently came to an end around 2004; Arches administrative records do not contain any indication that VERP continued as an active program past that date. The reasons for the lapse appear to be complicated, but largely revolve around reductions in funding for the Park Service, position vacancies (including the Arches superintendent), and changing priorities at the national level in the NPS.⁶⁵ Former Superintendent Noel Poe

reflected on VERP and noted that after he transferred to Theodore Roosevelt National Park in 1995, there were not enough people at Canyonlands who were part of VERP and new managers came in with their own ideas about priorities, so “VERP it just kinda started lagging and falling apart”:

A lot of the concepts that were developed during VERP remained in the Park Service planning directive only they were not really followed and implemented to the extent they should have been ... there at Arches and then particularly when Arches lost the superintendent and ... when budgets got tight that was one of the positions that they grouped ... so they relied completely upon Canyonlands for that level of support and so it just fizzled and ... died out and as much as the staff at Arches tried to keep it going and keep it in the front of people's minds it just wasn't a priority.⁶⁶

A discussion of crowding at Arches on Memorial Day 2015 tangentially noted that “the idea of determining the parks’ actual carrying capacity has so far proven unpopular.”⁶⁷ Since the completion of the VERP pilot, Arches has provided visitor comment forms that allow visitors to file complaints, compliments, or suggestions (these have actually been in use at Arches since the 1960s, but they were revised under VERP and comments that specifically address crowding or solutions to crowding are directed to the VERP files).⁶⁸ These provide an interesting mirror to the views of at least part of the visiting public, and have informed on the reactions to various management actions of the past two decades, although some of the comments address overall NPS or federal policy. The sidebar Visitor Comments that appear throughout this document are taken from the Visitor Comment Forms, as well as letters written by visitors to the park staff. Interestingly, the use of cryptobiotic crust as a resource indicator has become deeply entrenched in the minds of some park visitors; many comments received at Arches suggest the desire for even more signage, rangers, and the use of fines and or removal from the park as a response to hikers off the trail edges, although there is actually no law prohibiting such behavior.

VISITOR COMMENT – AGAINST SIGNS

“I noticed a lot of vegetation damaged by pedestrian traffic along the trail from Landscape Arch to Double OO Arch. The trail there is not especially clearly marked and people have apparently wandered around looking for the trail thus disturbing vegetation growth and creating many confusing trails. If the main trail was more clearly marked people would be less likely to wander from it.

Trail could be marked with a few more cairns or could be marked with paint on slickrock. In capital reef [sic] they have painted black Elk hoof prints occasionally where needed.

NO SIGNS!!”

Visitor from San Diego, California, April 11, 1981

Should VERP be revived at Arches (or any other NPS unit) it will have to contend with changing demographics among visitors. Although the natural indicator monitoring standards will not change, the methods for monitoring soil crusts will need to change. Furthermore, the social indicators may be affected by the increasing urbanization of the United States, and the very different sense of crowding and personal space held by visitors from India, China, and other nations with extreme population densities.⁶⁹ The photoboard with the greatest number of people visible may not be viewed by these visitors as crowded, compared with the urban streets of their home cities. VERP analysis also provided documentation of anecdotal observations that the demographics of visitors were shifting, from primarily the Four Corners region and United States, to increasing numbers of Europeans in the 1990s, to high percentages of Asians in the 2000s.⁷⁰ Although many of the Europeans were characterized as having done considerable research before traveling, language differences presented barriers to interpretation as well as communicating the rules and regulations of the park. During this period the park began to have brochures translated into other languages, a suggestion made by some visitor comments. Former Chief of Interpretation Diane Allen noted that in the early 1990s, the interpretive staff also discovered that Brigham Young University prepared one to two page summaries of cultural differences for every culture in the world for their young Mormon missionaries, and the interpretive staff used these summaries in their training to better understand that in France “personal body space is very close and

it's very important that you speak correctly and Germans tend to be louder" and so on. As discussed below, aging populations in the United States and other industrialized countries and public health trends also affect the social standards.

Activist John Veranth submitted a letter to the VERP Team in Denver in 1994 that raised similar issues, questioning whether the surveys asked leading questions, and the subjectivity of the methods used to identify perceived crowding.⁷¹ Veranth also noted that many visitors to Arches, having visited before, are comparing the current conditions against their memory of the first time that they visited, rather than against some abstract idea of how many people visible is inherently too many. Although Veranth identified himself as an environmental activist, he argued for carefully controlled growth at Arches. As the park with the most developed frontcountry in the region, he argued that the perceived impacts at Arches should be viewed in regional context and that the NPS should protect the wilderness and backcountry experience at Canyonlands or BLM lands by carefully expanding access to Arches:⁷²

As a guidebook author, trip leader, and environmental activist, I caution persons not to expect solitude when hiking constructed trails or visiting popular, named destinations. Most visitors come for fresh air, scenery, social interaction with others in their party, and for exercise (if they leave their cars). These visitors can be accommodated at hardened sites that are managed for high visitation. Persons who really want solitude can find in [sic] by choosing the destination and time of visit. Attempting to create "artificial solitude" by restricting overall visitation is a misguided policy.

How to Experience Delicate Arch: Trail versus Overlook

Arches has always been a park unit with relatively inaccessible features, due to the nature of the geologic formations themselves, the lengthy struggle to develop basic infrastructure, and a desire to preserve some wilderness feeling in the Arches experience. Even before the passage of ADA, park staff were concerned that Arches did not provide a good visitor experience for people with disabilities, as no accessible trails in the park lead to any major arches. Although Bates Wilson had "rehabilitated" an old mining road in 1951 to provide access to a vehicular overlook of Delicate Arch, the arch itself was still at considerable distance and appeared very small from that location. In 1989, the General Management Plan recommended creating a wheelchair accessible path beneath Double Arch,⁷³ although funding to do so was not immediately available. The aging of the Baby Boom generation, and the obesity epidemic that began in the mid-1970s and reached public health crisis level around 2000,⁷⁴ have added additional pressure to accommodate a wide variety of mobility-impaired visitors. In particular, much of the discussion centered on how to provide access to Delicate Arch. Long-standing problems associated with the Delicate Arch Road and parking areas were incorporated into these discussions.

When the main park road was completed (with paving) in 1958, the 1948 spur road to Delicate Arch remained an unpaved, graded dirt road that was prone to flooding, washboarding, and other hazards. This road extended 3 miles to Wolfe Ranch and the Delicate Arch trailhead, and another 1.5 miles to the Delicate Arch Overlook, which was at the far end of the road. Tour buses and some low-clearance private vehicles were unable to cross some of the stream channels, preventing some visitors from viewing Delicate Arch.⁷⁵ Heavy traffic also left a cloud of dust hanging in the valley, and dust coated the roadside vegetation.⁷⁶ And, when the sun was at the right angle, it reflected off of the windshields of cars parked at the overlook, which were highly visible and distracting to visitors in the vicinity of Delicate Arch. Moving the parking lot to behind the hogback to conceal it became a focus of the proposed project, as well as the construction of an ADA-compliant trail from the new parking lot to the overlook.

The General Management Plan of 1989 included a plan to move the upper Delicate Arch viewpoint parking lot closer to the Wolfe Ranch parking lots and create a new overlook and trail with interpretive exhibits, expand the two parking lots at Wolfe Ranch, and pave the spur road and all parking lots.⁷⁷ Although a Finding of No Significant Impact (FONSI) was approved in 1989, lack of funding prevented the project from reaching the planning stages until the early 1990s. The GMP called for rerouting Delicate Arch Road at its crossing of Salt Wash and construction of a concrete bridge, but subsequent review suggested the need to construct two bridges, one over Salt Creek Wash and one over Winter Camp Wash.⁷⁸ A need for additional parking spaces (increasing by 36 cars and 8 RVs/buses to 50 cars and 12–15 RVs/buses at Wolfe Ranch and a new lot of 20 cars and 8 RVs/buses below the Delicate Arch viewpoint) was also recognized.

Proposals to improve visitor access to Delicate Arch were not without critics. Joseph M. Bauman, *Deseret News* environmental specialist, wrote an op-ed piece published August 17, 1987, that critiqued the development proposals described in the draft GMP and suggested that the Park Service investigate shuttle buses as an alternative:⁷⁹

Instead of thinking along those lines, park planners should be thinking in terms of temporary shuttle-bus service during those rare crowded times. Shuttles are certainly not a new idea for the Park Service.

Our park resources are under severe pressure, and this can only worsen. It's time for new thinking, not the same tired answers of more roads and more parking lots.

The more parking you install, the more people will come, the more crowded it will get and the more parking you'll need.

Arches own Natural Resources staff was also skeptical of the project, concerned that “the equipment is just going to rape the land; we’re just going to scar everything up horribly; we’re just going to ruin the whole experience going down to the Wolfe Ranch.”⁸⁰ The park received 42 public comments in response to the Draft General Management Plan and EA for modifying the Delicate Arch road and parking.⁸¹ Six pages of responses specifically addressed the Delicate Arch road, but none were opposed to the preferred alternative, with several comments specifically requesting that the viewpoint be moved and the parking lots expanded. During the planning process, Superintendent Noel Poe approached the Southern Utah Wilderness Alliance and the Wilderness Society, and explained the benefits of paving (eliminating a source of dust) and moving the overlook (removing visual intrusions to Delicate Arch), which earned their support for the project before it advanced to the NEPA review and public scoping.⁸²

The project took place in two phases. Funding for the Delicate Arch road and trail modifications did not become available until 1994, with construction taking place in late 1994 and early 1995. The road was improved first, and funded by Region in response to a generous offer by Grand County to donate asphalt millings from an I-70 resurfacing project near the Utah/Colorado state line.⁸³ The final construction inspection, which took place April 25, 1995, generated a short list of some final “clean up” items such as covering the ends of culverts and backfilling along trail berms, but was generally regarded as “well constructed” by Tim Windle, the inspecting civil engineer from the Rocky Mountain Region Branch of Roads.⁸⁴ To celebrate the completion of this project, Arches staged a dedication ceremony September 16, 1995, under the direction of Superintendent Noel Poe.⁸⁵ Utah’s Governor Michael Leavitt and U.S. Senator Robert Bennett provided keynote speeches at the ceremony, which was also the first event

celebrating the Centennial of Grand County.⁸⁶ Another VIP in attendance was Jane Beckwith, daughter of Frank Beckwith, director of the 1934 Arches Scientific Expedition.⁸⁷

Restoration of the old overlook parking lot was identified as a major potential problem for the project during the Environmental Assessment. The overlook parking lot had been leveled with heavy equipment when first constructed.⁸⁸ Under the direction of biologist Steve Budelier and a skilled bulldozer operator, the site was returned to something approaching its original topography and replanted with native vegetation. Chief of Maintenance Frank Darcey had been skeptical of Budelier's proposed revegetation plan, but made the following comments:

*Budelier had him [the bulldozer operator], he saved a lot of material from when they obliterated the road and made the new parking lot. A lot of material was saved, plants and whatnot. And Budelier had him actually taking whole bucket-loads of live plants, digging them up with the back hoe, the front bucket, and moving these big sod plugs if you will, just a big bucketful of plants that were already rooted so just set 'em nice gently in place and let them take root. And that worked fine. Revegetation had been a dismal failure up to that point. You know, I had observed good money thrown after bad trying to revegetate areas. Just didn't work. Well, this did work, and Budelier, I mean, his efforts were very labor-intensive, I mean, even in the collection of seeds, native seeds at certain times of the year, but, then they broadcast them, and, ah, it worked. It was just very labor-intensive, very expensive, but it worked for the first time that I had ever seen in the desert environment.*⁸⁹

Research ecologist Jayne Belnap described the parking lot reclamation as one of the major restoration successes in Arches.⁹⁰ Former Superintendent Noel Poe has revisited the site several times, and was impressed at how well the site has returned to a natural appearance.⁹¹

Reservations, Shuttle Buses, or More Parking Spaces

The Arches visitor experience centers around an automobile tour of the park along the scenic drive, which takes visitors from the visitor center past the major developed overviews, photo points, and trailheads to the Devils Garden loop, then back out the same road, unless visitors have a high-clearance or four-wheel-drive vehicle and can exit the park through Salt Valley. This design accommodated the needs of the NPS (in not having to construct and staff two entrance stations) and merchants in Moab (which would be the sole gateway to Arches). Although the concept of a second entrance to Arches was rejected during initial development planning in 1934, 1938, and 1940, upgrading the dirt road through Salt Valley as a paved, all-weather road that would exit the park and connect with US 191 is an idea that periodically enjoys momentary favor.⁹² This approach was extensively reviewed in the 1989 General Management Plan and again rejected, with support from the public for retaining this as a dirt road.⁹³ In 1991, the Rocky Mountain Operations Evaluation Team (NPS) reviewed the status of Salt Valley Road and concurred with the previous recommendations to keep the road dirt.⁹⁴ Herbert Steiner, a resident of Seattle who had recently purchased a lot near Thompson on which he planned to locate an old railroad caboose as a cabin, began to advocate for paving this road in 1991, to provide him with a faster and more direct route to the park. When Arches Superintendent Noel Poe responded and explained that the NPS had no plans to pave the road, Steiner wrote directly to Secretary of the Interior Manuel Lujan with the same request.⁹⁵ Some business interests in Moab now favor this approach as well. Colin Fryer, owner of the Red Cliffs Lodge and three other Moab hotels, advocates for additional parking lots in Arches and a paved exit road through Salt Valley.⁹⁶ "They are just going to have to accept that it's not

going to be a pristine experience,” Fryer says. “People need to drive in, take pictures, leave some money, and drive away. These are the people whose experience we need to improve.”

Countering this view, advocates like Joseph Bauman and many visitors to Arches have commented that a shuttle system is needed, especially those who have already experienced the shuttles at Zion and Grand Canyon.⁹⁷ Other visitors have complained that there are too few parking spaces, or the spaces are too small (especially for RVs) and have demanded that the parking lots be dramatically expanded (see sidebar comments). However, Arches National Park had already expanded its parking by 93 percent since 1989,⁹⁸ and endured much criticism for too much development. Many of the same issues also applied to the scenic drive, which was too narrow for the ever-expanding pickup trucks and recreational vehicles. SEUG staff evaluated trying to widen the road to 11- or 12-foot-wide lanes or paving the existing 3-foot-wide gravel shoulders, as well as the compliance requirements and potential funding streams for such a project in 1999.⁹⁹ Two funding sources, known as 3R and 4R funds, required different construction standards. SEUG submitted on both funding calls for widening the scenic drive but did not make the funding cut on a 5-year funding cycle; the next call would come in 2007.¹⁰⁰

As early as 1997 SEUG staff had discussed the need for a shuttle system, and the possibility that the former Atlas mill site could be used as a base of operations.¹⁰¹ The Federal Highway Administration and Federal Transit Administration conducted a field inspection of Arches in 2000 to evaluate the introduction of an alternative transportation system.¹⁰² The resulting document evaluated four alternatives: safe bike lanes linking Moab with Arches, Utah Route 128, US 191, and the BLM Moab Recreation Area; establishment of bike lanes along the main Arches roadway; public transit service from Moab to Arches; and a transit service within Arches that would visit at least the major landmarks.¹⁰³ The field report concluded that the need for alternate transportation was “great” and would help to alleviate crowding in the park. One idea discussed as an alternative was to implement “variable entrance fees to entice visitation at different times of the day,” but it was rejected when it was “determined to have some major flaws.”¹⁰⁴

As part of VERP, Arches staff and a contractor also mapped and evaluated all of the formal and social pullouts along the park road system in 2000. “The purpose of the project was to determine which pullouts to formalize and plan for improvement, and which to close off to vehicular traffic for resource protection, aesthetic and safety purposes.”¹⁰⁵ Using aerial photography, 25 established pullouts and 173 social pullouts were documented along 24 miles of road, with 31 of the social pullouts designated for improvement and 142 set for removal, pending a review for traffic sight distance, safety, aesthetics, and lot size.¹⁰⁶ SEUG also experimented with discouraging social pullouts in 2005 by stopping the practice of mowing the road shoulders of the scenic drive for one year, in the hopes that more and larger vegetation would discourage drivers from leaving the pavement.¹⁰⁷ Apparently it did not, as traffic problems were the subject of additional studies in 2001, 2006, 2011, and 2016–2017, discussed below.

VISITOR COMMENTS ON SHUTTLE SYSTEM

“Would like to see a shuttle bus from MOAB or Visitor Center to Devils Garden several times a day. Also the shuttle bus should meet the AMTRAK train at Thompson if possible.”

Visitor from Baltimore, Maryland, June 2, 1985

Ranger Comments: “Pete, Possible item for discussion in GMP, if and when.”

“Consider a shuttle system now – start planning. The parking lots indicate it will be needed.”

Visitor, June 3, 1999

“Beautiful day, fun trail. Suggest that some day soon you make everyone park down in valley near Visitor Center + ride bus or tram up to trail heads. Too many cars!”

Visitor, August 5, 1997.

Transportation planning began in 2001 in cooperation with the Transportation Assistance Group and Denver Service Center, following the widening of US 191 to four lanes, the construction of bike lanes from Moab, and redevelopment of a trailhead at Lions Park.¹⁰⁸ This undertaking also involved converting the legal status of US 191 within Arches National Park from a special use permit to legal right-of-way.¹⁰⁹ Various revisions to the park transportation system were proposed in the next transportation plan, the 2006 Transportation Implementation Management Plan. Under the plan, parking lots and pullouts were again expanded.¹¹⁰ “The parking lots at the Visitor Center (57% larger), Balanced Rock (20% larger), Sand Dune Arch (110% larger), Devils Garden (30% larger) and Wolfe Ranch/Delicate Arch (110% larger) all have been expanded.” Ironically, the parking lots had been reduced in size during VERP as the management response to out-of-standard conditions, which in turn had led to the creation of the many social pullouts that proliferated along the scenic drive.¹¹¹

The 2006 plan did not include an evaluation of a shuttle system, so Arches initiated another transportation study in 2011 (Alternative Transportation System and Congestion Management Study) to review shuttles, reservations, and other means of mitigating crowding. This study concluded that a shuttle system was not cost effective at Arches for two main reasons: the number of spur roads in the park and lower visitation than other parks with shuttle systems. Zion has a single main road serviced by a single-route shuttle system and Arches has far fewer visitors than Zion or Grand Canyon, so less revenue. A timed-entry/reservation system was determined to be the preferred approach. Five preliminary alternatives were culled from a June 2015 list of 16 possible actions:

1. No action – continue with current management.
2. Timed-entry to manage vehicle entrances.
3. Build additional parking and infrastructure.
4. Timed-entry and private shuttle services.
5. Combination of development, access, and vehicle management.

The issue of visitation reached a breaking point on Memorial Day in 2015, when the NPS and the Utah Highway Patrol agreed to close the Arches entrance gate after traffic had backed up more than a mile on US 191 (see Figure 4-17). More than 300 cars were parked at Devils Garden (which had been expanded in the 1990s to 190 spaces). The congestion was finally eased by staging timed openings of the gate, allowing only a certain number of vehicles in at a time. SEUG Superintendent Kate Cannon has since initiated planning to alleviate the congestion. The proposals include building more parking lots, entrance stations, and roads;¹¹² online reservations; timed entry; and reduced or increased entrance fees to better distribute the visitation through the day (or week).¹¹³ Public scoping and analysis on this Traffic Congestion Management Plan is ongoing as this history is being completed, but some in the Moab business community have been very vocal in their opposition to a reservation system, claiming that it will drive away tourists and harm Moab’s economy. Yet, hikes to Fiery Furnace have been managed under some sort of a reservation system since 1990 when park staff finally acknowledged that demand had exceeded capacity. Former Chief of Interpretation Diane Allen noted that she had “reservations about reservations” but made the following comments:

It does require some planning, but for the most part if you are here for half a day you’re probably not gonna go on the Fiery Furnace [hike], if you are here in the Moab area for two or three days that might be on your list of things to do, and even some of the staff was reluctant, it’s like, you know, it takes away that sort of impromptu “hey that sounds like a fun place, let’s go” but at some point you can’t just walk

*in to a lot of places in the world, you know a lot of the National Parks in South Africa you make reservations years ahead of time to even get in the door.*¹¹⁴

Devils Garden Campground, discussed below, has also used some form of reservation system since 1993.

Devils Garden Campground

Arches National Park has only one campground, with 51 total camp sites (spaces) including two group sites, available on a first-come, first-served basis.¹¹⁵ Since its construction in 1964 it has been full almost every night from mid-March to November, and on most days is full by 10:00 AM.¹¹⁶ The limited availability of sites has led to many complaints, and a pattern developed of visitors who had spent the night in Moab arriving early to “cruise” the campground for open sites. Although the institution of a reservation system had been suggested many times as a solution, by 1993 it had yet to be implemented, in part because of the added burden on staff to administer reservations. The large group camping space had been formally limited in 1971 to groups no larger than 50 due to the impact that larger groups were having on campground facilities and other campers.¹¹⁷ In 1993, under the administration of Superintendent Noel Poe, Visitor Services was finally authorized to seek outside help in establishing a reservation system. A vendor was contacted but refused to take the contract after NPS found their request for some concessions to be unacceptable.

Arches adopted an internal reservation system later in 1993, based on a suggestion by a long-term temporary ranger. When campers registered, they were required to identify the day on which they intended to vacate the campground, allowing the campground host to know how many sites would open the following day, which was communicated to the visitor center by 5:30 PM. At 7:00 AM each morning, a park employee issued camping pre-registration packages on a first-come, first-served basis at the visitor center; any that were not claimed then were distributed at the entrance station until they were depleted. Campers did not have to claim their spot and check in at the campground until 3:00 PM. The change elicited many compliments (especially from those who had experienced the old system), reduced staff time in adjudicating camping disputes, and had the added benefit of bringing the campground hosts into a more significant role that better integrated them with the rest of the NPS staff.¹¹⁸ At the same time, Arches changed the schedule for campground hosts from one set per season to two sets, working on a schedule of alternating four 10-hour days. This reduced burn-out among hosts and also freed up a ranger for other activities.

A revised reservation system was implemented in 2003, splitting the campground spaces between those that could be reserved and those available on a first-come, first-served basis.¹¹⁹ This system initially mixed the spaces throughout the campground, causing great confusion among both visitors and park staff. In 2004, this was resolved by grouping the reserved spaces in the lower campground loop (Spaces 25–54) and designating the first-come, first-served spaces as the first 24 in the campground.

In 1994, the ranger trailer was condemned due to mouse infestation (and fear of Hantavirus) and removed, with a frame visitor contact station built on site.¹²⁰ In 1990, the two 40kW diesel generators were overhauled.¹²¹ In partnership with the state of Utah, Arches installed a hybrid diesel/photovoltaic electrical generation system in the campground in 1995, supplying up to 95 percent of the electrical needs of the campground, reducing the noise and air pollution of the generators, and reducing

operating costs.¹²² But by the late 1990s, all of the campground infrastructure was beginning to experience wear-related failures after more than 30 years of heavy use. In particular, the water system began to fail with some regularity. The entire system was overhauled in 2000–2001, with new waterlines from the wellhead to the comfort stations and the Devils Garden trailhead, new underground powerlines, a new sewer leach field for the visitor contact building, and new sewer lines from one comfort station and the contact station.¹²³ Additionally, a new pump was installed when the old one failed during reassembly of the system, the inside of the reservoir tank was cleaned and repainted, and new valves were installed. In 2004, all of the campground picnic tables, fire rings, and grills were replaced.¹²⁴

Commercial Tours and Fiery Furnace

The first record of outside tour concessionaires appears in the April 1947 monthly report by Custodian Mahan to Region III. Mahan reported that Colorado River Scenic Tours had applied for a concession to operate tours from Salt Lake City to various scenic locations including Arches, but the application had been contested by both the Denver and Rio Grande Railroad and another (unnamed) company also seeking to establish tours of the area.¹²⁵ Ross Musselman, a local rancher, was issued a permit for a Pack and Saddle concession in 1949, and in August of that year he started construction of a temporary headquarters for the enterprise at the Delicate Arch (Wolfe Ranch) parking area.¹²⁶ He opened for business in early September, and had rented 77 horses by the end of the month. Former Ranger Harry Reed was issued a permit for scenic tours in the monument in July 1950, but in the same month, Keith Bateman requested the cancellation of his permit for a Food and Drink concession, as it was unprofitable.¹²⁷

The NPS Commercial Services Program evolved directly from the National Park Service Organic Act.¹²⁸ In 1965, Congress passed the Concession Policy Act that specifically mandated the NPS concessions policies: “It is the policy of the Congress that such development shall be limited to those that are necessary and appropriate for public use and enjoyment of the national park area in which they are located and that are consistent to the highest practicable degree with the preservation and conservation of the areas.”¹²⁹

In the late 1970s, outside concessionaires began to offer various guided tours of Arches, including hiking, horse and mule rides, and raft trips on the Colorado River. Initially, these outings were handled by Arches staff through special use permits on an ad hoc basis. A 1980 proposal by Nik Hougen to operate mule rides into the Lower Courthouse Wash and Courthouse Towers areas¹³⁰ was reviewed through an Environmental Assessment, which concluded that “horse trails may be provided where resource conditions and other circumstances indicate, but must be carefully located, designed and managed to avoid erosion and incompatibility with hikers, and to protect fragile ecosystems from unregulated use.”¹³¹ Ken Sleight ran commercial trips for hikers with support by pack train in Canyonlands and Arches.¹³² Sleight was later granted a concession permit in 1984 for half-day horseback trips, which ran almost daily.¹³³

Canyonlands Complex staff seemed reluctant to fully implement a concessions program. In reviewing the 1981 special use permit application for Pollock Nature Photography, which requested a group campsite reservation, Arches staff was forced to confront the fact that commercial activities in the park must be handled differently from one-time or occasional special events:

HOW LONG WILL WE BE ABLE TO GET AWAY WITH USING SPECIAL USE PERMITS FOR COMMERCIAL ACTIVITIES?

*I've had a couple of calls from the Regional Concessions Office in the last three weeks asking why vehicle, horseback and calm water tours were authorized by special use permits and not commercial business license. Their argument was that if we want closer control of this type use we should put them on concession permits. The special use permit is no longer appropriate, and I suspect Region will be getting more insistent about how we use it.*¹³⁴

Two concessions to supply firewood to the Devils Garden Campground were the only ones that were in effect by 1982.¹³⁵ But in 1986 alone, outside commercial use of Arches grew by 32 percent.¹³⁶ In response to requests by several outside guide services seeking to hold bike tours (1986), wilderness and ornithology classes via llama-packed trek (1987), and photographic classes (1991), Arches finally developed a concession program in the early 1990s. Commercial services were identified by park staff as a service that charged a fee in excess of actual cost, actual costs are not shared equally among the participants, and/or the program is publicly advertised.¹³⁷ The VERP process further narrowed the arena of potential commercial use: If the activity was not necessary and appropriate to the visitor enjoyment of Arches, or the activity impacted one of the standards and indicators for a given zone of the park, it would not be authorized.¹³⁸ A proposed Jeep tour of Arches was refused on these grounds, as it would increase the number of vehicles encountered on the backcountry roads in excess of three per hour (the standard) and was not necessary to visitor enjoyment.

Congress passed a new law on concessions in 1998 that upended the existing program:

The new law for concessions was passed by Congress last week. It basically put a stop to everything Paul [Cowen, Concession Specialist] has been working on. The two prospectuses are now on the shelf. Until the new regulations are implemented, we will not issue any new contracts, permits, or prospectuses. We will have to temporarily reauthorize our existing concessionaires to continue business under their current permits. CNHA will get a temporary reauthorization to continue.

There won't be any more right of preference except for outfitters, which is our biggest percentage, with the thrust of the bill to stimulate new business. Franchise fees now collected go to the Treasury. Under the new law, the park will be able to retain 80 percent of the fee and 20 percent is deposited for the discretion of the Director's use.

*We will be able to limit the number of commercial use licenses as long as we can show a relationship to preserving park resources. It will probably take a year to get all the new regulations in place.*¹³⁹

The 1998 Concessions Management Improvement Act was intended by Congress to improve competition and increase accountability and oversight.¹⁴⁰ It was part (Title IV) of the larger National Parks Omnibus Management Act of 1998. Yet as recently as 2001, commercial day use hiking in Arches backcountry did not require a permit, thus allowing as many as five canyoneering tour companies to operate with some or many on Arches staff being aware of their presence.¹⁴¹ Former ranger Jim Stiles became aware of the situation in 2000 and began to write a series of articles in the *Canyon Country Zephyr*, implying that SEUG staff was tacitly allowing commercial tours of the Arches backcountry by mis-reading or mis-applying park directives, but also noting that in the absence of both a climbing-canyoneering plan and a commercial services program, there was little that the park could do to

regulate these activities. Stiles made a FOIA request about the tours and published a summary of his research in 2002, raising the specter of canyoneering companies operating anywhere in Arches without regulation. The Superintendent's Annual Reports for 2002–2004 report no work by Arches staff on the climbing/canyoneering or commercial services plans, but Squad Meeting notes indicate that Matt Moore's Desert Highlights canyoneering tour company was issued "incidental business" permits in 2002 and 2003, rather than concession contracts (see Chapter 6).

Arches National Park currently has concession contracts with three companies to provide commercial tours in Arches.¹⁴² All three provide raft trips on the Colorado River (along and outside the southeastern park boundary) and four-wheel-drive tours in Arches; one also hosted (until 2017) guided tours in Fiery Furnace (5 hours for \$95).¹⁴³ The Arches website specifically lists these three companies for guided four-wheel tours, but notes that other local companies also offer guided van tours, hikes, and shuttle services. These are not listed by name, but a link to the Moab Travel Council is provided. In addition to commercial pack tours, Arches currently permits private horse, mule, or burro trips (sorry, no llamas or goats).¹⁴⁴ Riders are required to obtain a backcountry permit and abide by a list of regulations that are posted on the Arches website; these appear to have been developed from the Environmental Assessment for Nik Hougen's proposed trail rides, as many of these issues were evaluated in that document. If a commercial outfitter is used, they must be "authorized to operate under the commercial use procedures within Arches National Park."¹⁴⁵

The guided backpack and horseback trips of the early 1980s were undertaken where few day hikers ventured, but guided trips into Fiery Furnace competed with NPS interpretation. Effective January 1, 2017, Arches National Park has discontinued commercial guide service to Fiery Furnace.¹⁴⁶ Twenty-five permits had been available to Commercial Use Authorization holders prior to the decision, which was initiated in 2016 when the number of companies competing for those permits had increased to 88. Although Utah's former U.S. Representative Jason Chaffetz had intervened on behalf of some of the CUA holders, initiating an extended comment period on the proposed change, Superintendent Kate Cannon authorized the closure and informed the CUA permit holders in December 2016 that the allocated permits were being returned to the general pool for the public. The change is not supported by the former CUA permit holders, some of whom have called for new management at Arches that is friendlier to local businesses.¹⁴⁷

Fiery Furnace has always occupied a unique place in Arches National Park, between the carefully controlled but self-guided frontcountry sights at The Windows, Delicate Arch, and Devils Garden, and the permit-required backcountry. Early custodians and superintendents sometimes led guided hikes in Fiery Furnace during the 1930s and 40s, but only when other duties allowed them to do so. In 1963–

VISITOR COMMENTS ON FIERY FURNACE FEES

"I think to charge a 10.00 entrance fee and then charge to go through fiery furnace is the most incredible bunch of garbage I have heard of. We are being ripped off by whomever made this incredibly stupid decision. Where in the world is all the money going? I'd love to see someone's paycheck, and isn't the rangers!"

Visitor, no address, March 25, 1998

"Well maintained park. \$10 fee is a bargain for 7 day pass

Glad that collected fees stay in Arches

Good visitor center + slide show"

Visitor, no address, May 6, 1999

"The parks belong to all of us – they are ours. I strongly resent having to pay an admission charge, a "user fee" (really an ugly euphemism for "additional tax"). The government, using our tax dollars, should absorb the expense."

Visitor from Albuquerque, New Mexico, May 10, 2006

1964, Superintendent Wilson and others developed a loop trail through the Fiery Furnace (discovering Surprise Arch in the process) and began to offer daily ranger-guided tours:

*The hikes through the Fiery Furnace are now being conducted on a regular basis of 1 trip per day. The trip leaves the Fiery Furnace Parking Area at 9:00 AM, requires about two hours to complete and covers approximately two miles. The tours are very well received by the park visitors, and we have had numerous compliments on them. The visitors very much appreciate our attempt to keep the area in its natural state and enjoy the opportunity to hike through such a natural area on a conducted nature hike. At the present time the hikes are averaging 10 visitors per hike. It is believed that when bulletin boards are erected in the campground, and campfire programs are conducted that the number will probably just about double.*¹⁴⁸

Or much, much more; for many years, there were no limits on the number of people who could participate on the ranger-guided hikes in Fiery Furnace, and “rangers would show up at the trailhead to find 50, 60, or even 75 people waiting to go on the walk.”¹⁴⁹ As many as 200 were reported on occasion. Guided tours allowed the Fiery Furnace to remain as sign-free as possible, but also helped keep visitors from getting lost, vandalizing rock surfaces, or trampling soil crust and vegetation. Of particular concern is Canyonlands biscuitroot (*Lomatium latilobum*), a rare plant found in the rock fin areas of Arches, including Fiery Furnace, where study plots of the plant have been routinely monitored.¹⁵⁰ Fiery Furnace walks remained on a first-come, first-served basis as ranger-guided hikes for many years, but many visitors who were unable to join the guided hikes would just go hiking in Fiery Furnace on their own.¹⁵¹ Increasing numbers of visitors and increasing impacts to the area required a new approach.

In 1990, Arches implemented a reservation system for Fiery Furnace, and limited group size to 25.¹⁵² To address problems with lost hikers and commercial guide services, Arches implemented a new policy regarding access to Fiery Furnace on March 1, 1994.¹⁵³ Arches staff would continue to emphasize that a guided walk is the preferred means of viewing Fiery Furnace, through press releases, literature at the visitor center, and in person at the entrance to Fiery Furnace. For those who chose not to participate in a guided walk, however, Arches would issue backcountry passes, including in the field. Ideally, permittees would have viewed a new orientation program at the visitor center, but for those who had not, that fact would be indicated in a check box on the back of the permit, which would also indicate other topics (such as water, temperature, etc.) that had been discussed with the permittees; in the event that the group was contacted later by rangers, and were out of compliance with the permit requirements, a check of the permit would reveal whether the omission was deliberate or not. The new program also included the installation of additional signs and passes for regular hikers in Fiery Furnace, and the implementation of a volunteer program called the “Fiery Furnace Corps” to help monitor permits and assist visitors.¹⁵⁴ Led by Chief Interpreter Diane Allen, the Corps was a group of volunteers who were stationed at the Fiery Furnace trailhead to check permits and provide information.¹⁵⁵

The Fiery Furnace permit system was instituted during the VERP program because resource and social condition standards had already been violated for this zone, and Arches staff wanted to begin to address the visitation impacts immediately.¹⁵⁶ Fiery Furnace was included in the hiker management zone during VERP analysis, although it was acknowledged that the social crowding standards for Landscape Arch, Double O Arch, and Fiery Furnace were different from other hiking trails, due to special circumstances:

In the case of the Fiery Furnace, a trail encounter indicator does not work due to the unique qualities of this area: it is possible for visitors to encounter large ranger-guided groups in the untrailed furnace, but it

*is also possible for many people to be in this area without being seen. The VERP team therefore identified the social indicator for Fiery Furnace as being the number of parties seen per hour. Management action would be taken if 3 or more different parties are seen per hour in 10% or more of the samples during the monitoring period.*¹⁵⁷

Fiery Furnace is currently accessible only through ranger-led hikes, or independently with a permit; there were no signs, marked trails, or maps until 2017 (when some directional arrows were installed after commercial permits were cancelled) in an attempt to offer adventurous hikers a backcountry experience.¹⁵⁸ With the institution of the Fiery Furnace permit, a separate fee has been charged (above the park entrance fee) to support the program. Many park visitors have provided negative comments regarding the Fiery Furnace fee, although the park has also received some comments in support of the new system.¹⁵⁹ The price of a Fiery Furnace permit increased in 2015 to \$6 for adults and \$3 for children and holders of interagency passes. Permittees are required to view an orientation video.

Polarized Partisan Politics

Although Democrat William Jefferson Clinton was elected President of the United States in 1992, the 1990s and 2000s marked a period of intensified financial austerity and congressional oversight of the Department of the Interior and National Park Service, resulting from a Republican majority in one or both houses of Congress. In 1993 the Government Performance and Results Act (GPRA, Public Law 103-62) was passed, mandating government agencies to produce 5-year strategic plans and annual performance plans, and conduct gap analyses of projects that failed to meet performance goals.¹⁶⁰ Clinton signed GPRA into law in 1993, but the act was not fully implemented until 1999 after an extended period of data collection and analysis. Although Clinton had a Democratic majority during his first 2 years of office, he was unable to advance most of his legislative agenda. On September 27, 1994, Speaker of the House Newt Gingrich (R, GA) held a press conference and presented the Contract with America, a Republican legislative agenda for the upcoming mid-term elections.¹⁶¹ The Contract sought to promote accountability, responsibility, and opportunity through 10 legislative acts. The Republican Party won a majority in both the House and Senate in the 1994 election, and set about implementing the Contract with America in the 104th Congress. Additionally, the Contract mandated eight major reforms to the federal government and Congress. Conservative Republicans believed that the NPS (and many other agencies) was wasting large amounts of money and was deficient in accounting for what was being spent. GPRA was the first of a series of new laws requiring both rigorous accounting and increased justification for expenditures, which is one reason it took so long to replace Arches' aging Mission 66 Visitor Center.

NPS Organization in an Era of Austerity

In 1995, the NPS again underwent a major reorganization of its regional offices, responding to a mandated staff reduction and criticism of redundancy under the National Performance Review.¹⁶² The plan was originally to create seven regions with 16 "clusters" based on cultural/ecological/geographical groupings, but the plan was revised four times between 1995 and 2000. The regions—Alaska, Pacific-West, Intermountain, Midwest, Northeast, National Capital, and Southeast—consolidated or realigned a larger number of regions that had been in use since the 1937 reorganization. The Intermountain Region, in which Arches National Park is located, consists of parks in eight states: Arizona, Colorado, Montana, New Mexico, Oklahoma, Texas, Utah, and Wyoming. On October 1, 1995, Intermountain was created from the old Rocky Mountain Region (which also included part of Arizona, North Dakota, and South

Dakota) and the Southwest Region (which also formerly included part of Arizona, Arkansas, and Louisiana). The Rocky Mountain Region office in Denver became the office of the Intermountain Region; the former Southwest Region office in Santa Fe, New Mexico, was retained as the Colorado Plateau Support Office. Additionally, the regional reorganization was designed to eliminate as many executive-level positions as possible in the NPS, with the administrative tasks shifted from regional to group or park level, but with no increase in local positions. The regional reorganization also triggered changes within region. Effective October 1, 1998, administration and maintenance of Hovenweep National Monument was transferred to SEUG from Mesa Verde National Park.¹⁶³ Hovenweep and Natural Bridges have since been jointly administered by a single superintendent.

The Basic Operation Plan developed from this politically charged and fiscally austere period. SEUG Superintendent Walt Dabney was instrumental in developing the concept, and SEUG became the pilot unit for its implementation.¹⁶⁴ “We are going to have to quit doing more with less and focus on what we can quit doing.”¹⁶⁵ Basic Operating Plans had been developed for each SEUG division after its creation, but the Basic Operation Plan sought to merge the planning and accountability requirements of GPRA with existing NPS planning documents.¹⁶⁶ Dabney had been the Chief of Ranger Activities at WASO (the NPS Washington, D.C. headquarters) before taking the position of SEUG Superintendent in 1991.¹⁶⁷ In Washington, Dabney was often put on the spot to justify the costs of operating the National Park Service in conversations with congressmen or their staff. Working with the like-minded Arches Superintendent Noel Poe at SEUG, Dabney and Poe worked to create a Basic Operation Plan for Arches. The BOP was designed to evaluate the minimum operation level that does not affect the visitor experience. To this end, in 1996, Dabney discussed the possibility of closing the Devils Garden Campground to save money for other operations, since this was utilized by only 35,000 out of 800,000 visitors each year. Dabney also used money from the unfilled Arches Superintendent position after Poe’s transfer to upgrade all of the positions that had been retained, but this left many positions unfilled and shifted more work to those who remained. Dabney described the BOP in terms of division chiefs understanding each other’s operations and having to defend how tasks are completed:

*The group function is something that if you had to duplicate the shared functions in each park we would duplicate efforts and money. The problem has been that we have been delegated all sorts of responsibilities and no money to support the additional responsibilities. The Canyonlands budget has eaten the excess costs of the group responsibilities. We are almost independent of other offices such as the Field and Washington levels. This has cost money but is to our benefit to stand alone. We have not assessed the satellite parks for road material, administration services, etc. The group has profited to some extent because we have in fact picked Canyonlands’ bones for funding so other parks have benefitted.*¹⁶⁸

SEUG staff worked to develop the BOP for each unit from 1995 to 1999, when the BOP became the Strategic Operating Plan, which now outlined the NPS Mission Goal, Long Term Goals, Statement of Work, Performance Indicators, Operational Standards, Resource Assessment, and a Narrative and Chart of Funded, Unfunded, and Total Costs.¹⁶⁹ During this period, the BOP/SOP was revised to meet the requirements of the Government Performance and Results Act (GPRA), although by 1998, Congress was apparently less enthusiastic about this legislation than immediately after it had passed. While work was underway finalizing the SOP, Congress passed the Recreational Fee Demonstration Plan which allowed the National Park Service to keep a portion of the fees that it collects to fund operations. Dabney had also been advocating for this legislation, and had pushed the BOP as a business plan that would show

skeptical members of Congress the actual costs of running the NPS and the sorts of projects that could be funded as enhancements of the basic operations funding supplied by Congress. Fee Demo money began to fund projects in 1998 as the final drafts of what had been renamed the Business Operation Plan were completed, consisting of a Business Plan, Operations Plan, and State of the Park statement. By July 1998 the NPS was working to get the BOP adopted in the NPS rather than the GPRA process,¹⁷⁰ but in January 1999 the SEUG staff was working on both the Strategic Operating Plan and the GPRA. The SOP was completed and distributed to division chiefs by April 1999, while work continued on the GPRA in anticipation of its full implementation. Although some of the BOP as envisioned by Dabney and Poe was utilized in the SOP and Fee Demo programs, it was not adopted by the NPS and subsequent congressional funding mandates either subsumed the basic accounting components, or took NPS administration in completely different directions.

Arches was one of the first 50 parks in the Fee Demo program, although this was expanded to include the entire SEUG in 1997.¹⁷¹ The initial program was a 3-year trial. Each park was required to achieve a collection level of 108% of the fiscal year 1995 level before collected Fee Demo money was to be released to the park. To manage this program, SEUG hired Jim Braggs as the Fee Program manager. The cost of fee collection positions was covered by fee collection monies, which can cover salaries provided the individual spends 80 percent or more of their time in fee collection activities. Fee collection monies represented 15 percent of the total fee demonstration monies collected nationally. After the program was instigated, visitors at eight parks were surveyed to find out their opinions of the program, including whether the fees were appropriate in amount, and on what programs they thought the funds should be spent.¹⁷² By 1998, there was concern at WASO that some Fee Demo money was being spent on unapproved projects, and Region issued memorandums warning of a GAO audit if individual parks were not careful about following procedures.¹⁷³ Regional approval was required for projects under \$100,000, but for those from \$100,00 to \$500,000 department-level approval was required.¹⁷⁴ Delays in project approval resulted in a \$60 million carryover to the next fiscal year. In 2000 the Fee Demo program was audited, producing a number of recommendations for program improvement. SEUG Superintendent Jerry Banta disagreed with a number of the recommendations, noting that “we collect fees as a component of visitor services and not vice versa.”¹⁷⁵ To address the possibility that the Fee Demo program would not be renewed by Congress, and to better integrate fee collection with other activities at remote sites in SEUG, the fee collection was transferred to the Interpretation Division at SEUG in 2000. The fee collection positions at Arches were converted to park guide positions to allow for better utilization of non-fee collection time, but were merged with Interpretation positions at other SEUG units.¹⁷⁶ SEUG also instituted 24-hour fee collection using “Iron Ranger” fee collection safes.¹⁷⁷

As witnessed by the minutes of SEUG squad and staff meetings of this period, SEUG staff spent increasing amounts of time justifying the cost of projects, the necessity of projects, and the movement of funds from vacated positions or fee collection to maintenance and construction projects. While the Fee Demo program returned much-needed money to the parks, it also required greater vigilance of visitors, and an increase in the use of fraudulent park passes to gain entrance was also documented.¹⁷⁸ The Fee Demo program was renamed the Federal Land Recreation Enhancement Act in 2005 and renewed for 10 years; however, this came with some ideologically motivated baggage.¹⁷⁹ Funding for AmeriCorps was cut,¹⁸⁰ and the new act prohibited any use of Fee Demo funds for monitoring or habitat restoration for Threatened or Endangered species, a backdoor approach to gutting the Endangered Species Act.¹⁸¹ But, it also increased the base NPS funding by about 6% and created a new interagency

“America the Beautiful – National Parks and Federal Recreational Lands Pass” which replaced the Golden Eagle, Golden Age, Golden Access, and National Park Pass.¹⁸² The America the Beautiful pass was not introduced until January 2007.

