



**NATIONAL
CONSERVATION
LANDS**

Utah

2023: Annual Manager's Report

Grand Staircase-Escalante

National Monument



Map

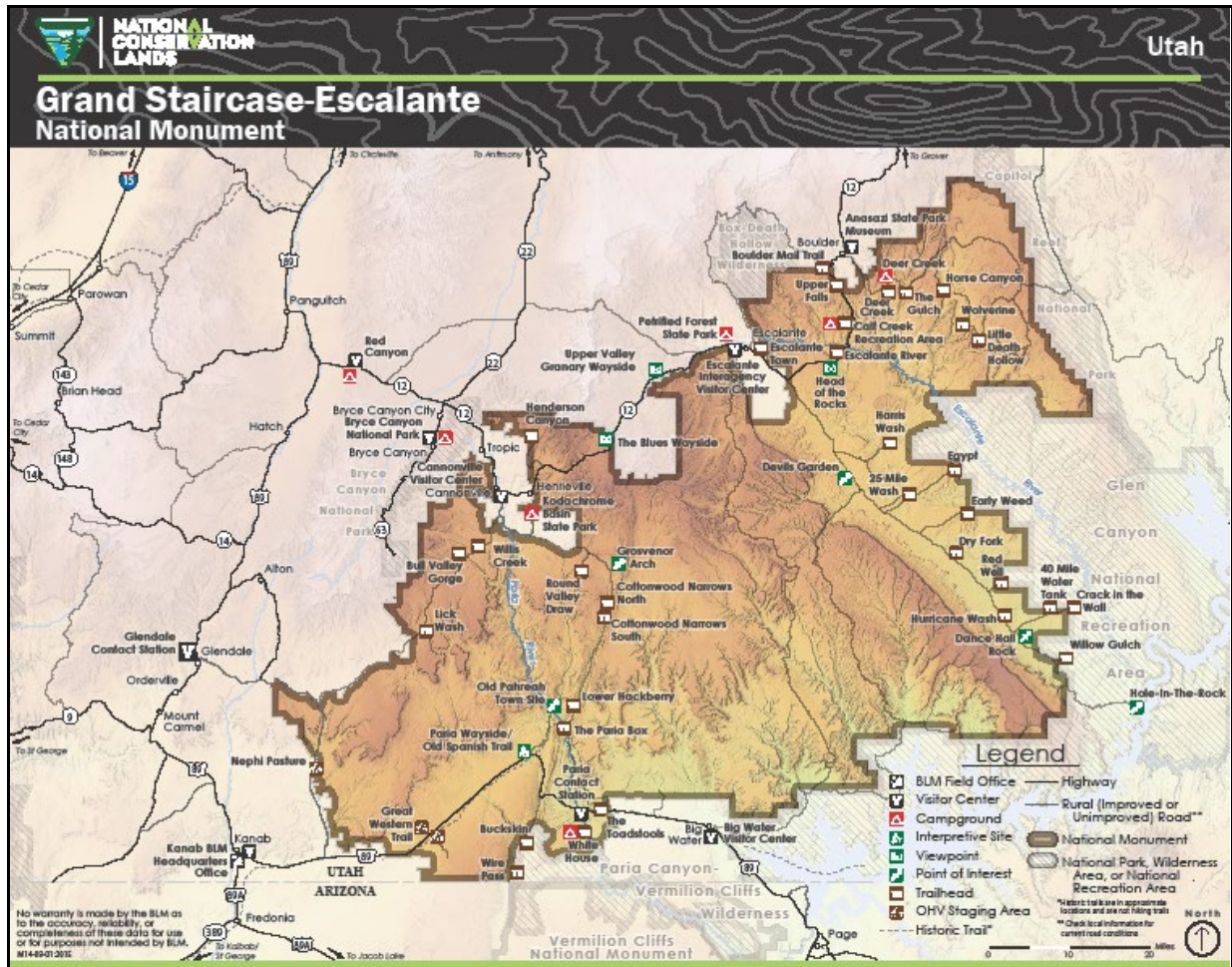


Figure 1. Map of Grand Staircase-Escalante National Monument.

Accomplishments

In 2023 the team at Grand Staircase-Escalante National Monument (GSENM) continued work on the Resource Management Plan (RMP) and Environmental Impact Statement (EIS) as directed by Presidential Proclamation 10286. The Draft RMP/EIS was published in August of 2023, as part of this multi-year planning effort that will carry into Fiscal Year (FY) 24. The publication of the Draft RMP/EIS initiated a 90-day public comment period and included six public engagement meetings, four of which were held in Kanab, Escalante, Panguitch and Salt Lake City along with two virtual meetings. This important work will guide land management at GSENM for years to come.