The year 2002 marked the beginning of a decline in the NPS budget when adjusted for inflation, reduced 3.9 percent from 2002 to 2006.¹⁸³ But the NPS faced increasing costs for salaries, utilities, and fuel; because the base funding did not increase to cover these expenses, the individual parks had to absorb the costs by cutting other expenses, including law enforcement, visitor center hours, and cleaning. In 2002 the service-wide strategic plan was sunsetted and the BOP was outdated, so SEUG staff began work on a new 5-year strategic plan. This incorporated Department of Interior goals and an updated BOP: “Budget requests and allocations will truly be tied to GPRA and standards of our plans. GPRA is the law and the Office of Management and Budget is serious about its purpose.”¹⁸⁴ The Annual Performance Report (APR), a component of the GPRA, replaced the NPS Annual Superintendent’s Narrative, a document that had in one form or another been in use since the creation of the NPS.¹⁸⁵ One of the goals of GPRA was to identify positions, tasks, and programs that could be “outsourced” from the government to private contractors. This was the topic of discussion at a SEUG squad meeting in 2002:

*Phil said we are seeing more and more about the outsourcing efforts which are much more pointed efforts than the A-76 program. The idea is there are government functions being done by government employees that could be contracted out. There will be targeted function we will have to put out for bid. In order for us to do projects on our own, we will have to show it is cheaper to do these functions on our own. It is important to make sure position descriptions are accurate and that performance standards tie into the position.*¹⁸⁶

Office of Management and Budget Circular A-76 was later incorporated into and expanded on by the Preliminary Planning Efforts component of the NPS Business Strategies.¹⁸⁷ Core Operations Analysis was instituted in 2004 under President George W. Bush “to determine potential efficiencies and to implement those that are determined to be most feasible.”¹⁸⁸ This required an 80/20 ratio of fixed spending to discretionary spending, with “efficiencies” carved out of salaries, maintenance, law enforcement, and administrative costs.¹⁸⁹ The program was initiated by Intermountain Region Director Mike Snyder and expanded service-wide in 2006 as a way for the NPS to pursue “more business-like practices in our management and operations.”¹⁹⁰ Core Operation Analysis was used in conjunction with the park scorecard, the budget cost-projection module, and business plans to “improve park efficiency.”¹⁹¹

*Each park is seeking to: 1) achieve a level of fixed costs that allows for a greater degree of operational flexibility and capacity to respond to emergencies (this target, set by the park’s regional office, limits fixed costs for many parks to 80 percent or less of base funds); 2) pursue efficiencies based on cost-benefit analyses of alternative; and 3) ensure that each park’s appropriated budget relates to core operations and is strongly linked to overall national park system goals and priorities.*¹⁹²

But buried within the seven minimum requirements of the Core Operations Analysis is the requirement to review and analyze the “current allocation of personnel and resources by each activity, and [examine] whether the activity is core to achieving the park’s mission.”¹⁹³ After more than a decade of budget cuts, reorganizations, BOP and GPRA, the mandate to evaluate whether interpretation, or protection, or resource management was “core” was received by many in the NPS and conservation organizations as a direct assault on the “core” values of the National Park Service. When managers at Glacier National Park

debated whether they could justify maintaining 700 miles of hiking trails as part of the park's "core operations," *National Park Traveler* asked, "Are Hiking Trails Part of a Park's 'Core Operations?'"¹⁹⁴ The real goal of Core Operations Analysis was apparently that where "competition might yield greater savings, we will conduct formal competitions with the private sector."¹⁹⁵ Whether this process promotes "management excellence"¹⁹⁶ or "the profit motive"¹⁹⁷ depended entirely on political perspective. The process was demoralizing to many in the National Park Service in part because "most of the cuts in fixed costs will come from leaving positions empty that have been vacated through transfers, retirements and resignations."¹⁹⁸ Needed specialist positions went unfilled or were filled by outside researchers, collaborators, and volunteers, yet this approach further undermines the institutional memory of any given park unit.

*Observers also make noise about the high cost of business analysis. According to Rick Smith of the Coalition of National Park Retirees, NPS sources say the agency spends \$3,000 per position defending itself in comparative sourcing reviews – money that could otherwise go toward filling empty jobs, supporting interpretive programs, or saving grizzlies. "They're sacrificing effectiveness on the altar of efficiency," says Smith.*¹⁹⁹

SEUG staff was engaged in the preliminary aspects of Core Operations Analysis in early 2005, by first determining what accounts were base-funded or not.²⁰⁰ Much of the material previously assembled for the SEUG BOP was repurposed for the Core Operations Analysis, saving SEUG staff time in preparing documents under this program,²⁰¹ but also underscoring the fact that BOP, GPRA, SOP, and Core Operations were largely repetitive, duplicative, and incomplete; one program would not have been fully implemented, or results were not yet available before Congress instituted yet another "efficiency" mandate. SEUG's Core Operations Analysis documents were analyzed by an MBA in December 2005, part of a plan developed by the National Parks and Conservation Association to help the NPS meet the Core Operations goals and potentially demonstrate to Congress a "rational case for increased funding."²⁰²

Analysis of some of the NPS business did discover some significant areas of waste, but not in the "core operations." The U.S. Department of the Interior was found to have the largest integrated charge card system in the world, with 58,000 cardholders.²⁰³ Of these, the department had a delinquency (theft or misaccounting) rate of 2%, with the NPS having the second worst rate behind the Bureau of Indian Affairs. The DOI responded to this situation by instituting mandatory training, background investigations, and credit checks in 2005 (some of this was also in response to elevated or perceived threats from hackers and terrorists, as discussed below). Some employees responded negatively to this process, as it required being fingerprinted.²⁰⁴ Those who did not pass the check were no longer allowed to handle any government funds, and by the end of the year as Smartcards were implemented, only volunteers with no access to computers or building keys were not required to be fingerprinted.

Government Shutdowns and the Closing of Arches

One of the primary functions of the U.S. Congress is the approval of a budget for the upcoming fiscal year. The annual budget is proposed by the President, as the head of the executive branch, with significant input from the Treasury Department, Office of Management and Budget, Congressional Budget Office, and General Accountability Office.²⁰⁵ Congress passes funding bills that are returned to the President for his signature. For various reasons, including the addition of unrelated "riders" to funding bills, significant discrepancies between proposed and authorized spending, and the contribution

of the annual budget to the national debt, approving the budget has become a flashpoint in partisan disputes within Congress and between Congress and the President. When the President refuses to sign funding bills or Congress fails to pass such bills, operation of the U.S. Government is funded by “continuing resolutions,” temporary funding bills that authorize spending at the level of the current funding bills for a short interval of days or weeks, until a compromise can be reached on the annual appropriations. If a compromise is not reached, some or all government agencies may close, a process called a “shutdown” of the federal government.²⁰⁶ The severity and impacts of these shutdowns depend on when they take place and how soon they are resolved.

Funding gaps during the Reagan and George H. W. Bush administrations spanned less than 48 hours and/or took place over weekends, and thus were resolved with minimal disruption to government services. In approximately 1985, the park was closed and staff sent home at noon on a Friday; the crisis was resolved over the weekend.²⁰⁷ In 1990, the park was ordered closed at noon October 6 and fee collection was halted, the visitor center was closed, and the entrance gate was locked. The following day the campground was closed at noon. The shutdown did not end until October 9. Shutdowns in 1976 (10 days), 1995 (5 days), 1995–1996 (21 days), and 2013 (16 days) had significant effects, with government employees furloughed and federal lands (including the units of the national park system) closed to all access, with direct reductions of U.S. Gross Domestic Product (an estimated 0.6 percent of the annualized 2013 fourth quarter). The Utah Office of Tourism estimated that the 2013 shutdown cost the state \$30 million in tourism spending.²⁰⁸

Of these events, the effects of the 1995 and 1995–1996 shutdowns have been documented most thoroughly in the SEUG Archives, although the 2013 shutdown reportedly had the greatest impact on the NPS and Arches National Park (see Chapter 9 for discussion of the shutdown that began as this history was being finalized in 2018–2019).²⁰⁹ During the 1995 shutdown, the Department of the Interior developed procedures for handling shutdowns, as additional ones were threatened or anticipated at that time. Arches closed November 14–20, 1995, and again from December 18 to January 6, 1996. The 1995 closures began with a “soft-closedown” during which the inbound gate was closed but visitors already in the park could remain until the advent of a “hard-closedown” the following day, during which all visitors were required to leave, and the entrance gate was locked. The Willow Springs and Salt Valley roads were barricaded and signed as closed. Arches staff documented the impacts of the 1995 closures on the park, visitors, and on the local community:

The first day of the closedown, the Arches Patrol Ranger contacted 134 people in the park from 7 countries and 17 states. The earlier closedown, a ranger contacted visitors from 17 countries on 5 continents plus 19 states. The visitors in the southern Utah parks are not local people who can come back at any time. People that paid a lot of money to see the American parks.

There have been incidents in all three parks of people moving barricades and signs to enter the parks. Some have refused to leave when contacted by emergency park personnel and have to be escorted out of the park by rangers. This is adversely reflecting on the image of the National Park Rangers.

The NPS emergency personnel are relaying that as the closedown continues, the visitors are getting meaner and leaving nastier comments on the bulletin boards. That anger has started being directed toward the park employees. We have to wonder if vandalism to visitor centers and government buildings

will start (I believe since we are the local gov't representatives and more accessible than their congressmen and senators).

*As the closedown continues, the mood in the local communities are turning against the Federal employee who, according to the news, will get paid even though not working. While payment is fair because it is not the employees' fault, this is giving the anti-Federal government fans a lot of ammunition in which to blast the Federal employees. A lengthy editorial in the 12/27 Moab paper supports this attitude.*²¹⁰

Park staff monitored the impacts to visitors with a vehicle counter, which documented that more than 5,000 vehicles were shut out of the park.²¹¹ Law enforcement rangers remained on duty during the 1995 and 1996 closedowns, as documented by the Case/Incident Records filed.²¹² In November, 11 incidents were investigated by the three law enforcement rangers on duty, ranging from the discovery that the closure barricades at the Salt Valley Road entrance had been dissembled and thrown to the sides of the road (on November 15) to contacts with hikers (six incidents), mountain bikers (four incidents), and drivers (one incident) who had either remained in the park or entered via Willow Springs Road or Dalton Springs Road (by hiking overland), or parked at the visitor center and hiked or biked into the park. Of those who entered the park, and for whom identification was made, two were from Utah, two were from Colorado, one was from Montana, and three were from overseas (Czech Republic, Australia, and Germany). No one was arrested, and all were transported to their vehicles or consented to the order to leave the park.

The December-January closedown, however, brought more serious responses from the public. Arches rangers filed five Case Incident Reports—one for the general closure and four of a more significant nature. Under Case Report 950278, 22 incidents were documented, including two stray cows, vandalism to the Wolfe Ranch cabin door, defecation on a picnic table at the visitor center, damage to the closure barricades (twice), and 19 visitor contacts (some with more than one person or groups of people).²¹³ As previously, the majority of those contacted in the park (or vehicles found parked) were from U.S. addresses—39 individuals representing 11 states (two from Washington were warned twice but not cited). Overseas visitors were from Japan (three incidents involving eight people), Iran, and Germany (two incidents involving three people). One local resident who was caught in the park and warned was former Arches seasonal ranger Jim Stiles of Moab. Stiles was interviewed about the park closures in the *Deseret News* and admitted to repeatedly violating the closure.²¹⁴ He also advised protestors in Springdale, Utah (outside of Zion National Park) to bring “some bolt cutters and an acetylene torch” to open locked gates.

The more serious cases involved vandalism at the Devils Garden Campground Amphitheater, vandalism at the visitor center, a rescue from Lower Courthouse Wash, and one visitor who became belligerent and later filed a complaint when an Arches employee's spouse contacted him. The latter incident began on December 25, 1995, when Ranger Karen McKinlay-Jones approached a male attempting to enter Arches on a mountain bike on the main park road, near the locked park gate.²¹⁵ Marc Horwitz of Castle Valley became agitated and angry when told the park was closed, threatened to enter the park later, and became belligerent when the ranger wrote down his license plate number and vehicle description. He eventually left without further incident, but did note that he had bought an American flag to burn as an act of protest in front of the park closure sign, but had changed his mind and decided to ride his bicycle into the park as an act of civil disobedience. Rangers subsequently received two additional complaints regarding Horwitz on January 4, 1996. The first, from Horwitz, was a complaint that he had

received a harassing phone call from the wife of a park employee.²¹⁶ However, upon further investigation, it turned out that the wife of one employee (who had actually known Horwitz for about 3 years) had called him to explain that the closure was not the fault of the park staff. The employee was admonished to not be involved further in this incident. Ranger Webster also received a contact from the Grand County Sheriff's dispatcher about a clerk at a local drug store who had just sold an American flag to an "orgo-hippie type"(Horwitz) who stated that he intended to burn the flag in protest of the closure.²¹⁷ Arches rangers contacted Horwitz about the flag, and he claimed again that he planned to burn it, but did not specify when or where. The SEUG Archives do not contain any further information about this incident.

Unfortunately, from the perspective of future park operations, the development of a permanent "revolving gridlock" among congressional interest blocks may make closure of the national parks a more common, if not routine, event.²¹⁸

Terrorism and Safety

The threat of organized large-scale terrorist attacks by Islamist radicals and domestic anti-government groups since the early 1990s has required all federal agencies to respond with increased security, including the National Park Service. Overheated anti-federal government rhetoric by politicians in Utah and other Western states have emboldened members of white supremacist, militia, states' rights, country rights, and other rightwing extremist groups to instigate an informal and undeclared rebellion against the federal government, culminating in the bombing of the Alfred P. Murrah Federal Building in Oklahoma City on April 19, 1995.²¹⁹ The 2001 execution of the bombing's perpetrator, Timothy McVeigh, did not end the movement. Rather, it provided it another martyr and new conspiracy theories, including the belief that the Patriot Movement was framed by the U.S. Government, which actually perpetrated the crime. Anti-government protests have continued, and federal employees have increasingly found themselves the targets of death threats and harassment.²²⁰

Federal agencies responded by increasing security at federal installations, including the SEUG headquarters in Moab. After the Oklahoma attack, the NPS kept the doors locked to the building exterior and manned an entrance desk at the public entrance. But the terrorist attacks on the World Trade Center and Pentagon by Islamist militants on September 11, 2001, required a greatly increased response. Due to concerns that terrorists might attack crucial public infrastructure, federal law enforcement personnel were detailed to patrol potential targets. SEUG law enforcement rangers rotated in details to Glen Canyon Dam, Mount Rushmore, and even Washington D.C. for a year following the 9/11 attacks, and were under the authority of the newly authorized Homeland Security Administration.²²¹ Over the 2003 winter holiday season, the national threat level went to "orange," with Jim Braggs, Gary Salamacha, and Tom Wilson detailed on homeland security assignments.²²² SEUG was notified that "if we go to level red, the Secretary has been given the authority to commandeer all law enforcement staff ... [with] an expectation that we will close sites and take appropriate measures." At SEUG headquarters, private vehicles were banned from parking in the gated area behind the building, employees were required to wear identification badges, and visitors were required to surrender their driver's license for a temporary visitor badge in the days immediately following the 9/11 attack.²²³ NPS units were also required to prepare a list of symbolic targets, inventory emergency response equipment and personnel, and develop interim security plans.

Despite the enhanced security and concern with Islamist terrorists after 9/11, domestic terrorists and criminals have remained the primary threat to the health and safety of the employees and visitors to Arches National Park and other units of SEUG. Three survivalists stole a water truck near Durango, Colorado, May 29, 1998, possibly to use as a vessel for a truck-bomb to blow up Glen Canyon Dam in Arizona.²²⁴ Jason McVean, Alan “Monte” Pilon, and Robert Mason were pulled over in the truck by Cortez Police Officer Dale Claxton.²²⁵ McVean jumped from the truck and murdered Claxton before he could exit his patrol car, shooting him 29 times before fleeing the scene. During the ensuing pursuit, the men abandoned the tanker and stole a flatbed work truck south of Cortez, then wounded Montezuma County, Colorado, Sheriff’s Deputies Jason Bishop and Todd Martin in a running gun battle that pitted their full-auto AK-47s against hand guns and 12-gauge shotguns.²²⁶ Seven police officers and their cars were targeted, with five vehicles incapacitated by the attack. Multiple officers chased the killers, but with a sufficient lead, and after disabling yet another police cruiser with gunfire, they successfully crossed US 666 and headed for Hovenweep National Monument and Utah. After being warned by staff at Mesa Verde National Park, Hovenweep Superintendent Art Hutchinson sent tourists and other employees into the canyon and was shot at near the Hovenweep National Monument gate, which he was attempting to lock. McVean, Pilon, and Mason abandoned the stolen truck in Cross Canyon, departing on foot in two different directions.

A massive manhunt for the killers was initiated, extending across the Four Corners. Hovenweep was officially closed at noon on June 8, and SEUG law enforcement was detailed to assist in the manhunt.²²⁷ Employees were cautioned to be aware of their surroundings, to only travel in pairs and have radios on their person at all times, and to not wear uniforms. The killers appeared to be targeting government officials or law enforcement. Due to the degree of control of access at Arches, SEUG believed that it was unlikely that the fugitives would head that direction. Cross Canyon and the area around Cahone, Colorado, were the initial focus of the manhunt, based on tracks and purported sightings of one or more of the fugitives. On June 4, a Utah Department of Social Services caseworker in a state-liveried vehicle startled Mason at a parking lot at the north end of a pedestrian bridge across the San Juan River just east of Bluff, Utah, well outside the search area. Mason shot at, but did not hit the Utah state employee, who immediately contacted the San Juan County Sheriff’s Department. Deputy Sheriff Kelly Bradford responded within minutes, and was shot by Mason from a concealed location across the river, and was seriously injured.²²⁸ When SWAT teams stormed Mason’s hiding place 5 hours later, he was found dead of a gunshot wound that was believed to be self-inflicted.²²⁹ He was found alone in an improvised foxhole surrounded by pipe bombs.

The manhunt continued for 2 months, with as many as 500 law enforcement officers involved, including all of SEUG’s law enforcement rangers, from as many as 51 different agencies or jurisdictions. Bounty hunters, attracted by the reward of \$300,000, also arrived in the area to track the suspects.²³⁰ By mid-June, the incident had cost SEUG alone more than \$200,000. Rumored sightings of the other two men cropped up here and there around Four Corners, but the two were never seen again alive, and the manhunt eventually demobilized. Pilon’s remains were found in 1999 by hunters on Tin Cup Mesa overlooking Cross Canyon in Dolores County, Colorado.²³¹ His remains had a broken ankle and a gunshot wound to the head; nearby was a tent, gun, and backpack, but no ammunition. McVean’s remains were found about 2.5 miles from Pilon’s, but were not discovered until 2007. His remains had been disarticulated by animals and the cranium was crushed, so the cause of death was undetermined, but appeared to be a gunshot wound. He was found with an AK-47, 500 rounds of ammunition, a bullet-

proof vest, and more pipe bombs. His watch was broken, and had stopped on the 30th day of the month, which the police took to indicate the day after the crime spree began, suggesting that he had killed himself, or been shot by one of his accomplices, at that time.

In 2004, Arches' peace was shattered by the murder of a young woman by her abusive boyfriend at the Moab Fault Overlook.²³² Rhonda A. Rosenbalm and James Ricky Cunningham of Texas argued, then Rosenbalm left on foot along the Arches scenic drive.²³³ Cunningham, who was drunk, followed in his car and caught up with her at the overlook where he forced her off her feet with the car. The argument resumed and Cunningham got out, punched her, and then threw her to the pavement before returning to his car. Cunningham backed up and drove at Rosenbalm, hitting her at a speed estimated to be in excess of 60 miles per hour. She was thrown over 100 feet and killed. Cunningham also rammed into the truck of a couple from Cedar City, Utah, who had witnessed the fight and tried to help Rosenbalm; their vehicle went over the side of the cliff and fell 20 feet, but they and their 14-month-old child received only minor injuries.²³⁴ Cunningham's car caught fire during the assault.²³⁵ He was arrested and charged with first-degree felony murder, three counts of second-degree felony attempted murder, and third-degree felony counts of aggravated assault and driving under the influence, as well as multiple misdemeanor charges.²³⁶ On May 31, 2005, Cunningham was sentenced to two consecutive sentences of 5 years to life for murder and DUI, and ordered to pay \$152,000 in restitution.

In response to growing threats from hackers and the perceived threat of terrorists and saboteurs, Homeland Security Presidential Directive 12 mandated the development of greatly enhanced security through the Federal Information Processing Standard.²³⁷ This requires secure access to federal facilities and to the federal computer system. By June 17, 2005, all employees were reviewed to determine whether or not they had a minimum National Agency Check with Written Inquiries (NACI); approximately 30 SEUG employees required the check within a week in order to remain at work:

*This entire process is going to have very large impacts on how we do business. No longer will we be able to bring folks on the payroll and wait for the investigation to clear—it must clear first. Stay tuned—big changes are coming and it's likely only going to get more confusing. We understand that every employee, **regardless of the length of their employment, who has ACCESS to the computer, must have a NACI. That applies to current employees and to any new hires. Keep in mind that if the employee is already required to have a NACI (fee collectors) or higher level (IT, Law Enforcement, and Superintendent) they have already met the requirements and do not need a NACI as well. This applies primarily to the rest of our employees and any new hires—regardless of the type of appointment (temporary, term, or permanent).***²³⁸

This development had, and continues to have, serious effects on seasonal hires, a few of whom must wait half or more of their advertised term to complete the background check. The program also implemented the use of Smart Cards for all employees; the cards give electronic access to buildings and unlock an electronic portal to all computers.

Resource Management

Beginning in the late 1970s, various management plans prepared for Arches began to note some of the special resources of the park, beyond the geology.²³⁹ The 1990 Statement for Management also specifically names the cultural resources of the Courthouse Wash Rock Art Panel and the Wolfe Ranch Historic District. The Resource Management Plan likewise drew attention to cultural resources such as

the D. Julien Inscription, the Old Spanish Trail, the Ringhoffer Inscription, and the Rock House, but also noted the importance of low ambient noise levels, dark night skies, and paleontological resources such as dinosaur trackways.

A series of significance statements compiled by VERP regarding the purpose of Arches National Park²⁴⁰ includes four statements taken from the Arches National Monument proclamation, Arches National Park enabling act, and 1972 Master Plans. Fourteen statements from the legislative record and 10 statements from park management plans, including the General Management Plan, were compiled. The four principal statements clearly identify the importance of the geologic formations and scenery to be protected and made available for recreation:

- The monument was established to set apart and preserve extraordinary examples of wind-eroded sandstone formations with educational and scenic value, prehistoric structures of historic and scientific interest, and other features of geological, historic and scientific interest. (Presidential Proclamation #1875 of 1929; reprised in 1938, 1960, and 1969)
- Public Law 92-155 establishing the area as Arches National Park states that the Park Service shall “administer, protect and develop the park,” subject to the provisions of the 1916 Organic Act (i.e., “conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of future generations”).
- “The primary objective of Arches NP is to preserve an area containing unique examples of erosion in the form of fins, spires, balanced rocks, solidified dunes, dark, cool, narrow chasms and the greatest known concentration of stone arches in the world.” (1972 Master Plan)
- “The second objective is to set aside this natural resource for the recreational and educational benefit of the people.” (1972 Master Plan)

All of the management plans written in the 1970s–1990s created programs for Arches staff to implement—with or without actual program funding. Some of these programs, profiled below, are publically visible and generate controversy or support from outside organizations and individuals, but most incrementally accumulate long-term observations on the current state of the environment within the park’s boundaries. In 1988, Chief of the Division of Resource Management Larry Thomas inventoried and summarized much of the research that had been conducted in Arches, Canyonlands, and Natural Bridges during the 1970s and 1980s.²⁴¹ This summary lists 61 projects in five general categories: cultural resources/historic (4 projects, 3 reports); vegetation/soil/management/water (11 projects, 8 reports); recreation/river (9 projects, 9 reports); mammals/fish/amphibians/birds (28 projects, 27 reports); and geology/parks (9 projects, 9 reports). Arches National Park is mentioned in the titles of five of the projects: “Plant Communities of Arches NP,” “Grand County Soil Survey, Arches NP,” “Survey of Fish, Invertebrates & Algae in Salt Wash, Arches NP,” “Geologic Story of Arches NP,” and “Resource Assessment for Lost Spring Canyon Wilderness Area, Arches NP.” Some of the larger scale projects may also have included Arches, but this is not reflected in the project titles. As Thomas’s review came about the same time that the Canyonlands Complex was reorganized as SEUG, it may have been intended as a way to familiarize SEUG resource staff with projects that had taken place in its constituent units, as resource management was now conducted at the group level. The projects include those conducted by SEUG staff and outside researchers, including various universities (University of Utah, University of Alberta, University of Colorado, Mesa College, University of Wisconsin and others), agencies (Bureau of Reclama-

tion, Los Alamos National Laboratory), and private contractors (Nickens and Associates, PIII Associates, and others).

Most of the resource monitoring programs began in the 1980s, and are discussed in Chapter 5, but some new NPS monitoring has developed after 1990. The water monitoring program and monitoring sites and schedule have evolved since 1983, and after the first few years included a partnership with the Utah Division of Water Quality, which in turn coordinated with the U.S. Environmental Protection Agency.²⁴² In 1999, SEUG staff and Western State College (Gunnison, Colorado) completed a Water Resources Management Plan for Arches and Canyonlands national parks.²⁴³ This identified the need to initiate an expanded water quality monitoring program in 2000, to provide data for a Ground Water Protection Plan. Water quality monitoring protocols included sampling and lab testing for a suite of chemicals, nutrients, and metals, as well as macroinvertebrate sampling and in-house testing for bacteria. SEUG refined protocols, technical equipment, quality control methods, and reporting mechanisms with the Northern Colorado Plateau Inventory & Monitoring Network (NCPN, discussed further below) as the network developed in the early 2000s. In 2004, SEUG reported on water quality results from 1994 to 2004.²⁴⁴ Water monitoring was part of a broader suite of studies, including survey of springs and seeps for aquatic flora and fauna and assessment of Salt Wash and Courthouse Wash for Threatened and Endangered species; assessment of springs for contaminations from tamarisk control efforts; delineation of the Courthouse Wash wetland; inventory of land uses adjacent to the park; and evaluation of the Colorado River the structure and function of the Colorado River ecosystem and the presence of total dissolved solids in the water. From 2001 to 2012, five Arches spring or stream sites were monitored for water quality monthly every fourth year.²⁴⁵ SEUG Resource staff also began separate spring flow monitoring of four springs in Courthouse and Sevenmile Canyons in 2001, which continues to this day.²⁴⁶ An overall water monitoring program revision took place in 2011-2012.

Additional shorter-term, water-related projects undertaken in Arches included inventories for sensitive plant species at spring hanging gardens, carried out by Arches staff in the 1980s and again in the early 2000s as part of an NPS Water Resources Division-funded effort to survey springs in the Colorado River drainage basin. Starting in 2010, the NCPN has partnered with researchers to screen for contaminants of emerging concern, including pharmaceuticals and household products, in regional rivers, smaller streams, and springs, including a few sites in Arches.

Canyonlands biscuitroot (*Lomatium latilobum*), a rare plant (formerly Category 2 Threatened and Endangered) that inhabits the fins ecosystem at Arches, has been monitored since the early 1990s.²⁴⁷ The plant is affected by social trails, where young plants are trampled. In 1994 NPS personnel monitored sites in Fiery Furnace, and a class from Prescott College, Arizona, monitored sites in Devils Garden and Klondike Bluffs. The program was redesignated the Arches National Park biscuitroot monitoring program in 2004.

Arches National Park and the SEUG Resources Division also undertook some smaller resource monitoring projects, including monitoring and re-photographing a wildfire burn for fire effects and revegetation (begun in 2000), ambient sound monitoring (begun in 1994), and night sky conditions, as well as compiling weather data from the Arches weather station for use in other monitoring programs.²⁴⁸ Research Yearly Summaries chart the evolving research from 1990 to 2007.²⁴⁹ These summaries track short-term projects and the longer term, multi-year data collection and monitoring programs, such as the water quality monitoring described above. For example 44 researchers conducted

52 different projects in SEUG units in 1995, including 17 at Arches.²⁵⁰ By 2005, 23 researchers were involved in 41 projects, 16 of which were in Arches.²⁵¹ The largest, longest-running, or most visible programs of this period are described below.

Bighorn Sheep Reintroduction

Bighorn sheep were formerly an important part of the Arches ecosystem, as evidenced by their prominent appearance on rock art panels in the park.²⁵² With the introduction of domestic sheep to the region in the nineteenth century, the bighorn sheep began a steep population decline due to disease and competition for forage; the subsequent intrusion of people and vehicles during the Uranium Boom exacerbated the pressures on the local herds. By 1969 bighorn sheep were thought to have died out in Arches National Park, but in 1982 a young ram was photographed by a park visitor within the frame of Christmas Tree Arch.²⁵³ Bighorn herds in Canyonlands also declined during the Uranium Boom, but quickly expanded following the protections placed on them after Canyonlands National Park was established in 1964.²⁵⁴ In the absence of predators, the large bighorn population soon resulted in overgrazing and threats to native vegetative communities. The Island in the Sky herd was believed to be especially robust, and this population became the source for reintroducing bighorn sheep throughout southern Utah.

Six sheep were captured from the Island in the Sky herd and relocated to Arches in 1985. In 1986, the program captured 5 rams, 10 ewes, and 4 lambs for reintroduction; 9 months later, a census of the population found 3 rams, 8 ewes, and 2 lambs. Two sheep died shortly after being transported of unknown causes, and one was killed by a car in August on US 191.²⁵⁵ The population fluctuated during the 1980s due to deaths from vehicle accidents on US 191 and additional reintroductions, and was marked by a very low lamb-to-ewe ratio, which suggested an unhealthy population.²⁵⁶ For fiscal year 1991, Arches and Canyonlands proposed a Natural Resources Protection Program (NRPP) study to evaluate the current health of the herds in Arches, the Needles, the Maze, and Island in the Sky, with a goal of achieving a more natural population dynamic. After reintroduction, Arches instituted an annual bighorn survey to assess the numbers and health of the sheep in the park. By 1994, 62 sheep were tallied in three locations, counted from a helicopter.²⁵⁷ The census indicated a growing population estimated at 90 total animals, but almost all were found in the preferred habitat along the Colorado River due to the almost complete absence of water in upland areas.²⁵⁸ Relocations were curtailed in 1995. The Utah Division of Natural Resources had been counting sheep annually from the air, using an assumption that there are 10 sheep for every one tallied.²⁵⁹ Research Ecologist Jayne Belnap questioned the basis for this assumption, and was told “we’ve just been doing this for years.” With further research by Belnap and a wildlife biologist, “that number went from ten to one to five to one to two to one and they finally said ‘you know, we see every sheep out there’ so it went to one to one, and that’s the point at which they stopped taking animals off the Island.” Subsequent research focused on the composition and health of the herd.

In 1996, SEUG Wildlife Biologist William B. Sloan completed a detailed history of bighorn sheep in Arches National Park and a plan for their restoration.²⁶⁰ Sloan concluded that no further reintroductions were required, as the herd appeared to have expanded its range to all available habitat, and was gradually increasing in number within that range. The restoration plan proposed intensive monitoring over 4 years, with four primary goals: determine the current distribution of the herd; determine the current size and composition of the herd; document the areas and dates of lambing; and evaluate the health of

the herd. Animals from each subregion of the park were captured, tested for diseases, and radio-collared to track animal ranges, sub-population interactions, and dispersal. Four regional sub-populations were known, consisting of groups living in Moab Canyon at the park's southern boundary (above and along US 191), along the Colorado River from Big Bend to Goose Island, along the Colorado River from Salt Wash to Big Bend, and in Anderson Gulch. Since the restoration program ended, Sloan has monitored the herds and conducted additional unpublished research on the bighorns.

Exotic Plant Control

Tamarisk was just the beginning: with increasing visitation comes increasing disturbance to the fragile biological soil crusts of the Colorado Plateau and increased movement of non-native species of plants and animals. Tamarisk and Russian olive were intentionally introduced outside of the national parks, but many of the region's non-native invasive plants including Russian thistle, cheatgrass, knapweed, Canada thistle, and dozens of other plant species are opportunistically expanding their ranges, often as colonizers of disturbed soils. Eradication or control of exotic plant species has become an important component of resource management throughout the national park system. SEUG developed an Exotic Weed Management Plan in the early 2000s, coupled with an Environmental Assessment, to provide better oversight and compliance for invasive plant removal (and avoid the public controversies of earlier tamarisk removal projects). This was mandated in 1999 by Executive Order 13112 on Invasive Species.²⁶¹ This order lays seven requirements on all federal agencies: identify actions that may affect the status of invasive species; prevent the introduction of invasive species; detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; monitor invasive species populations accurately and reliably; provide for restoration of native species and habitat conditions in ecosystems that have been invaded; conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and promote public education on invasive species and the means to address them.

To better understand the distribution of invasive plant species at Arches, the new NCPN, cooperating with Utah State University weed mapping specialists, mapped invasive plants in Arches in 2003–2004.²⁶² SEUG Resource staff used this base information, and has continued to map invasive plant populations in the park. To better understand the natural distribution of plants at Arches, the NCPN initiated a major vegetation mapping project in 2003 for the 16 network units, including Arches.²⁶³ Using aerial photographs, historic photos, and digital images, the vegetation communities at Arches were plotted up to 1 mile outside the park boundaries. The mapping effort included seasonal crews collecting plot data, satellite and aerial imagery mapping based on early plot work, and later field checking and refining of maps, plus an abundance of GIS work. The Arches map was published in 2009; the other park maps were completed between 2007 and 2017.²⁶⁴

Removal of the invasive plants and landscape restoration is overseen and largely performed by a dedicated SEUG Resource Division vegetation crew, with the assistance of a Park Service regional Exotic Plant Management Team based at Lake Mead, which assists several times a year. Conservation crews are also hired several times each year to assist with large projects. Individual volunteers, including Student Conservation Association interns, and volunteer groups including spring break groups, the Sierra Club, and Wilderness Volunteers, help for a few hours, a week, or at various times during a 16-week internship.

The Sierra Club was initially the most active volunteer organization working in Arches National Park. Nationally, the first volunteer service trip with hikers helping to build or maintain trails or assist with backcountry management was organized by the Sierra Club Outing Committee in 1958.²⁶⁵ Over the decades this program expanded to become one of the Sierra Club's major outreach programs, offering Sierra Club members the opportunity to visit and work in domestic and international natural settings. Week-long service trips to Arches National Park began in 1991.²⁶⁶ These groups assisted park trail crews to maintain trails and helped with tamarisk and Russian olive removal projects, often returning annually. In 1997, a 35-person group was working in Arches in April at the same time that an NRPP Tamarisk Crew was working in Salt Valley Wash, completing the tamarisk removal that was begun in 1988 at Salt Valley Wash Spring.²⁶⁷ As described in Chapter 5, many other organizations now assist Arches staff with resource and maintenance projects, and the Sierra Club's role has diminished.

Northern Colorado Plateau Inventory and Monitoring Network (NCPN)

In 1999 the NPS instituted a program to inventory and monitor populations of vertebrate animals and vascular plants in all national parks.²⁶⁸ The program was subdivided into 32 regional networks; the Northern Colorado Plateau I&M Network was based at SEUG, housed in the SEUG Administrative building along with the USGS. This program was funded independently of SEUG, with Angie Evandon as the founding program manager. Evandon and data manager Margaret Beer outlined the scope of the program to a squad meeting in June 2001.²⁶⁹ The NCPN encompasses sixteen NPS units, including Arches, Canyonlands, Natural Bridges, and Hovenweep. In addition to Evandon and Beer, the staff included a GIS technician and two part-time biotechs. Evandon was followed briefly by Thom O'Dell in 2003,²⁷⁰ and Dusty Perkins has been program manager since 2007.²⁷¹ The NCPN was still working on developing their charter and workplan, but had already completed an inventory study plan in 2000, and negotiated agreements and contracts with scientists for specific studies. These included reptile and amphibian inventories (Principal Investigators Dr. Tim Graham at USGS in Moab, and Erika Nowak and Trevor Persons at NAU in Flagstaff); bird inventories (Principal Investigator Matthew Johnson at NAU); mammal inventories (Principal Investigator Dr. Mike Bogan at USGS in Albuquerque); and vascular plant inventories (Principal Investigators Dr. Duane Atwood at BYU, Charlie Schelz at NPS-SEUG, and Angie Evandon at NCPN).

Significantly, and following a pattern with many other programs, the NCPN was selected to be the pilot network for executing research permits at the network (rather than park) level. Arches was not included in any of the initial round of inventories, but Arches was among a group of five prototype parks (with Dinosaur, Canyonlands, Natural Bridges, and Capitol Reef) for development of a single plan to address park "vital signs and prototype monitoring." The plan involved initially inventorying existing datasets and incorporating these into functional databases, originally including the NPSpecies, Dataset Catalog and NRBibliography to provide a consistent and organized format for network-wide data management.

Data from Arches' vegetation monitoring program and throughout the SEUG provide one of the American Southwest's oldest continuous datasets of vegetation trends. These data have been much sought after in recent years by ecologists attempting to better understand the trajectory of climate change in the region. SEUG Resource staff continue to manage the long-term upland vegetation monitoring program to the present day. NCPN started another upland vegetation monitoring program throughout the network, using more updated methods, not quite comparable to the SEUG methods. Because of the historic nature of the SEUG dataset, it was deemed more than worthwhile to continue

this monitoring. However, while all plots were monitored from inception through 2010, starting in 2011 they have been monitored on a rotating basis, with only a subset of them monitored each year.

Colorado Plateau Cooperative Ecosystem Study Unit (CPCESU)

Developed in parallel with the I&M networks, the Cooperative Ecosystem Study Unit (CESU) program was created in 1999 as a multi-agency operation designed to expand research opportunities for qualified researchers and institutions but also to reduce the costs of research and procurement to the federal government.²⁷² Seventeen CESUs comprise the national program, with each consisting of a host institution, federal agencies, and non-federal partners.²⁷³ The CPCESU is hosted by the School of Forestry at Northern Arizona University, Flagstaff. Nine federal agencies (U.S. Army Corps of Engineers–Civil Works, Bureau of Indian Affairs, Bureau of Land Management, Bureau of Reclamation, Department of Defense, Fish and Wildlife Service, Forest Service, National Park Service, Natural Resources Conservation Service, and U.S. Geological Survey) and the Navajo Nation are partnered with 22 universities and colleges and eight other partners, including the Museum of Northern Arizona.²⁷⁴ Since its inception, the NPS has instigated 15 projects involving Arches (6), Arches and Natural Bridges (1), SEUG (4), or multiple units on the Colorado Plateau (4). Five of these projects were administered through the Rocky Mountain CESU between 2003 and 2009, involving the baseline studies of invasive non-native plants, rare plants, and vascular plants in NCPN parks (see above). Subsequent projects from 2006–2017 involve agreements through the CPCESU:

- (2006) Distance Analysis for the Avian Population Monitoring in Riparian Habitats within the Southeast Utah Group of Parks 1993–2005. Principal Investigator David Hanni, Rocky Mountain Bird Observatory (Bird Conservancy of the Rockies).
- (2007) Catalog Archives from Southeast Utah Group Parks. Principal Investigator Hartman Lomawaima, University of Arizona.
- (2008 and 2009) Catalog Southeast Utah Group Resource Management Archives. Principal Investigator Rich Lange, University of Arizona.
- (2010) Ecological Effects of Magnesium Chloride as a Dust Suppressant. Principal Investigator Mark Brunson, Utah State University.
- (2010) Preserve Historic Stone Cabin for Visitor Satisfaction. Principal Investigator, Mark Varien, Crow Canyon Archaeological Center.
- (2011) Develop a Southeast Utah Group–wide Archaeological Site Monitoring Plan. Principal Investigator, Shirley Powell, Crow Canyon Archaeological Center.
- (2014) Complete an Administrative History for Arches National Park. Principal Investigator, Kimberly Spurr, Museum of Northern Arizona.
- (2016) Deformation Monitoring of North Window, Arches National Park. Principal Investigator, Jeff Moore, University of Utah.
- (2017) Comprehensive Agreement to Address Inadvertent Discoveries under NAGPRA at the parks of the Southeast Utah Group. Principal Investigator, Kimberly Spurr, Museum of Northern Arizona.

The results of research in botany, zoology, archeology, and many other disciplines are presented biennially at the Conference on Research on the Colorado Plateau, hosted by NAU in Flagstaff. The 14th

edition took place in the fall of 2017, the most recent to be presented. Proceedings of this important conference are typically published, providing public access to this research.

Preparation of the Arches National Park Foundation Document in 2012–2013 revisited the relationship of resources to the park purpose and significance statements as part of the core components of the park. As VERP did in the 1990s, the Foundation Document reiterated the specific reasons for the establishment of Arches National Park (the park purpose) as described in its legislative history and articulated in significance statements (including those listed above), and explicitly tied specific interpretive themes to the fundamental resources and values. Five interpretive themes emerged from the Foundation Document: geology, desert ecology, natural environments, majestic scenery, and cultural landscapes.²⁷⁵ These themes are embodied in the geologic features, clean air and scenic vistas, natural ecosystems of the Colorado Plateau, and archeological and historical places that illustrate the changing human interactions with this landscape.²⁷⁶ “Collaborative Conservation, Science, and Scholarship” is the fifth fundamental resource of Arches National Park identified by the Foundation Document, bringing collaboration and research to the forefront to proactively address “rapidly changing social and environmental conditions.” In essence, better data collection and analysis can be used to mitigate the external threats to resources described in Chapter 4, as well as the problems of non-conforming visitor experiences described in Chapter 6. Arches National Park also contains other important resources and values to be considered in management and planning decisions, but they are not “fundamental to the purpose and significance of the park”: natural soundscapes, paleontological resources, opportunities for primitive and remote experiences, dark night skies, rare and iconic wildlife species, and museum collections.²⁷⁷

The Foundation Document provides a list of known data needs and key parkwide issues for the foreseeable future.²⁷⁸ These include commercial services (need a Commercial Services Plan), backcountry use impacts (need a Backcountry Management Plan), visitor impacts to Fiery Furnace (need a Fiery Furnace site strategy), parkwide visitor use impacts (need updated visitor use data and revisit VERP), inadequate water and wastewater systems (upgrade systems or connect with municipal systems), and climate change (need weather data and planning for a drying environment). Most of the Foundation Document prioritizes the data needs and planning decisions required to move these issues forward, formally establishing the NPS research goals and agenda for coming years. As described in the Research Yearly Summaries, some collaborations with outside researchers work towards meeting these goals, but others represent unique research goals.

“Geologic Time Includes Now”

In 2003, rock climber Aron Ralston was pinned by a sandstone boulder that rolled across his arm, trapping him in Blue John Canyon near the Maze District of Canyonlands.²⁷⁹ After attempting to free himself or alert others for 5 days, and out of water, he made the decision to amputate his arm with a pocketknife. He survived the operation, the hike down the canyon, and subsequent surgery to his arm, and wrote a best-selling book of the ordeal, subsequently produced as a movie, *127 Hours* (2010).²⁸⁰ Like most of us, he viewed the massive rock landscape of the Moab area as essentially static, unchanging. Forced by his experience to think otherwise, Ralston noted in his account that “geologic time includes now.”²⁸¹ The forces of uplift, erosion, mass wasting, and gravity operate every moment of every day.

Responding to those forces, a number of significant rock falls and changes to named landscape features have occurred through the years during which Arches has been under NPS management. A massive rock

fell from Arch-in-the-Making (also known as Fallen Rock Arch) in November 1940, Owl (or Eagle) Rock fell in March 1941, and Chip-off-the-Old Block near Balanced Rock fell during the winter of 1975–1976.²⁸² The fall from Arch-in-the-Making more than doubled the span of the opening, and created what is now known as Skyline Arch. Two small pinnacles fell from the cliff tops near Cove Arch on October 7, 1962, at about 5:30 PM.²⁸³ By pure happenstance geologist Gordon C. Grender was taking photographs along the Windows road, facing in the direction of the fall, which generated a large, persistent dust cloud that Grender captured on film (Figure 7-3a and b)²⁸⁴ In May 1989, visitor Joyce Drake witnessed and photographed a significant rock fall at Baby Arch, an event that produced a large cloud of dust, visible from the park road.²⁸⁵

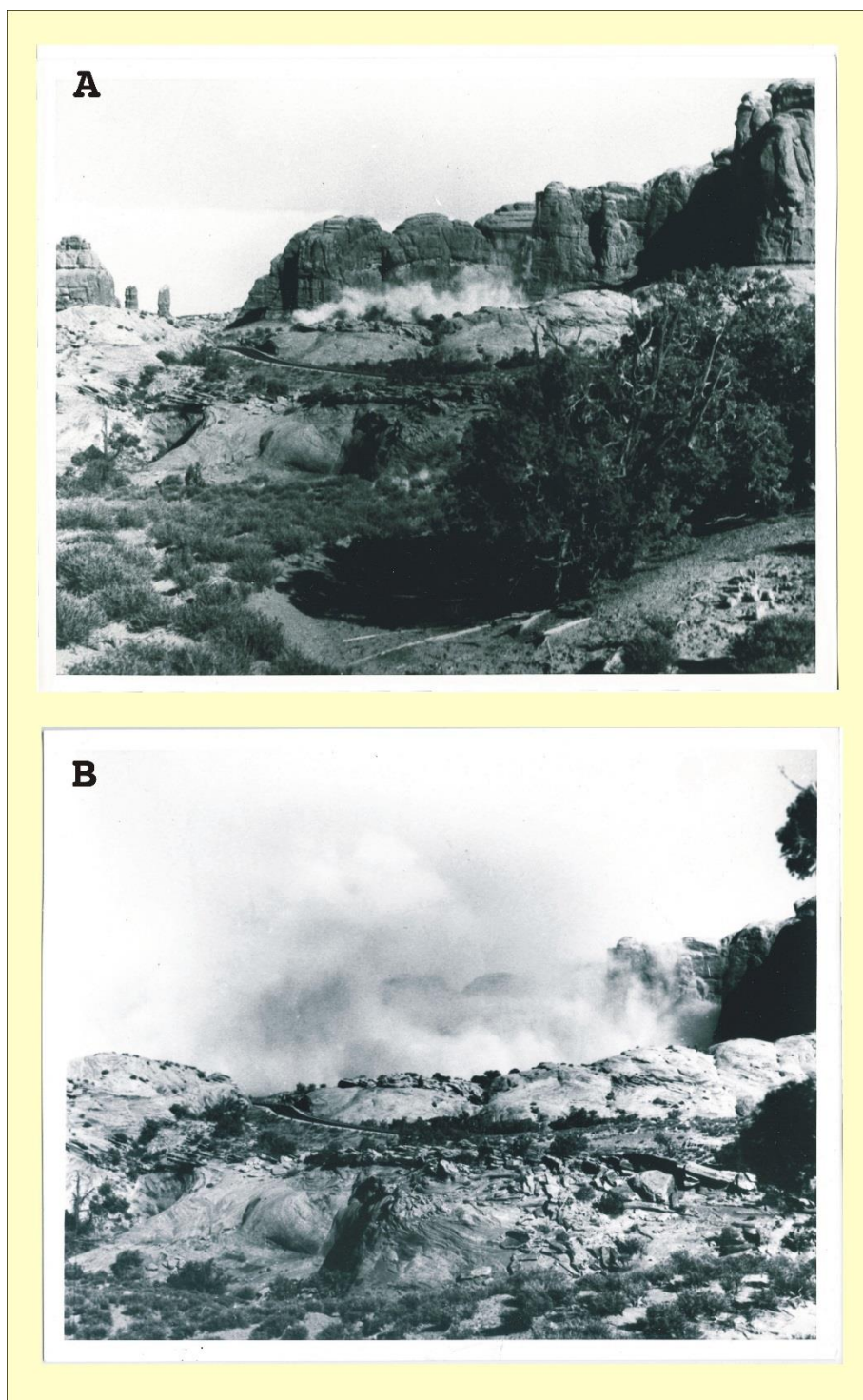
During the winter of 1940–1941, a slab estimated to have been 95 feet in length detached from the western face of the inside northern end of the span of Landscape Arch and fell to the ground (Figure 7-4).²⁸⁶ The slab, which was 55 feet in width and up to 14 feet thick, is the largest documented rock fall in Arches, containing an estimated 18,287 cubic feet of sandstone and weighing 1,344 tons.²⁸⁷ The rock fall was reported to have increased the opening of Landscape Arch from the widely reported span of 291 feet to 306 feet, making it at the time the largest arch in the world.²⁸⁸

In 1993, a list of arches known to have fallen since 1977 was compiled by unknown persons (possibly Dale Stevens).²⁸⁹ An undated document with the table calls them “Fallen Arches,” but notes that their inclusion on the list does not mean that the span has collapsed in every case, but that at a minimum a crack through the span has separated it from the rest of the arch, and it is no longer intact.²⁹⁰ The list describes 42 named arches, including Landscape Arch; Table 7-2 lists these, and all arches that have collapsed during 1993–2017. Landscape Arch did experience a series of significant rock falls in 1991 and 1995, yet remains standing for now, so it was removed from this table. The exact year of a rock fall event was not routinely noted until 1990, when Spearhead and Ale arches collapsed. Four additional collapses took place in 1990–1991 (Mercury, Dead Goose, Look Down, and Winterize arches), presumably during the winter and in the backcountry where the event was not noticed until spring. The collapse of Willow Springs Natural Bridge and four rock fall events at Landscape Arch were witnessed in 1991. Earlier collapses could be narrowed only to a range of years, such as 1977–1986 for Bloody Mary Bridge, Overlook Arch, Lying Jughandle, and Blue Tunnel.

Beginning in 1941, significant rock falls at Landscape Arch have served as a reminder that even the best known features of Arches National Park are not eternal, and will one day fall (Table 7-3). The 1991 and 1995 rockfalls were carefully documented by Arches staff,²⁹¹ visitors, and outside researchers,²⁹² and were widely reported in the media.

1991 Rockfalls

On September 1, 1991, at 2:45 PM, a large slab of rock fell from the bottom of Landscape Arch. This event was witnessed by many visitors in the area. Based on measurements of the resulting scar and of the broken pieces of the slab on the ground, the piece of rock was originally estimated at 63 feet in length, 10–12 feet in width, and about 4 feet thick. Amazingly, no one was injured during the event, as the Landscape Arch Loop Trail passed twice beneath the arch’s opening. Although it was reported in *SPAN*,²⁹³ the newsletter of the Natural Arch and Bridge Society, that another slab 10 feet in length also fell that same day, this statement was rebutted by Arches staff; the fallen rock was later estimated to have been 73 feet in length, accounting for the discrepancy.



7-3. A large rockfall along the Windows road was caught on film as it happened in 1962 by geologist Gordon C. Grender, Arches National Park, The Documentation of Geologic Features of Arches National Park Collection, ARCH 137/01-01, SEUG Archives. (a) The rockfall witnessed by Grender raised a large cloud of dust that spread outward, and persisted as a low haze for hours (b).



7-4. 1938 image of Landscape Arch, one of the few images of the arch before a massive rock fall in 1940–1941. ARCH 2915, SEUG Museum Collection.

Table 7-2. Collapsed Arches

YEAR	NAME	TYPE	LOCATION
1977–1986	Bloody Mary Bridge	Natural Bridge	Courthouse Towers (CT 14)
1977–1986	Overlook Arch	Cliff Wall Arch	Klondike Bluffs
1977–1986	Lying Jughandle	Free Standing Arch	Great Wall (WF 8)
1977–1986	Blue Tunnel	Natural Bridge	Salt Wash
1977–1986	Dutch Oven Arch	Free Standing Arch	Herdina Park (HP 7)
1981–1990	Rabbit Trap Arch	Spanned Alcove Arch	South Devils Garden (SD 28)
1983–1988	Vulture Arch	Free Standing Arch	Fiery Furnace (FF 7)
1982–1989	Exfoliation Arch	Platform Arch	South Devils Garden (SD 48)
1984–1988	Aladdins Bridge	Natural Bridge	North Devils Garden (ND 35)
1984–1988	Backside Arch Inner	Cliff Wall Arch	Lower Courthouse (LS 21)
1984–1988	Backside Arch Outer	Cliff Wall Arch	Lower Courthouse (LS 22)
1984–1988	Backside Arch Upper	Cliff Wall Arch	Lower Courthouse (LS 23)
1984–1988	Subtle Arch	Cliff Wall Arch	Great Wall (GW 24)
1984–1988	Scab Arch	Platform Arch	Windows Section (WS 28)

YEAR	NAME	TYPE	LOCATION
1984–1989	Holey Arch	Expanded Crevice Arch	North Devils Garden (ND 30)
1984–1989	Hug Arch	Platform Arch	North Devils Garden (ND 37)
1984–1990	Urn Arch	Pot Hole Arch	South Devils Garden (SD 74)
1985–1990	Clear View Arch	Free Standing Arch	Great Wall (GW 19)
1987–1990	Ashtray Arch	FPA ¹	Panorama Bluffs
1987–1988	Attractive Arch	Free Standing Arch	Klondike Bluffs
1988–1989	Match Arch	Cliff Wall Arch	Windows Section (WS 104)
1988–1990	Almost Gone Arch	Platform Arch	Southwestern Area (SA 141)
1988–1990	Apeture Arch	Cliff Wall Arch	Southwestern Area (SA 129)
1988–1990	Aster Arch	Cliff Wall Arch	Salt Wash (SW 115)
1988–1990	Heave Arch	Platform Arch	Windows Section (WS 101)
1988–1990	Dino Leg Arch	Free Standing Arch	Southwestern Area (SA 146)
1989–1990	Artistic Arch	Free Standing Arch	Great Wall (GW 11)
1989–1990	Duplex Arch Lower	Cliff Wall Arch	Windows Section (WS 39)
1989–1990	Plank Arch	Cliff Wall Arch	Great Wall (GW 10)
1990	Spearhead Bridge	Natural Bridge	Windows Section (WS118)
1990	Ate Arch	Platform Arch	Great Wall (GW 105)
1990–1991	Mercury Arch	Cliff Wall Arch	North Devils Garden (ND 128)
1990–1991	Dead Goose Arch	Platform Arch	Windows Section
1990–1991	Look Down Arch	Platform Arch	South Devils Garden
1990–1991	Winterize Arch	Platform Arch	South Devils Garden
1991	Willow Springs Bridge	Natural Bridge	Herdina Park (HP 18)
1992	Eye Level Arch	Pot Hole Arch	North Devils Garden
1992	Narrow Fin Arch	Platform Arch	North Devils Garden
1992	Substitute	Platform Arch	Windows Section
1992	Yucca Arch	Cliff Wall Arch	Upper Courthouse
1993	Thirty Yards Arch	Platform Arch	Southwestern Area
2008	Wall Arch	Free Standing Arch	South Devils Garden (DG 17)
2017–2018	Rainbow Arch		Southwestern Area (SA 137)

NOTE: Parenthetical designations for the arches appeared on the original “Fallen Arches” table; these are an obsolete system for designating the arches used by Stevens and McCarrick in “The Arches of Arches National Park” (1988).²⁹⁴

¹ This designation is not included in the key to the table, and is apparently a typo for Free Standing Arch (FSA) or Platform Arch (PFA).

Table 7-3. Known Landscape Arch Rockfalls²⁹⁵

DATE	MAXIMUM SIZE (Feet)		LOCATION	WITNESSED
1941	95 x 55 x 14		Inside northern end	No
September 1, 1991	73 x 11 x 4.5		Underside	Yes –video + photos
September 4, 1991	“Small”		Northern end	Yes
September 17, 1991	Unknown	1.5 x 2 ¹	Unknown	No
September 20, 1991	Unknown		Unknown	No
September 26, 1991	6 x 4 x 2 ¹		Unknown	Yes
May 16, 1995	<6 (lengths) ¹		Underside/thinnest	Yes
June 5, 1995	47 x 7 x 2.5		Front edge	Yes
June 13, 1995	30 x 6 x 2		North end 6/5 scar	Yes
June 21, 1995	15 (length) ¹		Same area as 6/5 fall	Yes-video + photos

¹ Noel Poe, Letter to *High Country News*, July 3, 1995. Arches National Park Administrative Collection, ARCH 101/007-037, SEUG Archives. Stevens reported the September 4–26 events as an aggregate, measuring 7 x 4 x 2 feet.

The rockfall was documented on video by Swiss visitor Michael Müller and in photographs by Colorado resident Royce Morrison (Figure 7-5). As a result of this event, the arch thickness reportedly changed from 16 feet to 11.5 feet, and the height of the opening increased from 88.5 feet to 93 feet (Figure 7-6).²⁹⁶ Müller prepared a statement about what he witnessed and produced the two segments of videotape that he shot of the event.²⁹⁷ He noted that he was standing directly beneath the span when he became aware of loud cracking noises, which he initially attributed to the winds of an approaching thunderstorm. He changed his vantage point so that he was at nearly the same elevation as the span, approximately 80 m away. “Then I heard again cracking and the noise of rocks hitting one against the other. From now on one could clearly hear a continuously damp cracking. I know that something would happen here. Therefore I kept the video-camera directed towards the Landscape Arche [sic] and tried to find the cracks with the zoom-lens.” Müller filmed the entire rock fall event, but was initially shaken by the realization that some of the people whom he had witnessed beneath the arch a short time before might have been harmed. He and several other tourists who had been south of the arch waited 10 minutes before walking beneath the arch to leave; however, as they were doing so, more cracking and popping was heard, and they decided to walk around the arch to return to the visitor center. Ranger Sharon Brussell arrived at Landscape Arch at this time, and shouted at the stranded group to remain where they were and to wait for ranger assistance, but the group was able to find a route out on their own.



7-5. The first rockfall in 1991 from Landscape Arch, captured as it happened by visitor Royce Morrison, September 1, 1991. Arches Landscape Rockfall 1991 Collection ARCH 4024.04, SEUG Museum Collection.



7-6. Landscape Arch after the 1991 rock fall. ARCH 4024.06, SEUG Museum Collection. (Photo credit: Royce Morrison).

Additional rockfalls took place at Landscape Arch later in September 1991. On September 4, several small pieces fell from the northern end of the arch. Additional pieces of undetermined size fell between September 17 and 20, and on September 26 a piece approximately 6 by 4 by 2 feet was reported by a visitor to have fallen. To better monitor the changes to Landscape Arch, park rangers established five permanent photo points from which replicative photographs could be taken.²⁹⁸

1995 Rockfalls

On May 16, 1995, a piece less than 6 feet in length fell from the thinnest part of Landscape Arch. The fall was witnessed by 12 visitors, none of whom were injured, although all were shaken up by the experience. Visitor Kurt Fraese and his family had just passed beneath the arch when they heard a loud pop, then felt the slab hit the ground, leaving a cloud of dust approximately 50 feet behind them. Arches National Park rangers permanently closed the Landscape Arch Loop Trail beneath the arch as a precaution against additional rockfalls.

During June of 1995, three rockfalls took place at Landscape Arch. On June 5, a slab measuring about 30 feet in length, 4 feet in height, and 2–3 feet in width fell from the front edge of the arch. This was followed June 13 by several smaller boulders of undetermined size, which fell from the north end of the June 5 scar. Visitor Anne Urbanek was present when the rocks fell, but had her back to the arch at the time. From this same area of the arch, a 15-foot-long piece fell on June 21 and broke into many pieces.

The other dimensions of this slab could not be reconstructed, based on the remaining pieces. The fall was not preceded by any noises, according to witness Valerie Maros of Illinois, who shot video and still photographs of the event with her husband.

A review of seismic activity in Utah during the rockfalls showed that the events did not result from any significant seismic event. However, the area had experienced unusually heavy rainfall immediately preceding the events, and it was speculated by NPS interpretive staff that this had contributed to or caused the rockfalls.²⁹⁹ All of the geological activity in Arches produced copious data and documents. In 2002, this material was organized into a usable document by a volunteer geologist through the Geologists in Parks program.³⁰⁰

The mass-wasting and erosion continues day and night at Arches National Park and throughout the world. Wall Arch (Figure 7-7), which was adjacent to the Devils Garden Trail, collapsed August 4–5, 2008.³⁰¹ This event required the relocation of the Devils Garden Trail away from the vicinity of the collapsed arch, onto an adjacent fin to the east.³⁰² The Wall Arch collapse also served as the instigation to relocate the Landscape Arch viewpoint closer to Landscape Arch and away from Wall Arch, but outside of the area of potential falling rock from Landscape Arch. During the preparation of this history,



7-7a. Wall Arch, a popular hiking destination near Landscape Arch (adjacent to the Double O Arch Trail) as it appeared in 1959. ARCH 104/001453, SEUG Archives. (Photo credit: Alcorn).



7-7b. Wall Arch August 5, 2008 after collapsing. (Photo credit: National Park Service)

on August 6, 2014, Reuters reported that a rock formation near Fisher Towers (outside of but near Arches National Park) named The Cobra had fallen, possibly as a result of a severe thunderstorm during the preceding week.³⁰³

Lost Spring Canyon Addition

The most recent adjustment to Arches boundaries was the 1998 addition of nearly the entire Lost Spring Canyon drainage and part of Upper Salt Wash Canyon, encompassing 3,140 acres along the northeastern park boundary (known as the Lost Spring Canyon Addition). The addition of these areas had been discussed since the 1980s, and was evaluated in the 1989 Arches GMP as a potential boundary expansion.³⁰⁴ Lost Spring Canyon was one of three areas that Superintendent Noel Poe viewed as natural additions to the park, the other two being Dry Mesa (for viewshed protections) and the Dalton Wells area (for the World War II Japanese internment camp and the paleontological deposits).³⁰⁵ In 1991, the BLM recommended designating the parcel as Wilderness, but Grand County officially opposed a Wilderness designation as the area was used for backpacking, some hunting, and ranching.³⁰⁶ Arches Superintendent Noel Poe suggested that the Wilderness issue could be avoided by adding the lands to Arches National Park, an approach he suggested to the County Council, which officially endorsed such a

boundary change.³⁰⁷ The land was transferred from BLM ownership in 1998 under the sponsorship of Utah 3rd District Representative Chris Cannon. The addition was primarily intended to help create a more natural boundary for Arches, as the section line boundaries that had been used since the monument was first proclaimed had proven to be difficult to fence, patrol, or interpret. The Lost Spring Canyon addition to Arches also included some Utah state trust and private lands, but most was BLM. Of the lands considered for addition, 2,252 acres were within a BLM Wilderness Study Area (WSA) and 889 acres fell outside of the WSA. Lost Spring Canyon was already known to canyoneers and other backcountry explorers, many of whom assigned their own informal place names to the canyons and other features. Matt Moore, doing business as Desert Highlights, guided canyoneering trips to Fiery Furnace, Petrified Dunes, Park Avenue, and Lost Spring Canyon, which he called Lomatium and Krill canyons, Dragon Fly Canyon, Tierdrop Canyon, and Undercover Canyon, respectively.³⁰⁸ Controlling use and interpretation of this area was one of the primary motivations in seeking its addition, from the NPS perspective. The addition of Lost Spring Canyon was largely pushed by individuals and groups outside of the Park Service, earning project approval with help from the Utah Governor and congressional delegation, a situation unlikely to have prevailed with the NPS in the lead.³⁰⁹

Lost Spring Canyon was omitted from the final Utah Wilderness bill prepared in 1995 by the Utah congressional delegation, leaving it in land management limbo (along with all of the other wilderness study lands recommended for Wilderness status but not forwarded to the President). It was Grand County that initially sought to have the lands added to Arches.³¹⁰ Grand County floated the idea to the Utah congressional delegation in 1995, meeting with a cool reception. The election of Cannon in 1996 provided a more receptive audience. Promoted by former Grand County Council member and Grand Canyon Trust Executive Director Bill Hedden, Cannon toured the proposed addition in 1997. Because Cannon was vocally opposed to President William Clinton's designation of Grand Staircase–Escalante National Monument, some preservation and environmental groups were suspicious of his motives in proposing the addition—in particular, the Southern Utah Wilderness Alliance, which had become increasingly strident in the ongoing impasse over the disposition of wilderness lands.³¹¹ Specifically, SUWA viewed the proposed Lost Spring Canyon addition as a political stunt on Cannon's part, either a diversion from other actions, or a potential exchange for removing the Kaiparowits Plateau (which contains extensive coal reserves) from Grand Staircase–Escalante.³¹² The Grand Canyon Trust and some Utah newspapers advocated for the addition:

The land is beautiful with seasonal streams, a “narrows” formation with 300-foot vertical walls and several small arches. It truly deserves to be protected, and adding it to the national park is a sensible way to do that. The National Park Service would manage it the same way it manages other parks.

*Cannon's plan appears to be a win-win solution to the problem of protecting the canyon area without getting embroiled in another wilderness debate. To coin an old phrase, it's a wise lawmaker who learns from the mistakes of others—especially the mistakes of presidents.*³¹³

Access to Lost Spring Canyon would be available only by walking up Salt Wash from the Delicate Arch parking lot, or by four-wheel drive on Grand County roads in the Yellow Cat area to the canyon heads.³¹⁴ The addition would give Arches more appealing backcountry recreation opportunities than are available in the open grasslands of Salt Valley, for example, and significant riparian environment.

The Sierra Club, SUWA, and Wilderness Society opposed the plan, claiming that, based on comments attributed to SEUG Superintendent Walt Dabney, the NPS planned to develop Lost Spring Canyon as a

frontcountry park attraction, with developed campgrounds. *The Salt Lake Tribune* attributed the potential for developing a backcountry campground to Dabney, but did not quote him:

*Dabney says a primitive campground could be built near the top of Lost Spring Canyon. That area is accessible by four-wheel-drive vehicles. The campground could serve as a base for multiple-day excursions into Lost Spring Canyon and others, like Cordova Canyon, Cottonwood Canyon, Clover Canyon, and Fish Seep Draw, all of which have water sources that attract an array of plants and wildlife.*³¹⁵

These organizations were also concerned that not only was Lost Spring Canyon being removed from Wilderness consideration, but its addition to Arches would negatively affect the potential Wilderness status of approximately 10,000 acres surrounding Lost Spring Canyon (and Arches National Park).³¹⁶ However, the Lost Spring WSA by itself did not meet the Wilderness Act threshold of 5,000 roadless acres, and could only be considered for Wilderness designation in conjunction with acreage already within Arches;³¹⁷ furthermore, much of the 10,000 acres of concern to SUWA was not part of any formal Wilderness proposal and was not considered of wilderness quality by the BLM. Unsurprisingly, persistent Arches and NPS critic Jim Stiles was concerned that including the land in Arches, rather than designating it as Wilderness, would open it to more impacts: “Throw a spotlight on a heretofore unvisited unknown little gem of land and every hiker/biker/climber, i.e. *recreationalist* wants to see it. And, as I’ve said a hundred times before, enough well-intentioned people can ruin damn near anything.”³¹⁸ The office of Representative Chris Cannon also received a letter from the Western Association of Land Users opposing the Arches expansion because of unresolved Utah school sections within the boundaries of Arches, and “expansion of the Arches National Park would be detrimental for the area in question and that the said land should be designated as multiple use ground,” meaning open to use (and potential abuse) by off-road vehicles.³¹⁹ The Grand Canyon Trust and the National Parks and Conservation Association strongly promoted the expansion plan.³²⁰

Other minor obstacles to NPS management of Lost Spring Canyon included an active grazing allotment, the presence of the Northwest Pipeline Company pipeline right-of-way in the proposed block, and compensation for a small area of Utah School Trust lands. Meeker, Colorado, rancher Lenny Klinglesmith used the allotment as winter range for his herd of 660 cows, and felt that this was an integral part of his operation.³²¹ The bill authorizing the expansion included a provision allowing the Klinglesmiths to continue to ranch the area for two generations, but also providing the opportunity for an organization such as the Grand Canyon Trust to purchase and permanently retire the grazing rights, which they accomplished in 1998.³²² As in the rest of Arches National Park, the pipeline right-of-way would be managed as a non-wilderness corridor, providing access for pipeline inspection and maintenance only. The school lands would be resolved with a pending land exchange. All of these issues were vetted through a series of public meetings organized by Cannon’s office, in part to demonstrate to President Clinton how to reach out to local interests in rural Utah.³²³ The final bill also included language to ensure that the NPS would continue to manage the addition for its wilderness values.³²⁴

The Lost Spring Canyon addition was approved by Congress, and a dedication ceremony was held November 6, 1998 on the rim of Lost Spring Canyon.³²⁵ The event was attended by SEUG Superintendent Walter Dabney, Representative Chris Cannon, and NPS officials.³²⁶ In 2000, President Clinton signed Public Law 105-335, resolving the Utah state inholdings within Arches National Park, including approximately 200 acres of State Trust land in the Lost Spring Canyon addition, by exchanging those parcels for other lands with potential mineral deposits elsewhere in Grand County.³²⁷

Revisiting the Visitor Center

By the 1980s, ever-increasing visitation had acutely strained the resources of Arches' Mission 66 Visitor Center, particularly the restrooms, which had three toilets for women and two for men, and were consequently overwhelmed "every time a bus disgorges 40 people or more, and they all flood right straight to the restroom before they go inside the VC."³²⁸ The 1978 Canyonlands GMP proposed the construction of a new joint Arches/Canyonlands visitor center in Arches.³²⁹ No one location seemed ideal for a Canyonlands visitor center, and many of the visitors to Arches also stopped at Island in the Sky or Needles on their trip.³³⁰ In evaluating the issue for the Arches GMP, many Arches staff expressed skepticism that such a plan would work, as it would require additional staff, present logistical problems with permitting, and likely eventually revert to being only an Arches visitor center, as had happened at similar facilities elsewhere in the NPS.³³¹ The final Arches General Management Plan of 1989 recommended a new Arches visitor center, but an estimated \$10 million replacement cost, an ongoing economic recession, and funding needs elsewhere pushed a new Arches visitor center off the priority list. The building, however, increasingly showed its age, requiring a new roof in 1989 and additional roof repairs in 1993.³³²

Superintendent Noel Poe engineered a short-term solution by remodeling the existing visitor center in 1993. CNHA funded a design by Chamberlain and Associates from Grand Junction, Colorado.³³³ With few resources available for extensive remodeling, Chamberlain drew plans to wall in the back porch area of the existing visitor center, with Arches Maintenance staff doing all of the construction work, with help from some contracted specialists for brick wall facing, cabinetry, and the visitor desk. The existing interior space was renovated by removing a photographic darkroom and expanding the auditorium, applying new counter surfaces and paneling, and replacing the carpet. Frank Darcey selected a beige-colored carpet to complement the renovated interior, but within 3 months it had been ruined by dirt and tar from a park road chip-sealing project tracked in by visitors. The budget did not include expanding the restroom facilities, but Darcey's crew was able to renovate them with new stall dividers, hand dryers, tile, and sinks. According to Darcey, the austerity of the project reflected reluctance on the part of Arches staff to spend significant funds on fixing an aging building that all were hopeful was going to be replaced "soon."³³⁴ Despite expanding the building to 4,000 square feet, the existing visitor center was still inadequate for both staff and visitors.

Unlike many other Mission 66 visitor centers, whose modern architecture was now viewed as a visual intrusion on park resources (for example Gettysburg Battlefield), the Arches Visitor Center was well removed from the park landscape.³³⁵ Most of the issues revolved around ever-increasing visitation and how best to improve the use of both interior and exterior space around a much larger visitor center. Superintendent Poe convened a staff working group in the early 1990s to identify facility and visitor needs and develop a revised cost estimate.³³⁶ The working group developed a Preliminary Concept by May of 1994 for a 12,000 square foot visitor center, three times the size of the expanded 1960 facility, which would be demolished.³³⁷ The prospectus also called for major changes to the parking and entrance drive, to include two entrance stations; a bypass lane for employees, emergency vehicles and season passholders; an 80–100 car parking lot with room for 15–20 buses or large RVs; and a place for people to temporarily park 12–15 trailers and other recreational vehicles that were too long for the scenic drive. The visitor center itself would have 8,000 square feet of visitor/public space and 4,000 square feet of administrative space, adequate for 3,000 visitors per day (in 1994 the visitation was 2,000 per day).

The existing entrance station had been struck numerous times by RVs and had been the subject of complaints by fee collectors who felt that the building was not sufficiently ventilated and that they were being exposed to carbon monoxide from the many idling vehicles waiting in line. The U.S. Public Health Service did carbon monoxide testing in 1996 and 1997 (during Jeep Safari) and found that carbon monoxide levels were within the normal range, but recommended running the swamp cooler fan more frequently to better circulate the air.³³⁸ Despite the advance planning, staff continued to debate basic design aspects of the project as recently as 2000, including using the Rock House as the fee collection station.³³⁹

Although the need was genuine, and the prospectus identified many necessary attributes (such as 24-hour accessible restrooms) and greatly improved interpretive facilities, such a project was ranked by region as the 46th priority, and number 11 of the parks in Utah.³⁴⁰ Despite this setback, Arches was able to secure the services of NPS Historic American Engineering Record Historian Christine L. Madrid to perform a Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) documentation of the entrance road, culvert, and 1960 visitor center in 1993 (Figure 7-8).³⁴¹ Madrid's studies provided the necessary detailed recordation and historical background under NHPA for the visitor center to be demolished and the entrance road to be realigned, abandoning the CCC-built culvert.



7-8. The Mission 66 Visitor Center, summer 1993, as documented in the Historic American Engineering Record by historian Christine L. Madrid. Madrid HABS-HAER Report on Entrance Road ARCH 2845 UT-70-02. (Photo credit: Brian C. Drogan).

Despite Poe's personal presentations to Utah Senator Bennett's office, the \$10.3 million project was repeatedly deferred due to lack of funding and more pressing priorities.³⁴² In 1997, leaks in the existing visitor center roof became worse, damaging some of the exhibits.³⁴³ Arches was forced to undertake an emergency reroofing project during the winter of 1997–1998 to prevent further damage.

Ultimately it was the pressing need to address the dangerous intersection of the park entrance road with US 191 that pushed the project to the forefront. The existing intersection was located too near the blind curve in Moab Canyon (Figure 7-9a and b). SEUG Superintendent Walter Dabney initiated consultation with UDOT regarding the entrance in 1996.³⁴⁴ Memorial Day weekend of 1999 witnessed traffic backed up in both directions on US 191 leading into the park, leading the Utah Highway Patrol to write a letter in support of relocating the entrance road (and foreshadowing a similar situation in 2015).³⁴⁵ NPS and UDOT collaborated on the new entrance road, with each providing funds; UDOT managed the contract for the road and park entrance and NPS designed and managed the construction of the new entrance stations, using \$1.837 million in Public Lands Highway program funds.³⁴⁶ Although an overpass of US 191 over the entrance road was considered for the project, it was dropped early in the design process due to expense.³⁴⁷ Funds were allocated in FY 2002 and 2003, with a contract issued in 2003.

At the same time, SEUG Resource Division Ecologist Charlie Schelz began work in 2002–2004 on a historic photograph project, searching local and regional museums and repositories for historic images of all of the SEUG units.³⁴⁸ For Arches, the intention was to rephotograph selected locations and obtain images that could be utilized in a study of historic vegetation change.³⁴⁹ Schelz located the photographs of Arches that were taken by George L. Beam in 1923. CNHA provided funding for some equipment and technician time (including Sandy Griffith) for scanning the images. Some of his images were used in the vegetation study at Arches, and two images were used in a new exhibition in the new visitor center to illustrate the story of how Arches came to be proclaimed a national monument, as described in Chapter 2.³⁵⁰

Construction of the entrance road included new turn lanes on US 191 and a paved bike path that utilized the old roadbed of US 450, and was completed in August 2003. The entrance station project took place September 2003 to April 2004, with a dedication ceremony on July 1, 2004 (Figure 7-10).

Utah Senator Robert Bennett helped provide the congressional push to get the new Arches Visitor Center on the fast track, concurrently with the entrance road project:

The Development Advisory board approved the Arches visitor center project in May 2002. Senator Bennett secured funding of \$6.8 million for the project as an earmark in the FY 2003 budget. A solicitation was posted in the CBD in mid-May 2003. The building design was completed by VCBO Architects, and the construction contract was awarded to Hogan Construction in April 2004. Construction began in June 2004 and the project was completed (with the exception of modifications) on schedule in August 2005. Exhibit installation by Southern Customs, Inc. (and overseen by Harpers Ferry Center) was completed in mid-August 2005. A ribbon-cutting event for the new 18,000 square foot visitor center held September 17, 2005 was attended by over 300 people. Participants included [NPS] Director Fran Mainella, local elected officials, and members of the National Park Foundation board of directors.³⁵¹ (Figure 7-11).



7-9a. Arches National Monument entrance from the cliff above the NPS residences, 1964. ARCH 104/00082, SEUG Archives. (Photo credit: Mulhern).



7-9b. Arches National Monument entrance from the slope south of US 160, 1964. ARCH 104/000076, SEUG Archives. (Photo credit: Mulhern).



7-10. The 2004 park entrance station, January 2017. (Photo credit: David E. Purcell).

Re-establishing mature native vegetation around the visitor center took many more years of effort.³⁵² The landscape company that was contracted for the job was hampered by inexperience with desert environments and vegetation, an unscrupulous nursery, and fill dirt that contained invasive non-native seeds. By 2009 the visitor center picture window provided a nice view of head-high Russian thistle. Frustrated with the poor performance of contracted restoration services, SEUG established their own landscape restoration program, collected native seeds from within the park, and had a local nursery sprout and grow the seedlings. During 2011–2012, SEUG re-landscaped the area using the native plants, an effort directed by SEUG Vegetation Specialist Mary Moran. The project also entailed creating a new version of the Desert Nature Trail loop in 2017, with some ethnographic interpretation of the plants from the recently completed ethnographic study directed by the cultural resources staff.



7-11. The 2005 visitor center provides spectacular views of the Moab Fault and the Three Penguins from within the building, but blends harmoniously with the sandstone cliffs on the exterior, January 2017. (Photo credit: David E. Purcell).

Notes

¹ National Park Service, Foundation Document: Arches National Park, Utah. (National Park Service, U.S. Department of the Interior, 2013). This statement is not meant to imply that all needed management documents have been completed, nor that they are static. This was the initial slate of management documents, all of which require periodic revision. Changing legal mandates also require new documents, including the 2013 Foundation Document, which details current planning needs. Among these are the Climbing and Canyoneering plan (discussed in Chapter 6), Climate Change Adaptation, Visitor Use Management, Southeast Utah Group Soundscape Management, Commercial Services, and Backcountry Management plans.

² Arthur Paulson, *Realignment and Party Revival: Understanding American Electoral Politics at the Turn of the Twenty-First Century*. (Westport, Connecticut: Praeger Publishers, 2000). Paulson traces the current ideological and party polarization to the period 1964–1972, when long-standing regional coalitions dissolved and both political parties experienced significant realignment, largely resulting from Southern white voters departing the Democratic Party for the Republican Party over Civil Rights. The current return to ideological polarization results from several decades of centrist voting and erosion of the parties, and a renewed need to market each party as a cohesive political brand.

- ³ Murray Shoemaker, Interview of Frank Darcey, Former Arches National Park Chief of Maintenance, January 23, 2002, p. 20. ARCH 3860, Southeast Utah Group (SEUG) Museum, National Park Service (NPS).
- ⁴ Julian Simon, *Hoodwinking the Nation*. (New Brunswick, New Jersey: Transaction Publishers, 1999).
- ⁵ National Park Service, Arches NP Annual Park Recreation Visitation (1904–Last Calendar Year). (Electronic document [https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20\(1904%20-%20Last%20Calendar%20Year\)?Park=ARCH](https://irma.nps.gov/Stats/SSRSReports/Park%20Specific%20Reports/Annual%20Park%20Recreation%20Visitation%20(1904%20-%20Last%20Calendar%20Year)?Park=ARCH), viewed April 2, 2018).
- ⁶ Hugh G. Schmidt, Monthly Narrative Report, Arches, Moab, Utah, March 23, 1942. Arches National Park Administrative Collection, ARCH 101/001-003, Southeast Utah Group (SEUG) Archives, National Park Service (NPS).
- ⁷ Harry Reed, Arches National Monument, Moab, Utah, Report for February 1938. 8NS-079-94-139, National Archives and Records Administration (NARA), Bloomfield, Colorado.
- ⁸ Bates E. Wilson, Memorandum for the Regional Director, Region Three: There follows a Narrative Report of activities in Arches National Monument for the month of May, 1949, May 29, 1949. Arches National Park Administrative Collection ARCH 101/001-010, SEUG Archives.
- ⁹ Bates E. Wilson, Monthly Narrative Report for the month of June, 1950, June 29, 1950. ARCH 101/001-011, SEUG Archives.
- ¹⁰ Roby R. Mabery, Superintendent's Monthly Narrative Report-1 M1 for October 1962, November 2, 1962. ARCH 101/001-023, SEUG Archives.
- ¹¹ "Four millionth Visitor Treated Like Royalty in Arches, Moab," *The Times-Independent*, Thursday, October 11, 1979.
- ¹² "8 Millionth Visitors ...," *The Times-Independent*, Thursday, May 3, 1990.
- ¹³ Mary Wilson, "Arches Welcomes One-Millionth Visitor." (Electronic document <http://www.nps.gov/arch/learn/news/news112310.htm>, viewed February 24, 2016).
- ¹⁴ Eric Trenbeath, "National Parks Scramble to Keep Up With the Crowds," *High Country News*, July 13, 2015. (Electronic document http://www.hcn.org/articles/arches-crowds-tourism-national-parks-utah/print_view, viewed November 23, 2015).
- ¹⁵ REI Celebrates the NPS Centennial [video]. (Electronic document <https://findyourpark.com/stories/rei-celebrates-nps-centennial>, viewed February 8, 2019).
- ¹⁶ Marilyn Hof and David W. Lime, Visitor Experience and Resource Protection Framework in the National Park System: Rationale, Current Status, and Future Direction. In *Proceedings—Limits of Acceptable Change and Related Planning Process: Progress and Future Directions*, 1997, May 20–22, Missoula, MT, compiled by Stephen F. McCool and David N. Cole, pp. 29-36. General Technical Report INT-GTR-371. (Ogden, Utah: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, 1997).
- ¹⁷ Robert E. Manning, David W. Lime, and Marilyn Hof, Social Carrying Capacity of Natural Areas: Theory and Application in the U.S. National Parks. (Natural Areas Journal, Vol. 16, No. 2, 1996).
- ¹⁸ Marilyn Hof, Jim Hammett, Michael Rees, Jayne Belnap, Noel Poe, Dave Lime, and Bob Manning, Getting a Handle on Visitor Carrying Capacity – A Pilot Project at Arches National Park. (Park Science, Winter 1994).
- ¹⁹ Hof and Lime (1997), p. 29.
- ²⁰ James B. Thompson, Acting Regional Director, Rocky Mountain Region, Memorandum: Fiscal Year 1983 General Management Plan Program, May 14, 1982. ARCH 101/003-018, SEUG Archives.
- ²¹ Hof et al. (1994), p. 12.
- ²² Anonymous, "Visitor Characteristics—Arches" (holographic notation "1989"). ARCH 101/003-036, SEUG Archives.
- ²³ Wayne Shelley, "A Study of Attendance at Arches National Park." ("January 1990" holographic notation); cover letter Dale J. Stevens, Professor of Geography, Brigham Young University to Paul Guraedy, February 21, 1990. Larry W. Frederick, Chief Interpreter, Arches and Canyonlands National Parks, to Al Galipeau, National Park Service, Denver Service Center, April 12, 1990. ARCH 101/003-036, SEUG Archives.
- ²⁴ Paul Guraedy, Memorandum: Recommendations Based on Current Park Visitation Levels. April 4, 1990. ARCH 101/003-036, SEUG Archives.
- ²⁵ Albert A Galipeau to Larry W. Frederick, April 18, 1990. ARCH 101/003-036, SEUG Archives.

- ²⁶ Lorraine Mintzmyer, Memorandum: Request for Social Science Assistance, Visitation Trends at the Southeast Utah Group. April 11, 1990. ARCH 101/003-036, SEUG Archives.
- ²⁷ Paul Guraedy, "Visitor Impact Management Program: Meeting May 10, 1990 at 1:30 P.M. May 1, 1990." Arches National Park Administrative Collection, ARCH 101/003-036, SEUG Archives.
- ²⁸ Tony Schetzle, Memorandum: Call for Social Science Research Requests. September 26, 1990. ARCH 101/003-036, SEUG Archives.
- ²⁹ Noel R. Poe, Memorandum: Request for Visitor Services Project Survey for FY93. February 26, 1992. ARCH 101/003-036, SEUG Archives.
- ³⁰ Joel V. Kussman, Memorandum: Denver Service Center Travel to Arches National Park at Moab, Utah during the period of April 20 to April 23, 1992. By fax, April 10, 1992. ARCH 101/003-036, SEUG Archives.
- ³¹ Hof and Lime (1997), p. 30.
- ³² General Management Plans have since been replaced with Foundation Documents. Arches Foundation Document (2013, p. 5) "is necessary to effectively manage the park over the long term and protect park resources and values that are integral to the purpose and identity of the park unit and to address key issues affecting management." Updated visitor use information, trail use and visitor use patterns were identified as a high-priority data need, required before other decisions can be made as "visitors are the biggest stressors to natural and cultural resources." (Foundation Document 2013, p. 39). In the final analysis, visitor use parkwide was identified as one of the key parkwide or major issues confronting Arches National Park, and the Foundation Document (2013, p. 37) recommended reprising the park indicators and standards, but also acknowledging that "current resource staffing is inadequate for designing, implementing, and managing necessary monitoring or other resource-stewardship activities."
- ³³ Arches Foundation Document (2013), Appendix A: Elements of the VERP Framework.
- ³⁴ Peter Bungart, Interview with Noel Poe, June 23, 2018, Clip 0004."I had heard rumors that there may be a pilot project coming up to address visitor use management and so on my first trip in the region once I became the superintendent at Arches ... I sat down with some of the planning people that I knew in the Denver Service Center and talked about visitation at Arches and something needed to be done and you know I laid out my ... problems there at Arches and found out that yes, they were looking at doing the visitor use management planning of some type and that they were looking at two parks ... to be pilot parks and so without consulting with Harvey Wickware my supervisor I suggested well, Arches would be a great park."
- ³⁵ Bungart (2018), p.31.
- ³⁶ Paul Guraedy, "Visitor Impact Management Program – Arches National Park, August 30, 1989." ARCH 101/003-036, SEUG Archives.
- ³⁷ John Austin, Visitor Experience and Resource Protection Lessons: Volume 1 Dealing with Subject Matter Experts Teamwork and Social Dynamics among Planners, U.S. Department of the Interior, National Park Service, Denver Service Center, October 1995. (Electronic document <https://irma.nps.gov/DataStore/>, viewed June 13, 2018).
- ³⁸ Dave Lime and Bob Manning, "Arches National Park – VERP Informal Interview (Summer 1992 – Lime and Manning)." ARCH 101/003-036, SEUG Archives.
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- ²²⁴ Dan Schultz, *Dead Run: The Murder of a Lawman and the Greatest Manhunt of the Modern American West* (New York: St. Martin's Press, 2013), pp. 244–262. Schultz dedicated an entire chapter to analyzing the motives of the three men in stealing the truck. McVean was a fan of Edward Abbey's *The Monkey Wrench Gang* (1975), a fictional account of an attempt to demolish Glen Canyon Dam that is discussed further in Chapter 8. McVean claimed to have read it 17 times, and a well-worn copy with passages underlined and with marginal notes was found in his possession after his body was found. Although the police investigation suggested several other possible uses for the truck, including drug smuggling or a robbery of the Ute Mountain Ute casino in Cortez, the truck itself was less than ideal for those crimes and destruction of Glen Canyon Dam remains the best guess for a motive.