Figure 2. Hikers in the Escalante Canyons region of GSENM.

Challenges

Many areas within GSENM experience high levels of visitation. Social media posts advertise sensitive and remote places which increases visitation and impacts to these sites. We seek to protect GSENM objects and resources while allowing discretionary uses such as recreation and livestock grazing. Monument objects can be fragile and damaged if specific management direction is not followed. The Monument objects identified in Presidential Proclamation 10286 include cultural, scenic, recreational, geological, paleontological, botanical, and wildlife resources.

GSENM staff strive to educate visitors about the sensitivity of these resources and the importance of following management direction during their time here. GSENM's four Visitor Centers play a key role in educating visitors. Additional funding is needed to maintain Visitor Centers, upgrade displays and educational materials, and to promote Leave-No-Trace and Tread Lightly practices.

GSENM staff work hard protect to GSENM objects and sensitive resources through public education. Staff rehabilitated damaged areas, replaced signs, monitored sites, reported problems to management, and educated visitors in the field. Additional staff would help us better protect Monument objects and resources while continuing to provide world class recreational opportunities.



Figure 3. Vehicles parked on the shoulder of Highway 12 at the Calf Creek Recreation Area.

Visitors

GSENM had approximately 890,000 visitors in 2023, a slight decrease from the approximately 1 million visitors in 2022 and approximate 1.3 million visitors in 2021.

The very popular Calf Creek Recreation Site has exceeded capacity most weekends and especially holidays, with increased demand for both camping and day use because of the spectacular Lower Calf Creek Waterfall. Insufficient space for vehicles has led to parking along the shoulder of busy Highway 12, creating safety hazards and impaired traffic flow. In 2023, the BLM finalized the decision record for the Calf Creek Recreation Site Deferred Maintenance and Improvements Project EA, which includes site improvements that are consistent with protection of GSENM objects, minimizes impacts to resources, and improves the visitor experience. Project details can be found on the project's eplanning webpage, <https://eplanning.blm.gov/eplanning-ui/project/2012960/510>.

The popular Toadstools Site also often exceeds capacity, resulting in visitors parking along the shoulder of busy Highway 89 creating a safety issue. The current trailhead is limited to a small area due to abutting the State's Highway 89 right-of-way. The right-of-way does not allow for construction of a vault toilet or expansion of the existing parking area to accommodate the increased interest and subsequent visitation. To minimize resource degradation and health and safety concerns, temporary toilets have been installed but are not a permanent solution. Because of these issues, efforts are underway to relocate the parking area, trailhead, and trail to an area near the Cottonwood Road.

Many of the other 28 trailheads including Dry Fork Slot Canyons, and Willis Creek are also experiencing challenges due to high visitation levels as well.



Figure 4: Backpacker hiking in Escalante River.

Partnerships

GSENM partnered with the Utah State Historic Preservation Office (SHPO) to implement the Utah Cultural Site Stewardship program, to train and manage volunteers in archaeological site monitoring. About 100 archaeological sites were monitored to assess site conditions by a total of 44 cultural site steward volunteers as well as BLM staff.

GSENM worked with Grand Staircase Escalante Partners (GSEP), a friends group of the monument, on education events including youth science camps and volunteer trips to remediate graffiti, campsites, and fire impacts. GSEP and volunteers also did river cleanup and weed removal, hosted a Leave No Trace Spotlight program and National Public Lands Day work week, and conducted a second year of a trails ambassador program. The volunteer program hosted 97 people totaling 74 visitor days of work.

GSENM's paleontology program continued its long-term partnership with the Natural History Museum of Utah who continue to help prepare and curate hundreds of important fossil specimens.

BLM staff participated in the Escalante River Watershed Partnership to do research, remove invasive Russian olive trees, and perform other restoration efforts.



Figure 5. BLM staff and volunteers on a service project in Escalante Canyons area.

Science

There were 14 new science research permits and a number of ongoing research projects in GSENM. Many of these were for paleontological research as GSENM is a world class laboratory of fossils. Additional research involved data collection on geology, botany, forest health, birds, pollinators, and other biological topics.

GSENM's paleontology program actively collaborated on five different research projects on tyrannosaur taxonomy, tyrannosaur social behavior, early mosasaur taxonomy (drawing below), giant turtle taxonomy, and ecology of ancient seafloor methane seeps. A number of peer reviewed papers were published in FY23.

Additionally, the Colorado Plateau Archaeological Association and GSENM completed limited test excavations in Johnson Canyon to answer questions regarding the nature and distribution of early dry-farming Basketmaker II agricultural sites in the region. The project also enabled BLM to gather and evaluate baseline archaeological data critical for monument management purposes.