- ²²⁵ Ben Winslow, *Manhunt: A 9-year mystery may be solved*. Deseret News, June 7, 2007. (Electronic document <https://www.deseretnews.com/article/660227426/Manhunt-A-9-year-mystery-may-be-solved.html>, viewed June 18, 2018). The truck may have been stolen for use as a bomb, possibly to blow up Glen Canyon Dam (Mary Moran, personal communication, 2018).
- ²²⁶ Schultz, *Dead Run* (2003).
- ²²⁷ Penny F. Jones, Southeast Utah Group, Squad Meeting, June 9, 1998. CANY 743/01-014.3, SEUG Archives.
- ²²⁸ Winslow (June 7, 2007).
- ²²⁹ Schultz (2013), pp. 276–281, speculates that official police statements that Mason, Pilon, McVean and a fourth, unnamed, unindicted co-conspirator who was shot 4 months after Officer Claxton was killed, all committed suicide are incorrect. He asserts that Mason was murdered by either vigilante police officers or other paramilitary conspirators, that Pilon was shot by Mason, and that McVean and the fourth conspirator were murdered by other extremists.
- ²³⁰ Penny F. Jones, Southeast Utah Group, Staff Meeting, June 17, 1998. CANY 743/01-014.3, SEUG Archives.
- ²³¹ Schultz (2013).
- ²³² Laura E. Joss, Superintendent's Annual Narrative Report, Arches National Park, Fiscal Year 2004. ARCH 101/001-037, SEUG Archives.
- ²³³ Lisa Church, *Cunningham Receives Consecutive Sentences*, The Times-Independent, June 1, 2005. (Electronic document http://www.moabtimes.com/view/full_story/68693/article-Cunningham-receives-consecutive-sentences?, viewed September 10, 2018).
- ²³⁴ Lisa Church, *Trial for Texas Man Postponed*, The Times-Independent, November 19, 2004. (Electronic document http://www.moabtimes.com/view/full_story/67905/article-Trial-for-Texas-man-postponed?, viewed September 10, 2018).
- ²³⁵ Joss, Superintendent's Annual Narrative Report Fiscal Year 2004.
- ²³⁶ Church (June 1, 2005).
- ²³⁷ Penny F. Jones, Southeast Utah Group, Squad Meeting, June 7, 2005. CANY 743/01-014.9, SEUG Archives.
- ²³⁸ Penny F. Jones, Southeast Utah Group, Squad Meeting, June 7, 2005. CANY 743/01-014.9, SEUG Archives, p. 3.
- ²³⁹ Denver Service Center, *Significance of Arches National Park*, Statements from Legislative Record, June 24, 1992. ARCH 101/003-036, SEUG Archives. The 2013 Foundation Document expands on this (National Park Service, *Foundation Document: Arches National Park*, Utah. National Park Service, U.S. Department of the Interior, August 2013).
- ²⁴⁰ Arches National Park, "Purpose of Arches National Park." ARCH 101/004-008, SEUG Archives.
- ²⁴¹ Larry Thomas, *Memorandum: Research Reports Available*, August 24, 1988. CANY 486/01-21. This document contains a table titled "The Research Projects Conducted in Southeast Utah Group" (Canyonlands and Arches National Parks and Natural Bridges National Monument), summarizing the research from the early or mid-1970s to 1988.
- ²⁴² Mary Moran, personal communication, 2018.
- ²⁴³ Lynn Cudlip, Kevin Berghoff, and David Vana-Miller, *Water Resources Management Plan Arches National Park and Canyonlands National Park*, January 1999. (Southeastern Utah Group, Moab, 1999).
- ²⁴⁴ Charles Schelz and Mary Moran, *Water Quality Monitoring*, Arches National Park, 1994–2004, December 2004. ARCH 3479, SEUG Museum Collection.
- ²⁴⁵ Rebecca Weissinger and Mary Moran, *Fourteen Years of Spring-Flow Data at Arches National Park*, September 2015. Natural Resource Report NPS/NCPN/NRR-2015/1018. (Fort Collins, Colorado: U.S. Department of the Interior, National Park Service, Natural Resource Stewardship and Science, 2015).
- ²⁴⁶ Mary Moran, personal communication, 2018.
- ²⁴⁷ Joss, Superintendent's Annual Narrative Report, Fiscal Year 2004.
- ²⁴⁸ Joss, Superintendent's Annual Narrative Report, Fiscal Year 2004.
- ²⁴⁹ Leslie Matthaiei, Kaitlin Shaw, and Matthew Smith. Southeast Utah Group Resource Management Records, CANY ACC-00486, Collection Number: CANY 486, April–July 2009.
- ²⁵⁰ Tara Williams, *Memorandum: 1995 Research Summaries*, April 1, 1996. CANY 486/01-27, SEUG Archives.
- ²⁵¹ SEUG 2005 Research (n.d.), CANY 486/01-36.

- ²⁵² William B. Sloan, A Herd History and Restoration Plan, Desert Bighorn Sheep, Arches National Park, January 22, 1996. ARCH 101/007-025, SEUG Archives.
- ²⁵³ John F. Hoffman, Arches National Park: An Illustrated Guide. (San Diego: Western Recreation Publications, 1985), p. 45.
- ²⁵⁴ National Park Service, Proposal for Regionwide Natural Resource Protection Preservation Program (NRPP) Project: Bighorn Sheep Occurrence and Status of Desert Bighorn, Canyonlands and Arches National Parks, 1991. CANY 486/013-133, SEUG Archives.
- ²⁵⁵ Paul Guraedy, Superintendent's Annual Report [1986]. ARCH 101/001-035, SEUG Archives.
- ²⁵⁶ Sloan (1996).
- ²⁵⁷ Menard (March 1, 1996).
- ²⁵⁸ Sloan (1996).
- ²⁵⁹ Bungart, Jayne Belnap, Clip 0007.
- ²⁶⁰ Bungart, Jayne Belnap, Clip 0007.
- ²⁶¹ National Park Service (August 2013).
- ²⁶² Steven Dewey, and Kimberly Andersen, An Inventory of Invasive Non-native Plants in Arches National Park (2003–2004) – Final Report. Prepared for the National Park Service, Northern Colorado Plateau Network by Utah State University. Plants, Soils, and Biometeorology; Weed Science Research Project Report No. SD0510A. ARCH 3486. (Electronic document <http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&ved=0ahUKEwiMgu7lwrXSAhUE6mMKHdHCr4QFggNMA&url=http%3A%2F%2Fdigitallibrary.utah.gov%2Fawweb%2Fawarchive%3Ftype%3Ddownload%26item%3D55498&usg=AFQjCNEmlMWO2AoectpebHmECir4Sbedsg>, viewed March 1, 2017).
- ²⁶³ Penny F. Jones, Southeast Utah Group, Squad Meeting, February 25, 2003. CANY 743/01-014.7, SEUG Archives.
- ²⁶⁴ Mary Moran, personal communication, 2018.
- ²⁶⁵ Sierra Club, History: Sierra Club Timeline. (Electronic document <http://vault.sierraclub.org/history/timeline.aspx>, viewed July 19, 2018).
- ²⁶⁶ Anthony J. Schetzle, Arches National Park Squad Meeting, August 6, 1990. CANY 339/66, SEUG Archives.
- ²⁶⁷ Penny F. Jones, Southeast Utah Group, Staff Meeting, April 16, 1997. CANY 743/01-014.2, SEUG Archives.
- ²⁶⁸ Penny F. Jones, Southeast Utah Group, Squad Meeting, December 12, 2000. CANY 743/01-14.5, SEUG Archives. Schmieding (2008, p. 252) notes that the I&M program actually began in 1992 as an in-house NPS program at selected parks. The 1998 National Parks Omnibus Management Act and 1999 NPS Natural Resource Challenge formally initiated the national program, funded by Congress in 2000. The Northern Colorado Plateau Inventory and Monitoring Network was created under this mandate in 2001. An earlier (1993) proposal for a Colorado Plateau study unit by Dr. Peter Rowlands of the NPS Cooperative Park Studies Unit at Northern Arizona University had not been implemented.
- ²⁶⁹ Penny F. Jones, Southeast Utah Group, Squad Meeting, June 26, 2001. CANY 743/01-14.6, SEUG Archives.
- ²⁷⁰ Penny F. Jones, Southeast Utah Group, Squad Meeting, October 14, 2003. CANY 743/01-14.7, SEUG Archives.
- ²⁷¹ Mary Moran, personal communication, 2018.
- ²⁷² Penny F. Jones, Southeast Utah Group, Squad Meeting, November 9, 1999. CANY 743/01-14.4, SEUG Archives.
- ²⁷³ Arizona Board of Regents, Northern Arizona University, Colorado Plateau Cooperative Ecosystem Studies Unit. (Electronic document <https://nau.edu/CEFNS/Forestry/CPCESU/About/>, viewed August 23, 2018).
- ²⁷⁴ CESU Network, Colorado Plateau Information Portal. (Electronic document http://www.cesu.psu.edu/unit_portals/COPL_portal.htm, viewed August 27, 2018).
- ²⁷⁵ National Park Service (August 2013), p. 10.
- ²⁷⁶ National Park Service (August 2013), p. 11.
- ²⁷⁷ National Park Service (August 2013), p. 12.
- ²⁷⁸ National Park Service (August 2013), p. 37.
- ²⁷⁹ Aron Ralston, Between a Rock and a Hard Place. (New York: Atria Books, 2004).
- ²⁸⁰ Wikipedia, 127 Hours. (Electronic document http://en.wikipedia.org/wiki/127_Hours, viewed December 10, 2014).
- ²⁸¹ Ralston (2004).
- ²⁸² Hoffman (1985), pp. 21, 76, 120.

- ²⁸³ Bates E. Wilson, Superintendent's Monthly Narrative Report-1 M1 for October 1962, November 2, 1962. ARCH 101/001-023, SEUG Archive.
- ²⁸⁴ Gordon C. Grender, to Ranger in Charge, May 6, 1982. The Documentation of Geologic Features of Arches National Park Collection, ARCH 137/001-001, SEUG Archives.
- ²⁸⁵ ARCH 2810.43-44. ARCH 101/007-030, SEUG Archives.
- ²⁸⁶ Hoffman (1985), p. 123.
- ²⁸⁷ Dale J. Stevens, "The Changing Dimensions of Landscape Arch in Arches National Park, Utah." (Draft Manuscript, 1995). ARCH 101/007-037, SEUG Archives.
- ²⁸⁸ Hoffman (1985), p. 123.
- ²⁸⁹ Anonymous, "Known Fallen Arches Since 1977." (Manuscript, ca. 1993). ARCH 101/007-037, SEUG Archives.
- ²⁹⁰ Anonymous, "Known Fallen Arches Since 1977."
- ²⁹¹ Noel R. Poe, to Diane Kelly, High Country News, July 3, 1995. ARCH 101/007-037, SEUG Archives.
- ²⁹² Stevens, Draft Manuscript, 1995.
- ²⁹³ Ed McCarrick, "Activity at Landscape Arch," SPAN, November 1991. ARCH 101/007-037, SEUG Archives.
- ²⁹⁴ Dale J. Stevens and J. Ed McCarrick, The Arches of Arches National Park, n.d. (manuscript). ARCH 137/004-019, SEUG Archives. Table 'Key to Ranking List (holographic notation "Table 3")' provides a key to the arch type abbreviations and the location abbreviation system initially used by Steven and McCarrick. The locational abbreviations remain in use but the arch types have been significantly revised.
- ²⁹⁵ Dale J. Stevens, "The Changing Dimensions of Landscape Arch in Arches National Park, Utah." October 2, 1995. ARCH 101/007-037, SEUG Archives. Published as "The Changing Dimensions of Landscape Arch in Arches National Park, Utah," SPAN, Vol. 7, No. 4, October 1995.
- ²⁹⁶ McCarrick (1991).
- ²⁹⁷ Michael Müller, "Report." (Switzerland: Manuscript, 1991). ARCH 101/007-037, SEUG Archives.
- ²⁹⁸ Anonymous, "Landscape Arch Photo Points." (Manuscript, 1991). ARCH 101/007-037, SEUG Archives.
- ²⁹⁹ Jim Webster, "Morning Report 6/12/95." (Memorandum, 1995). ARCH 101/007-037, SEUG Archives.
- ³⁰⁰ Penny F. Jones, Southeast Utah Group Squad Meeting, March 12, 2002. CANY 743/01-14.7, SEUG Archives.
- ³⁰¹ Paul Henderson, Wall Arch Collapses. (Electronic document <http://www.nps.gov/arch/learn/news/news080808.htm>, viewed February 22, 2016).
- ³⁰² Greg Kosa, personal communication, 2019.
- ³⁰³ Jennifer Dobner, "Popular, Snakelike 'Cobra' Rock Formation Beheaded in Utah," Reuters, August 6, 2014.
- ³⁰⁴ Jim Webster and Dave Wood. "Background and Questions for Arches Boundary Adjustment (Lost Spring Canyon Addition),"p. 7.
- ³⁰⁵ Bungart, Interview with Noel Poe, Clip 0007.
- ³⁰⁶ Arches National Park, Briefing Statement: Management of Lost Spring Canyon Wilderness Study Area. April 24, 1995. ARCH 101/001-039, SEUG Archives.
- ³⁰⁷ Noel Poe, personal communication, January 7, 2018.
- ³⁰⁸ "Special Use Permit: Outfitter Services/Canyoneering. Permit #IMR CANY 5300 02-CYN-01, dated 3/21/2002." ARCH 101/001-152, SEUG Archives.
- ³⁰⁹ Noel Poe, personal communication, January 7, 2018.
- ³¹⁰ Brent Israelsen, "Wild Cannon Idea: Expand Arches," The Salt Lake Tribune, February 25, 1997.
- ³¹¹ "Increased Acreage May Be Recommended for Arches," The Times-Independent, February, 27, 1997.
- ³¹² C. Patrick Cleary, "Environmentalists Doubt Lawmaker's Intentions for Park," The Daily Sentinel, March 2, 1997.
- ³¹³ "Cannon Tries A Better Park Plan," Deseret News, March 2, 1997.
- ³¹⁴ Access from the Delicate Arch parking lot was the first proposal for access. But walking several miles from the main road is faster and easier. (Mary Moran, personal communication, 2018).
- ³¹⁵ Brent Israelsen, "Annexation Proposal Nears Vote in Congress," The Salt Lake Tribune, March 17, 1997.
- ³¹⁶ Webster and Wood, Background and Questions for Arches Boundary Adjustment.
- ³¹⁷ Anonymous, "Legislative Support Package: Lost Spring Canyon Addition, Arches National Park. Revised September 12, 1997," ARCH 101/006-025, SEUG Archives.
- ³¹⁸ Jim Stiles, "Take It or Leave It," The Zephyr, April-May 1997.

- ³¹⁹ Jerry Stocks, John Keogh, and Ray Tibbets [sic] to Cris [sic] Cannon, U.S. House of Representatives. Fax, April 14, 1997. ARCH 101/006-025, SEUG Archives.
- ³²⁰ "Arches Expansion Bill Passed U.S. House Panel," The Times-Independent, October 30, 1997.
- ³²¹ Cleary (March 2, 1997), p. 1.
- ³²² Arches National Park, "Lost Spring Canyon," (Electronic document <https://home.nps.gov/arch/planyourvisit/upload/LostSpringCanyon.pdf>, viewed January 2, 2019).
- ³²³ C. Patrick Cleary, "Panel Oks Bill Adding to Utah park," The Daily Sentinel, October 25, 1997.
- ³²⁴ "Sen. Bennett in Favor of Enlargement of Arches in Committee Testimony," The Times-Independent, July 16, 1998.
- ³²⁵ Vicki Webster recalled "This was the day Newt Gingrich stepped down from the Speakership [of the House of Representatives]. When Cannon's aides received the news on their cell phones, they urged him to cut his visit short and leave immediately. But, Cannon insisted on staying for a while, striding forthrightly out to the rim of the Canyon and declaring, 'I did a good thing here.'" Personal communication, 2017.
- ³²⁶ "Dedicating Lost Spring Canyon," The Times-Independent, November 12, 1998.
- ³²⁷ Public Law 105-335 (112 Stat. 2129), 105th Congress, Second Session, October 31, 1998 – Utah Schools and Lands Exchange Act of 1998.
- ³²⁸ Shoemaker (2002).
- ³²⁹ Schmieding (2008), p. 178.
- ³³⁰ Anonymous, Planning Status: Arches/Canyonlands Combined Visitor Center at Arches, n.d., ARCH 101/003-022, SEUG Archives.
- ³³¹ Anonymous, Meeting Notes: Arches Interpretive Planning "Task Force" – October 28, 29, 30, 1987. ARCH 101/003-022, SEUG Archives.
- ³³² Noel R. Poe, 1993 Superintendent's Annual Report, Arches National Park. ARCH 101/001-035, SEUG Archives.
- ³³³ Anonymous, Meeting Notes, pp. 17–20.
- ³³⁴ Anonymous, Meeting Notes, p. 19. At the time of Frank Darcey's interview (2002) he was still lamenting that he had been unable to convince anyone at the park to double the restroom capacity, noting that "to this day they're still resisting it. They say 'Well, some point in time we're going to build that new then-million-dollar Visitor Center, and so it's going to be a moot point.'"
- ³³⁵ Madrid French, Christine. The Emergence of the Mission 66 Visitor Centers. In Mission 66 – Modern Architecture in the National Parks. Viewed June 11, 2015 at <http://www.mission66.com/documents/intro.html>.
- ³³⁶ Noel R. Poe, Arches National Park, Preliminary Concepts Concerning New Visitor Center (see 5/93 revision of 10-238, Pkg #160), 5/5/94. ARCH 101/003-003, SEUG Archives.
- ³³⁷ Poe, New Visitor Center.
- ³³⁸ Penny F. Jones, Southeast Utah Group, Staff Meeting, April 16, 1997. CANY 743/01-014.2, SEUG Archives.
- ³³⁹ Penny F. Jones, Southeast Utah Group, Squad Meeting, November 28, 2000. CANY 743/01-014.5, SEUG Archives.
- ³⁴⁰ Noel Poe, Info for our telephone call on Wednesday. ARCH 101/003-098, SEUG Archives.
- ³⁴¹ Madrid, Christine L. Arches National Park Main Entrance Road, Beginning at U.S. Highway 191, approximately 6 miles North of Moab, Moab Vicinity, Grand County, Utah. HAER No. UT-70. Photographs, Written Historical and Descriptive Data. Washington, D.C.: Historic American Engineering Record, National Park Service, Department of the Interior, 1993a; Madrid, Christine L. Arches National Park Main Entrance Road, Moab Canyon Wash Culvert, Spanning Moab Canyon Wash at Main Entrance Road, Moab Vicinity, Grand County, Utah. HAER No. UT-70-A. Photographs, Written Historical and Descriptive Data. Washington, D.C.: Historic American Engineering Record, National Park Service, Department of the Interior, 1993b; Madrid-French, The Emergence of the Mission 66 Visitor Centers.
- ³⁴² Noel Poe, Status of New Visitor Center. ARCH 101/003-098, SEUG Archives.
- ³⁴³ Black-and-white and color 35 mm slides and prints of the visitor center reroofing, ARCH 2797-2799, SEUG Museum Collection.
- ³⁴⁴ Walter D. Dabney, Superintendent, to Sherri Griffith, Commissioner, Utah Department of Transportation, November 8, 1996, ARCH 101/003-071, SEUG Archives.
- ³⁴⁵ Penny F. Jones, Southeast Utah Group, Squad Meeting, June 1, 1999. CANY 743/01-014.4, SEUG Archives.

³⁴⁶ Arches National Park, Briefing Statement: New Visitor Center and Entrance Road for Arches National Park. January 25, 2006. ARCH 101/001-040, SEUG Archives.

³⁴⁷ Penny F. Jones, Southeast Utah Group, Staff Meeting, July 21, 1999. CANY 743/01-014.4, SEUG Archives.

³⁴⁸ Joss, Superintendent's Annual Narrative Report, Fiscal Year 2004.

³⁴⁹ Penny F. Jones, Quarterly Project/Planning Meeting Status, June 7, 2005. CANY 743/01-13, SEUG Archives.

³⁵⁰ Vicki Webster, personal communication, 2017.

³⁵¹ Vicki Webster, personal communication, 2017.

³⁵² Mary Moran, personal communication, 2018.

8

Icons and Legacies: Hollywood, Edward Abbey, and Delicate Arch

One of the significant drivers of visitation at Arches has been the increasing exposure of this unique landscape through film and literature. Although the images of George L. Beam were directly responsible for generating political support for the creation of Arches National Monument, they were never viewed by the public. Frank Oastler's photographs were used to build support for Arches' proclamation through their publication in the *New York Times Magazine* in 1926, and their presentation as slide shows in New York during the same period. Hugh S. Bell's 1927 color images of Double Arch and Double O Arch were published in the May 1936 *National Geographic Magazine* as part of a larger article about Utah, marking one of the first publications about the new monument. Custodian Hugh M. Schmidt noted in March 1941 that "many of the visitors made the trip into the Windows section and Courthouse Towers for the express purpose of taking pictures."¹ The National Park Service also took photographs for interpretation and promotional purposes. During 1939, the various units of Southwestern National Monuments circulated a Retina camera with Kodachrome color film, with Arches receiving the camera in April from Bandelier with instructions to send it along to Death Valley after obtaining images of Arches and, if possible, Natural Bridges.²

During the decade of the 1940s, the Monthly Narrative Reports sent to the superintendent in Casa Grande reported 41 times that still or moving images of Arches were taken for various intended uses.³

Six of these were photographic expeditions by NPS or U.S.

Department of the Interior personnel, including Custodians Henry Schmidt and Russell Mahan, Ranger Harry Reed, and George Grant of the Department of the Interior. Many images in the Arches photographic collection that lack dates or attribution were probably made during this period; some information can be determined based on documented changes to the Arches infrastructure (for example Figure 3-25b). Some months were notable for having multiple professional photographers at work, including October 1946 (Bernard B. Freeman, Bill Sears, Ray Garner, and Josef Muench⁴), July 1947 (George Grant, an unnamed *Life* photographer, Graphic Pictures, and D. Gilbert Lueninghoemer [name partially obscured on image of the report]), August 1947 (Ladd Goodman, P. M. Metzger, Hubert Lowman, and Frank Wise),

and May 1948 (Jack White, Peter Alt, and Catherine and Dick Freeman). Many of the images were published: *Arizona Highways* (June 1947); "Land of Many Arches" in *Buick Magazine* (September 1946); *Denver Post* (February 24, 1946); "Land of the Arches" in *Ford Times* (June 1948); *Life* (cover in 1953, see below); "Utah's Arches of Stone" in *National Geographic Magazine* (September 1946); *National Parks* (October 1946); *The Desert Magazine* ("Utah's Incredible Arch of Stone," August 1948 and cover October 1948); *Utah Magazine* (June 1947); and as part of the View-Master stereoscope reel "Utah" (1956).⁵ Images were also taken for educational slideshows (4), newsreel movies (1), educational movies (2), travelogues (3), and undetermined purposes (4). The prominence accorded to professional

VISITOR COMMENT ON PHOTOGRAPHY

"My husband and I noticed a problem with visitors approaching and posing at the arch at sunset while photographers were trying to photograph the landscape, especially at the last crucial minutes, perhaps 1) some explicit signage could be posted regarding photography etiquette, 2) a ranger could be posted at sunset to regulate traffic flow, or 3) particular evenings could be set aside for photographers only."

Visitors from Hoschton, Georgia, April 14,

photographers in the Monthly Narrative Reports can give the impression that they were the monument's only visitors, but casual tourists were also visiting and snapping their own photographs.

In the early 1950s, the NPS would loan 5 x 7 photographic prints to people who wrote requesting them, asking only that they be returned, and that if the images were used in a publication that the National Park Service be credited.⁶ Region Three initiated a photographic campaign in 1951 of "pictures of 'bad spots' for use in justifying requests for increased appropriations," preferably in an 8 x 10 format.⁷ Congested campgrounds and parking areas, inadequately guided tours, vandalism, lack of storage, deficient housing, deteriorated facilities, and inadequate checking stations were offered as examples for documentation. By 1960, the NPS Washington Office had developed a list of photographers in each region "who are known to have done exceptionally good photography in the past, and who might be called upon for special photographic assignments within their respective Regions."⁸ Lloyd Pierson at Arches was identified as one of 18 in Region Three, although the compiler admitted that the list was not complete.

Hollywood first came to the Moab area in 1940 to appease "motion picture fans [who] are demanding a change in settings, most of the Westerns having been made in California whose scenic settings have become stale."⁹ Arches was exploited as an unknown Western landscape, beginning with *Fort Apache* in 1947. Edward Abbey's 1968 autobiographical essay *Desert Solitaire* made Arches a very specific place, and linked it with the rising environmental movement of the 1960s. It was exposure in magazine articles and later movies that helped bring Delicate Arch into the monument boundaries in 1938, and brought eventual international celebrity status. Delicate Arch has been the setting for unauthorized stunts, yoga poses, and "selfies" as well as a frame for Olympic pageantry, and it is often depicted as the de facto symbol of both Utah and the National Park Service. Arches' ever-increasing visitation directly reflects its exposure on film, Abbey's legacy of iconoclastic environmental writing, and the ascendance of Delicate Arch as an icon.

Movies in Moab

Commercial filming in Arches National Monument was a concern for the National Park Service long before the first theatrical movie was actually filmed. In 1939, Custodian Harry Reed, himself an avid still photographer, wrote to Superintendent Frank Pinkley with questions about the type of filming that might require high-level authorization. Although Reed's memorandum is missing from the string of correspondence, he was probably writing in response to filming at Arches by Universal News Reel and the D&RGW in June 1938.¹⁰ In his reply, Pinkley outlined the current regulations regarding filming:

*Only filming of motion pictures which require the use of artificial sets or the performance of a professional cast are included in the regulation which requires Secretarial permission. Newsreel films are not included and do not require advance approval, though it is the Custodian's duty to see that no damage is done to natural features. It would be well to approach the person in charge of photography, and ascertain exactly what is intended. If Secretarial approval is required, instruct him to telephone this office so that the case may be presented to the Director of the National Park Service by wire, though the large motion picture companies are all familiar with the regulations and presumably would not attempt to enter the area with artificial sets or a professional cast, without having first obtained Secretarial permission. In such a case you would simply ask to see a copy of the approval. Should any infraction of the regulations actually arise, it would be well to telephone this office, charges collect before you take any drastic action.*¹¹

John Ford is credited as the first director known to have filmed a movie in Arches National Park (Table 8-1).¹² In 1947 he filmed *Fort Apache* in Arches, Dead Horse Point State Park, and Goosenecks State Park in Utah as well as locations in Arizona and California. *Fort Apache* starred Henry Fonda, John Wayne, and Shirley Temple and was released in 1948.¹³ Other directors followed suit; approximately one movie per year was filmed in the Moab region into the 1980s, with Ford returning to the area for *Wagon Master* (1950), *Rio Grande* (1950), and *Cheyenne Autumn* (1964; Figures 8-1 to 3). Between 1948 and 1989, 20 films were made in Arches, including episodes of three television series.¹⁴ In anticipation of the widespread advent of color television, NPS Director A. E. Demaray issued a memorandum in 1951 calling for the National Park Service to develop “well conceived television program units of 5-, 10-, 15-, and 30-minute programs built around color motion pictures and slides.”¹⁵ Demaray further recommended that all slide collections be reviewed for vertical (portrait) compositions, which should be replaced with the more television-friendly horizontal (landscape) format.

Bates Wilson, outside of his duties as Arches superintendent, was a production assistant to John Ford and served on the Moab Movie Committee, the precursor to what is now the longest-extant movie commission in the world.¹⁶ During this period, Professor Valley, Dead Horse Point, Castle Valley, and Fisher Towers were also favorite locations.¹⁷ None of the storylines were set in the specific landscapes portrayed in the film, however. Most were set in historic New Mexico Territory (southern Arizona or New Mexico), or in some unspecified archetypal post-Civil War “Western” landscape; the one exception was *Ten Who Dared* (1960), which chronicled John Wesley Powell’s exploration of the Colorado River, and was filmed in Utah, including Arches.¹⁸ Ford often edited his films to dramatic effect, with a chase on horseback or a wagon train passing through Arches, Monument Valley, Goosenecks, Castle Valley, and other locations all within the span of a few minutes in a single scene. As these locations were relatively unfamiliar to movie audiences of the time, and the stories were more mythic than representational; the specific landscape of Arches did not immediately develop a deep connection with the public.

VISITOR COMMENT ON FILMING

“I would like to express my displeasure concerning the filming at Balanced Rock. I think commercial movie making is inappropriate, particularly since the entire pullout was blocked by filming equipment. I hope this comment will be considered when requests are made for future commercial film making. Otherwise I enjoyed the area very much. Thanks.”

Visitor from Mt. Rainier National Park, Washington, November 26, 1981

The table above does not list non-commercial educational films, a number of which were filmed in Arches and Canyonlands during the 1970s (but are not tracked by IMDb, the Internet movie database). The SEUG Archives list six educational or travelogue films for which a permit was requested, including two from the Walt Disney Company.¹⁹ The others were produced by independent production companies, and may never have been completed. Additionally, the 1970s witnessed the use of Arches in a calendar shoot, still photography for camping equipment advertising, and two different automobile television commercials (for Ford Parts and Toyota Trucks). In 1981, Arches issued a permit to director Ridley Scott to film a scene for the movie *Blade Runner*, involving a fast-moving car driving through the Courthouse Towers area;²⁰ it is unclear from the Archives whether the scene was ever filmed.²¹ If so, the scene was cut from the theatrical release and is not listed among the 17 filming locations for *Blade Runner* on IMDb.²² In 1983 Federal Express filmed a commercial in Arches National Park, during which a set for “Fred’s Rocks” was constructed, leading at least one visitor to complain about the preferential treatment shown by the NPS to “Fred.”²³

Table 8-1. Motion Pictures Filmed in Arches National Park²⁴

Year Released	Title	Director
1948	<i>Fort Apache</i>	John Ford
1952	<i>The Battle at Apache Pass</i>	George Sherman
1952	<i>Death Valley Days</i> (TV Series) episode unknown	Edward Ludlum & Frank McDonald
1954	<i>Taza, Son of Cochise</i>	Douglas Sirk
1959	<i>Warlock</i>	Edward Dmytryk
1960	<i>Ten Who Dared</i>	William Beaudine
1961	<i>Gold of the Seven Saints</i>	Gordon Douglas
1964	<i>Rio Conchos</i>	Gordon Douglas
1964	<i>Cheyenne Autumn</i>	John Ford
1965	<i>The Greatest Story Ever Told</i>	George Stevens
1971	<i>Wild Rovers</i>	Blake Edwards
1972	<i>Alias Smith and Jones</i> (TV Series) ¹	Alexander Singer
1972	<i>Run, Cougar, Run</i>	Jerome Courtland
1975	<i>Against a Crooked Sky</i>	Earl Bellamy
1983	<i>The Returning</i> ²	Joel Bender
1984	<i>Airwolf</i> (TV Series) episode <i>Fortune Teller</i>	Sutton Roley
1988	<i>Death Street USA</i> (AKA “ <i>Nightmare at Noon</i> ”)	Nico Mastorakis
1988	<i>Aurora</i>	Christopher Kulikowski
1989	<i>Sundown: The Vampire in Retreat</i>	Anthony Hickox
1989	<i>Indiana Jones and the Last Crusade</i>	Steven Spielberg
1991	<i>Thelma & Louise</i>	Ridley Scott
1992	<i>Baraka</i> (Documentary)	Ron Fricke
1993	<i>Josh and S.A.M.</i>	Billy Webster
1993	<i>Knights</i> ²	Albert Pyun
1993	<i>Slaughter of the Innocents</i>	James Glickenhaus
1994	<i>City Slickers II: The Legend of Curly's Gold</i>	Paul Weiland
1994	<i>Pontiac Moon</i> ²	Peter Medak
1994	<i>Speechless</i> ²	Ron Underwood
1996	<i>Cheyenne</i>	Dimitri Logothetis
1996	<i>Zion Canyon: Treasure of the Gods</i> (Documentary)	Keith Merrill
1999	<i>The Argument</i> (Short)	Donald Cammell
2000	<i>Nurse Betty</i> ³	Neil LaBute
2003	<i>Hulk</i>	Ang Lee
2005	<i>Don't Come Knocking</i>	Wim Wenders
2005	<i>Arches and Canyonlands: Park Basix</i> (Documentary)	David Ellis & Dan Gallagher
2007	<i>All the Days Before Tomorrow</i>	François Dompierre
2007	<i>Moving McAllister</i>	Andrew Black
2007	<i>American Psyche</i> (Documentary)	Paul van den Boom
2008	<i>Living Temples</i> (Video)	Jan Nickman
2008	<i>TTN: Passport Redrock</i> (Short)	Thomas Gomez Durham & Clark Schaffer
2014	<i>HOMEWARD</i>	Nicco Quiñones

¹ Episode *High and Lonesome Country*. Stanton (1994, p. 181) also lists the series pilot as having been partly filmed at Arches.

² Identified by Arches staff, but not listed on IMDb as having been filmed at Arches.²⁵

³ IMDb does not list Arches among the filming locations, but notes as a continuity error that the landscape of the Three Gossips and Courthouse Wash is shown shortly after a sign for Grand Canyon National Park is depicted.



8-1. Filming Warner Brothers movie *Gold of the Seven Saints* in 1961. ARCH 104/000042, SEUG Archives. (Photo credit: Lloyd Pierson).

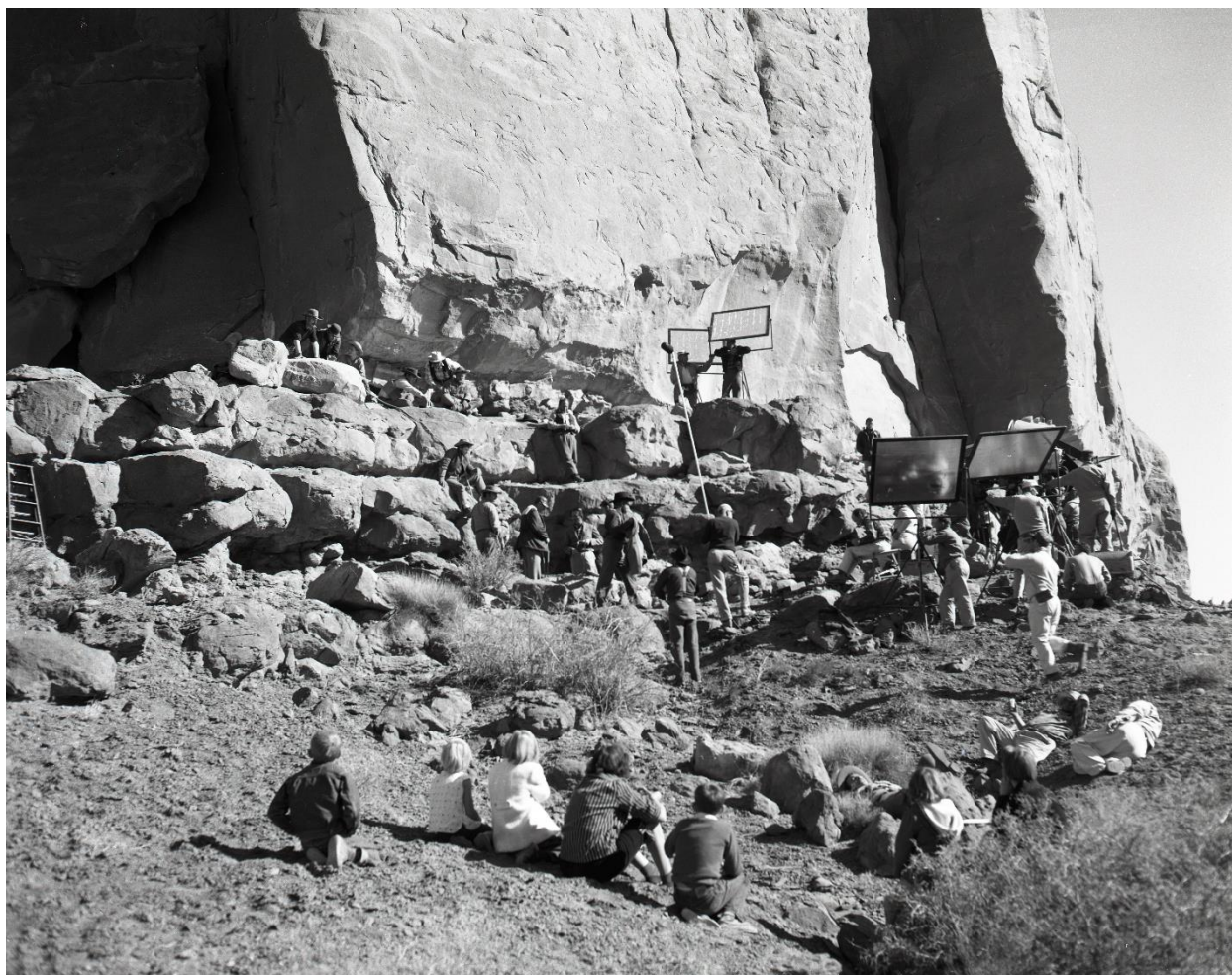
Arches was scouted as a location for a “special” television commercial for Pepsi soda in 1984. The producer had viewed a recent telephoto image of Turret Arch, and proposed staging a concert by singer Lionel Ritchie, with an audience of 3,000 people; however, after viewing the location (and several others in Arches) on an overcast, gray day in October 1984, the proposal was dropped and other locations near Moab were investigated.²⁶ Sixteen film permits were issued for Arches, Canyonlands, and Natural Bridges in 1984, totaling 57 days of work for park staff, not including preliminary activities such as that for the aborted Pepsi commercial.²⁷ That project entailed a meeting of representatives from the Film Development Committee, the Concessions Management Specialist, and the Acting Unit Manager for Arches, and a tour of the park by helicopter, involving the producer and a park ranger; the meeting notes were transcribed by another staff member, and the ranger produced a handwritten account of the tour. The detailed archival records of this project demonstrate the level of effort required of Arches staff for commercial filming.



8-2. Filming Walt Disney Studio's movie *Ten Who Dared* in 1959. ARCH 104/000039, SEUG Archives. (Photo credit: Lloyd Pierson).

By early 1985, Canyonlands Complex Superintendent Peter L. Parry proposed to the Rocky Mountain Region that commercial filmmakers should provide additional financial compensation to the affected park units, in the form of paying ranger overtime salaries (off duty but working for the film companies) and location fees of \$100–200 per day to defray the costs to the NPS of having film crews present (in the form of cash “donations”). Parry proposed creating separate accounts for each source of funding to prevent the funds from being swept up into general funds, and lost to the Canyonlands Complex:

I do not relish going hat in hand to help pay for the parks. At least in this case we are receiving payment for services rendered. There is also an argument that films are made in the parks because the costs are low. If film makers pay for the use of the parks the same as they would anywhere else, we may encourage them to look for locations outside the park land.



8-3. Filming Walt Disney Studio's movie *Ten Who Dared* in 1959. ARCH 104/000041, SEUG Archives. (Photo credit: Lloyd Pierson).

*Moab has a very active film production board. We anticipate an increase in filming in this area whether we like it or not. I would like to have procedures in place to both take advantage of this opportunity, and to meet our responsibility to protect the parks and provide visitors a quality experience.*²⁸

In 1989, Director Steven Spielberg released *Indiana Jones and the Last Crusade*, the third installment of his *Indiana Jones* series,²⁹ which is often regarded critically as the best of the four produced so far.³⁰ The lengthy opening flashback scene was filmed and set in Arches National Park and Moab, including south Park Avenue and Double Arch. The scene established Indiana Jones' life-long interest in archeology and antiquities and explained the origin of his chin-scar, fedora, and whip. It launched the career of the late River Phoenix, and was spun off as the successful television series *The Young Indiana Jones Chronicles* (1992–1993). Unlike many of the preceding movies filmed in Arches, *The Last Crusade* was a huge commercial success (highest grossing film of 1989³¹), exposing much of the world to the geologic wonders of the park. The effect that this film had on visitation to the site of Petra in Jordan was even

greater, however. Petra is the Hellenistic temple complex carved from solid sandstone cliffs that is the setting of the final scenes of the movie. Petra experienced only a few thousand tourists per year before release of *The Last Crusade*, but now hosts more than a million visitors annually.³² Ironically, the opening sequence was to have been filmed at Mesa Verde National Park, but was moved to Arches after the film permit was disputed by environmental groups.³³ *Indiana Jones* was followed in 1991 by the Ridley Scott-directed blockbuster *Thelma & Louise*. Perhaps as a result of this intense exposure, commercial filming in Arches went from being a persistent but occasional activity to a significant “non-visitor” use of the park, with equally significant impacts on park management. The filming of *Thelma & Louise* “brought a crew of approximately 150 people with 50 vehicles to the park for one week of day and night filming,” which required 250 hours of overtime worked by rangers monitoring the set to enforce the conditions of the filming permit.³⁴ Following *Indiana Jones* and *Thelma & Louise*, organized tours and independent travelers visited Moab to view the filming locations, marking the beginning of accelerated visitation to Arches.³⁵

The School of Journalism at Bowling Green State University, Kentucky, contacted Arches National Park in August 1987 with a survey of media in national parks.³⁶ Evidently, the questionnaire was completed prior to the arrival of the *Indiana Jones* film crew, as it listed only two motion pictures as having been filmed in the area: *Nightmare at Noon* (retitled *Death Street USA*, 1988³⁷) in the summer of 1987 (which was filmed in the park) and *Survivalist* (released as *The Survivalist*, 1987³⁸), which was filmed in Moab, but not in the park. The form also noted an episode of the TV series “MacGuyver” that was filmed at Dead Horse Point, and television commercials for Olympia Beer, American Express, Toyota, Chevrolet, Wrigley’s Spearmint Gum, and Marlboro cigarettes were filmed “in the area.”³⁹ The Moab region was also the subject of at least four television news stories, two of which focused on the Atlas Uranium Mill tailings dump. News articles do not require permits, yet may necessitate some of the same requirements for staff as commercial photography. A 16-page fashion piece in *The Detroit News* included images of models posing at The Windows in Arches National Park.⁴⁰

Commercial filming, whether still images or motion pictures, imposed a tremendous burden on Arches staff. By 1991, permanent staff was spending 2 hours per week in the off season (January to mid-February and mid-November to December) meeting with permittees and preparing permits, and 8 hours per week during the filming season (mid-February to mid-November).⁴¹ The time for seasonal park rangers to monitor or supervise the permit conditions is not reflected in these expenditures of time, as they were paid directly from the permit fees. The commercial filming cost-recovery program was finally implemented August 25, 1993, including a fee of \$100 per permit for commercial filming.⁴² A position was funded and stationed at Arches beginning in 1995 to handle film permits and other special uses for SEUG.⁴³ Congress authorized the NPS to collect location fees, in addition to the cost recovery of staff time, in 2000, to be administered using the same rules as the Recreation Fee Demonstration program.⁴⁴ The new program was adopted across the Department of the Interior as well as the Department of Agriculture. The location fees were determined by the size and level of activity of the set.

Parry’s observations regarding increased commercial filming proved to be prescient, in light of the explosion of filming requests beginning in the late 1980s. The Annual Superintendent’s Reports track the number of commercial film permits (the number was not reported per year before 1988): 1988 (16), 1989 (21), 1990 (17), 1991–1993 (not reported), 1994 (35), 1995–1996 (not reported), 1997 (25), 1998 (20), 2002 (31 for SEUG), 2003 (17 for SEUG), and 2004 (22). Five commercial film projects were underway or in planning in SEUG units in September 2002, including *Hulk*, although staff hoped to shift this to

October.⁴⁵ In that same year “there was significant resource damage at the Willow Springs boundary with a few people doing a low budget film that used the old entrance station to house their gear.”⁴⁶ In 2005 the SEUG Squad debated the merits of granting a Categorical Exclusion under NEPA for qualified filming projects to reduce the individual project load on staff, including the N-16 form.⁴⁷ Filming would be allowed within Class 1 archeological sites (open to the public), but not within Wilderness areas, which would require separate review. Most of Arches was (and still is) within proposed Wilderness areas that are managed as wilderness (in the absence of formal designation by Congress) and require the same review. Commercial photography and filming remains a major “non-visitor” activity in Arches National Park.

Edward Abbey, Arches, and the Environmental Movement

Many people have worked at Arches in many capacities. A career in the National Park Service will typically entail many moves, many park units, and many different environments. Some, notably Superintendents Bates Wilson and Noel Poe, are remembered for their association with and contributions to Arches National Park. However, the brief tenure of seasonal ranger Edward Abbey during the 1950s looms over the place like a monsoon thunderhead, as Arches was the inspiration for and source material of Abbey’s *Desert Solitaire*, his most critically acclaimed work.⁴⁸ Abbey was born in Indiana, Pennsylvania, on January 29, 1927, and died in Tucson, Arizona, on March 14, 1989.⁴⁹ In the space between, Abbey wrote novels and essays, primarily with a focus on the New West: landscapes, environmental and political threats, and Abbey’s quest for personal freedom. Abbey’s fame (or infamy in the minds of some) derives from novels such as *The Monkey Wrench Gang* (1975) and his pro-environment, anarchistic essays.⁵⁰ Abbey fell madly in love with the Colorado Plateau for its clear air, solitude, and lack of people, yet his works have inspired millions to visit and immigrate to that very landscape, with incalculable effect.⁵¹

Ranger Abbey

Ed Abbey worked as a seasonal ranger for the National Park Service between 1956 and 1972, including stints at Arches (1956–1957), Casa Grande (1958–1959), Canyonlands (1965), Everglades (1965–1966), and Glen Canyon (Lee’s Ferry; 1967).⁵² He also worked at Sunset Crater, Lassen Volcanic National Park, Organ Pipe National Monument, Grand Canyon (North Rim), Glacier National Park, and Coronado National Forest.⁵³ Abbey came to the Park Service and Arches fresh from a lengthy post-secondary school education that culminated in a Master of Arts in Philosophy in 1956 from the University of New Mexico. In that same year, Abbey’s second novel *The Brave Cowboy* was published.

VISITOR COMMENTS ON RANGERS

“Thank you so much for a very enjoyable hike through Fiery Furnace. You did a fine job as our guide (informative, entertaining and considerate). Arches certainly surpassed our expectations, a fantastic american [sic] experience!

When you come to Durango you are welcome to stay with us.

Thank you again.”

Visitors from Durango, Colorado, September 21, 1981

“We would like to thank the Park Service personnel for their kindness to us when we were stranded on the far side of a flash flood by the Wolfe Ranch. Scott Lopez got us back to our campground cheerfully, even though it was past his working time. We will always have warm thoughts about Arches National park.”

Visitors from Pendleton, Oregon, August 31, 1981

“This is a pleasant well kept campground. I would suggest that the Ranger personnel be allowed to have a little more flexibility in regard to dress. In this hot weather, the campers wear shorts + the Rangers have to swelter in long trousers + heavy shirts.”

Visitors from Mill Valley, California, August 19, 1981

“Male ranger rather flippant – seemed to enjoy rapping with female ranger on personal matters – we had to beg for Arches brochure – disappointed at attitude of ranger.”

Visitors from Olympia, Washington, April 25, 1985

During his two seasons at Arches, Abbey lived near the Balanced Rock Wayside Exhibit (Figure 8-4)⁵⁴ in a house trailer, which he modified by adding a ramada, and gathered notes and drawings about Arches and his experiences there. The trailer was removed by 1960. Although the septic tank has been relocated by park cultural staff, no photograph of the trailer as it appeared during Abbey's tenure has yet been located (Figure 8-5).⁵⁵ During rehabilitation of the Balanced Rock picnic area and trail in the early 1990s, some park staff wanted to place the new vault toilets in the vicinity of Abbey's famous trailer as an ironic honor to him.⁵⁶ The project did result in the discovery of an old radio antenna half-buried in the sand, possibly indicating the location of his trailer, but its footprint was never confirmed.

Abbey was notoriously mistrustful and disrespectful of institutional authority; he spent 2 years in the military (1945–1947) and was twice promoted and twice demoted, both of the latter for refusing to salute. He was honorably discharged as a private.⁵⁷ Although his experience at Arches informed Abbey's environmental philosophy for the remainder of his career, his conduct as a ranger was evidently low key and inoffensive. The Superintendent's Reports curated in the SEUG Archives noted approval on February 25, 1957: "We are pleased to receive word from Edward Abbey that he will be able to return April 1 to fill the Seasonal Ranger position at Arches. Ed did an excellent job last year."⁵⁸ Abbey was joined by his brother John, who worked as a laborer during 1957. Both participated in the search for a missing visitor to Canyonlands, near Upheaval Dome, in August 1957, an episode described in *Desert Solitaire* as "The Dead Man at Grandview Point."



8-4. Photograph of the Balanced Rock Wayside Exhibit, 1953. The trailer occupied by Edward Abbey 1956 and 1957 was located nearby, but no photograph of the trailer itself has yet been located, despite a diligent search by former Park Archaeologist Chris Goetze. The Wayside Exhibit was the primary point of visitor contact until the visitor center was completed in 1960. ARCH 104/000350, SEUG Archives. (Photo credit: L. Arnberger).



8-5. Opening to the Abbey Trailer septic tank that was constructed of corrugated sheet metal in 1954 by Ranger Bob Morris. As it appeared in 2007 during an archaeological reconnaissance survey. Ed Abbey Trailer Site, Arches Folder, SEUG Cultural Resources Digital Files. (Photographer unknown).

Desert Solitaire

Desert Solitaire (1968) was Abbey's first non-fiction work to be published. Many critics note, however, that what distinguishes this from Abbey's "novels" and "short stories" is the presence of Abbey as himself, not masquerading as a fictional character.⁵⁹ Garth McCann notes that Abbey voices all of the characters in his earliest novels, with few clues provided by which to distinguish one from another, or from that of the author:⁶⁰ "Thus, Bondi, Burns, Troy, Lee and Vogelin [characters in Abbey's first three novels] represent different sides of Abbey himself. *Desert Solitaire*, however, operates without such fictional paraphernalia. It is unabashedly focused on the complex and paradoxical presence of Abbey."⁶¹ The novel-length essay is equal parts elegy to the high desert of the Colorado Plateau and to wilderness in general; polemic against automotive culture, rampant development, and loss of wilderness in national parks (in particular) to "industrial tourism"; and a eulogy to Glen Canyon, which was already filling as a reservoir as the book was published. Abbey reveals himself to be a careful observer, taking full advantage of Arches' then-low visitation to sit and experience all the manifestations of the desert: sounds, smells, light, plants, wildlife. The early chapters are largely descriptive, placing Abbey's ranger

trailer within its environment, and Arches within its landscape, beginning in the late spring and moving with the seasons through his period of employment. Abbey's two seasons are combined into one, and supplemented with stories about adventures outside of Arches that may or may not have taken place during the same interval (such as his trip by raft through Glen Canyon). The chronology of the events Abbey describes is not important, other than to tie them to the physical world of the desert in its seasons. In the course of this narrative, Abbey provides detailed interpretation of the landscape, geology, zoology, climate, and history of Arches and the region. Abbey's complicated, philosophical relationship with the desert is revealed throughout the book: he willingly shares his trailer with mice until they attract rattlesnakes, then he captures a gopher snake to extirpate the mice; he kills a rabbit with a thrown rock, rationalizing the loss of an individual life as nothing compared with the continuation of all life; he refuses to anthropomorphize the desert,⁶² noting repeatedly that it is the utter indifference of the desert environment to the life within it that makes it special, as a proxy for the universe in general.

Abbey reveals a different aspect of himself through the inclusion of the fourth chapter "Polemic: Industrial Tourism and the National Parks." Very much in the tradition of eighteenth-century continental philosophers such as Rousseau, Abbey interrupts the travelogue with an important message: driving makes Americans stupid, and pandering to drivers is destroying/will destroy the world:

*Industrial Tourism is a threat to the National Parks. But the chief victims of the system are the motorized tourists. They are being robbed and robbing themselves. So long as they are unwilling to crawl out of their cars they will not discover the treasures of the national parks and will never escape the stress and turmoil of the urban-suburban complexes which they had hoped, presumably, to leave behind for a while.*⁶³

Abbey is both elitist and contrarian in his outlook. The opportunities of the modern, industrialized world allow people other than the wealthiest to travel, to experience new landscapes and cultures. Unlike the well-heeled, the "average" American of the mid-twentieth century is educated well enough to fulfill a specific position or trade, but lacks the anthropological or philosophical perspective to relate to cultures significantly different from their own, and is limited to 2-week-long vacations through which to acquire these experiences. Like Thoreau, Abbey is committed to a longer-term relationship with the physical world, and forcefully advocates that others should do as well. For Abbey, wilderness and national parks are inseparable. Visitors should be forced to walk, ride, or take a bus, with no private cars allowed.⁶⁴ Abbey assails the long-planned paved road for Arches, which was under construction at the time he was a ranger (and which he claims to have delayed by removing the survey stakes).⁶⁵ And, like the individualist that he was, Abbey reveals an admiration for the Mormons, not just for their labors in attaining a living in the desert, but for their sense of community.⁶⁶ Abbey himself would never be part of such an organization—too many rules—as he earlier demonstrated with his experiences in the U.S. Army. But because he is not evaluating the Mormons on ecumenical grounds, he can see beyond scripture to community, to a group that perpetuates a utopic, agrarian past in the face of an increasingly bleak, industrial, urban present.

VISITOR COMMENT ON PRIMITIVE TRAIL

"The best trail we have ever been on – like wandering in nature itself – it is challenging and very fulfilling – loved every second of it & will suggest the same to the Natural Parks & Wildlife Service in Australia."

Visitors from New South Wales, Australia,
April 17, 1985

Some of Abbey's ranting comes off as hypocritical. Although Abbey regarded cars and other motorized devices as inherently evil, he arrived at Arches in an old pickup, which he, like everyone else in 1950s America, used as a conveyance. Abbey's truck carries him to Moab for the weekend, to nearby ranches for additional employment, and in the chapter "Tukuhnikavats, the Island in the Desert," he drives it to an isolated campsite in the La Sal Mountains when the Arches desert becomes too hot to bear. A friend's Land Rover provides the means for exploration of the Maze District in Canyonlands in the following chapter, using roads bulldozed by uranium prospectors. Despite advocating that cars be completely banned from national parks in favor of horses, bicycles, or other non-mechanized transport, Abbey did not advocate the same for outside of parks.⁶⁷ Although Abbey questions some aspects of the Wilderness Act (such as the minimum of 5,000-acre parcels), he is perfectly willing to utilize intrusions to wilderness personally for his explorations. Unfortunately, Abbey does not critically examine these aspects of his narrative in *Desert Solitaire*, which rest at the fulcrum of the Organic Act paradox of preservation versus enjoyment. Abbey suggests that the desert should be left alone, undeveloped, for its own sake as much as for the sake of civilization, but fails to fully explore how more restricted access to wilderness could actually satisfy the education and enjoyment of the general public. Not everyone can hop in a raft and float down the Colorado River to Glen Canyon Dam with minimal food, no lifejackets, and no itinerary, as Abbey does in "Down the River." This Huck Finn-esque episode betrays Abbey as a Romantic, longing to remain in a primitive, innocent state that may not truly have existed as he depicts it.⁶⁸ Abbey's trip is possible partly because the "wilderness" has been cleared of hostile natives and top predators, unlike Powell's expeditions, during which three members were killed by Paiutes (or Mormons pretending to be Indians). In this respect, as in the structure of *Desert Solitaire*, Thoreau's legacy is again apparent.⁶⁹ Although the dangers presented by the desert are real enough, with the consequences shown by "The Dead Man at Grandview Point," Abbey is safe enough in Arches National Park. Abbey has to place himself in danger in order to avoid the usual critiques of Thoreau and *Walden*. Abbey recklessly skis down Tukuhnikavats on a rock slab (destroying his boots) and jumps down a slot canyon (nearly trapping himself); he is fortunate not to be counted among the hundreds who have died in Grand Canyon and elsewhere on the Colorado Plateau due to similar mistakes, including Everett Ruess, one of Abbey's muses and inspirations.⁷⁰

Abbey's Legacy

The Monkey Wrench Gang, a fictional account of environmental activists fighting development in the desert Southwest, resonated with environmentalists in the 1970s and 1980s who felt that mainstream environmental groups compromised too often.⁷¹ In particular, the acquiescence of the Sierra Club to the construction of Glen Canyon Dam in exchange for the elimination of a proposed dam near the Colorado–Green River confluence, and subsequent creation of Canyonlands National Park, angered many purists. In *The Monkey Wrench Gang*, the ultimate goal is the destruction of Glen Canyon Dam and the stagnant "lagoon" of Lake Powell.

In 1980, the environmental activist group Earth First! was formed by Dave Foreman (and others), a former lobbyist for the Wilderness Society.⁷² Earth First! advocated and practiced "ecodefense" direct actions that included sit-ins ("tree sitting") in old-growth forests that were being logged, placing long spikes in trees to prevent them from being cut (due to fear that they would cause injury when hit with a saw⁷³), and a plan for demolishing a ski chairlift at the Arizona Snowbowl near Flagstaff. Abbey was never a member of the group, but was acquainted with many of the group's leaders, and he contributed a foreword to Foreman's 1985 book *Ecodefense: A Field Guide to Monkeywrenching*.⁷⁴ Earth First! held a

rally in Arches National Park on July 4, 1981, at which Foreman spoke, demanding the return of all state lands to the federal government.⁷⁵ Foreman and three other Earth First! members were arrested in 1989 by the FBI for conspiracy to sabotage nuclear power facilities; Foreman pled guilty to reduced charges and did not serve jail time.⁷⁶ Many fans of Abbey, wilderness advocates, and militant environmentalists downplay the dangers posed by Earth First! and their fellow travelers.⁷⁷ Abbey did not, in fact, advocate for violent means to protect the world in *The Monkey Wrench Gang*;⁷⁸ he detailed why violence would fail against the same forces that are destroying the world, according to Garth McCann:

*Yet to view The Monkey Wrench Gang as Abbey's advocacy of violence to bring about change is to view it as contrary to the thrust of the general position of all his writings. He is not telling America to go out and blow up bridges and roads—for he knows that will not work. As the student radicals of the past decade have learned, destruction brings countermeasures even more inhibiting than the original grievances.*⁷⁹

Yet, he did rage against the machine and advocate for the destruction of industrialization.⁸⁰ “Monkey-wrenching” became a tool in the intense struggle over old-growth forests in the Pacific Northwest, more so than on the Colorado Plateau.⁸¹ This was the next, biggest environmental struggle for young activists who had grown up reading Abbey. In response, the Reagan administration FBI rebranded all sorts of political dissonance as terrorism, including environmentalists.⁸² Foreman left Earth First! in 1990, an event that evidently removed a moderating element from the organization. In 1992, some former Earth First! members formed the Earth Liberation Front, an environmental organization modeled on radical animal rights groups. In 1998, ELF members burned part of the Vail Mountain Ski Resort, causing \$12 million in damage, in protest over the expansion of the facility.⁸³ “Back in Abbey’s day, the idea of blowing up dams might have sounded romantic, but in our post-9/11 world that sort of talk sounds like a fast track to jail.”⁸⁴ Although some ELF activists have been arrested and jailed for arson, the group remained active through 2009.⁸⁵ The Anti-Defamation League also identifies the ELF as a terrorist organization, and tracks their activities.⁸⁶ Worse, also in 1998, three anti-government extremists murdered a Cortez, Colorado, police officer who caught them in possession of a stolen tanker truck that was apparently intended to contain a bomb with which to destroy Glen Canyon Dam, in imitation of the fictional events of *The Monkey Wrench Gang*.⁸⁷

Abbey’s role as spiritual grandfather of these groups makes him a controversial figure for some in the NPS and environmental movement.⁸⁸ Yet, the 1975 Arches National Park Interpretive Prospectus opens with a quote from Abbey,⁸⁹ and Abbey has his own tab on the Arches National Park website under History.⁹⁰ Others, with the familiarity of a career in the Park Service bureaucracy, will welcome Abbey for his repeated assaults on NPS development in *Desert Solitaire*, beginning in the introduction. Abbey’s writings and association with Arches are and have been deeply influential on many people who are not terrorists, however, but individualists, wilderness advocates, and critics of modern society in general. In his administrative history of Canyonlands National Park, Samuel Schmieding noted that “Desert Solitaire became an ‘eco-bible’ of sorts for canyon country, ensuring that future plans in the region would receive intense scrutiny.”⁹¹ Abbey was clearly an inspiration for former ranger Jim Stiles, a self-styled watchdog of Arches management.

For many visitors to Arches, *Desert Solitaire* is their introduction to Arches and the Colorado Plateau country.⁹² Abbey is correctly portrayed as an important popularizer of the desert environments as environmentalism expanded from alpine habitats to more inclusive appreciation of the natural world.⁹³ Abbey followed *Desert Solitaire* with three books—*Appalachian Wilderness* (1970), *Slickrock* (1971), and

Cactus County (1973)—which paired Abbey’s narrative with beautiful photographs. In these, Abbey expanded his concerns about wilderness from the desert of southeastern Utah to any place in America where it has not yet been extirpated.⁹⁴

Although part of Abbey’s legacy is that *Desert Solitaire* draws ever more tourists to his beloved wilderness, especially Arches,⁹⁵ *Desert Solitaire* remains Abbey’s finest and most enduring work. In reflecting on the 50th anniversary of its publication in 2018, Will Taylor notes that “In the world of conservation literature, Edward Abbey’s name stands among the giants like Aldo Leopold, Henry David Thoreau and Wallace Stegner, thanks to *Desert Solitaire*.”⁹⁶ Visitors to Arches who have read Abbey still seek the mystery and exhilaration of the wild desert, despite Abbey’s warnings that the wilderness was a lost cause and despite the crowds.⁹⁷

Edward Abbey died in Tucson, Arizona, on March 14, 1989 of complications from surgery and was buried by friends at an undisclosed location in the southern Arizona desert.⁹⁸ Abbey was given a memorial just outside of, but within sight of Arches National Park on May 21, 1989, an event attended by 500 people including many who inspired Abbey and were inspired by him.⁹⁹

From “little known monument” to the Symbol of Utah: Delicate Arch

A 1907 photograph by Flora Stanley is the first known permanent image of Delicate Arch (Figure 8-6).¹⁰⁰ At the time Delicate Arch was described as “little known” although the Wolfe Ranch was located almost within sight of it. At least some of the subsequent fame attached to Delicate Arch can be, and should be, attributed to its re-naming by the Beckwith Expedition of 1933–1934. Prior to that year, the formation was known by a number of different names: Salt Wash Arch, Chaps, Pants Crotch, Bloomers Arch, Schoolmarm’s Pants, Old Maid’s Bloomers, and Mary’s Bloomers.¹⁰¹ Beckwith initially described it as a “Beautiful, Delicate Arch,” in his 1934 report, later naming it Delicate Arch in a 1934 article.¹⁰² Delicate Arch was not within the original boundaries of Arches National Monument, but was added with an expansion in 1938.¹⁰³ Yet by 1940, Delicate Arch had become “the most popular section with return visitors.”¹⁰⁴ *Life* magazine featured a full-color image of Delicate Arch on the cover of its April 13, 1953, issue (Figure 8-7). Superintendent Wilson reported this as one of the significant events of the year in his annual report:

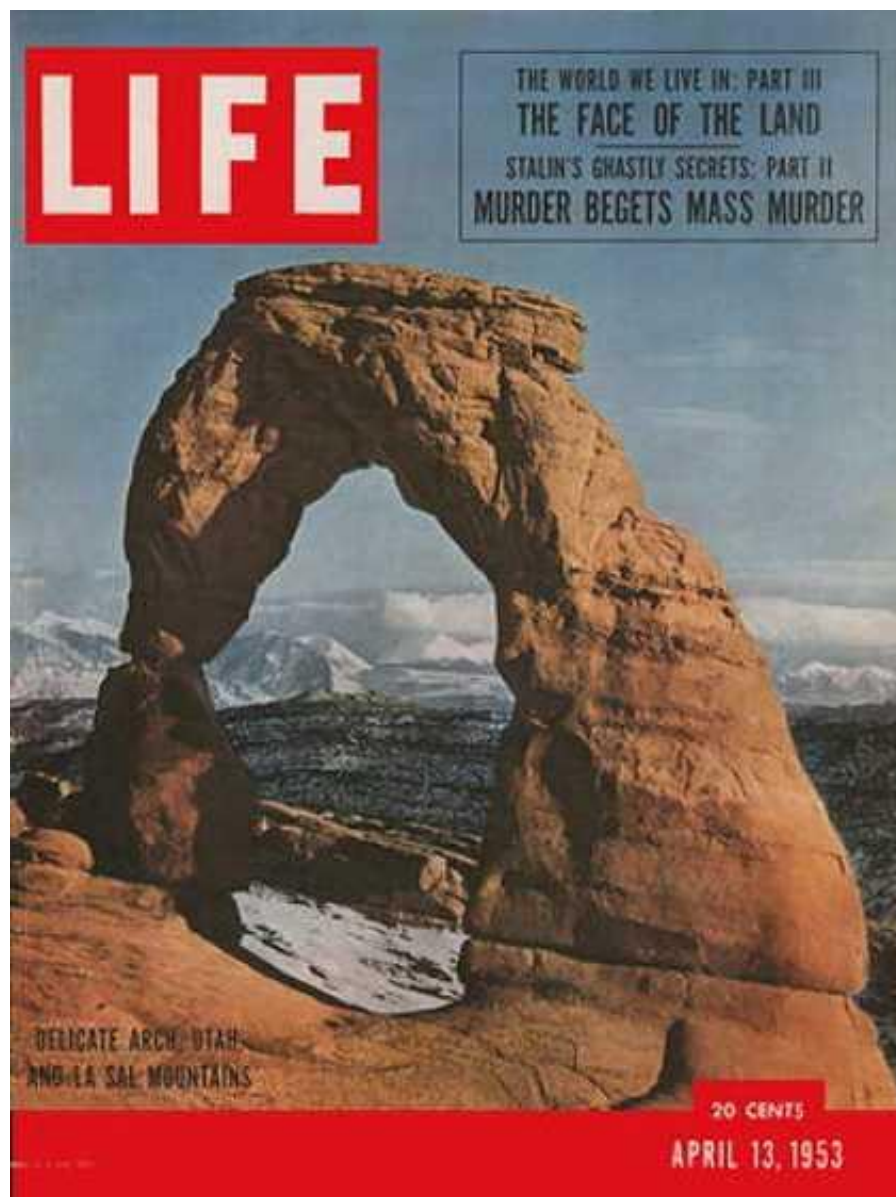
*Life Magazine’s April 13 issue featured a beautiful cover picture, by Josef Muench, of Delicate Arch. We understand that this is the first time that any single attraction in one of our areas has appeared on the front cover of a magazine with the widespread circulation which Life has. Delicate Arch and the area as a whole has also been featured during the year in other publications, such as, Arizona Highways, Sunset Magazine, Christian Science Monitor, Utocho Torch, U.S. Vanadium Co.’s Photo News, and a number of Sunday papers. Lacking many of the necessary facilities we are feeling the growing pains caused by all this publicity.*¹⁰⁵

In the subsequent decades Delicate Arch has become the best known arch in the world, a symbol of the park,¹⁰⁶ and “so iconic, in fact, that it has become the unofficial symbol of the state of Utah” (Figure 8-8).¹⁰⁷ Delicate Arch was chosen in 1995 for a postage stamp commemorating Utah’s centennial,¹⁰⁸ and Utah featured Delicate Arch on its license plate as part of the centennial celebration. In 2014, Delicate Arch again symbolized Utah during the U.S. Mint’s America the Beautiful program, during which five special quarters were released each year with designs unique to each state.¹⁰⁹ The Utah quarter was unveiled at the Arches Visitor Center, an event attended by more than 400 philatelists, Utahns, and



8-6. The oldest known image of Delicate Arch, circa 1907. ARCH 1222, SEUG Archives. (Photo credit: Flora Stanley).

Delicate Arch fanatics on June 6 of that year. For all of these reasons, the cover of this document does not include an image of Delicate Arch. During a visit to the Moab Information Center in June 2016, 48 souvenir items were available for purchase with an image of Delicate Arch, not including post cards or books. Many businesses in Moab have appropriated images of Delicate Arch as part of their business logo or even name, including Aarchway Inn, Arches Dining Room of the Pancake Haus, Archview RV Resort and Campground, Bowen Motel, Canyonlands RV Resort and Campground, Desert Dreams, Fiesta Mexicana restaurant, InterAct Club, Moab Realty, Moab Trading Post and T-Shirt Company, and Portal RV Park. Even the Grand County EMS features Delicate Arch in their official seal (Figure 8-9). The inclusion of Delicate Arch in the 2002 Winter Olympics as the Utah starting point for the Olympic Torch relay brought additional international exposure and increased visitation.



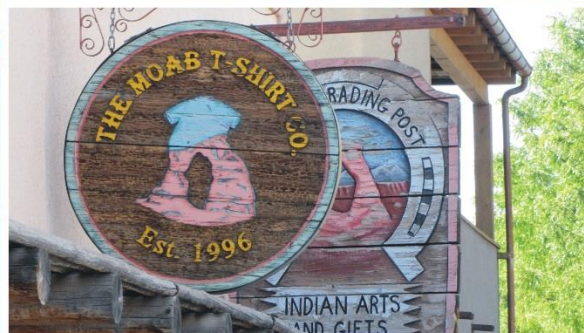
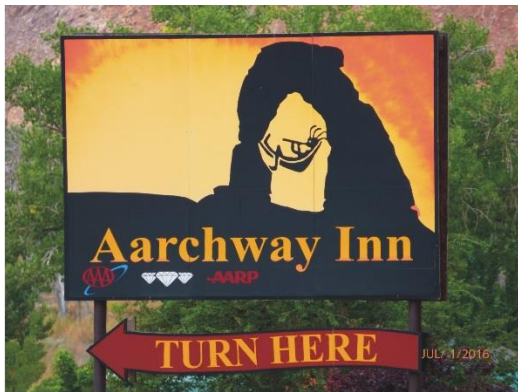
8-7. Cover of *Life* magazine, April 13, 1953. This was a rare full-color cover of *Life*, adding to the impact of this image. © Time, Inc. (Photo credit: Josef Muench).



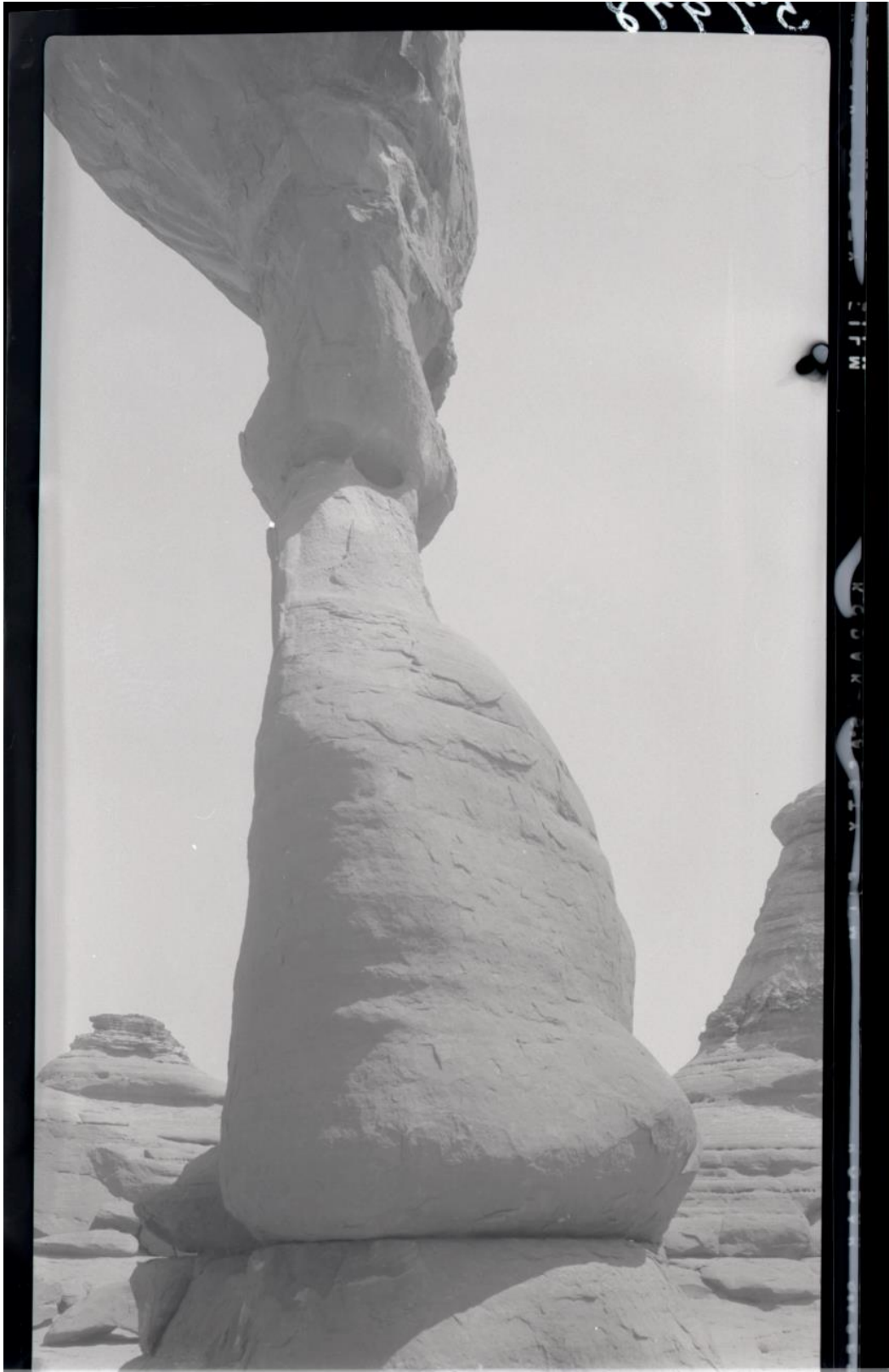
8-8. Utah State welcome sign at Colorado state line on US 491, east of Monticello, Utah, July 2016. (Photo credit: David E. Purcell).

Stabilization of Delicate Arch

An interesting sidelight to Delicate Arch's ascendance as an icon involves the various plans for its stabilization.¹¹⁰ Landscape architect Carl W. Alleman first raised the issue in a special report on his study of the Delicate Arch trail system in 1948.¹¹¹ Custodian Russell Mahan brought the issue to the attention of Alleman, who reflected on the fact that "during my short residency (20 months) in the vicinity at least two features underwent major changes due to these forces: 'Eagle Rock' fell and 'Arch-in-the-Making' doubled in size when a huge section forming the upper part of the opening yielded." Alleman's hope to "spare it for an additional generation or two" ignited a fierce debate within the National Park Service at all levels about the ethics and logistics of attempting to stabilize Delicate Arch. Alleman's comments indicated that Delicate Arch was in imminent danger of collapse, resulting from its uneven erosion, which has left the upslope leg of the arch significantly thinner than the downslope leg (only 18 inches thick in cross section; Figure 8-10).¹¹²



8-9. Contemporary use of Delicate Arch by Moab-area businesses. (Photo credit: David E. Purcell).



8-10. The “weak” leg of Delicate Arch, 1953. ARCH 104/000925, SEUG Archives. (Photo credit: NPS).

Naturalist Leslie P. Arnberger wrote to the general superintendent in 1951, advocating for a study of the rate of erosion of the leg so that an informed decision could be made about the arch's potential to topple soon. Arnberger cited the collapse of Threatening Rock onto Pueblo Bonito in Chaco Canyon National Monument as a similar situation in which the NPS had the opportunity to prevent a disaster that did eventually badly damage an interpreted resource, but did not.¹¹³ Although Regional Director Minor R. Tillotson disagreed with stabilization and the need to reopen a discussion on that topic, he forwarded Arnberger's memo to Director Arthur E. Demaray in 1951.¹¹⁴ Demaray concurred that more study was needed.¹¹⁵ After concluding that Southwestern National Monuments lacked the ability to measure the erosion rate, General Superintendent John M. Davis requested a policy review "of whether Delicate Arch should, or should not, be stabilized."¹¹⁶ A hand-written note in the Delicate Arch Stabilization files at the National Archives, written in response to a memo of August 28, 1951, by Mr. Miller suggests one approach to stabilization: "Band of mortar not more than 12" high, and a maximum thickness of 3 inches in the narrow but deep erosional strata. Surface of mortar coated with a natural sand to give an appearance similar to sand stone."¹¹⁷ In December 1953, Assistant Regional Director Harvey H. Cornell wrote to the general superintendent of Southwestern National Monuments regarding stabilization and the need to involve NPS engineers in a site visit to assess the best course of action.¹¹⁸

During the winter of 1954, Regional Naturalist Leslie P. Arnberger contacted the Dow Corning Corporation, E. I. du Pont de Nemours and Company, Koppers Company Incorporated, and B. F. Goodrich Chemical Company seeking assistance in identifying materials that could both arrest erosion and strengthen the weak leg:

*It appears now that the most likely method of stabilization, will be the application of a coating of waterproof cement to form a weatherproof coating around the weak section to prevent further deterioration. However, with the great strides of recent years on the development of new materials, particularly plastics, we felt it advisable to refer this problem to several of the leading chemical and plastic manufacturer concerns. The ideal method of arresting further deterioration of the weak section of Delicate Arch would be the application of a thin layer of resistant material by spray or by "painting," which could be colored to match the sandstone and which would mold itself to fit every contour, thus forming a resistant jacket around the weak part of the arch. Perhaps the substance called "cocoon," used by the Navy in mothballing ships, has possibilities. New materials involving the use of water-resistant silicones also incite our interest.*¹¹⁹

Representatives of the various firms corresponded with Arnberger during 1954; Koppers and Du Pont replied that they did not have suitable materials for the project, but each recommended other chemical companies to contact (Union Carbide and Chemical Corporation, Portland Cement Association, and General Electric Company).¹²⁰ Arnberger also contacted Crown Chemical Company, Dewey Almy Chemical Company, and Super Concrete Emulsions, Ltd for additional products. B. F. Goodrich and Dow Corning each recommended silicon-based products. Landscape Architect David Van Pelt produced a report on the proposed stabilization on March 9 (referenced, but not located); in response, Regional Director M. R. Tillotson recommended that the one gallon of silicon emulsion on hand at Arches should be applied as a test, and monitored for performance.¹²¹ General Superintendent John M. Davis also agreed that a test application of silicon spray should be attempted as it "would certainly not be harmful."¹²² However, Davis noted that to apply the spray (or any of the other products that were still being considered) would require the erection of scaffolding around the weak leg, which "will require more funds than we have this fiscal year." Correspondence between the Regional Office and Southwestern

Monuments investigated various cost-saving means of applying the silicon, and discussed possible latex-based sealers that were under consideration on an experimental basis, but no further discussion of the project appears in the SEUG Archives after the end of 1954. In 1956, a Douglass E. Cutler of Salt Lake City wrote the director of the National Park Service suggesting that Delicate Arch be preserved by spraying “a clear, erosion-resistant material” on the weakest part of the arch.¹²³ Cutler received replies from Naturalist Paul E. Schulz, Acting Regional Director Harthorn L. Bill, and Naturalist Dale S. King. King’s reply is the only document that states that the stabilization was ever attempted:

Several agents were applied, and Superintendent Bates Wilson of Arches National Monument and his staff make frequent and periodic inspections. During a recent visit to this office Superintendent Wilson stated that several of the chemicals had proven unsatisfactory, because exposure to weather had caused them to turn white, or scale off, or both. He also expressed the opinion that possibly some of the materials, chiefly silicones, might prove to be satisfactory, but he did not feel that he knew enough now to make any such application, and should not do so until several more years of experimentation had lapsed.

*The test solutions have been applied to a formation similar to that of the weaker sections of Delicate Arch, but situated at some little distance away from Delicate Arch itself.*¹²⁴

King noted that he was awaiting a progress report from Wilson, and was forwarding this letter to him as an “opportunity to write a chronological history of the project.” However, such a history was not located in the Arches Administrative Collection and may never have been prepared. King’s letter, and the correspondence files on this project, conclude with the observation that “all of them [the chemicals] show enough doubtful characteristics to cause Superintendent Wilson to feel that we should not go ahead with any applications which might cause more harm than good to the marvelous feature.” The 1956 Master Development Plan noted that “the problem of how to stabilize Delicate Arch is one of long duration and for which at present, no good solution is seen.”¹²⁵ Hoffman concluded his telling of this story with the observation that Bates Wilson had been opposed to the project from the beginning, which may be why the history of the project was never completed, but that he was pleased that he managed to obtain an extension ladder for the project, a piece of equipment that he had been seeking for many years.¹²⁶ In Jim Stiles’s version of the Delicate Arch stabilization, the crux of the story was Bates Wilson stonewalling the process from beginning to end: he did not sign any of the documents pertaining to this issue, and refused to document what actions he had taken.¹²⁷

The story of the attempted stabilization of Delicate Arch illuminates an interesting debate within the NPS between conservation and stabilization as means to long-term preservation. But only one of the many letters regarding the stabilization experiments directly addresses this issue. In his response to Cutler, Paul E. Schulz noted the following:

*We appreciate your concern for the feature’s precarious state, and can well understand your feelings. Natural arches are, geologically speaking, temporary structures which are doomed to fall eventually. However, we agree that any practical steps which might be taken to preserve the length of such inspiring features should be carefully investigated.*¹²⁸

The concern with preserving a natural feature is atypical for the NPS of this period, but was a common concern regarding the preservation and interpretation of prehistoric ruins, especially those of the Ancestral Puebloans. Jesse Walter Fewkes was the first to apply concrete capping to exposed walls at

Mesa Verde, followed by repair and reconstruction of walls at Aztec National Monument by Earl Morris in 1918.¹²⁹ Concrete seemed to be the answer to perpetual maintenance of sandstone walls mortared with mud and adobe, but Morris quickly realized that doing so destroyed the authenticity of the wall fabric and created additional, and more severe preservation issues; concrete tends to trap moisture beneath it, causing exfoliation, salt blooms, and other much more serious forms of weathering.¹³⁰ Naturalist Arnberger evidently arrived at his interest in using concrete or silicon products to stabilize Delicate Arch through the many discussions and experiments being conducted at Mesa Verde, Wupatki, and Chaco Canyon; in particular, the Report of the Director's Committee on Ruins Stabilization in 1940, which rejected concrete and bitumen but advocated for silicon ester as stabilizing compounds.¹³¹ Daracron, a silicon-based waterproofing compound, was used at Chaco Canyon in 1954 and Tumacacori in 1955. In this instance, the administration of Arches within Southwestern National Monuments brought a cross-disciplinary transfer of institutional knowledge about stabilizing fragile, sandstone structures, be they masonry walls or arches.

Delicate Arch on Fire: Michael Fatali

Perhaps no incident better illustrates the management issues of “non-visitor” (i.e. non-conforming) park experiences than the setting of fires at Delicate Arch by Michael Fatali in 2000. Fatali is a well-known landscape photographer based in Springdale and Park City, Utah.¹³² His images of Lower Antelope Canyon in Antelope Canyon Tribal Park, Arizona, are credited with popularizing Antelope Canyon in particular, and “slot canyons” in general.¹³³ Fatali's work is sold at galleries near the entrance to Zion National Park—a frequent subject of his camera—and has been featured in *Arizona Highways* magazine, among others.

Like many professional photographers, Fatali supplements his income by leading photographic workshops for aspiring professionals and dedicated amateur photographers.¹³⁴ On September 18–19, 2000, Fatali led a night hike to Delicate Arch for one of these workshops.¹³⁵ At the base of Delicate Arch, Fatali built at least three fires, consisting of paraffin and paper synthetic logs set inside aluminum baking pans, and a fourth fire consisting of locally gathered wood. The synthetic logs quickly burned through the thin pan bottoms, leaving a black, oily residue that soaked into the sandstone; the damage was further compounded by Fatali's attempt to extinguish the fire by crushing the logs under his shoes. He did not attempt to remove the burned residue, and did not report the incident to NPS personnel. The following morning, visitors observed the damage and reported it to park rangers.¹³⁶ The NPS initiated an investigation that quickly led them to Fatali, whose studio was raided and all images of the fire-illuminated Delicate Arch were seized.¹³⁷ On October 19, 2001, Fatali was charged with seven misdemeanor crimes, including two for fires he admitted setting in Canyonlands National Park in 1997 under similar circumstances. The specific charges included defacing mineral resources, seeking unauthorized fire, lighting a damaging fire, leaving a fire unattended, and aiding and abetting a crime.¹³⁸ Each of the seven charges carried a potential penalty of 6 months in prison and a fine of \$5,000.

Park rangers were able to remove much of the burned paraffin the morning after the fire, but some black stains remained embedded in the rock. Conservators spent several days beneath Delicate Arch assessing the damage,¹³⁹ where their presence blocked the view of many visitors.¹⁴⁰ Fatali initially justified his actions on artistic grounds, emphasizing that he uses “no computer imaging, artificial lighting, or unnatural filtration” in the creation of his images, and that “using nature's light is the best way to express the wonders of natural phenomena.”¹⁴¹ The federal prosecutor assigned to the case,

however, viewed this as an example of “his [Fatali’s] complete arrogance and attitude and his continuing violations of the permits he has received to work in the park.”¹⁴² Based on the assessment of the damage by the stone conservators, the National Park Service requested restitution of \$16,000.¹⁴³ The restitution was intended to fund a treatment program in 2001 to remove the last of the burn marks and deposits.¹⁴⁴

Fatali eventually pled guilty to all seven charges, and was sentenced on February 1, 2002, to 2 years of probation, 150 hours of community service, and \$10,900 in restitution.¹⁴⁵ During the probation, Fatali was banned from entering Arches and Canyonlands national parks, although Judge Samuel Alba ruled that a ban from all Utah parks would be “onerous.”¹⁴⁶ Fatali forfeited the negatives, originals, and prints from the incidents. Fatali apologized to the photographic community through an email in November of 2000, stating that he had “screwed up” and regretted what he had done.¹⁴⁷

Fatali remains in business as a landscape photographer, having gone on to popularize the sandstone formation known as the Wave in Vermillion Cliffs National Monument in Arizona (and which now requires a reservation lottery to visit, due to its popularity). The consequences of Fatali’s actions remain a point of debate within the photographic community.¹⁴⁸ In particular, the ethics of violating a permit to photograph, or other park regulations, has been juxtaposed by some photographers against NPS requirements for commercial liability insurance for commercial photography; a number of posts to forum threads regarding Fatali’s actions conflate Fatali with victims of government oppression because the authors of the posts were themselves unwilling to pay the required insurance premiums.¹⁴⁹ In fact, virtually any commercial activity on federal lands requires liability insurance, and Fatali’s actions violated the terms of his permit.

Winter Olympic Torch Relay

Utah hosted the 2002 Winter Olympic Games, February 8–24, 2002, but preparations began as early as 1996. Most of the events were held in the mountains around Park City, with visitors and athletes housed in Salt Lake City. Every modern Olympiad begins with a relay from the historic Olympic stadium in Greece to the modern stadium in the host country.¹⁵⁰ The route of the Olympic Torch procession from Greece to Salt Lake City traversed Arches National Park, passing directly beneath Delicate Arch, the first place within the state that the torch was carried.¹⁵¹ Originally The Windows was the planned location in Arches, until a few weeks before the event, when it was moved to Delicate Arch, requiring an enormous amount of work for park staff to accommodate the change.¹⁵² The 2002 relay began November 19, 2001, and covered 368 km and 8 nautical miles with 41 torchbearers in Greece, and 21,725 km in the hands of 12,012 torchbearers in the United States, passing through 46 states, 300 towns, and five previous Olympic Games host cities.¹⁵³ The torch procession also involved a total of 22 NPS units, including Arches. The special use permit for this unprecedented access was signed by Associate Director for Park Operations Karen Taylor-Goodrich in Washington, D.C., on December 4, 2001.¹⁵⁴ Bob Van Belle was designated the NPS 2002 Winter Olympics Coordinator, with Special Park Uses Program Manager of the Ranger Activities Division Lee Dickinson designated as the Service-wide permit contact, coordinating with each of the 22 NPS units, the Olympic Organizing Committee, media, and other participants. Victor Knox was the Utah State coordinator; the torch procession also passed through Bryce Canyon and Zion national parks after it was unveiled in Arches. The first event involving the NPS took place just 3 days after the permit signing, at Castillo de San Marcos National Monument in Florida, with a lunch celebration across the street.



8-11. Frank B. Arrowchis, Northern Ute tribal elder, performing the Northern Ute sunrise ceremony as Lakota flute player Nagi Nupa (center) and runner Stephanie LaRee Spann (right) look on. Image P2030040, 2002 Olympics, Curation Folder, SEUG Cultural Resources Digital Files. (Photo credit: unknown).

The torch run through Arches was considered the second most important location, after the entrance of the torch to the Olympic Stadium in Salt Lake.¹⁵⁵ Consequently, the event attracted more dignitaries and media and required considerable planning and logistics on the part of Arches National Park and many other organizations. The unveiling of the torch at Delicate Arch was to be performed on live worldwide television as the sun rose above the La Sal Mountains to the east.¹⁵⁶ To “pre run” the filming, which involved a helicopter and cameras on the ground, the Moab Test Run was staged September 19–20, 2001.¹⁵⁷ The test involved a film crew of 12, five torch bearers, one cyclist, three porters, one park ranger, and a representative of the Visitor’s Bureau. Because the test took place prior to the signing of the special use permit, a separate special use permit and commercial filming permit were required. The test, as for the actual torch run, involved flying the torch from Monticello to Moab.

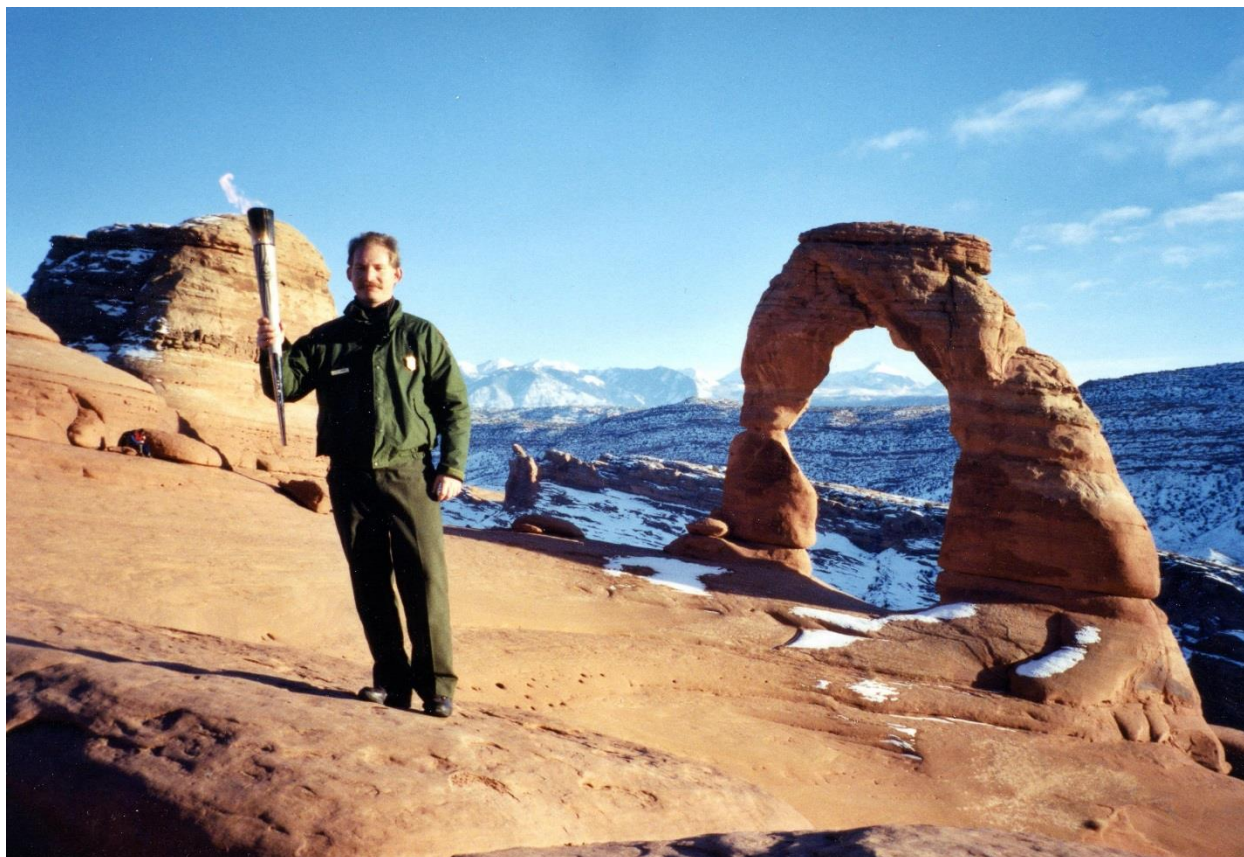
The terrorist attacks on September 11, 2001, had suddenly shifted the focus of event planning from logistics to security, although anarchists and animal rights groups had begun a campaign of disruption and protest earlier in the year.¹⁵⁸ The groups www.burntheolympics.org and the Utah Animal Rights Coalition (UARC) were upset at the inclusion of a rodeo as an official Olympic event and sponsorship of an International Olympic Committee sports medicine conference in Salt Lake City by a pharmaceutical



8-12. Sixteen-year-old Stephanie LaRee Spann was the first torch bearer, departing from Delicate Arch after being blessed by her grandfather Frank B. Arrowchis. The torches held 25 minutes worth of propane fuel, and could be purchased from the Salt Lake Olympic Committee as a souvenir. Arches Olympic Torch Relay Event Collection ARCH 236/03-37.01, SEUG Archives. (Photo credit: Jim Blazik).

company that tested its products on animals. Although BURN (Build Underground Resistance Not) threatened to “subvert” the Olympic event, the website was registered to a member of UARC, and managed to generate media interest out of proportion to the resources of a single dissident. UARC’s attempt to divert attention to its cause by using a website with an address nearly identical to the official event website earned them a cease and desist letter from the Salt Lake Organizing Committee.

Safety in Moab for the torch relay was overseen by the Moab Torch Relay Command, which consisted of the Grand County and San Juan County Sheriff’s offices, Moab Police Department, and Arches National Park, operating under a unified command with an incident command system.¹⁵⁹ The team was under the leadership of Jim Nyland (Grand County Sherriff), Mike Navarre (Chief, Moab City Police), and Chief Ranger Jim Webster (Arches National Park). Also providing support were the Moab Fire Department, Grand County Ambulance, and Grand County Search and Rescue. Arches Ranger Gary Haynes prepared an Incident Action Plan to guide the unified command of the event, which also included the Governor and Lt. Governor of Utah. The Utah Highway Patrol Executive Protection Detail organized and provided security for the Governor and other dignitaries.¹⁶⁰ Governor Mike Leavitt and his party of seven flew to Moab on February 3 to attend the sunrise event at Delicate Arch, before returning to Salt Lake City on February 4. Lieutenant Governor Olene Walker arrived later on February 3 with three other staff members; she departed Moab with the torch on February 4. Additionally, one other fixed-wing aircraft and two helicopters ferried an additional 13 dignitaries to Moab on February 3. Governor Leavitt’s party and security reserved the entire Best Western Canyonlands Inn, and required six vehicles for ground transportation. The budget for Arches National Park staff alone was estimated at \$63,000.¹⁶¹



8-13. NPS Torchbearer Gary Haynes at Delicate Arch, before the 2002 Winter Olympic torch relay. Ranger Haynes prepared the Incident Plan for the unified command of the torch relay for Arches National Park, and was honored for his efforts by being selected as one of the torchbearers. Arches Olympic Torch Relay Event Collection ARCH 236/03-37.08, SEUG Archives. (Photo credit: Jim Blazik).

On February 4, 2002, the Olympic torch was “unveiled” at Delicate Arch, where it was blessed by Frank B. Arrowchis, Northern Ute tribal elder, performing the Northern Ute sunrise ceremony as the morning sun first touched the La Sal Mountains (Figure 8-11).¹⁶² The morning was bright and cold (12 degrees F) and the sun illuminated the remaining patches of snow lying on the slickrock.¹⁶³ Lakota flute player Nagi Nupa performed during the ceremony, accompanied by a raven and a circling news helicopter. Arrowchis’ granddaughter Stephanie LaRee Spann (Figure 8-12), the first torch bearer in Utah, then began the torch run along the Delicate Arch Trail, witnessed by more than 400 spectators. To reach the viewing area in the lower bowl below Delicate Arch, many left home as early as 3:30 AM, and began to hike at 5:30, guided by flashlights and glowsticks lining the trail. A total of eight torch bearers conveyed the flame to the trailhead. Once at the Wolfe Ranch parking lot, the torch was driven to The Windows where the run resumed around The Windows, before being driven out to Balanced Rock.¹⁶⁴ From Balanced Rock, the torch was carried by four different riders on bicycles along the park’s scenic drive to the Arches Visitor Center, then along US 191 and into Moab (Figure 8-13). Three of the torchbearers were NPS employees: Arches Ranger Gary Haynes (who was selected for his role as chief planner in organizing the event; Figure 8-14), and Natalie Hettman (Arches) and Dan Greenblatt (Canyonlands) who



8-14. Dan Greenblatt relays the Olympic Torch by mountain bike on the Arches National Park scenic drive. Southeast Utah Group Archives, ARCH 236/03-37.04. (Photo credit: Neal Herbert).

were nominated by their co-workers.¹⁶⁵ At the Moab City limits, the torch was returned to the runners, who carried it through town. From Moab, the torch was flown to Monument Valley Tribal Park. The use of aircraft and automobiles to carry the torch allowed the torch to appear in as many communities and locations as possible, but also facilitated the filming and broadcast schedule of NBC.

The dramatic sunrise introduction of the torch required the NPS to close the Delicate Arch viewing area, upper bowl, part of the lower bowl, and Delicate Arch Road (from the main park drive) from half an hour after sunset on February 3 until 10:00 AM on February 4 to the general public and private vehicles.¹⁶⁶

Windows Road (from the main park drive), the scenic drive, and the visitor center parking lot also were subjected to closures or restrictions on February 4 under the authority of 36 CFR 1.5. Overall, 150 NPS personnel were involved in the event.¹⁶⁷ These included not only employees of the Southeast Utah Group, but also Intermountain Region and the Washington Office; the IMR Type I All Risk Management Team provided management for NPS resources involved with the Olympic Games in Salt Lake City.¹⁶⁸ SEUG Chief Ranger Jim Webster traveled to Salt Lake City after the torch run and was the liaison to the U.S. Secret Service, with 100 NPS rangers from around the country working security at Park City, Olympic Park, and Deer Valley.¹⁶⁹ The Salt Lake Olympic Committee, under the direction of Mitt Romney, planned the Olympic events to the minute, using a massive spreadsheet that utilized information from



8-15. NPS Director Fran Mainella (left) presided over a ceremony for the torchbearers and other organizers after the relay on February 4, 2002. Arches Olympic Torch Relay Event Collection ARCH 236/03-37.10., SEUG Archives. (Photo credit: Neal Herbert).

the “pre run” tests.¹⁷⁰ Local organizations were also heavily involved in the planning and execution of the torch relay in Moab, with the Moab Chamber of Commerce and Moab Travel Council organizing a shuttle bus service to viewpoints in Arches National Park, and Moab 2002 organized various events in Moab along the relay route.¹⁷¹

NPS Director Fran Mainella attended the ceremony at Delicate Arch, meeting the NPS torch bearers early in the morning before the relay at the Arches Visitor Center, and again afterward at the Moab BLM office with Arches Superintendent Jerry Banta and the torch bearers for a ceremony commemorating their participation (Figure 8-15). After leaving Arches, many of the NPS personnel (representing 70 units) relocated to Salt Lake City, where they provided security and visitor support for the duration of the Olympiad, including torch bearer Dan Greenblatt.¹⁷² Park rangers were selected by the U.S. Secret Service, specifically for their backcountry skills and ability to interface with visitors from around the world.¹⁷³ Despite the lingering atmosphere of dread following 9/11, no terrorist attacks marred the 2002 Olympiad. Visitation to Arches National Park increased by 2.07 percent in 2002, the only year of increase from 2000 to 2004—the last pause before Arches visitation more than doubled in just 12 years (from 733,131 in 2004 to 1,585,218 in 2016).

Notes

- ¹ Hugh M. Schmidt, Monthly Narrative Report, Arches, Moab, Utah, March 1941. Arches National Park Administrative Collection, ARCH 101/001-002, Southeast Utah Group (SEUG) Archives, National Park Service (NPS).
- ² Natt N. Dodge, Junior Park Naturalist, to Harry Reed, Custodian, April 4, 1939. 8NS-079-94-139, National Archives and Records Administration (NARA), Broomfield, Colorado.
- ³ ARCH 101/001-001 to 010, SEUG Archives.
- ⁴ Josef Muench Collection, Colorado Plateau Archives, Special Collections and Archives, Northern Arizona University. (Electronic collection http://www.azarchivesonline.org/xtf/view?docId=ead/nau/muench_josef.xml, viewed May 10, 2018). Series 66 – Arches National Park, Utah. (NAU.PH.2003.11.66), 1950–1970. Many of these images actually may have been taken during the three expeditions Muench made to Arches during the 1940s.
- ⁵ Wikipedia, View-Master. (Electronic document <https://en.wikipedia.org/wiki/View-Master>, viewed May 10, 2018). View-Master stereoscopic viewers were introduced in 1939 and are still available for sale today. The viewers use a circular paper disc “reel” with seven pairs of images that create a 3-D image. Travel destinations shown on 3–5 reels were a popular series for View-Master, including national parks. Grand Canyon and Carlsbad Caverns were the most popular, with multiple sets released over the years. Arches was never covered by an individual release; it was only included with other scenic wonders for the state of Utah in 1956 (3Dstereo.com, Inc., Stereo 3D Equipment Supplies, View-Master. (Electronic document http://www.3dstereo.com/Merchant2/merchant.mvc?Screen=PROD&Product_Code=ECO-UT-S3&Category_Code=, viewed May 10, 2018).
- ⁶ Sallie P. Brewer, Archeologist, to W. Harold Peck, August 22, 1951. 8NS-079-93-291_K30, NARA, Bloomfield, Colorado.
- ⁷ M.R. Tillotson, Regional Director, to Region Three Superintendents, Memorandum: Pictures of “bad spots” for use in justifying requests for increased appropriations, June 11, 1951. 8NS-079-93-291_K30, NARA, Bloomfield, Colorado.
- ⁸ William A. Schnettler, Regional Publications Officer, to Region Three Superintendents, Memorandum: Photographers in Regions Three, March 22, 1960. 8NS-079-93-291, NARA, Bloomfield, Colorado.
- ⁹ “Moving Pictures to Be Filmed Here This Season,” The Times-Independent, March 21, 1940. Arches National Park Administrative Collection, ARCH 101/005-058, Southeast Utah Group (SEUG) Archives, National Park Service (NPS). Although Producer Harry Sherman visited Arches National Monument and viewed Harry Reed’s photographs of the area, they apparently did not film within the monument boundaries.
- ¹⁰ “Picture Company and Railroad Film Arches Monument: Universal News Reel and D. & R. G. W. Take Movies in Scenic Area,” The Times-Independent, June 16, 1938. 8NS-079-94-139, NARA, Broomfield, Colorado.
- ¹¹ Frank Pinkley, Superintendent, to Harry Reed, Custodian, April 22, 1939. 8NS-079-94-139, NARA, Broomfield, Colorado.
- ¹² Internet Movie Database (IMDb), Most Popular Titles with Filming Locations Matching “Arches National Park, Moab, Utah.” (Electronic document <http://www.imdb.com/search/text?realm=title&field=locations&q=Arches+National+Park>, viewed September 11, 2014).
- ¹³ IMDb, Fort Apache (1948). (Electronic document http://www.imdb.com/title/tt0040369/?ref_=nv_sr_1, viewed September 11, 2014).
- ¹⁴ Bette L. Stanton, *Where God Put the West: Movie Making in the Desert*. 2nd edition. (Moab: Canyonlands Natural History Association, 1994). By 1993, according to Stanton’s reckoning, more than 120 movies had been filmed in the Moab and Monument Valley region as a whole.
- ¹⁵ A. E. Demaray, Director, to Washington Office and All Field Offices, Memorandum: Visual Materials for Television, July 13, 1951. 8NS-079-93-291_K30, NARA, Bloomfield, Colorado.
- ¹⁶ Stanton (1994), p. 9.
- ¹⁷ IMDb, Most Popular Titles with Filming Locations Matching “Arches National Park.”
- ¹⁸ IMDb, *Ten Who Dared* (1960). (Electronic document http://imdb.com/title/tt0054372/?ref_=fn_al_tt_1, viewed September 11, 2014).
- ¹⁹ ARCH 101/001-138, SEUG Archives.
- ²⁰ Record of Telephone Conversation, November 30, 1981. ARCH 101/001-139, SEUG Archives.

- ²¹ ARCH 101/001-140, SEUG Archives. The original filming, scheduled for December 14–15, 1981, was delayed until February 15, 1982. However, no records indicate that the filming ever took place.
- ²² IMDb, *Blade Runner* (1982), Filming Locations. (Electronic document http://www.imdb.com/title/tt0083658/locations?ref=tt_dt_dt, viewed January 4, 2016).
- ²³ Stanton (1994), p. 164.
- ²⁴ IMDb, Most Popular Titles with Filming Locations Matching “Arches National Park.”
- ²⁵ Noel R. Poe, Memorandum: Motion Pictures Filmed at Arches National Park, October 13, 1993. ARCH 101/001-150, SEUG Archives.
- ²⁶ ARCH 101/001-142, SEUG Archives.
- ²⁷ Peter L. Parry, Memorandum: Film Reimbursable Accounts, January 17, 1985. ARCH 101/001-142, SEUG Archives.
- ²⁸ Parry (1985), p. 2.
- ²⁹ IMDb, *Indiana Jones and the Last Crusade* (1989). (Electronic document http://www.imdb.com/title/tt0097576/?ref=nv_sr_1, viewed September 11, 2014).
- ³⁰ Wikipedia, *Indiana Jones and the Last Crusade*. (Electronic document http://en.wikipedia.org/wiki/Indiana_Jones_and_the_Last_Crusade, viewed September 12, 2014).
- ³¹ Wikipedia, List of highest-grossing films. (Electronic document http://en.wikipedia.org/wiki/List_of_highest-grossing_films, viewed September 12, 2014).
- ³² Wikipedia, *Indiana Jones and the Last Crusade*.
- ³³ Stanton (1994), p. 59. In the scene, the young Indiana Jones is on a Boy Scout outing when he and his companions discover men looting an ancient Indian ruin. The location shown in the movie is actually near Archaeological Cave, which was investigated by the Beckwith Expedition in 1933–1934, but found to have been previously looted. This is also the general area in which Ringhoffer speculated that “mummies” might be found. The burial cave depicted in the movie was actually a Hollywood sound stage.
- ³⁴ Noel R. Poe, 1990 Superintendent’s Annual Report, Arches National Park. ARCH 101/001-035, SEUG Archives.
- ³⁵ Noel R. Poe, 1990 Superintendent’s Annual Report, p. 59.
- ³⁶ K14 Information Requests, 1987–1988. ARCH 101/005-002, SEUG Archives.
- ³⁷ IMDb, Most Popular Titles with Filming Locations Matching “Arches National Park.”
- ³⁸ IMDb, *The Survivalist* (1987). (Electronic document http://imdb.com/title/tt0094080/?ref=fn_al_tt_2, viewed September 12, 2014).
- ³⁹ Stanton (1994), pp. 166–167. A Toyota commercial and another car commercial are depicted, both within Arches National Park; an ad for Clairol hair products is shown on p. 173.
- ⁴⁰ Stanton (1994), pp. 174–176. Without associated permits, journalistic representations of the park may not have been captured in the archive, unless the article itself was saved for the clipping file. It appears unlikely that a complete record of all published images from the park can be reconstructed for this reason. Regardless, it is clear that the Arches landscape has been routinely depicted in print and film since the 1970s.
- ⁴¹ Arches National Park, Basic Operations Plan, Arches National Park–Draft, p. 19. CANY 36293, SEUG Museum Collection.
- ⁴² James W. Webster, Memorandum: Administrative Charges for Commercial Filming, September 1, 1993. ARCH 101/001-150, SEUG Archives.
- ⁴³ Gail C. Menard, Annual Narrative Report of Superintendent 1994 and Fiscal Year 1995. March 1, 1996. ARCH 101/001-037, SEUG Archives.
- ⁴⁴ Penny F. Jones, Southeast Utah Group, Squad Meeting, June 13, 2000. CANY 743/01-014.5, SEUG Archives.
- ⁴⁵ Penny F. Jones, Southeast Utah Group, Squad Meeting, August 27, 2002. CANY 743/01-014.7, SEUG Archives.
- ⁴⁶ Penny F. Jones, Southeast Utah Group, Squad Meeting October 22, 2002. CANY 743/01-014.7, SEUG Archives. The perpetrators were caught, paid restitution for the damage, and performed community service as punishment.
- ⁴⁷ Penny F. Jones, Canyonlands National Park, Squad Meeting, July 19, 2005. CANY 743/01-014.9, SEUG Archives.
- ⁴⁸ Garth McCann, *Edward Abbey*. Boise State University Western Writers Series. (Boise: Boise State University, 1977).

⁴⁹ James M. Cahalan, *Edward Abbey: A Life*. (Tucson: University of Arizona Press, 2001). Abbey claimed to have been born in Home, Pennsylvania, where his family moved shortly after his birth, which actually took place in Indiana, Pennsylvania (see Gessner, p. 19).

⁵⁰ Wilderness.net, *Edward Abbey: Freedom Begins Between the Ears*. (Electronic document <http://www.wilderness.net/nwps/abbey>, viewed July 25, 2014).

⁵¹ James Bishop, Jr., *Edward Abbey Redux: The Colorado Plateau's Angriest Lover*. *Cañon Journal*, Vol. 2, No. 3 (Fall/Winter 1996), pp. 52–58.

⁵² Bishop (1996). Abbey claimed to have worked a third season at Arches in the introduction to *Desert Solitaire*, p. ix, but it is unclear from any of the biographical information about Abbey in what year or in what capacity that was. Abbey also worked in Aravaipa Canyon, Arizona, 1972–1974; it is not an NPS unit.

⁵³ McCann (1977), p. 8.

⁵⁴ Anonymous, "Chronology Obtained from Superintendent's Reports (ARCH 101 [Series and Folder not identified])," n.d. The Superintendent's Reports seem to indicate that the house trailer was first installed at this location in 1951, but then moved to headquarters in 1955.

⁵⁵ The septic tank is prominently mentioned in both the Personnel Records and Superintendent's Reports from Arches, as it was constructed by Ranger Bob Morris from a section of corrugated steel culvert in 1954. The culvert has been relocated, but no photographs of the trailer in place have been identified. Former Superintendent Noel Poe recounted that when the Balanced Rock area was being rehabilitated in the early 1990s, "where we put the picnic area was where Edward Abbey had a trailer and when he was a seasonal ranger he lived in the trailer up there and ... so we didn't know exactly where the trailer ... sat, but we tried to put the picnic or the vault toilet in a logical location that Abby would have had his trailer. We didn't name the vault toilet the 'Ed Abbey Vault Toilet' but we thought he probably wouldn't ... object to having a vault toilet where he used to sleep." Peter Bungart, Interview with Noel Poe, June 23, 2018, Clip 0008.

⁵⁶ Noel Poe, personal communication, 2018.

⁵⁷ Wilderness.net, *Freedom Begins Between the Ears*.

⁵⁸ Anonymous, "Chronology Obtained from Superintendent's Reports."

⁵⁹ Richard Shelton, "Creeping Up on *Desert Solitaire*," in *Resist Much, Obey Little: Remembering Ed Abbey*, edited by James R. Hepworth and Gregory McNamee, pp. 100–116. (San Francisco: Sierra Club Books, 1996), p. 105.

⁶⁰ McCann (1977), p. 16. "Abbey is here at his best when the character speaking has a view and background clearly similar to his own."

⁶¹ McCann (1977), p. 25. However, in *The New West of Edward Abbey* (Albuquerque: University of New Mexico Press, 1982), p. 67, Ann Ronald states emphatically that the narrator is a character called Ed. "Insistence upon a separation of author and dramatized narrator may sound trivial. Although such a distinction is generally made when talking about novels, most readers and critics assume that in nonfiction the two are synonymous. Beneath the solid surface of *Desert Solitaire*, however, viscosity awaits those who innocently believe the author is also the main character. Ed is an original creation, like Billy Vogelin Starr, manipulated by Abbey in similar ways and for similar purposes. The author can thus control his audience's attitudes and responses more easily and more effectively. The technique works the way escape fiction does, but with more radical success."

⁶² Jack Loeffler, *Adventures with Ed: A Portrait of Abbey*. (Albuquerque: University of New Mexico, 2002), p. 9.

⁶³ Edward Abbey, *Desert Solitaire: A Season in the Wilderness*. (New York: Ballantine, 1968).

⁶⁴ Shelton (1996), p. 115. "His description of the American tourist is savagely accurate. He pinpoints the automobile as the immediate cause of the destruction of the natural environments which are supposed to be protected by the National Park Service, and blames that organization for encouraging the destruction of the very thing it is supposed to be protecting."

⁶⁵ Caroline Coalter Wilson, personal communication, August 24, 2018. She recollected that Edward Abbey really did go out and pull up the survey stakes.

⁶⁶ McCann (1977), p. 22.

⁶⁷ Bishop (1996), p. 54.

⁶⁸ Ronald (1982), p. 65; Shelton (1996), p. 102.

⁶⁹ Ronald (1982), p. 66.

⁷⁰ Ronald (1982), p. 70.

⁷¹ Wilderness.net, Freedom Begins Between the Ears.

⁷² Anti-Defamation League, ADL Law Enforcement Agency Resource Network. Ecoterrorism: Extremism in the Animal Rights and Environmental Movements. (Electronic document http://archive.adl.org/learn/ext_us/ecoterroism_print.html, viewed November 26, 2015).

⁷³ ADL, Ecoterrorism. “Tree spiking” would result in shrapnel if hit by either a logger’s chainsaw or a band- or circular-saw at a sawmill. Although Earth First! and other monkeywrenchers claimed that tree spiking was intended to discourage the logging of old-growth trees, if such spikes were emplaced, they would remain a threat of indiscriminant injury if the tree was ever logged. In doing so, Earth First! crossed the line from “direct action” to violence, foreshadowing the more than \$100 million in damage caused so far by the ELF.

⁷⁴ Wilderness.net, Freedom Begins Between the Ears.

⁷⁵ “‘Earth First’ Group Held Rally at Panorama Point,” The Times-Independent, July 15, 1981. ARCH 101/005-093, SEUG Archives.

⁷⁶ ADL, Ecoterrorism.

⁷⁷ James R. Hepworth, *Canis Lupus Amorus Lunaticum*. In Resist Much, Obey Little: Remembering Ed Abbey, edited by James R. Hepworth and Gregory McNamee, pp. 117–137. (San Francisco: Sierra Club Books, 1996), pp. 128–131.

⁷⁸ Anne Becher, American Environmental Leaders: From Colonial Times to the Present. Volume I, A–K. With Kyle McClure, Rachel White Scheuering, and Julia Willis (Santa Barbara, Denver and Oxford: ABC-CLIO, 2000), pp. 3–5. Becher links the violence undertaken or proposed by the protagonists of *The Monkey Wrench Gang* with Abbey’s graduate thesis, “Anarchism and the Morality of Violence,” in which he concludes that only in self-defense is violence justified. Because the members of the Monkey Wrench Gang so strongly identify with the desert environment, their acts are also a form of self-defense.

⁷⁹ McCann (1977), p. 41.

⁸⁰ McCann (1977), p. 40–41.

⁸¹ Terre Satterfield, *Anatomy of a Conflict: Identify, Knowledge, and Emotion in Old-Growth Forests*. (Toronto: UBC Press, 2002).

⁸² David Gessner, *All the Wild That Remains*. (New York and London: W. W. Norton & Company, 2015), p. 219.

⁸³ Gessner (2015), p. 215.

⁸⁴ Gessner (2015), p. 214. Leoffler (2002), p. x, is explicit: “Edward Abbey was a great enemy of terrorism in all its myriad forms.”

⁸⁵ Wikipedia, Earth Liberation Front. (Electronic document https://en.wikipedia.org/wiki/Earth_Liberation_Front, viewed September 27, 2018).

⁸⁶ ADL, Ecoterrorism.

⁸⁷ Dan Schultz, *Dead Run: The Murder of a Lawman and the Greatest Manhunt of the Modern American West* (New York: St. Martin’s Press, 2013), p. 18. “Sabotaging work sites and stealing construction equipment had become common practice among radical environmentalists in Four Corners ever since Edward Abbey’s 1975 novel, *The Monkey Wrench Gang* became the Magna Carta of the movement’s extremists.”

⁸⁸ Samuel J. Schmieding, *From Controversy to Compromise to Cooperation: The Administrative History of Canyonlands National Park*. (National Park Service, 2008), pp. 165–166. Schmieding noted that Abbey’s call for poets and those who can look beyond the potential material wealth of the landscape, and “have not lost the capacity to wonder ... represented an energy and attitude symbolized by The Monkey Wrench Gang’s irreverent George Hayduke that have been hard for the Park Service and other federal land managers in Utah to deal with ever since.”

⁸⁹ Arthur C. Allen, Bud Dutton, Don Fellows, Robert I. Kerr, and David D. May, *Arches National Park Interpretive Prospectus*. (Denver: Denver Service Center, 1975). ARCH 101/005-027, SEUG Archives.

⁹⁰ National Park Service, Arches National Park, Edward Abbey. (Electronic document <https://www.nps.gov/arch/learn/historyculture/edward-abbey.htm>, viewed January 8, 2019).

⁹¹ Schmieding (2008), p. 135.

⁹² Rebecca Worby, Confronting Edward Abbey on the 50th Anniversary of “Desert Solitaire,” PacificStandard, December 4, 2018. (Electronic document <https://psmag.com/environment/lines-composed-a-few-styles-above-edward-abbey>, viewed February 7, 2019). “Abbey looms so large, in fact, that writing about canyon country—which he himself called ‘Abbey’s country’—often feels like a kind of conversation with him.”

- ⁹³ Schmieding (2008), p. 135.
- ⁹⁴ McCann (1977), pp. 29–32.
- ⁹⁵ Ronald (1982), p. xiii.
- ⁹⁶ Will Taylor, “Edward Abbey’s ‘Desert Solitaire’ Is 50 Years Old and Even More Relevant Today.” (Electronic document <https://www.theinertia.com/environment/edward-abbey-desert-solitaire-environment-relevant-50-years-old/>, viewed January 8, 2019).
- ⁹⁷ John O’Connor, The Balancing Act of Arches, The New York Times, July 2, 2018. (Electronic document <https://www.nytimes.com/2018/07/02/travel/arches-national-park-edward-abbey-desert-solitaire.html>, viewed January 8, 2019).
- ⁹⁸ Wilderness.net, Freedom Begins Between the Ears. “The accounts of his burial vary greatly, but the common thread that connects all the myths is a headstone that is believed to read Abbey’s name, dates of birth and death and a simple sentence: ‘No Comment.’”
- ⁹⁹ Joseph Bauman, Desert Tribute: Writer Gets Send-Off in Land He Loved, Deseret News, May 21, 1989. (Electronic document <https://www.deseretnews.com/article/47348/DESERT-TRIBUTE--WRITER-GETS-SEND-OFF-IN-LAND-HE-LOVED.html>, viewed January 8, 2019).
- ¹⁰⁰ John F. Hoffman, Arches National Park: An Illustrated Guide. (San Diego: Western Recreation Publications, 1985), p. vi. Hoffman’s image, which shows Flora Stanley and her children Ferol and Esther, was made circa 1907–1910. Figure 8-6 was clearly made during the same time period. Hoffman (p. 77) states that the first published photo of Delicate Arch appeared in “Improvement Era,” a Latter Day Saints publication in 1909, but it is unclear from his description which image was published.
- ¹⁰¹ Hoffman (1985), p. 77.
- ¹⁰² Hoffman (1985).
- ¹⁰³ Wikipedia, Delicate Arch. (Electronic document http://en.wikipedia.org/wiki/Delicate_Arch, viewed August 29, 2014).
- ¹⁰⁴ Writer’s Program, Utah, Utah: A Guide to the State. Compiled by Workers of the Writers’ Program of the Work Projects Administration for the State of Utah. American Guide Series. (New York: Hastings House, 1941), p. 454.
- ¹⁰⁵ Bates E. Wilson, Annual Report 1a1, Arches and Natural Bridges National Monuments, May 29, 1953. ARCH 101/001-030, SEUG Archives.
- ¹⁰⁶ Wikipedia, Delicate Arch.
- ¹⁰⁷ Ryan Elson, Fire at Delicate Arch. (Electronic document <http://ryanelson.wordpress.com/2012/04/30/fire-at-delicate-arch>, viewed August 29, 2014).
- ¹⁰⁸ Newspaper Clipping, November 8, 1995. ARCH 2764, SEUG Museum Collection.
- ¹⁰⁹ Rudy Herndon, “Hundreds Gather at Arches to Get First Look at New Quarter,” The Times-Independent, June 12, 2014. (Electronic document http://moabtimes.com/view/full_story/25282099/article-Hundreds-gather-at-Arches-to-get-first-look-at-new-quarter?, viewed June 15, 2018).
- ¹¹⁰ Hoffman (1985), pp. 118–119. Hoffman provides a slightly different perspective on this topic, abundantly illustrated with quotes from correspondence among NPS Regional Director Tillotson and various regional NPS staff.
- ¹¹¹ Carl W. Alleman, Landscape Architect, Special Report: Trail System Delicate Arch Area – Stabilization Delicate Arch, Arches National Monument, Moab, Utah, January 22, 1948.
- ¹¹² Alleman (January 22, 1948).
- ¹¹³ Leslie P. Arnberger to General Superintendent, Memorandum: Stabilization of Delicate Arch, May 15, 1951. 8NS-079-94-143, Folder 700, NARA, Broomfield, Colorado.
- ¹¹⁴ M. R. Tillotson, Regional Director to Director, Memorandum: Stabilization of Delicate Arch, June 15, 1951. 8NS-079-94-143, Folder 700, NARA, Broomfield, Colorado.
- ¹¹⁵ A. E. Demaray, Director, to Regional Director, Region Three, Memorandum: Stabilization of Delicate Arch, July 13, 1951. 8NS-079-94-143, Folder 700, NARA, Broomfield, Colorado.
- ¹¹⁶ John M. Davis, General Superintendent, to Regional Director, Memorandum: Stabilization of Delicate Arch, August 23, 1951. 8NS-079-94-143, Folder 700, NARA, Broomfield, Colorado.
- ¹¹⁷ [Illegible] Undated notes. 8NS-079-94-143, Folder 700, NARA, Broomfield, Colorado.

- ¹¹⁸ Harvey H. Cornell, Memorandum: Stabilization of Delicate Arch, Arches. December 15, 1953. ARCH 3360, Correspondence Delicate Arch 1947–1956, Western Archaeological and Conservation Center (WACC), National Park Service.
- ¹¹⁹ Leslie P. Arnberger, Naturalist, National Park Service, to Koppers Company Incorporated, Chemical Division, Department SAP-123, Pittsburg 19, Pennsylvania. January 26, 1954. ARCH 3360, Correspondence Delicate Arch 1947–1956, WACC. This file also contains or references identical letters sent to the other chemical companies listed in the text.
- ¹²⁰ Arnberger (January 26, 1954).
- ¹²¹ M. R. Tillotson, Memorandum: Stabilization of Delicate Arch, Arches, April 1, 1954. ARCH 3360, Correspondence Delicate Arch 1947–1956, WACC.
- ¹²² John M. Davis, Memorandum: Stabilization of Delicate Arch, April 19, 1954. ARCH 3360, Correspondence Delicate Arch 1947–1956, WACC.
- ¹²³ Douglass E. Cutler to Director, National Park Service, March 5, 1956. ARCH 3360, Correspondence Delicate Arch 1947–1956, WACC.
- ¹²⁴ Dale S. King, Naturalist, National Park Service, to Douglass E. Cutler, April 27, 1956. ARCH 3360, Correspondence Delicate Arch 1947–1956, WACC.
- ¹²⁵ National Park Service, Master Plan Development Outline, Arches National Monument, Utah, Interpretation, p. 13, November 1956. ARCH 101/003-004, SEUG Archives.
- ¹²⁶ Hoffman (1985), pp. 118–119. Hoffman references several pieces of correspondence regarding the stabilization of Delicate Arch that were not encountered during the research for the present administrative history, particularly Landscape Architect David Van Pelt’s 1954 field report, and Bates Wilson’s later comments on the project. Our research provided considerable correspondence regarding synthetic materials that could be used in the stabilization, so the two versions of the story of the stabilization of Delicate Arch provide two different interpretations of this important topic. Although the stabilization was never attempted, the debate within the National Park Service is notable as a milestone in interpretation of the Organic Act within the service.
- ¹²⁷ Jim Stiles, “How Delicate Arch Was Saved by Bureaucratic Stonewalling,” High Country News, July 11, 2005. (Electronic document <https://www.hcn.org/wotr/15645>, viewed December 19, 2018).
- ¹²⁸ Paul E. Shulz, Naturalist, National Park Service, to Douglass E. Cutler, April 9, 1956. ARCH 3360, Correspondence Delicate Arch 1947–1956, WACC.
- ¹²⁹ John M. Barrow, Preservation and Management Guidelines for Vanishing Treasures Resources, pp. 69–71. (Santa Fe: The Vanishing Treasures Program, Intermountain Region, National Park Service, 2009).
- ¹³⁰ Barrow (2009), pp. 73–77.
- ¹³¹ Barrow (2009), pp. 78–80.
- ¹³² Associated Press, Delicate Arch update: Fatali charged. (Electronic document <http://photo.net/nature-photography-forum/001i0p>, viewed August 29, 2014).
- ¹³³ Nigel Turner, comment posted February 2, 2002 to Update on Fatali Incident [Archive] – Large Format Photography Forum. (Electronic document <http://www.largeformatphotography.info/forum/archive/index.php/t-5881.html>, viewed August 29, 2014).
- ¹³⁴ Frank O., Ethics: Photography. Photography and Chaos, February 27, 2012. (Electronic document <http://photographyandchaos.blogspot.com/2012/02/ethics-photography.html>, viewed August 29, 2014).
- ¹³⁵ Associated Press, Fatali charged.
- ¹³⁶ Fact Sheet. ARCH 101/010-017, SEUG Archives.
- ¹³⁷ Frank O., Ethics.
- ¹³⁸ Associated Press, Fatali charged.
- ¹³⁹ John Griswold, Conservation Assessment: Fire Vandalism at Delicate Arch, Arches National Park, Moab, Utah. December 20, 2000. Delicate Arch Fire Damage Treatment Reports (2000–2001) ARCH 3147, SEUG Museum Collection.
- ¹⁴⁰ Press Release: Draft [marked “Do not give out copies. Not approved yet!!”]. ARCH 101/010-017, SEUG Archives.
- ¹⁴¹ Associated Press, Fatali charged.
- ¹⁴² Associated Press, Fatali charged. Comment post by Rob Oliver, October 21, 2001.
- ¹⁴³ Elson, Fire at Delicate Arch.

- ¹⁴⁴ Robert Hartzler, Delicate Arch Fire Damage Treatment Report. October 31, 2001. Architectural Conservation Projects Program, Intermountain Support Office, Santa Fe, New Mexico. Delicate Arch Fire Damage Treatment Reports (2000–2001) ARCH 3147, SEUG Museum Collection.
- ¹⁴⁵ “National Briefing. Rockies: Utah: Sentence for Burning Arch,” The New York Times, February 2, 2002. (Electronic document <http://www.nytimes.com/2002/02/02/us/national-briefing-rockies-utah-sentence-for-burning-arch>, viewed August 29, 2014).
- ¹⁴⁶ Frank O., Ethics.
- ¹⁴⁷ Associated Press, Fatali charged.
- ¹⁴⁸ Frank O., Ethics.
- ¹⁴⁹ Nigel Turner, Comment (2) (February 2, 2002) and James Mickelson (February 4, 2002), comment posts to Update on Fatali Incident [Archive] – Large Format Photography Forum. (Electronic document <http://www.largeformatphotography.info/forum/archive/index.php/t-5881.html>, viewed August 29, 2014).
- ¹⁵⁰ Olympic.org, Ceremonials: Olympic Torch Relay Ceremonies. (Electronic document <http://olympic.org/olympic-torch-relay-origin-values-ceremony?tab=ceremonies>, viewed September 15, 2014).
- ¹⁵¹ Associated Press. “Olympic Torch Carried Across Utah.” (Electronic document <http://www.foxnews.com/story/2002/02/04/olympic-torch-carried-across-utah/>, viewed September 15, 2014).
- ¹⁵² Penny F. Jones, Southeast Utah Group, Staff Meeting, January 16, 2002. CANY 743/01-014.7, SEUG Archives.
- ¹⁵³ Olympic Studies Centre, Torches and Torch Relays of the Olympic Winter Games from Oslo 1952 to Sochi 2014, p. 58. (Electronic document Studies_centre@olympic.org, viewed September 15, 2014).
- ¹⁵⁴ U.S. Department of the Interior, National Park Service, Special Use Permit (no number assigned) For the Purpose(s) of: Conducting the OLYMPIC TORCH RELAY. Signed December 4, 2001. ARCH 236/002-025, SEUG Archives.
- ¹⁵⁵ J. Rockford Smith, Letter of Determination, Temporary Closures and Limitations to Public Access, Arches National Park. Undated. Arches National Park Olympic Torch Collection, ARCH 3168, Series 2, Folder 25.
- ¹⁵⁶ Gary Haynes, Incident Action Plan: Torch Relay Command, February 4, 2002, Moab, UT. ARCH 236/002-002, SEUG Archives.
- ¹⁵⁷ Anonymous, Moab Test Event 9/19–20. ARCH 236/002-026, SEUG Archives.
- ¹⁵⁸ Mike Gorrell, “Web Sites Rally Olympic Protesters,” The Salt Lake Tribune, September 6, 2001. ARCH 236/002-023, SEUG Archives.
- ¹⁵⁹ Haynes, Incident Action.
- ¹⁶⁰ Shane J. Nordfelt, Utah Highway Patrol, Executive Protection Travel Itinerary, Moab Olympic Torch Event. February 2, 2002. ARCH 236/002-028, SEUG Archives.
- ¹⁶¹ Haynes, Incident Action Plan.
- ¹⁶² Dennis Romboy, “A Monumental Day,” Deseret News, February 4, 2002. ARCH 236/002-035, SEUG Archives.
- ¹⁶³ Bob Ward, “Sun and Red Rock Welcomes Arrival,” Standard–Examiner Capital Bureau, February 5, 2002. ARCH 236/002-035, SEUG Archives.
- ¹⁶⁴ Haynes, Incident Action Plan.
- ¹⁶⁵ Dan Greenblatt, “Lighting the Fire Within: The World Watches As America Hosts the Winter Olympics. Park Service personnel play key role.” Ranger, The Journal of the Association of National Park Rangers, vol. XVIII, No. 3
- ¹⁶⁶ J. Rockford Smith, Notice to the Public: Temporary Closures and Limitations to Public Access, Arches National Park. January 22, 2002. ARCH 236/002-025, SEUG Archives.
- ¹⁶⁷ Division of Ranger Activities, Washington Office, National Park Service, NPS Morning Report – Wednesday, February 6, 2002. ARCH 236/002-031, SEUG Archives.
- ¹⁶⁸ Haynes, Incident Action Plan.
- ¹⁶⁹ Penny F. Jones, Southeast Utah Group, Squad Meeting, February 26, 2002. CANY 743/01-014.7, SEUG Archives.
- ¹⁷⁰ Salt Lake Olympic Committee, Spreadsheet: Day 61, Monday February 2, 2002, Region 5. December 2, 2001. ARCH 236/002-030, SEUG Archives.
- ¹⁷¹ Haynes, Incident Action Plan.
- ¹⁷² Greenblatt (2002).

¹⁷³ Kevin Moses, "Commissioned NPS Rangers Help Olympics Stay Safe." *Ranger*, The Journal of the Association of National Park Rangers, vol. XVIII, No. 3 (Summer 2002).

9 Arches National Park: Now and the Future

The story of Arches National Park is woven with strong warp threads of recurrent issues: changing boundaries, escalating visitation, encroachment and trespass, and non-conforming uses of the park by visitors and commercial ventures. Decade after decade, the superintendents, rangers, scientists, and visitors to Arches have witnessed or experienced or tried to manage the latest expression of these essential aspects of Arches. During the course of writing this history (2014–2018), all of these threads in the story were actively expressed in current events. This final chapter begins with a review of trends weaving through the whole story up to the final moments of this administrative history: December 31, 2018. The past 4 years have been unprecedented in American history, and national events have touched Arches at every turn. Indeed, to keep pace with the changes, this chapter has been substantially rewritten multiple times to accommodate unforeseen or surprising twists to the story. The political chaos in Washington reflects deeper currents of a nation divided against itself, and the 2016 election of Donald J. Trump as President of the United States has had far-reaching and unpredictable results, some of which directly affect the National Park Service. Drawing from National Park Service planning documents, this final chapter of the Arches administrative history will trace the warps of Arches story forward across the wefts of time to speculate on the management, demographics, and visitor experience at Arches by 2060, the current limit of demographic projections by the U.S. Census Bureau and the United Nations.

2018: A House Divided Against Itself and All of the Usual Suspects

Air Quality

When the Air Pollution Control Act was passed in 1955, air pollution was largely a problem in major urban centers, resulting from both manufacturing and vehicle exhaust. After decades of concerted, successful efforts to reduce air pollution, the scope and nature of the problem has changed. Regional haze, resulting from a mixture of coal-fired power plant emissions, dust, and long-distance transport of urban smog, now affects every unit of the NPS in the lower 48 states. The National Park Service is actively engaged in a struggle against utility companies to reduce power plant emissions, such as the Hunter and Huntington units in Emery County, directly upwind of Arches.¹ Unable to deny the overwhelming evidence that power plants are contributing to regional haze, the utility companies have resorted to busing in hundreds of coal miners to comment at public meetings on installing scrubbers on the power plant smoke stacks, and redirecting the discussion to jobs and tax revenue. Utah attempted to co-opt the EPA mandates with a state plan that closes the already obsolete Carbon power plant, but makes no meaningful changes to Hunter or Huntington.² The NPS responded in 2015 through carefully written letters to the Regional Administrator of the Environmental Protection Agency, Region 8, and the Executive Director, Utah Department of Environmental Quality, challenging Utah's proposal to claim emission reductions through closure of the Carbon power plant, in lieu of "best available retrofit technology" (BART) emissions reduction at the Hunter and Huntington power plants.³ These letters reviewed the history of the Clean Air Act and the effects of regional haze on Utah's five national parks, and remarked on the importance of tourism to Utah's economy, as reflected in the state's promotion of these NPS units. Utah's attitude has also been critiqued as lazy, by a consortium of Colorado-based outdoors companies, who claim that the emissions from Hunter and Huntington also affect the air

quality and thus tourism industry in that state.⁴ The draft plan for improving air quality was released to the public for comment by the EPA in December 2015. In June of 2016 the EPA issued the final plan, which calls for the installation of scrubbers at Hunter and Huntington within 5 years, reducing nitrogen oxides by 9,885 tons per year.⁵

The issue of regional haze and air quality at Arches will remain an arena of critical concern for the NPS for many years to come, even if the state of Utah abandons its anti-regulation stance. In the opening weeks of the Trump administration, deep cuts to the EPA budget and program were proposed, and climate scientists have been censored. Utah Representative Jason Chaffetz attempted to overturn the EPA ruling through the introduction of H.J. Res. 87, a resolution “Providing for congressional disapproval under chapter 8 of title 5, United States Code, of the rule submitted by the Environmental Protection Agency relating to ‘Approval, Disapproval and Promulgation of Air Quality Implementation Plans; Partial Approval and Partial Disapproval of Air Quality Implementation Plans and Federal Implementation Plan; Utah; Revisions to Regional Haze State Implementation Plan; Federal Implementation Plan for Regional Haze.’”⁶ The bill was referred to the Subcommittee on Environment on March 27, 2017, after which no further action was taken. Chaffetz retired from Congress in 2017.⁷ EPA Administrator Scott Pruitt sent a letter to Utah Governor Gary Herbert in July 2017 announcing the agency’s intention to reconsider the previous decision “based on new evidence not available at the time of the 2016 decision, including data from additional visibility modeling, the seasonality of visibility improvements relative to visitation at the Class I areas affected by the Utah coal plants, and the timing of emission reductions.”⁸ Before the EPA was able to complete the gutting of the previous decision, the U.S. 10th Circuit Court of Appeals ruled on a suit filed against the EPA by Utah, and stayed the final order from taking effect in September 2017.

The owners of the Navajo Generating Station in Page, Arizona, a coal-fired power plant that is another major contributor to regional haze on the Colorado Plateau, have announced that it will close by the end of 2019.⁹ The availability of much cheaper energy from natural gas, not EPA pollution regulation, has been cited by the owners as the reason for the closure.

Atlas Tailings Pile

The Atlas Uranium Mill tailings pile was originally scheduled for complete removal for permanent disposal by 2025. The site is a potentially valuable piece of real estate, and various plans have been floated for its use after the site is restored, with the most recent round beginning in 2012. Although there is no guarantee that the Department of Energy will transfer the project site ownership after the cleanup is completed, the various stakeholders—the City of Moab, Grand County, the National Park Service, and local citizens—recognize the opportunities and potential dangers presented by such a large property directly across from Arches National Park.¹⁰ By having a plan for the parcel in advance of the end of the cleanup, local jurisdictions can argue that DOE should transfer title to the land, rather than permit another industrial facility or allow the land to lie vacant. Grand County convened a Moab Tailings Project Steering Committee to guide future development of the site, which is zoned as a Specially Planned Area that requires public input in the planning process. The most recent public input component of the planning spanned an entire year.

A mix of transportation, public information, community spaces, agency office space, commercial use, parking, utilities, and natural areas is proposed for the 480-acre site, renamed the “North Moab Valley Gateway Area.” Although plans for a convention center, hotels, shopping center, and golf course along U.S. 191 at the northeastern end of the property would be a further intrusion of Moab’s commercial

development into the Arches viewscape, it would not be visible from the visitor center and residential area, and is potentially balanced by the offer of other uses that are of potential importance to the NPS. These include a new regional tourist information center, federal natural resources agency offices, and a transportation center. The transportation center might incorporate a railroad station on the D&RG spur to Potash, future rail connection to Moab, hiking and biking trails, and potentially room for a shuttle bus station to Arches. The site would also include a parking facility that could be used to move cars out of Arches, and room for a sewage treatment plant that could service Arches visitor facilities, which are currently on septic systems.

The public proposals for the site also emphasize local recreation, including a new boat ramp on the Colorado River, an event center for concerts, nature trails, floodplain open space, and a Uranium Memorial. The memorial would commemorate people affected by uranium mining and milling on the Colorado Plateau, and would feature plaques around the Welcome Center on various topics relating to the Uranium Boom. The 2018 Community Vision Update plan was opened for public comment from May 15 to June 15, 2018.¹¹ Following a major commercial building boom in Moab over the past several years, public interest has moved away from additional hotels and commercial spaces to affordable housing.¹² In September 2018, administrators of the Uranium Mill Tailings Radiation Control Act (UMTRA) declared that the remediation project was 57 percent complete, but that only about 114 acres of the site would be usable for future development, no overnight use would be recommended, and the groundwater would remain permanently contaminated. The effect of these constraints on the proposed site redevelopment have not yet been evaluated. Current estimates place remediation project completion around 2034.

Boundaries

In 2013, Utah Congressmen Rob Bishop (R) and Jason Chaffetz (R) advanced an omnibus draft bill known as the Public Lands Initiative (PLI), intended to permanently resolve numerous land issues between the state of Utah and the U.S. government.¹³ Whether it succeeded seems to reside in the eye of the beholder,¹⁴ but it initially appeared to be a sincere effort to move land use discussions beyond criminal stunts such as the Recapture Canyon ATV Trail Ride in 2014.¹⁵ The details of the proposed initiative were very complex, and involved more than 5 million acres of federal and state lands throughout Utah.¹⁶ Arches National Park would have been enlarged by approximately 19,255 acres, including the re-addition of Dry Mesa, and a northwesterly extension of the park boundary to include more of the Devils Garden formation.¹⁷ According to the bill's proponents and supporters, the initiative would have protected or conserved 4.3 million acres and opened to energy development just 1.05 million acres.¹⁸ Opponents, including SUWA and Grand Canyon Trust, note that some of the protected acreage lies within Wilderness study areas that already enjoy full protection, and that some of the areas proposed for development may further degrade the air quality of Arches, possibly stripping it of Class I status.¹⁹

Although the initiative also provided for additional protection of Castle Valley, Fisher Towers, and other locations in Grand County, the bill would have excluded Grand, San Juan, Emery, Carbon, Uintah, Duchesne, and Summit counties from the BLM Master Leasing Plan (see below). And, although the bill calls for the creation of an 867-acre Jurassic National Monument in Emery County, the bill would have amended the 1906 Antiquities Act to prohibit any further use of the act in the seven counties covered by the initiative. This was apparently an attempt to prevent President Obama from proclaiming Bears Ears

National Monument, as the initiative would have provided some additional protection for 1.1 million acres on Cedar Mesa.

The PLI began to come apart in 2016, when the Bears Ears Inter-Tribal Coalition ended negotiations with the Utah congressional delegation, citing lack of real progress and heavy-handedness. The Grand County Council has repeatedly questioned the PLI plans for wilderness in Grand County, which are in opposition to what the Council has declared they would like to see.²⁰ The insincerity of the PLI was fully exposed during the opening days of the Trump administration, when Chaffetz proposed to sell off federal lands (H.R. 621 – Disposal of Federal Lands Act of 2017)²¹ and sought a bill to replace all federal law enforcement with local law enforcement (H.R. 622 – Local Enforcement for Local Lands Act),²² and Bishop proposed to strip new regulations pertaining to resource conservation from the BLM (H.J. Res. 36 – Providing for congressional disapproval under chapter 8 of title 5, United States Code, of the final rule of the Bureau of Land Management relating to “Waste Prevention, Production Subject to Royalties, and Resource Conservation”).

The PLI was formally introduced in Congress in July 2016 as H.R. 5780; in September the House Natural Resources Committee ordered the bill to be amended, and no further action was taken before the 114th Congress adjourned in December 2016.²³ Obama did declare a 1.3-million-acre Bears Ears National Monument on December 28, 2016. Subsequently, the Trump administration issued an executive order reducing both Bears Ears and Grand Staircase–Escalante National Monuments in size, following a review of all monuments proclaimed under the Antiquities Act since 1996, with the stated goal of reducing them in size.²⁴ Although Utah has been at the forefront of the Sagebrush Rebellion and more recent revivals of anti-federal land ownership, the 2016 attempt by states-rights militants to seize a U.S. Wildlife Refuge in Burns, Oregon, failed to generate much new support for this cause, and the Bears Ears and Grand Staircase–Escalante actions are the subject of numerous lawsuits. In part due to the unpopularity of these events, the PLI has not been reintroduced, and Bishop has announced plans to retire after the current term ends.²⁵

Encroachment/Oil and Gas Development

The Final EIS for the Moab BLM Master Leasing Plan was published July 26, 2016, the first MLP to be developed, covering 1 million acres of public lands in Grand and San Juan counties. NPS SEUG staff, especially Ecologist and Resource Chief Mark Miller and Superintendent Kate Cannon, were heavily involved in developing the plan. Miller used sound modeling and other science to determine requested buffers around the SEUG parks. The preferred alternative identified by the BLM prohibited leasing on 145,000 acres adjacent to national parks and prohibits surface occupancy on an additional 306,000 acres, but opened 59,000 acres for potash mining in some areas barred from oil and gas leases.²⁶ The implementation of the MLP was heralded as a positive development by environmentalists, including SUWA and the National Parks Conservation Association, but blasted as another regulatory impediment to energy development by energy industry spokesmen, the same development advocates who incorporated language into the Utah Public Lands Initiative that would void the MLP in Grand County.

After the PLI failed in Congress in 2016, the new administration of Donald Trump voided the entire MLP program in an instructional memorandum on January 31, 2018: “The BLM conducted the review required by Executive Order 13783 and Secretarial Order 3354 and determined that Master Leasing Plans (MLPs) have created duplicate layers of NEPA review. This policy, therefore, eliminates the use of MLPs. The MLP procedures in Chapter V of BLM Handbook H-1624-1, *Planning for Fluid Minerals*

Resources, are hereby rescinded. The BLM will not initiate any new MLPs or complete ongoing MLPs under consideration as land use amendments.”²⁷ In July 2018, the BLM Utah state office announced plans to open more than a half-million acres of energy leases.²⁸ Led by SUWA, environmental groups protested the proposed leases.²⁹ The revised leasing policy cut the 30-day public comment period to 15 days and eliminated any comments on Environmental Assessments, allowing just 10 days to file protests after the EAs are final.³⁰ Leases west of Blanding were sold in March and December of 2018, potentially impacting many archaeological sites, but areas adjacent to Arches have not yet been advertised for sale.

Government Shutdown

After two brief government shutdowns over spending resolutions in March and September, 2018, eight departments including Interior were hit by a major, lengthy closure at 12:01 AM December 22, 2018, in response to an impasse between Congress and President Trump over funding for fortifications along the U.S.–Mexico border.³¹ Contingency plans had been implemented following the hardships of the 1995–1996 and 2013 closures. With the real possibility that the final 2018 shutdown could extend for weeks, Utah Governor Gary Herbert authorized the expenditure of \$80,000 to keep Arches, Zion, and Bryce Canyon open through the winter holidays.³² Visitor services such as restrooms, trash collection, and facility maintenance were not covered by the contingency funds. The period encompassed by this administrative history ended on December 31, 2018, but the shutdown continued an additional 4 weeks to January 25, 2019, idling 800,000 federal employees and eventually resulting in the closure of Arches when the state funds were expended. The shutdown also upset the schedule for completing this administrative history, as NPS employees were prohibited from working or using their emails, leaving some important last-minute editing questions unanswered.

Livestock

Although livestock grazing was retired from Arches in 1982, the Cache Valley Road provides the only access to parts of Dry Mesa, and transporting livestock to BLM grazing allotments on Dry Mesa remains permitted.³³ When Arches National Park was created, stock trailing and access to water was specifically allowed by the Establishment Act (Public Law 92-155, Sec. 4). Until 1997, the livestock trailing was permitted under a special use permit held by Lanny and Glenna Thomas from 1970 until 1991 and by Tommy White in 1987. In 1991, Colin Fryer purchased the Thomas’s Moab River Ranch and acquired their trailing permit. In 1997, the Rocky Mountain Regional Office reviewed the legal status of the special use permit and concluded that it was redundant with the Establishment Act.³⁴ At some undetermined time since then, the special use permit process was revived. The special use permit expired in 2015, but Arches National Park renewed the permit with rancher Harley Bates in 2016 (the permit expires December 31, 2020).³⁵ The livestock are to be trucked into Cache Valley, then offloaded and herded to the gate at the park boundary. Under the permit, a temporary corral can be constructed in the turn-around at the end of Cache Valley Road. Grazing remains part of the cultural landscape, although trespass by drones, instead of cattle, may now be a more common complaint for visitors to lodge.

National Park Service Centennial

August 25, 2016, marked the Centennial of the National Park Service Organic Act, kicking off a year-long national celebration of the National Park Service. Congress approved the issue of three commemorative coins, the U.S. Post Office released special postage stamps featuring 16 national parks (Arches is one of

them, represented by Delicate Arch, of course), and a new IMAX film *National Parks Adventure* was released, featuring footage shot in Arches National Park. The NPS initiated a series of programs and activities in support of the Centennial: the Centennial Challenge matched federal funds 1:1 with private donations to support projects and programs at national parks; the Urban Agenda is an effort to improve the relevance of parks and programs in urban settings for all Americans; A Call to Action rallied “all employees and partners to advance a shared vision towards 2016” with specific goals and actions; and Every Kid in a Park gave all fourth-graders (and their families) fee-free access to the park system during 2015–2016.³⁶ On December 16, 2016, President Obama signed the NPS Centennial Act into law. Among other things, it authorizes the Centennial Challenge, creates a “Second Century Endowment Fund” for the NPS, authorizes the increased use of partners and volunteers to support park interpretation and other activities, and makes other technical modifications to the NPS Board of Directors, NHPA, and other topics.³⁷ The National Historic Preservation Fund was re-authorized through 2023 as part of the act. President Obama further expanded the national park system less than 2 weeks later when he created the Bears Ears National Monument west of Blanding, by Presidential Proclamation on December 28, 2016.

Nationally, the NPS Centennial was celebrated by hundreds of events across the country. Those at Arches included Art in the Parks on August 12 and the Founders Day Celebration on August 25 at the Moab Information Center.³⁸ An uptick in visitation at NPS units across the country was attributed to interest generated by the centennial. At Arches, this helped push the park’s visitation to its all-time high of 1,585,718 visitors in 2016.

Non-Conforming Uses

As Arches and Canyonlands national parks were completing their comprehensive Climbing and Canyoneering Management Plan in 2013, highlining and arch swinging emerged as new outdoor adventure activities in the Moab area. Highlining is an offshoot of tight-rope walking, using flat webbing (slackline) strung between rocks or across canyons, which is traversed by walkers wearing climbing harnesses and safety lines attached to the webbing.³⁹ Arch swinging uses technical climbing rope and skills to rig rope slings from arches, from which climbers can swing or perform acrobatic gymnastics. Corona Arch and Gemini Bridges, both located on Bureau of Land Management lands near Moab, were closed temporarily to all roped activities in January 2015 due to complaints about the visual impacts and noise from climbing groups; the BLM now regulates activities at those two sites. The BLM has worked with Moab-area adventure athletes to develop a highlining area called “The Fruit Bowl” near Mineral Canyon and BASE jumping areas along Kane Creek Road and at Mineral Canyon/Horsethief Point. All other BLM lands in the Moab area are open for adventure sports. Although most of the adventure sport community understands that “as long as you stay out of the national parks, no one’s going to bother you,” a few are unable to resist the temptation.⁴⁰ Andy Lewis BASE jumped in the Three Gossips towers area of Arches National Park in May 2014 and was arrested by park rangers. Lewis pled guilty to three misdemeanor counts in Federal Court in Salt Lake City in December 2014, and was sentenced to a \$1,000 fine and was banned from all national parks for 18 months; two other charges were dropped. Although Lewis is uncompromising in his belief that all public lands should be open to all adventure sports, other Moab-area athletes have focused on the continuing evolution of their activities, building “space nets” over canyons that provide a nexus of highlining routes, ziplines, and BASE jumping-off points.

Public Lands Transfer

Although the RS 2477 lawsuits filed by the Utah Public Lands Coordinating Office have yet to be resolved (Chapter 4), the Utah Public Lands Initiative would have unilaterally granted title to all disputed roads in the seven counties covered by the bill.⁴¹ With the failure of the PLI in Congress in 2016, the issue has returned to the courts. Currently, the 9th and 10th Circuit Courts have provided contradictory decisions regarding what constitutes a disputed title to RS 2477 roads, and little real progress in resolving the lawsuits has been made.⁴² The Federal District Court for the District of Utah established a “bellwether” process to streamline the 12,500 rights-of-way throughout Utah that are involved, by an order of July 31, 2015.⁴³ Under this process, 15 disputed roads in Kane County that “exemplify remaining legal issues regarding the determination of R.S. 2477 right-of-way” will be tried at an expedited trial scheduled for February 2019. Based on the resulting decision, the Utah PLPCO anticipates that special masters will be appointed by the court to resolve the other road right-of-way claims in the state.

Research

Mark Miller, former chief of the SEUG Resource Stewardship and Science Division, Southeast Utah Group, initiated an investigation into the long-term stability of North Window, using a crackmeter to measure horizontal displacement along a prominent vertical crack that bisects the north half of the fin in which the arch is located.⁴⁴ North Window is one of the most-visited locations in the park, with more than 500,000 people annually closely approaching the landmark. The location of the crack and its orientation suggest that the “western half of this fin may be deforming westward in toppling-style rotation.” The project is designed to evaluate this possibility and the potential risk of partial or total collapse of the fin. The crackmeter was installed late in 2015, utilizing rock anchors to secure the temperature logger, crackmeter (extension motion logger), cover, and remote data logger with solar array. It is anticipated that the movement of the crack will be documented for approximately 4 years. Additionally, the project will involve the use of ground-based interferometric radar (GBIR) to monitor submillimeter movements of North Window, as well as Balanced Rock and the Entrance Drive switchbacks on 6, 12, and 24 month intervals. The GBIR monitoring will be conducted in collaboration with the University of Missouri (Dr. Francisco Gomez) and the NPS Geologic Resources Division (Dr. Eric Bilderback).

The rich fossil record of the Jurassic and Cretaceous periods preserved within Arches continues to attract research. An interdisciplinary and collaborative project headed by Stephen Hasiotis (University of Kansas), Marjorie Chan (University of Utah), and Judy Parrish (University of Idaho) began in February 2015 to investigate the paleoenvironmental records of the Lower Jurassic Navajo Sandstone.⁴⁵ This unit preserves the largest sand-sea environment in geologic history, in existence from 190 to 175 million years ago. The project will use a variety of field and laboratory investigations to reconstruct the paleoenvironment, with a particular focus on the effects of an extended period of greenhouse global climate change. Although the Navajo Sandstone crops out across the Colorado Plateau, the focus of field investigations will be northwest of Moab, including Arches National Park. The project continues through the end of 2018, and is intended to produce new interpretations of paleoclimates of the region and climate change at NPS units across the Colorado Plateau.

These are not the only research projects underway at Arches National Park—they are just two of the larger and more visible. Among the numerous projects currently active, the NPS is engaged in on-going investigations of the effects on dryland environments of nitrogen deposition resulting from air

pollution,⁴⁶ and the SEUG Resource Division Vegetation Program has led a research and monitoring program for grasslands restoration in Salt Valley in Arches (and in Canyonlands' Needles District).⁴⁷ They are collaborating with researchers at USGS-BRD Moab in this effort, and have been employing numerous conservation corps groups in implementing the project.

Roads

The entire 26-mile paved road system in Arches National Park underwent a complete resurfacing in 2017, with the old pavement milled and replaced and a proper roadbed installed for the first time in places that lacked it, but the road was not widened to include full bike lanes as some had wanted. The entrance road, scenic drive, campground road, and other spur and loop roads (including The Windows and Delicate Arch) were included.⁴⁸ The project also entailed several projects originally proposed as part of the new visitor center in 1994: a new entry lane, a roundabout on the entrance road, and a turnaround lane at The Windows Loop. The project began in February 2017 and finished in November 2017, with much of the work being accomplished overnight between 7:00 PM and 6:00 AM, when the park was closed, to minimize impacts to visitors.⁴⁹ This is the first time that these roads have been completely resurfaced since 1963–1964. In 2017, UDOT also installed a “smart” traffic light and median dividers on US 191.⁵⁰ Traffic sensors trigger the light to allow for left turns into and out of Arches National Park, with dedicated turn lanes; two lanes of southbound traffic on US 191 can continue uninterrupted, and north-bound traffic is stopped when enough cars accumulate seeking access to or egress from the park entrance.

Tamarisk

The SEUG Vegetation Program staff began a tamarisk removal project in January 2018 that was intended to not only remove the invasive plant from the park, but also to improve the flow of three drainage channels in Cache Valley, thus alleviating conditions that contribute to flooding of the Delicate Arch road.⁵¹ The primary goal of this project is to realign and deepen the channels of the three washes by removing 54 acres of tamarisk and 29,000 cubic yards of sediment. The vegetation crew has identified native vegetation to be avoided during cutting and channeling, as well as best locations for depositing the large amount of sediment being removed from the channels.⁵² They are using research and monitoring to guide an adaptive management approach, and are again collaborating with the USGS-BRD researchers to guide their work and their knowledge, to be applied to future projects. This will be the largest-ever restoration project yet attempted in the park, requiring 2 years to complete.

Vandalism

Arches, like many other NPS units, is currently experiencing an unprecedented wave of vandalism. In April 2016, rangers discovered an area of large, very deeply carved names and dates on Frame Arch, shortly after the area around Sand Dune Arch had been cleaned up from a previous graffiti assault and reopened to the public.⁵³ This included the name “ANDERSEN” carved in letters stretching over 6 feet in length across the base of Frame Arch.⁵⁴ In October 2017, Arches National Park used a mix of ground sandstone and an acrylic bonding agent to fill the nearly ¾-inch-deep letters, which were deemed too deeply inscribed to grind away. Social media appears to be a primary driver, where the goal is to share the crime with “friends,” although at least some of the graffiti is made by criminal gangs marking territory (as in Joshua Tree National Park; Chapter 5). Narcissistic popular culture is probably a greater component to the current epidemic than gangs, including the mania for taking self-portraits (“selfies”)

with cell phones, and sharing minute details of daily life on social media (including criminal acts like vandalism).⁵⁵ As this history was being finalized, Ryan Bird Anderson of Idaho Falls, Idaho, has pled guilty to vandalizing Corona Arch, on BLM land south of Arches National Park.⁵⁶ The man paid a \$1,000 fine and \$860 in restitution to the BLM after carving graffiti into the local landmark in 2018, an act that his family participated in and posted to Facebook. Other users of Facebook noticed the vandalism and turned Anderson in to the authorities. In some instances, the vandalism has been conflated as “protest” or “art” by the perpetrator or their apologists, notably in the case of Casey Nocket, who pled guilty to seven misdemeanor counts of damaging government property in her 2014 graffiti spree in the West.⁵⁷ Although a few commentators argued that her paintings are equivalent to Native American rock art, or that her graffiti was a legitimate form of protest, the courts viewed her actions otherwise, sentencing her to a 2-year ban from all federal lands, 200 hours of community service, and a fine. Actress Vanessa Hudgens scratched a heart and “Austin + Vanessa” in 2015 at Bell Rock in Sedona, Arizona, an act that is probably more representative of the casual self-absorption of the current cohort of vandals.⁵⁸

Visitation

Arches National Park closed on Memorial Day 2015 at the request of the Utah Department of Public Safety, when the entrance station traffic queue backed up onto Highway 191, extending towards the Colorado River bridge. In May 2015, 63,771 vehicles entered Arches National Park, but in the same month in 2016 the number increased by 8,243 to 72,014, nearly a 13 percent increase in traffic.⁵⁹ The NPS prepared a Draft Traffic Congestion Management Plan and Environmental Assessment (EA) for both Arches and Canyonlands National Parks; the public comment period ended November 12, 2015.⁶⁰ After the scope of the EA was narrowed to just Arches, an additional public comment period was opened from November 1 to December 18, 2017.⁶¹ The current preferred alternative is the use of reservations and a timed entry system to better distribute visitors throughout the day.⁶² This approach is bitterly opposed by some members of the Moab business community, who are proposing to construct a parking garage and transit hub on the former Atlas Mills UMTRA site.⁶³ Arches currently intends to set a cap of 2,006 vehicles entering the park between 7:00 AM and 6:00 PM. Reservations will be required for all visitors on motorcycles, all private non-commercial vehicles, and all pass holders. Exempt from the reservations will be visitors entering on foot or by bicycle, vehicles associated with campground and/or Fiery Furnace reservations, vehicles associated with special use permits, and vehicles entering the park between 6:00 PM and 7:00 AM or at any hour of the day between November and February. Due to the large number of substantive comments that Arches has received regarding the EA, a date to implement the reservation system has not yet been set and an open house on the Traffic Congestion Management Plan will be held in April 2019.⁶⁴

Water Rights

In 2015, Arches National Park and the state of Utah signed an historic Water Rights Agreement, a document that establishes for the first time a Federal Reserved Water Right for Arches National Park.⁶⁵ Negotiations between the state of Utah and NPS began in 1999.⁶⁶ The agreement is one part of a larger program to clarify the water rights of all NPS units in Utah, which were reserved with the proclamation or establishment of each unit, but never legally clarified with the state of Utah. The agreement includes administrative uses of diversion up to 120 acre-feet per year and depletion of up to 60 acre-feet per year within the park boundaries to supply potable water, irrigation, construction, and other activities. Additionally, it permits emergency diversions for fire suppression that are not counted against the

annual administrative use. Arches National Park is also permitted to retain all other surface and ground water in a free-flowing or in situ state for preservation of riparian areas, wetlands, wildlife habitat, or recreation. The agreement subordinates existing water rights and prevents any subsequent changes to any water rights on file with the state of Utah, and establishes a zone around Arches National Park to protect the surface flows of the Entrada aquifer. The multiyear monitoring of springs in Arches identified the importance of protecting spring recharge zones, including those lying outside of the park boundaries.⁶⁷

Arches at 90 and Counting: The Future As It Might Have Happened

Arches National Park will celebrate its 90th anniversary as this administrative history is being finalized and published in 2019. Administrative histories are created as management tools for future park superintendents and management staff, providing the story of the park, its changes through time, and the specific management issues that have confronted the staff. In telling this story I have included some context to the social, economic, political, and environmental events that have affected Arches National Park. Future managers, like those of the present time, will likely be drawn to the landscape of Arches at a personal level as well as professional, yet will have experienced a very different set of shared local, national, and global events in their lives. Your age cohort is revealed by whether you make a connection to the attack on Pearl Harbor, the assassination of John F. Kennedy, the Challenger disaster, 9/11, or the Parkland massacre.

Although many of the documents reviewed for this administrative history are reactive in nature, created in response to conditions out of normal limits like the VERP program, the General Management Plan (1989) and the Foundation Document (2013) looked ahead. As discussed in Chapter 7, VERP was triggered when the Arches GMP's projected visitation for 2005 was met and exceeded as it was being published. VERP was a complicated, far-reaching attempt to understand and constrain the growing visitation at Arches National Park without further impairing the visitor experience. The ultimate failure of VERP in the early 2000s can be attributed directly to congressional reluctance to fully fund the National Park Service, yet this obscures a prevalent culture within all levels of the NPS of being unwilling to do more than acknowledge that visitation at parks like Arches is excessive at some times of the day, week, and season.⁶⁸ Superintendents Noel Poe (1990–1995) and Kate Cannon (2006–present) are notable for having taken on the challenge of skyrocketing visitation, through VERP and the Traffic Congestion Management Plan respectively. The Foundation Document identifies visitation levels as one of six parkwide issues affecting Arches, and recommends collecting data on visitor use and impacts and reviewing the VERP program: “Take another look at park indicators and standards. Current resource staffing is inadequate for designing, implementing, and managing necessary monitoring or other resource-stewardship activities.”⁶⁹ Using the trajectories of the persistent issues summarized in the beginning of this chapter, demographic trends plotted by various public policy organizations, and a bit of speculation, some observations about the future history of Arches can be suggested.

Although VERP monitoring has not taken place in Arches since 2004, if it should be revived as recommended in the 2013 Foundation Document, the social indicators may be affected by the increasing urbanization of the United States, and the very different sense of crowding and personal space held by visitors from India, China, and other densely populated nations. Other NPS units welcomed far greater numbers of visitors, despite the sense of crowding felt by Arches staff. Great Smoky Mountains National Park (521,896 acres) had 11,338,893 visitors in 2017, a density of 21.72 persons per acre per annum.⁷⁰

Arches (76,359 acres) had a slightly lower density of visitors at 20.15 per acre per annum. In just 2 years, both parks experienced a significant increase in visitation, from the previous density in 2015 of 20.52 at Great Smoky Mountains and 18.32 at Arches. Of course, most of those visitors congregate within the frontcountry areas, significantly increasing the density and resource impacts. When these levels of visitation are viewed in terms of the number of miles of paved road (frontcountry) in each park, the 26 miles of paved road in Arches host 59,193 people per road mile per year, whereas Great Smoky Mountains 238 miles of paved roads have a density of 47,642 people per road mile per year. Cheap fuel and fear of overseas travel will continue to increase visitation by Americans.

Demographic Trends

When Arches was proclaimed on April 10, 1929, the world population was estimated to be 2.043 billion people, having just passed the 2 billion mark in 1927.⁷¹ As of December 31, 2018, the estimated world population was 7.632 billion,⁷² the population of the United States was 328,226,532,⁷³ and the population of Utah (as of July 1, 2018) was 3,161,105.⁷⁴ Based on current trends in demography and migration, the United Nations estimates that the world population will pass 10 billion between 2050 and 2060⁷⁵ and the U.S. Census Bureau estimates that the population of the United States in 2060 (the farthest year of the projection) will be 416,795,000,⁷⁶ a 30.92 percent increase in population since 2014. In approximately 2050, Nigeria will displace the United States as the third largest country by population, after India (1st after 2022) and China (2nd).⁷⁷ By 2050, Utah will have an estimated population of almost 5.4 million, and Grand County will have 13,098 people (a 42% increase from 2010), almost all of whom will reside in or near Moab.⁷⁸ World, U.S., and Utah populations are projected to slow in their rate of increase over the next 45 years, compared with the steep population increases experienced during the twentieth century.

The aging and eventual passing of the large Baby Boom generation has significant potential effects on the management of Arches National Park, both directly and indirectly. Some of these are being felt already. Fewer visitors are interested in walking or are able to walk, even short distances, to view park sights.⁷⁹ Further modification of park facilities to accommodate limited mobility is unlikely for financial as much as legal reasons. Visitors arrive in ever-larger vehicles that narrow roads, diminishing driving skills (due to age and distractions), and small parking spaces cannot readily accommodate.⁸⁰ Requests or demands to mitigate frailty through the use of motorized vehicles are on the rise, and an increasing portion of the recreational public regards uncontrolled off-highway vehicle use as a legal entitlement. Park staff is also affected. As the demographic weight of the Baby Boom has influenced almost everything in the last 70 years, the Park Service faces mass retirements, depriving remaining staff of institutional memory (part of the reason to write administrative histories). Indeed, one component of this administrative history project was to record oral history interviews with current or retired Arches employees whose careers at Arches could inform on the past 25 years of events. Among those who participated in this were former Superintendent Noel Poe, former Chief Ranger Jim Webster, former Archivist Vicki Webster, former Chief of Interpretation Diane Allen, former Facilities Chief Tome Johnson, former Supervisory Park Ranger Lee Ferguson, and Research Ecologist Jayne Belnap, whose involvement with Arches included work at SEUG, the National Biological Survey, and currently the USGS Biological Resources Division.

The end of the Baby Boom generation may also cause a serious economic decline between 2020 and 2035, when the boomers reach 75 years in age and beyond; some of the things in which they have

invested heavily will likely decline in value due to market saturation (such as muscle cars, comic books, big houses), and this may negatively affect the tax base, stock market, and federal budget.⁸¹ The diminished funding could further affect the National Park Service, through both diminished staffing levels and an expanding backlog of deferred maintenance and repair.⁸² As of fiscal year 2017 (the most current available data), the maintenance backlog is estimated at \$11.606 billion across the entire NPS; Arches National Park's portion is estimated to be \$25.64 million.⁸³ Repaving the entire Arches road network in 2017–2018 should have retired a large percentage of this amount, but it has grown by almost \$6 million since 2015. The NPS has recently demonstrated a willingness to dramatically increase entrance and permit fees in parks, and the public, already conditioned to spending much greater amounts for other forms of entertainment, has largely acquiesced (but not without some griping). Some conservative members of Congress are now blaming the NPS for the backlog, and using that as an excuse to advocate for selling off units of the Park Service to pay for the repairs.⁸⁴

Based on these demographic trends and current political trends, we can ask a number of questions about the future of Arches National Park, with some answers more optimistic and some decidedly pessimistic.

Visitation Trends

The world is increasingly urbanized. Projecting forward, Arches may experience more than 3 million visitors by 2060, but most of these visitors will be acclimated to much higher population densities on a daily basis, and will continue to view visits to Arches and other national parks as a rural experience, if not actual wilderness. The VERP program at Arches was largely based on measuring crowding by showing park visitors computer-simulated views of the park with increasing numbers of people visible; in the future, the threshold for the social indicators at national parks may shift to accept greater numbers of people.

It was the state of Utah that created and funded the “Mighty 5” advertising campaign in 2012–2015, which was likely the largest factor in a nearly 20 percent increase in visitation to Arches in a single year. Tourism is an important economic generator in Utah, especially in rural counties like Grand County, much more so than ranching or oil and gas extraction. The BLM's Moab Master Leasing Plan (MLP) and Proposed Resource Management Plan Amendments/Final Environmental Impact Statement (FEIS) included an economic analysis of the relative contributions of oil and gas extraction and tourism to the local economy; during the 15 years of the final plan, oil and gas would employ 171 people and generate \$365 million in economic impact, whereas recreation/tourism would support 1,086 jobs and generate an additional \$761 million, under the balanced approach of the final plan.⁸⁵ Potash extraction, ironically, would employ 259 people and generate \$669 million. Although there are some members of the Republican party with libertarian ideological leanings who are openly hostile to parks or protected land of any kind, they are a small minority of the U.S. electorate and do not appear to currently have the political clout to dismantle the National Park Service. Utah Representative Chaffetz introduced H.B. 621 early in 2017 to sell off more than 3 million acres of federal lands in the West—and just as quickly was forced to withdraw the bill in the face of massive opposition, even within his own party.⁸⁶ These trends suggest that Arches will remain a national park, and the NPS will remain an agency that will preserve, protect, and interpret landscapes and places for the public. However, the Park Service likely faces years or decades of lean funding and assaults on scientific research (especially relating to climate change), given the current political situation and precedent of the last few decades.

The Visitor Experience

To mitigate visitation at these projected levels, Arches may have to restrict or exclude private cars (except for those displaying a Handicapped placard) and institute a shuttle system; further refine the reservation system that is the preferred alternative in the Traffic Congestion Management Plan currently undergoing final analysis and review; and open new trails and viewpoints to reduce crowding at Delicate Arch, The Windows, and Devils Garden. It may be necessary to revisit paving the Salt Valley Road to U.S. 191, but with one lane designated a one-way route for shuttle buses and cars with Handicapped placards and the other lane for bicycles, Segways, E-scooters, hoverboards, and other personal conveyances. As per the 2012 NPS rule on Bicycles (36 CFR 4.30), mountain biking in Cache Valley and to Klondike Bluffs could be encouraged, and would allow visitors to access backcountry campgrounds away from the most crowded parts of the park. Lost Spring Canyon will eventually become the focus of the more adventurous and able-bodied visitors, but crowding at Delicate Arch will increase, especially if Landscape Arch should collapse (during this period). A virtual experience, filmed in 3-D by professional cinematographers, would be the focus of a new Southeast Utah Group Visitor Center on the former site of the Atlas Mill. The remediated tailings pile site could also house a large parking lot and the shuttle bus station, structures that would not expose visitors to elevated radon exposure (unlike enclosed buildings occupied for lengthy periods, like hotels). On days of “poor seeing” due to inclement weather or regional haze, some visitors may prefer the virtual experience to reality.

Expanding upon the new reservation system, the National Park Service could contract with outside concessionaires to provide package deals to multiple sites in an area, including those outside of NPS or federal jurisdiction. Such packages might guarantee a sunset view of Delicate Arch as the preferred component of a plan that could also include Mesa Arch in Canyonlands, Castle Valley, and the Needles Overlook; other packages might prioritize the Mesa Arch view at sunrise instead. Package deals would allow visitors to be distributed among a group of attractions at scheduled times to optimize the visitor experience and reduce crowding at specific sights at preferred times (Figure 9-1).⁸⁷ Because the percentage of global tourists is likely to follow current trends and increase by 2060, constrained by different work and school schedules, the reservation system will be able to reduce visitation during the summer months and shift those visitor days to other seasons, including the winter. Because Disneyworld adopted a similar tiered reservation and pricing structure in 2016, other programmed and theme entertainment will follow suit and the public will be increasingly acclimated to this approach, and will (mostly) accept it.⁸⁸ A reservation system would also allow the NPS to accommodate a broader spectrum of visitors by scheduling thematic events such as Drone Day, BASE Jump Day, First Monday Mountain Bike Days, and so on. Outdoor recreational enthusiasts, in exchange for the opportunity to perform their activity in Arches, will be willing to schedule a trip around a specific day on the calendar, just as amateur astronomers anticipate comets, occultations, and eclipses. Reservations could also provide a mechanism to permit some aircraft overflights while making others aircraft-free days, but this would require the cooperation of the FAA and Aircraft Owners and Pilots Association. Theme parks already have timed reservations for their most popular attractions for the same reason the NPS will finally be forced to do so—there are physical limits to how many people can occupy the same space at one time. Arches contains the greatest concentration of natural stone arches in the world, and will remain a singular destination for that reason.



Figure 9-1 Memorial Day 2015 on the Devils Garden Trail. Compare with the 1993 computer-generated image of nearly the same location showing the maximum number of visitors on this trail (48) that was prepared for VERP studies (Figure 7-2, bottom). (Photo credit: Courtesy Arches National Park/Chris Wonderly).

Shifting Park Uses

Increasing population, increasing visitation, and increasing numbers of elderly and unfit people will place greater pressure on the NPS to open more trails, expand the range of activities permitted, and attempt to reduce crowding at key attractions.⁸⁹ The political will behind the Wilderness Act may pass with the Baby Boom generation and their focus on a very limited outdoor recreational program of hiking and sightseeing. That Congress has not completed the Wilderness Preserve System after decades of inaction indicates that the chances of significant additional wilderness being added is slight. What wilderness has been designated is remote and unlikely to appeal to the general public (and should remain so for its preservation). Congress is unlikely to repeal or significantly change the Wilderness Act, so much backcountry will remain managed as wilderness, but not formally part of the preserve system. The 2006 NPS Management Policies already require the management of Wilderness-eligible lands as wilderness; subsequent versions of this document will retain this provision if for no other reason than it costs relatively little for the NPS or any other agency to manage wilderness.

Because Arches' backcountry is immediately adjacent to the heavily visited frontcountry, Arches will likely be expanded (again) with additional buffer lands around it. This could enable some of the present backcountry to be developed for visitation, possibly by exchanging some lands currently managed as wilderness for new Wilderness-eligible lands now being managed by the BLM. The Public Lands Initiative would have expanded Arches by 20,000 acres and formally designated the backcountry as Wilderness.⁹⁰ This would have included the re-addition of Dry Mesa at the eastern edge of the park (protecting the Delicate Arch viewshed) and a continuation of the Devils Garden formation to the northwest. Although the PLI did not pass, and its congressional advocates have already or will soon retire, further expansion of Arches boundaries and changes to how the lands within those boundaries are used will almost certainly be revisited. Carefully managed growth of developed areas in Arches, as suggested by John Veranth (Chapter 7), would greatly expand the opportunities for visitors to experience the landscape, including by mountain bike. With more than 2,000 known arches, as well as towers and other interesting formations, future generations of visitors may have the opportunity to experience attractions that are currently known to only a few backcountry hikers.

What Would Edward Abbey Think?

Arches will accommodate many more visitors than Abbey could ever imagine, but only by taking part of his advice and banning cars from the park, and instituting a shuttle system and alternative transportation such as bikes. This is not what Abbey really wanted, which was to ban cars *and* most of the visitors from Arches (and other parks). In this, Abbey was clearly an elitist environmentalist, demanding that visitors experience the landscape only by walking, or possibly by bicycle (but only on the roads, as a means of getting to a trailhead). Whether this view is "right" or not will not matter by 2060, as it is largely irrelevant now; ever-increasing urbanization and reliance on technology virtually guarantees that most visitors to Arches in 2060 will not want to walk great or even moderate distances, will be unprepared to do so, and will represent a hazard to themselves if they attempt it. The exception will be the super-conditioned ultra-athletes performing long-distance runs, solo free climbs, and other "extreme" outdoor recreation. The current trend of installing defibrillators in enclosed public places such as airports and visitor centers could extend out-of-doors to trailheads at the Windows Loop, Devils Garden, and Delicate Arch.

Furthermore, as described above, most visitors will expect a more packaged experience, similar to their past cruises, visits to theme parks, and evening entertainment: interactive, scripted, and planned. This is, of course, the evolution of "industrial tourism," so disliked by Edward Abbey. The largest cruise ships now offer climbing walls; what will Arches visitors demand? Outside of the park boundaries, the old jeep trails Abbey used to reach the Maze in Canyonlands and climb the La Sal Mountains will be further overrun with jeeps, trucks, dune buggies, motorcycles, quads, tricycles, and side-by-side conveyances in a landscape increasingly resembling the post-apocalyptic motorized Wasteland of *Mad Max*.

But, Abbey's observation that civilization needs wilderness as an antidote to culture was and remains correct. Enough people will continue to view national parks like Arches as a "wilderness" experience, compared with midtown Manhattan, London, or Shanghai, that they will continue to visit and try to find for themselves something of the real, natural world. The subset of people who truly need, like Abbey, to disappear into the wilderness, will still do so, but will have to work harder at it and tolerate more people like themselves in the same piece of wilderness in Alaska, Patagonia, or Antarctica. Moab and other

gateway communities will still pander to all of the disparate groups trying to use the same landscapes, including the Edward Abbeys and the motorized hordes.

Coda

The story of Arches National Park—its discovery, its evolution toward becoming a national park, its rise to celebrity status—is unique and idiosyncratic. It does not conform well in most of its narrative with larger stories, such as the rise of National Tourism as a visitation theme. Although the Arches landscape was central to the events of *Desert Solitaire* and its thesis of preservation for preservation's sake, Arches' history has been a struggle for development, to overcome the wilderness and allow the common taxpayer to see the sights. Integral to Arches story is photography. Wind, water, mass-wasting, and faulting carved the thick sandstones of the Colorado Plateau into a multi-colored pageant of fantastic forms. But it took human agency—the photographic images of George L. Beam, Frank R. Oastler, and Laurence M. Gould and the persuasive appeals of Alexander Ringhoffer, Frank Wadleigh, and Oastler—to have Arches legally set aside by Presidential proclamation as a national monument under the Antiquities Act. Publication in color of photographs by Jack Breed, Catherine and Dick Freeman, Hugh Bell, and Josef Muench brought Arches to the public, and the public came to Arches. Monthly Narrative Reports tracked the increases in visitation following each newspaper article, magazine spread, and motion picture, at first with excitement as Arches was finally “discovered,” then with concern, and now with resignation. Photography and visitation inseparably drive each other and now bring millions to Arches, especially Delicate Arch, now thronged with visitors taking smart phone self-portraits. Delicate Arch first began its ascendance when the Beckwith Expedition removed the old, ugly, and colorful names that the local sourdoughs had given it—“old ladies bloomers,” “pants crotch”—and called it a Beautiful, Delicate Arch. It wasn't even in the first draft of Arches National Monument, stuck between Devils Garden and The Windows. Delicate Arch appeared on the cover of *Life* magazine in 1953, in color just like Marilyn Monroe, and a star was born, unique and idiosyncratic. The story of Arches is much more about motivated individuals—Alex Ringhoffer, Steven T. Mather, Bates E. Wilson, Noel Poe, and Kate Cannon—than movements. Delicate Arch may look weak to some, but it has bested Dean Potter, Michael Fatali, and all of the vandals whose names are routinely removed from its base. Arches is a landscape of survival. It will continue its slow erosion for the ages and remain a marvel and inspiration to us all.

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INDEX

- A** Abbey, Edward: influence and legacy, 1, 12, 21, 22, 122, 153, 223, 249, 276, 337, 403–404, 411, 413–417, 452–453; memorial of, 13, 250; ranger at Arches, 1, 2, 7, 9, 13, 63, 248, 310, 336, 411–412; trailer at Arches, 118, 125, 412, 434
- Adams, John, 193
- Ahles, Bill and Arlene, 14, 336, 337
- Aircraft Owners and Pilots Association, 312, 317, 451
- Albright, Horace, 57, 72
- Albright, Stanley L., 234
- Alleman, Carl W., 6, 91–93, 113–115, 125, 128–130, 420
- Allen, Diane, 256, 259, 339, 346, 351, 356, 449
- Allen, Thomas J., 182
- Alpine Archaeological Consultants, 190
- Alt, Peter, 403
- American Rock Writing Research, 268, 269, 271
- American Society of Landscape Architects, 93
- Americans with Disabilities Act, 14, 116, 227, 236–239, 241, 243, 267, 347
- Anderson, J. C., 68, 70, 322
- Anderson, Ryan Bird, 447
- Andre, Jack, 239
- Angel Arch, 203
- Apicella, Pete, 324
- Archaeological Cave, 65
- Archaeological Resource Protection Act, 11, 234
- Arches Foundation Document, 243, 373, 392, 448
- Arches National Monument: boundary revisions, 5, 8, 10, 42, 71–75; proclamation National Monument status, 1, 4, 42, 43–46, 64, 82, 221, 334, 367, 403, 453
- Arches National Monument Scientific Expedition, 4, 64–65, 69, 82, 349
- Arches Search and Rescue, 276, 278–280
- Arch-in-the-Making, 5, 373, 374, 420
- Argon Tower, 298
- Arizona Highways* magazine, 403, 417, 425
- Arnberger, Leslie P., 306, 412, 423, 425
- Arrowchis, Frank B., 427–429
- Asmus, John, 273
- Aspinall, Wayne N., 221–223
- Astronomy viewing events, 20, 260, 451
- Atlas Minerals Company, 11, 12, 17, 78, 171, 173, 175, 180, 196, 268
- Atlas Uranium Mill, 19, 156, 173, 410, 440, 447
- Atomic Energy Commission, 119, 170–173, 304
- Atwood, Duane, 371
- Audubon Society, 81
- Austin, John, 339
- Automobile accident, 8, 97, 101, 157, 369
- Ayers, Fred and Irene, 6, 296

B Baby Arch, 13, 374
 Baby Boom, 2, 294, 347, 449, 452
 Bailey, J. M., 160
 Baker, Robert M., 294
 Banta, Jerry, 17, 55, 60, 113, 116, 239, 240, 260, 359, 431
 Bar-M Chuckwagon, 197, 199, 207
 Barnes, F. A., 254
 Barrier Canyon pictographs, 12, 235, 268, 271, 273
 BASE Jumping, 20, 303, 306–308, 444, 451
 Basketmaker, 80
 Bateman, Keith, 353
 Bates, Harley, 443
 Bates Wilson Legacy Fund, 64
 Bauman, Joseph M., 348, 350
 Beam, George L., 3, 18–19, 24, 28–39, 44, 45, 54, 83, 253, 386, 403, 453
 Bears Ears National Monument, 21, 24, 202, 441, 442, 444
 Beauvais, Richard, 12, 336
 Beck, D. Eldon, 79
 Beckwith Expedition, 68, 70, 204, 417
 Beckwith, Frank A., 4, 27, 28, 64, 65, 68–71, 82, 204, 206, 253, 349, 417, 453
 Beckwith, Jane, 239
 Beekman, Christine, 257
 Beer, Margaret, 371
 Begay, Willie and family, 268–272
 Bell, Hugh S., 4, 5, 27, 30, 40, 403, 453
 Belnap, Jayne, 13, 15, 16, 171, 246, 250–252, 312, 349, 369, 449
 Bennett, Robert, 15, 348, 386
 Bennett, Wallace F., 220–222
 Best available retrofit technology, 181, 182, 439
 Bicycles, 2, 20, 192, 194, 244, 308–312, 328, 415; Dr. Cain, 238–240
 Bicycle races, 2; Dark Angel State, 12, 294
Bicycling magazine, 309
 Bierhaus, Sherma E., 12, 13, 55, 56, 60, 161
 Bill, Harthon L., 424
 Bill Evans Dancers, 320
 Biological Resources Division of USGS, 16, 252, 449
 Bishop, Jason, 365
 Bishop, Rob, 441–442
 Black, Albert, 269
 Black, Evan, 268
Blade Runner movie, 405
 Blake, Reed, 255
 Bloody Mary Wash, 13, 71, 84, 103, 106, 186, 262, 374, 376
 Blue Tunnel, 374, 376
 Blythe Intaglios, 316
 Bogan, Mike, 372
 Boorghoff, Mike, 296

Bowling Green University, 252, 410
 Boy Scouts of America, 275
 Brady, J. M., 180
 Braggs, Jim, 359, 364
 Brigham Young University, 6, 10, 79, 81, 199, 205, 250, 252, 324, 338, 346
 Bristol, John, 41
 Brown, Alan and Valerie, 198
 Brown, Scott, 60
 Brueck, Phil, 55, 239
 Brunnemann, Eric,
 Brussell, Sharon, 378
 Bryce Canyon National Park, 36, 57, 93, 220, 221, 260, 263, 426, 443
 Budelier, Steve, 241, 349
Buick Magazine, 403
 Burney, A. W., 71
 Burton, Laurence J., 220, 222
 Bush, George W., 167–168, 360, 362

C Cache Valley, 6, 13, 77, 81, 91, 97, 125
 Cain, Jeffrey J., 16, 238–241
 Calabrese, F. A., 261
 Cammerer, Arno, 37, 44, 73, 82
 Campbell, Ben Nighthorse, 311–312
 Cane Creek, 73, 164
 Cannon, Chris, 17, 382–383
 Cannon, Kate, 19, 20, 55, 56, 60, 168, 260, 275, 302, 351, 355, 442, 448, 453
 Canter, Stanley G., 242
Canyon Country Zephyr, 250, 301, 340, 354
 Canyon de Chelly National Monument, 313
 Canyonlands Ballooning, 317
 Canyonlands biscuitroot (*Lomatium latilobum*), 356, 368
 Canyonlands Field airport, 196, 314–315, 317
 Canyonlands Field Institute, 257, 261, 340
 Capitol English Brass Band, 320
 Capitol Reef, 10, 164, 200, 201, 203, 220–222, 252, 371
 Capps, Jim, 55, 236, 336
 Carbon County Chamber of Commerce, 220
 Carlson, Victoria, 19, 336
 Carter, Charles, 93
 Carter, Dennis L., 9, 81
 Carter, Jimmy, 11, 228, 234
 Carter, Stan, 270, 319
 Cartwright, Charles, 232
 Cary Arboretum of New York Botanical Garden, 252
 Casa Grande National Monument, 52, 56, 403, 411
 Castle Windows, 3, 38
 Cattle, 4, 6, 12, 35, 41, 64, 80, 156–162, 191, 246, 318, 443
 Cedar Breaks, 36, 57, 220, 252

Cedar Mesa, 270, 441
 Centennial of Grand County, 15, 349
 Centennial of the National Park Service, 20, 21, 336, 443–444
 Centennial of Utah, 15, 417
 Chaco Canyon, 86, 119, 241, 242, 423, 425
 Chaffetz, Jason, 355, 440–442, 450
 Chamberlain and Associates, 384
 Chaney, Steve W., 55
 Chaplin, Charlie, 27
Cheyenne Autumn movie, 405, 406
 Chip-off-the-Old-Block, 11, 373
 Christensen, Heber, 38, 41
 Christmas Bird Count, 9, 81
 Christmas Tree Arch, 369
 Chrobak-Cox, Judie, 235
 Church of Jesus Christ of Latter Day Saints, 199
 Civilian Works Administration, 4, 82, 84
 Civilian Conservation Corps (CCC), 3–6, 87–90; camp strike, 89; dynamite, 103, 192; infrastructure, 118–121, 134, 262; roads, 84–85, 87, 96, 98, 195, 385
 Claxton, Dale, 365
Cleveland Plain Dealer newspaper, 40
 Clinton, William J., 16, 17, 34, 75, 78, 201, 357, 382, 383
 Clyde Construction Company, 84
 Clyde, George D., 200
 Coal, 16, 20, 156, 178–182, 201, 202, 250, 382, 439–440
 Cobra landform, 381
 Coffin, Edward, 88
 Cold War, 6, 169, 183, 200
 Collins, George L., 71, 72
 Colorado Plateau Cooperative Ecosystem Study Unit (CPCESU), 242, 372–373
 Colorado River Scenic Tours, 353
 Colorado–Utah Livestock Company, 158
 Conference on Research on the Colorado Plateau, 372
 Cook, John, 239
 Coolidge, Calvin, 39, 41
 Cooney, Kathy, 324
 Cordova Cabin, 231, 261, 383
 Core Operation Analysis, 360
 Cornell, Harvey H., 423
 Corona Arch, 444, 447
 Coulam, Nancy, 14, 232, 263, 267
 Courthouse Towers, 6, 70, 71, 78, 112, 228, 253, 353, 376, 403, 405; geological survey, 79; roads, 86, 89, 109; trails, 6, 107–110
 Courthouse Wash Pictographs, 11, 110, 232, 236, 261, 268, 275, 366
 Cove Arch, 374, 376
 Cove Nature Trail, 6, 111, 113
 Cowen, Paul, 354
 Crescent Junction, 8, 82, 85, 164, 173, 186, 193, 195

Cross-State Air Pollution Rule, 181
Crystal Arch, 108, 110, 112, 113, 129
Cub Scouts of America, 268
Cunningham, James Ricky, 18, 366
Curecanti Sheep Company, 158, 161

D

Dabney, Walter D., 14–15, 17, 55, 60, 314–317, 358–359, 382–383, 386; Basic Operation Plan, 358–359, bicycles, 294, 310; oil and gas leases, 165; overflights, 314–315, 317; RS 2477, 203; CNHA, 259; Boy Scouts, 275
Daily Sentinel newspaper, Grand Junction, 249
Dalton, Darrell, 188
Dalton Wells, 11, 14, 15, 85, 88, 196, 204, 205
Dalton Wells dinosaur quarry, 15
Darcey, Frank, 246, 262, 263, 267, 286, 339, 349, 384, 402
Dark Angel Panel, 235
Daughters of the Utah Pioneers, 266, 267
Davis, John M., 96, 114, 118, 183, 423
Daw, Sonja, 251
Dead Goose Arch, 374, 377
Dead Horse Point, 8, 164, 220, 307, 340, 405, 410
DeGette, Diane, 239
Dehne, Carin, 13, 280
Demaray, Arthur E., 37, 40, 44, 405, 423
Denver and Rio Grande Western Railway System, 3, 29, 31, 34, 36, 37, 47, 48, 162, 353, 404, 441
Deseret News, 348, 363
Deseret String Band, 320
Desert Highlights, 301, 355, 382
Desert Magazine, 8, 94, 111, 296, 297, 403
Detroit News, 410
Devils Dog spire, 300
Dickinson, Lee, 426
Dinosaur National Monument, 167, 201, 203, 205, 245, 371
Doc Williams Point, 108, 110, 112, 113, 182
Dodge, Natt N., 79, 81, 87, 100, 196
Double Arch, 28, 40, 41, 86, 107, 108, 110–112, 116, 253, 254, 268, 296, 347, 403, 409; special events at, 318, 320, 323, 324
Double O Arch, 4, 5, 10, 28, 41, 108, 253, 356, 380, 403
Drake, Joyce, 13, 374
Dry Mesa, 64, 75, 77, 163, 165, 167, 204, 381, 441, 443, 452
Dust Bowl, 87, 246

E

Eagle Peak, 167
Eagle Rock, 5, 373, 420
Earth First!, 1, 12, 415, 416, 435
Earth Liberation Front, 1, 416
Easter Sunrise Worship Service, 7, 61, 64, 223, 309, 318, 319
Eastern Kentucky University, 252
Eckley, Eddie, 162

Edwards, Dale, 173
 Eisenhower, Dwight D., 8, 75, 183
 El Paso Natural Gas Company, 183, 185
 Elephant Butte, 296
 Elizondo, Emmett, 6, 107, 158, 160, 161
 Elizondo, Jay, 158
 Elk Ridge, 176
 Entrada aquifer, 448
 Entrada High Adventure Camp, 275
 Escalante National Monument, 5, 72, 73, 140, 200, 220
 Eslinger, Jim, 296
 Evandon, Angie, 371
 Evans, Joe, 240
 Explorer Scouts, 63, 277
 Eye of the Whale Arch, 97, 108, 110, 114

F

Fagan, Damian, 251
 Fallen Rock Arch, 5, 373
 Fat Tire Festival, 16, 310
 Fatali, Michael, 17, 18, 302, 425–426, 453
 Federal Aviation Administration, 7, 12, 14–17, 312–317, 330, 451
 Fee Demonstration Program, 16, 18, 117, 133, 358, 359, 410
 Fender, Anna M., 55
 Ferguson, Lee, 118, 449
 Ferris, Robert J., 81, 160
 Fewkes, Jesse Walter, 424
 Fiery Furnace: commercial tours, 21, 353, 355; geological survey, 79; guided tours, 79, 122, 223, 256, 357, 382; paleontological survey, 206; permit system, 15, 351, 355–357, 447; roads 6, 74, 91, 97, 101, 103; trails, 9, 108–110, 112, 122; vanadium claim, 169; vandalism, 125, 275
 Fin Canyon, 108, 110–111, 129
 Fingers, The, 27, 47
 Finnerty, Maureen, 239
 Finney, Edward C., 42
 First Light Adventure Photography, 261
 Fish Construction Company, 183
 Fisher, Gary, 308
 Fisher Towers, 220, 296, 381, 405, 441
 Fisk, Terry, 60
 Flame ‘N’ Gos prison work crew, 117, 162, 208
 Ford, John, 6, 405, 406
 Foreman, Dave, 12, 415–416
Fort Apache movie, 6, 404–406
 Fossil collection, 204–205, 207, 445
 Four Corners, 16, 56, 81, 119, 162, 170–172, 317, 346, 365
 Four-Four Pipeline Construction Company, 190
 Frame Arch, 20, 240, 275, 446
 Franke, Paul, 71
 Frederick, Steven, 254

Freed, Daniel G., 221
Freedom of Information Act, 162, 203, 250, 262, 355
Freeman, Bernard B., 79, 403
Freeman, Dick and Catherine, 403, 453
French, Christine Madrid, 134
Fryer, Colin, 318, 349, 443

G Garden of Eden, 84, 97, 103, 108, 110, 112, 296
Garland, Susan, 239
Garn, Jake, 294
Garner, Ray, 403
Garrett, Dean, 245
Garrison, Jack, 158
Garrison, Lon, 183
Gibson Dome, 176, 178
Girl Scouts of America, 63
Glen Canyon, 58, 72, 201, 202, 222, 232, 317, 411, 413–414
Glen Canyon Dam, 58, 364–365, 398, 414–416
Goetze, Chris, 22, 190, 232, 235, 412
Gold of the Seven Saints movie, 406, 408
Golden Jubilee at Arches, 223–224, 257
Goodman, Ladd, 403
Gould, Laurence M., 4, 40, 44, 50, 453
Goulding, Harold, 5, 84–85
Graffiti, 6, 12, 20, 200, 268–270, 273–275, 446–447
Graham, Tim, 250–251, 371
Gramm, Phil, 315
Grand Canyon Trust, 173, 179, 295, 301, 382–383, 441
Grand Canyon Visibility Transport Commission, 19, 181
Grand County Archaeology Society, 82
Grand County Centennial, 15
Grand County Commission, 73, 340
Grand County Historic Preservation Commission, 248
Grand County Historical Society, 267
Grand County Riverway Park, 77
Grand County Sheriff, 16, 64, 205–206, 256, 292, 364, 428
Grand Staircase–Escalante, 16, 19, 185, 201–202, 204, 382, 442
Grand Valley, 77, 192
Grant, George, 124, 403
Grant, Ulysses S., 24
Gray, Lonnie, 29, 34
Grazing, 156–162, 208, 250, 443
Grazing Board, 72–73
Grazing Division/District, 86, 120, 156
Great Depression, 1, 4, 52, 57, 64, 72, 334
Greek Orthodox Community of Salt Lake City, 323
Greenblatt, Dan, 429–431
Grender, Gordon C., 372–375

Griffith, Sandy, 386
Grosjean, Mike, 161
Gunter-Perryman Construction Company, 134
Guraedy, Paul D., 13, 55–56, 60, 228, 243, 245–248, 307, 311–312, 336, 339

H Hagood, Allen, 339
Hall, John, 198
Hamilton, J. B., 71–72
Hammett, Jim, 339
Hammond, W. D., 160
Handlebar Ranch, 198
Haneberg, William C., 252
Hans Flat, 233
Hartman, Thomas L., 64, 307, 372
Hartzog, George, 10, 313
Haynes, Gary, 18, 428–429
Hedden, Bill, 382
Heller, Edmund, 36
Henderson, Paul, 259
Henderson, Robert, 322
Hendricks, Sam, 91
Herbert, Gary, 440, 443
Herbert, Neal, 430–431
Herdina Park, 86, 103, 108, 228, 255, 306, 376–377
Hettman, Natalie, 429
Hetzel, Louise, 264
Hewitt, William, 222
Hickey, Brendan, 60
Highlining, 303, 444
Hof, Marilyn, 339, 344
Hoffman, John F., 3, 12, 22, 24, 27–28, 36, 38, 40, 44, 116, 254, 257–258, 263, 296, 424, 437
Hoidel, Chris, 190
Hollywood, 403–404
Holyoak, Don W., 158
Hoover, Herbert, 4, 39, 42, 46, 75
Horowitz, Danny, 254
Horses, 6, 41, 82, 107, 163, 240, 268, 294, 304, 309–310, 329, 353–355, 405, 415
Horwitz, Marc, 363–364
Hottes, H. G., 107
Houck, Laura, 273
Hougen, Nik, 353, 355
Hough, Emerson, 36
Hovenweep National Monument, 2, 16, 57, 220, 232, 237, 241–242, 245, 261, 358, 365, 371
Howe, Gary, 268
Hulk movie, 406, 410
Human Ensemble Repertory Theater, 320
Hunter and Huntington power plants, 20, 181–182, 439–440
Hutchinson, Art, 16, 365

I Ickes, Harold, 4, 163
Indiana Jones and the Last Crusade movie, 13, 334, 406, 410, 433
 Inscription House, 313
 International Dark-Skies Association, 17, 260
 International Mountain Bike Association, 310–311
 Inventory & Monitoring program (I&M), 17, 371, 372

J Jackson, Earl, 81
 Jeep Jamboree, 2, 304–306
 Jeep Safari, 9, 99, 304–306, 318, 385
 Jeep trails and roads, 86, 97, 103, 108, 203, 304–306, 354, 453
 Jeep, Willys CJ3-B, 305
 Jenkins, John, 137
 Johnson, Lyndon B., 10, 63, 75, 77, 200, 221–222
 Johnson, Matthew, 371
 Johnson, Tome, 171, 449
 Jones, A. Durand, 240
 Jones, James E., 252
 Jones, Randy, 239
 Joshua Tree National Monument, 275, 446
 Joss, Laura E., 18, 19, 55, 60, 167
 Julien Inscription Panel, 13, 232, 366

K Kearney, Steve, 275
 Keller, Harriet L., 34
 Kelly, Charles “CK,” 308
 Kelsey, David, 16, 314–315
 Keogh, J. E., 75
 Kerr, Robert I., 10, 55–56, 59, 244, 246, 261
 King, Dale S., 424
 King, Theresa, 336–337
 Kirby, Kat, 60
 Kirkland, Jim, 206
 Kitchell, Kate, 249
 Klinglesmith, Lenny, 383
 Klondike Bluffs, 3, 47, 70–71, 77, 97, 108, 163, 170, 211, 255, 306, 368, 451; bicycles, 309, 451; overflights, 315; Ringhoffer, 27, 36, 41; roads, 71, 84, 86; trails, 108–111, 117, 306; uranium, 170, 211
 Klondyke, Arizona, 27
 Kojian, Varujan, 322
 Knievel, Evel, 294–295
 Knox, Victor, 426
 Kolob Arch, 19, 255
 Korr, Layton, 298
 Kosa, Greg, 18
 Kramer, Karen, 231
 Krishna Consciousness International Society, 14, 319

Krumbolts, Oras, 6, 276
Kussman, Joel, 339

L La Sal Mountains, 18, 32, 40, 77, 235, 311, 415, 427, 429, 453
La Sal Mountains Overlook, 64, 180, 225, 318
Lake Powell, 58, 72, 415
Landscape Arch, 5, 6, 8, 10, 14, 19, 24, 86, 96, 107–111, 122, 167, 253, 255, 276, 374; social trails, 343, 346, 356; sonic boom, 313; rockfall, 378–380
Landscape Arch Loop Trail, 9, 13, 15, 114, 116, 228, 238, 240, 256
Landscape Arch climbing area, 296–298
Langley, Harry, 70–71, 82
Larson, Tommy, 157
Latter Day Saints magazine, 24
Letts, Harry G., 88
Leavitt, Michael, 428
Lewis, Andy, 444
Lewis, F. D., 26–27
Lewis, John, 60
Lime, Dave, 339–340, 344–345
Lions Club of Moab, 36, 63, 73, 77, 82, 96, 192, 220, 223, 351
Lions Park, 20, 75, 90, 124, 156, 187, 192–194, 196
Lions Park Transit Hub, 20, 192
Livestock, 4, 6, 11, 24, 41, 156–162, 198, 246, 251, 279, 295, 443
Lloyd, Sherman P., 223
Lockley, Martin, 207
Look Down Arch, 374, 377
Los Alamos National Laboratory, 367
Lost Spring Canyon, 68, 158, 167, 251, 334, 367, 451
Lost Spring Canyon Addition, 17, 78, 167, 228, 230, 334, 381–383; Beckwith report, 68; monitoring, 251; opposition to, 230
Lost Spring Canyon Wilderness Area, 367
Lower Courthouse Wash, 124, 162, 353, 363, 376
Lowman, Hubert, 403
Lueninghoemer, Gilbert, 403
Lujan, Manuel, 349
Luke, I. H., 36
Lying Jughandle, 374, 376

M Mabery, Roby “Slim,” 54, 61–62, 81
“MacGuyver” television series, 410
Maddox, Richard, 81
Madrid, Christine L., 15, 85, 134, 385
Madsen, Helen, 263
Mahan, Russell L., 6, 52–53, 55, 59, 79, 83, 86, 107, 160, 170, 204, 296, 353, 403, 420
Mainella, Fran, 18, 386, 431
Manning, Bob, 339–340
Marching Men, 27, 39, 86, 111
Marcus, Deborah, 269–270, 273

Marek, Marie, 256
Maros, Valerie, 380
Marsh, Harold, 183
Martin, Todd, 365
Marvel, Chris, 339
Mason, Robert, 365
Mather, Stephen T., 3–4, 29, 35–45, 57, 72, 220, 453
Matheson, Scott, 11, 180, 223–224
Maxwell, Ross, 79
May, David D., 254
McCann, Garth, 413, 416
McCarrick, Ed, 12, 253–254, 377
McDougall, W. B., 79
McKinlay-Jones, Karen, 363
McKinley, T. W., 3, 38, 40–41
McKinney, Lewis T., 6, 52, 55, 59, 89, 263
McLaughlin, John, 246, 339
McNeely, John H., 38
McVean, Jason, 365, 398–399
Melich, Mitchell, 100, 223
Menard, Gail C., 55, 245, 261
Mercury Arch, 374, 377
Mercer County (NJ) Community College, 252
Mesa College, 367
Mesa Verde National Park, 16, 37, 40, 71, 87, 190, 241–242, 245, 313, 358, 365, 410, 425
Metzger, P. M., 403
Mid-America Pipeline Company, 186
Midwest American Pipeline Company, 183
Midwest Archaeological Center, 82, 231, 261
Mill Creek, 180
Miller, Hugh M., 5, 6, 55, 59, 96, 100, 118, 183
Miller, Jerry, 183
Miller, Joe, 320
Miller, Mark, 20, 22, 168, 225, 442, 445
Miller, Susan, 173
Minaret Bridge, 4, 28, 47, 253
Miner, Philip S., 5, 296
Mintzmyer, Lorraine, 245, 286
Mission 66, 7, 58, 87, 93, 96, 99, 118–122, 129, 133–134, 238, 242, 318, 357, 384–385
Moab Adventure Center, 317
Moab Canyon, 13, 17, 86–89, 164, 182–183, 185, 188, 190, 195–198, 204, 235, 369
Moab Drilling Company, 121
Moab Fault, 18, 70–71, 82, 87–89, 135, 187, 196, 207, 366, 390
Moab Giants Dinosaur Museum, 20, 206–207
Moab Information Center, 5, 20, 223, 257, 259, 317, 418, 444
Moab Jeep Posse, 63
Moab Land and Cattle Company, 157
Moab Pictograph Panel, 12, 232, 235–236, 261, 268–274

Moab Sun News, 303
 Moab Tailing Project Steering Committee, 440
 Moab Uranium Days Parade, 82
 Monagle, Rick, 340
 Moore, Chris, 253
 Moore, Glenn, 81
 Moore, Jeff, 372
 Moore, Matt, 355, 382
 Moran, Mary, 287, 389
 Mormon, 49, 52, 81, 171, 199, 346, 414–415
 Mormon dugway, 87, 195–196, 198
 Morris, Dave, 339
 Morris, Earl, 425
 Morris, Gus, 158, 160
 Morris, Robert L. “Bob,” 46, 54, 149, 171, 183, 413, 434
 Morrison, Royce, 374, 378–379
 Moss, Frank E., 221–223
 Muench, David, 336
 Muench, Josef, 403, 417, 419, 453
 Müller, Michael, 374, 378
 Murdock, Abe, 169
 Museum of Northern Arizona, 21, 242, 372
 Musselman, Ross, 6, 160, 353

N

National Biological Service/Survey, 15–16, 250–252, 449
 National Environmental Policy Act, 10, 58, 233, 244
National Geographic Magazine, 5, 41, 403
 National Historic Preservation Act, 9, 230
 National Historic Preservation Fund, 444
 National Parks Air Tour Management Act, 17, 317
 National Parks Conservation Association, 168, 182, 247, 311, 442
 National Parks Overflights Advisory Group, 317
 Native American Graves Protection and Repatriation Act, 14, 21, 241–242, 372
 Native American, 24, 171, 241, 272, 447
 Natural Arch and Bridge Society, 13, 254, 374
 Natural Bridges National Monument, 2, 9, 40, 55–62, 72, 79–80, 119, 176, 220, 232, 237, 245, 261, 314, 358, 367, 371–372, 403, 407
 Natural Resource Damage Assessment and Restoration Fund, 191
 Natural Resources Defense Council, 167
 Navajo Arch, 108, 110
 Navajo Generating Station, 440
 Navajo Nation, 272–273, 313, 317, 372
 Navajo National Monument, 313
 Navarre, Mike, 428
 Needles, 369, 384
 Needles district (Canyonlands), 220, 244, 446, 451
 Nelson, Kyle, 275
 Nelson, Mark, 320

New Deal, 4, 87
 New York Stock Exchange, crash of, 4, 64
New York Times, 4, 97
New York Times Magazine, 38, 403
 Newell, Bert, 157–158
 Newell, Maxine, 10, 263
 Nickens and Associates, 367
 Niehaus, Chad, 324
 Nielson, Howard C., 311–312
 Night Sky Preservation Program, 17, 260; night sky conditions, 163, 260–261, 368; Night Sky Monitoring Program, 260–261
 Nixon, Richard M., 10, 57, 75, 222, 313–314
 Nocket, Casey, 447
 Nordin, Paul, 340
 Norgard, G. W., 70
 North Window, 13, 108, 110, 112–113, 274, 314, 324, 342, 372, 445
 Northern Arizona University, 21, 372, 400
 Northern Colorado Plateau Inventory and Monitoring Network (NCPN), 17, 251, 260, 371; night sky monitoring program, 260; plant monitoring, 370–372; water quality monitoring, 368
 Northwest Pipeline Company, 7, 182–184, 190, 383
 Nowak, Erika, 371
 Noxon, John, 269–270, 273
 Nuclear waste repository, 176–178, 200
 Nupa, Nagi, 427, 429
 Nusbaum, Deric, 71, 85
 Nusbaum, Jesse L., 37, 40, 71–73, 213
 Nyland, Jim, 428

O Oakland Community College, 252
 Oastler, Frank R., 4, 24, 28, 38–40, 44, 50, 403, 453
 Obama, Barack, 21, 168, 441–442, 444
 Occupational Safety and Health Administration, 190, 243–244
 O’Dell, Thom, 371
Ogden Standard-Examiner, 222
 Old Spanish Trail, 3, 13, 232, 366
 Olsen, Chet, 100
 Olympics of 2002, 18, 302, 334, 404, 418, 426–431
 One Thousand Arch, 13, 255
 Oullette, Cecil M., 296
Outside Magazine, 307
 Overflights, 10, 14, 17, 71, 225, 312–315, 317, 451
 Overlook Arch, 374, 376
 Owens, Jack, 5, 169
 Owl Rock, 299
 Ozment, James L., 29, 35, 45

P PIII Associates, 367
 Pacific Northwest Pipeline Company, 182–184

Pack Creek Ranches, 340
 Palmer, George, 316
 Palmer, William Jackson, 34, 48
 Panorama Point, 12, 14, 20, 97, 103, 180, 260, 318
 Parade of Elephants, 48, 79, 107, 111, 149
 Paradox Fault, 162
 Paria River Canyon, 308
 Park Avenue, 13, 71, 108–110, 116, 237, 240, 382, 409
 Park, Dave, 239
 Parmenter, Jan, 317
 Parry, Peter L., 10, 55–56, 59, 192, 244, 246, 257, 259, 408, 410
 Partition Arch, 108, 110–112
 Patee, George, 193
 Patraw, P. P., 70
 Paxton, Frank, 158, 160–161
 Paxton, Tad, 158
 Paxton, Taft, 161
 Perkins, Dusty, 371
 Persons, Trevor, 371
 Peterson, C. W. “Stubby,” 318
 Petrified Sand Dunes, 108–110, 382
 Pfanz, Harry W., 11, 36–39, 44
 Pierson, Lloyd M., 13, 54, 61, 64, 81–82, 97, 137, 183, 223, 232, 248–249, 404; photo credits, 95, 98–99, 125–126, 133, 135, 407–409
 Pilon, Alan “Monte,” 365, 399
 Pine Tree Arch, 111–112
 Pinkley, Frank, 4, 5, 38, 40, 44, 52, 55–56, 59, 72–73, 163, 404
 Pinnacle Helicopters, 317
 Pipeline accident, 17, 185–191
 Plants, invasive/exotic, 17, 370, 162, 182, 190, 246–249, 370, 372, 383, 446
 Plants, native, 21, 81, 111, 135, 137, 182–183, 185, 190–191, 198, 246, 252, 349, 356, 367, 383
 Plastow, Pete, 64
 Poe, Noel, 15, 55, 60, 78, 243, 256, 334, 340, 345, 348–349, 381, 434, 448–449, 454; bicycles, 309; grazing, 161–162; reservation system, 349, 352; mining, 173, 200; visitor center, 384
 Poison Ivy Alcove, 235
 Poison Strip, 167
 Pollock Nature Photography, 353
 Potash, 164, 173, 193, 296, 441
 Potash mining, 8, 20, 41–42, 77, 162–164, 168, 222, 442, 450
 Potter, Dean, 19, 114, 295, 301–302, 308, 453
 Powell, John Wesley, 405, 415
 Powell, Shirley, 372
 Prescott College (Arizona), 368
 Pressley, Captain, 5, 89
 Professor Valley, 62, 405
 Pruitt, Scott, 440
 Public Lands Policy Coordinating Office, 19, 204
 Purple sage (*Poliomintha incana*), 14, 241

R

Radiker, Bill, 310
Ralston, Aron, 373
Rampton, Calvin L., 221, 223
Ratcliff, Harold M., 157, 160, 208
Rath, Charles M., 42
Reagan, Ronald, 12, 156, 180, 200, 362, 416
Red Cliffs Lodge, 349
Red Rock 4-Wheelers, 9, 304–305, 340
Redtail Aviation, 314, 317
Reed, Erik K., 80
Reed, J. Harry, 5, 52, 55, 59, 85–86, 91, 107, 253, 296, 335, 353, 403–404
Reed, Larry D., 10, 55–56, 59–60, 64, 234, 261, 272, 304
Rees, Michael, 339
Reilly, Jim, 239
Reservation system, 15, 18–19, 118, 349–352, 356, 447, 451, 453
Revoir, Henry, 158, 160
Rholand Murphy Construction Company, 118
Ribbon Arch, 5, 253
Richey, Charles A., 6, 55, 59, 71
Richman, Angela, 60
Ringhoffer, Alexander, 3–4, 11, 13, 24–41, 44, 68, 70, 253, 453
Ringhoffer, Arpod, 3, 26–27, 29
Ringhoffer, Evalon, 26
Ringhoffer Inscription, 13, 232, 366
Ringtail Mesa, 167
Rio Grande movie, 405
Riparian zones, 162, 246–247, 251, 287, 372, 382, 448
Rison, Esther Stanley, 263–264, 266
Rock House, 5, 13–14, 54, 113, 120, 134–135, 231–232, 241, 257, 262–263, 366, 385
Rocky Mountain Operations Evaluation Team (NPS), 349
Rocky Mountain Power, 182
Roosevelt, Franklin D., 5, 46, 56, 73, 75, 87
Rosenbalm, Rhonda A., 18, 366
Ross, John, 160
Ross, Kenny, 272
Ruhl, John, 202
Ruple, John, 202
Ryan, A. D., 42

S

Sacrifice boulder, 274
Safley, F. J., 4, 38, 41–42, 44
Sagebrush Rebellion, 11, 191, 199–201, 442
Salamacha, Gary N., 187, 249–250, 314–315, 364
Salazar, Ken, 19, 168
Salt Lake Tribune, 41, 77, 200, 383
Salt Creek, 18, 20, 203–204, 384

Salt Valley: Alex Ringhoffer, 27; bicycles, 309, 451; geology, 81; livestock, 157–160; oil, gas, potash, 162–164, 176; pipeline, 183, 186; roads, 44, 70, 82, 84–86, 91, 97, 100, 103, 111, 121, 125, 204, 349, 451; salt dome possible nuclear waste site, 11, 176–178, 223; tamarisk, 13, 247–250, 371; Turnbow Cabin, 74
 Salt Valley Spring, 235
 Sand Dune Arch, 20, 110, 112–113, 116, 260, 275, 341, 351, 446
 Schelz, Charlie, 18, 250, 371, 376
 Schetzsl, Anthony J., 18, 55, 60, 167, 245, 339
 Schmidt, Henry G., 5–6, 52, 54–55, 59, 74, 79–80, 86, 88–89, 119–120, 160, 169, 253, 262, 334, 403
 Schmieding, Samuel J., 2, 139, 259, 416, 435
 Schulz, Paul E., 424
 Scolnik, Reuben, 11, 253, 261
 Scott, Ridley, 14, 405–406, 410
 Sear, Arthur M., 54
 Sears, Bill, 403
 Segway device, 238, 451
 Semisch, Frederick, 6, 276, 296
 Sevenmile Bridge, 70
 Sevenmile Canyon, 162, 304, 368
 Severence, Owen, 233
 Sheep, 35, 41, 156–161, 222
 Sheep, bighorn, 158, 164, 195, 198, 251, 300, 311, 369–370
 Sheep Rock, 298–299
 Shumway, Casey, 279–271
 Shupe Family Fiddlers, 320
 Simms, Danny R., 245
 Silver, Constance S., 273, 275
 Silver Eagle Mining Company, 193
 Six-Shooter Peak, 178
 Skyline Arch, 5, 80, 84, 86, 95, 97, 101, 107–112, 114, 121, 183, 296, 374
 Skywalker Balloons, 317
 Sleight, Ken, 353
 Sloan, William B., 158, 369–370
 Slyke, Van, 187
 Smith, J. Rockford “Rock,” 17, 55, 60
 Smith, O. J., 36
 Smith, Rick, 361
 Smoot, Reed, 4, 40
 Society for Creative Anachronism, 12, 318
 Sommerville, James, 160
 Southern Utah Wilderness Alliance, 168, 203, 230, 247–248, 295, 301, 320, 340, 348, 382–383, 441–443
 Southwest Archaeological Center, 81
 Southwest Safaris, 317
 SPAN, Natural Arch and Bridge Society newsletter, 254, 374
 Spanish Valley, 157, 167
 Spann, Stephanie LaRee, 18, 427–429
 Spaulding, C. H., 193
 Spielberg, Steven, 13, 406, 409

Spry, William, 37
 Stanley, Flora, 417–418, 436
 Stanley, Volna, 264
 Steen, Charlie, 7, 170–171, 173
 Steiner, Herbert, 349
 Stevens, Dale, 253–255, 374, 377
 Stevens, A. R., 31
 Stiles, Jim, 13, 177–178, 247–250, 261, 301, 354–355, 363, 383, 416, 424
 Stocks, Tom, 336–337
 Student Conservation Association, 250–251, 257, 370
 Souvell, Harry, 204
 Soviet Union, 8, 169–170, 172
 Soviet Union botanists, 252
 Spanned Alcove Bridge, 376
 Sulhoff, Barbara A., 75
 Supplee, Serena, 324
 Surprise Arch, 8, 61, 108, 110, 112, 253, 355
Survivalist movie, 410
 Svendson, Jim, 323
 Swanke, Steve, 55, 274
 Swanson-Young, Joan, 55, 164

T

Tag-a-Long Tours, 340
 Tamarisk, 13, 243, 246–251, 370–371, 446
 Taylor Grazing Act, 4, 74
 Taylor Livestock Company, 158
 Taylor, Loren L. “Bish,” 24, 27, 41, 44, 46, 51–52, 72–74, 82, 84, 91, 120, 220
 Taylor, Samuel J., 27
 Taylor, Will, 417
 Taylor-Goodrich, Karen, 426
Ten Who Dared movie, 405–406, 408–409
 Texas Gulf Sulphur Company, 8, 164
 Texas Tech University, 81, 252
 Tharp, Twyla, 324
Thelma & Louise movie, 14, 334, 406, 410
 Theobald, J. A., 220
 Thomas, Lanny and Glenna, 443
 Thomas, Larry, 106, 367
 Thorkildsen, Thomas, 36
 Threatened and Endangered Species, 16, 246, 252, 338, 359, 368
 Three Gossips, 298, 406, 444
 Three Penguins, 8, 84, 89, 298, 390
 Tibbetts, Ted, 81
 Tickle, Woodrow W., 88, 146
 Tillotson, Minor R., 55, 59, 423
 Tower Arch, 4, 28–30, 34; Beckwith, 27, 68; Ringhoffer, 27, 39; roads, 97, 103, 117; trails, 108, 110–112
 Trail signage, 107
 Trails, 107–117

Travers, Doug, 253–254
 Trump, Donald J., 169, 182, 439–440, 442–443
 Tunnel Arch, 109–112
 Turnbow, James Marvin, 4, 50, 52–53, 55, 59, 91, 137, 157
 Turnbow, Susie, 74, 137, 160, 263
 Turnbow Cabin, 4, 6, 9–10, 44, 65, 70, 72, 74, 81–82, 86, 91, 96, 107, 113, 124, 263
 Turnbow Environmental Study Area, 264–265
 Turret Arch, 107–108, 110–112, 240, 296, 318, 407
 Twinbow Bridge, 28, 253

U

Udall, Stuart, 10, 220–221
 Ultralights, 12, 312–313, 315–317
 Unbalanced Rock, 78
 University of Alberta, 367
 University of Arizona, 372
 University of Colorado, 367
 University of Denver, 80
 University of Idaho, 445
 University of Kansas, 445
 University of Michigan, 4, 40, 50
 University of Missouri, 445
 University of New Mexico, 411
 University of Oklahoma, 252
 University of Texas, 252
 University of Utah, 10, 13, 70, 79, 80, 260, 268, 320, 323, 367, 445
 University of Utah Classical Greek Festival, 13, 320, 323
 University of Wisconsin, 252, 367
 Uranium Reduction Company, 7, 100, 173
 Uranium Boom, 6, 169–173, 369, 441
 Urbanek, Anne, 379
 Urbina, Ricardo M., 19, 168
 U.S. Bureau of Reclamation, 156, 192, 232, 367, 372
 U.S. Department of Energy, 11, 17, 173–178, 182, 223, 252, 439–440
 U.S. Geological Survey, 15–17, 70, 72, 171, 185, 237, 250–252, 371–372, 446, 449
 U.S. Nuclear Regulatory Commission, 180
 U.S. Mint, 20, 417
 Utah Arts Council, 223, 323
 Utah Bureau of Air Quality, 180
 Utah Cattlemen’s Association, 221
 Utah Division of Water Quality, 368
 Utah Endowment for the Humanities, 323
 Utah Fish and Game, 80
 Utah Geological and Mineralogical Survey, 10, 77, 164, 170, 222
Utah Magazine, 403
 Utah Poetry Society, 320
 Utah Power & Light Company, 119
 Utah School Trust Administration, 16, 202, 317, 383
 Utah Southern Oil Company, 163

Utah State Travel Council, 63
Utah State University, 252, 370, 372
Utah Symphony Orchestra, 12, 320–323
Utahraptor, 14–15, 205
Ute Panel, 235, 261, 275
Ute Tribe, 14, 241, 427, 429

V

Van Bebber, Tom, 254
Vanadium, 5, 91, 169–170
Vandalism, 8, 16, 47, 89, 124–125, 268–275, 291, 310, 313, 356, 362–363, 404, 446–447, 453;
 archeology, 203, 234–235; Courthouse Wash Panel, 275; Moab Pictograph Panel, 12, 235, 268–271;
 pedestrian bridge, 113, 266; Delicate Arch, 113, 269
Van Bell, Bob, 426
Van Pelt, David, 129, 423, 437
Veranth, John, 347, 452
Visitor Experience and Resource Protection (VERP), 1, 17, 191, 306, 448, 450, 452; Arches as pilot
 program, 14, 334, 338–347; commercial park use, 354; Fiery Furnace permit system, 356–367; John
 Veranth, 347
Vreeland, Robert, 28, 47, 253–255

W

Wade, Alton, 81
Wadleigh, F. A., 3, 11, 28–40, 44–51, 208, 453
Wagon Master movie, 405
Wainer, Heidi, 257
Walker, Billy, 53
Walker, Olene, 428
Wall Arch, 6, 19, 114, 254, 276, 377, 380–381
Wall Street climbing area, 296, 300
Walsh, Stanley, 81
Walt Disney Company, 405, 408–409
Walters, Jim, 239
Water rights, 74, 78, 120, 192, 447–448
Watt, James, 12, 200
Wayside Exhibit, 6, 8–9, 91, 110, 117–118, 256, 412
Weber State University, 324
Webster, Jim, 235, 240, 261, 292, 310, 315, 317, 339, 364, 428, 430, 449
Webster, Vicki B., 22, 185, 263, 449
Welton, W. W., 88–89
Western Association of Land Users, 340, 383
Western Office of Design and Construction, 120
Western Region Pipeline Safety Office, 189–190
Western State College (Gunnison), 368
Westminster College, 323
Westwood, James S., 158, 160
White, George W., 158
White, Jack, 403
White, John R., 59
White, Tommy, 64, 443

Wickware, Harvey, 13, 55–56, 59–60, 244–245, 248, 312, 336–337
 Wilbur, Jay, 19, 254–255
 Wilbur, Ray Lyman, 39, 42
 Wild, Fred and Gertrude, 31
 Wilderness Society, 5, 167, 226, 230, 348, 382, 415
 Williams College, 338
 Williams, Dwight S., 315
 Williams, Howard, 118
 Williams, J. W. “Doc,” 8, 24, 41, 44, 46, 51–52, 71, 73, 78, 85, 135
 Williams Energy Company, 18, 183, 185–191
 Williams, Mitch, 304
 Williams Pipeline Company, 18, 187–191
 Williams Pipeline explosion, 185–190, 215
 Williams, Terry Tempest, 324
 Willow Flats, 158, 163, 310–311
 Willow Springs, 4, 5, 8, 52, 70, 78, 82, 85–99, 304, 411
 Willow Springs Natural Bridge, 374, 377
 Wilson, Bates, 6, 9–13, 52, 55–58, 61–65, 100, 129, 134, 156, 222–233; arch stabilization, 424; discovers Surprise Arch, 8, 253; with family, 54, 64, 89, 305; movie production assistant to John Ford, 405; pipeline, 183–184; search and rescue, 276, 299
 Wilson, Caroline Coalter, 97
 Wilson, Tom, 364
 Wilson, Woodrow, 56
 Winbourn, Merle E., 53, 111
 Window Castles, 3, 39–40, 68
 Winterize Arch, 374, 377
 Wirth, Conrad, 7
 Wise, Frank, 403
 Wolfe, John Wesley, 74, 157, 263–268
 Wolfe Ranch, 3–4, 6, 10–11, 24, 44, 65, 84, 93, 107, 116, 157, 231, 238, 251, 261, 275, 320, 344, 353, 417
 Wolfe Ranch Environmental Study Area, 263–268
 Wolfe Ranch Historic District, 11, 231, 366
 Work, Hubert, 38
 World War II, 3, 6, 26, 52, 62, 89, 91, 119, 157, 160, 169–170, 172, 178, 242, 294, 304, 306, 334, 381
 Worthington, T. Earl, 54, 170
 Wylie, Tom, 268, 291

Y Yellow Cat, 4, 65, 68, 70–71, 170, 204, 382
 Yeston, Karyl, 235
 Yeston, Marc, 118
 Young, Curtis, 158
 Young, Ina H., 158
 Young, M. H., 161
 Younkin, Clair, 137

Z Zion National Park, 19, 30, 36, 49, 57, 64, 70, 220–221, 252, 255, 350–351, 363, 425–426, 443