Figure 6. Reconstruction of the early mosasaurid *Sarabosaurus dahli* published by the GSENM paleo team in 2023. Art courtesy of Andrey Atuchin.

The interagency agreement between BLM and US Department of Agriculture-Agriculture Research Service (USDA-ARS) resulted in a draft report to BLM about hydrology and erosion effects on sagebrush steppe enhancement projects on the Skutumpah Terrace. This data collection effort is quantifying changes in vegetative cover, soils, infiltration, runoff, and erosion processes across similar landscapes before and after vegetation treatment.

GSENM completed the final year of a 5-year water quality monitoring contract. Under a Memorandum of Agreement (MOA) with Utah Department of Water Quality (UDWQ), water quality field parameters (i.e., discharge, water temperature, pH, specific conductivity, and dissolved oxygen), water chemistry samples, and bacteriological E. coli samples were collected, and water temperature sensors were also installed. Data from this project will be utilized in rangeland health determinations that inform management decisions in both natural resources and recreation management. BLM will assume responsibility for this monitoring in FY24.

The BLM Assessment Inventory and Monitoring (AIM) program continued to conduct detailed surveys at uplands (Terrestrial), streams (Lotic), and riparian and wetland sites across GSENM. In 2023, the AIM program surveyed some of the 122 Terrestrial and 42 Lotic sites that have been established in GSENM. The new riparian and wetland AIM protocol was conducted at four sites in 2023, and more sites will be added in coming years. The AIM data have been utilized extensively in the RMP process.



Figure 7. BLM AIM Terrestrial crew collecting data in Kodachrome region of GSENM.

Climate Impacts

Wetter conditions in 2023 alleviated the severe drought that had negatively impacted landscapes, habitats and wildlife in previous years. Last year, fuel-moisture levels rebounded from drought conditions and were near record highs. Mule deer fawn and adult survival increased greatly after low numbers in 2021/2022, since mule deer obtain much of their water needs from the vegetation they consume. Other wildlife population numbers also rebounded due to the wet year, including breeding birds.

Potential climate change impacts have been observed in several water systems throughout GSENM. Calf Creek has been an EPA 303(d) listed waterway since 2008 due to high water temperatures in a system that supports cold water aquatic life. Cyanotoxin Harmful Algal Blooms (CHAB) have also been detected and sampled throughout GSENM with some containing potentially harmful toxins. These CHABs are similar to what has been found in the nearby Zion National Park. GSENM biologists put on a CHAB identification training for staff and are part of a working group to help determine best data collection practices for CHABs.



Figure 8. Cyanotoxins (harmful algal bloom) in Calf Creek.

Climate Resiliency

Under the Memorandum of Agreement with the Utah Department of Water Quality, GSENM contracted the collection of water quality data from nine different stream sites once a month from May to October of 2023. Bacteriological E. coli samples were also collected at four sites as well as water temperature on Calf Creek.

The AIM data collection is helping monument staff understand changes in vegetation, hydrology, and other environmental conditions. This information is being used to track impacts on terrestrial and aquatic resources. The data, coupled with climate analysis and management direction, can help GSENM alleviate climate impacts to monument resources.



Figure 9. BLM AIM Lotic crew collecting data in the Escalante River.

Social and Environmental Justice

Over 85% percent of the land in Kane and Garfield counties, where GSENM is located, is federal land. In recent decades, the economy has shifted to service-based jobs devoted to the hospitality and recreation sectors. Garfield County's median household income is still \$33,000 lower than the Utah average, while Kane County is \$19,000 lower than the state average. Garfield County's poverty rate is 8% higher than Utah's overall rate and Kane County's poverty rate is 5% higher than Utah's overall rate (data from data.census.gov). Limited affordable housing and high-paying jobs makes it difficult for low-income people to live and work in the communities around GSENM.

GSENM consulted or engaged with numerous federally recognized Tribes including Kaibab Band of Paiute, Paiute Indian Tribe of Utah (and constituent bands), San Juan Southern Paiute Tribe, Ute Indian Tribe of the Uintah and Ouray Reservation, Ute Mountain Ute, Navajo Nation, Hope Tribe, Zuni Tribe, Pueblo of Acoma, Pueblo of San Felipe, and Pueblo of Tesuque. In the Fall 2023, GSENM hosted an Intertribal event (photo below) to foster dialogue among many of those Tribes, GSENM leadership, and non-government organizations.



Figure 10. BLM staff, partners and Tribal representatives at White House Spring.

Events

GSENM, in collaboration with Glen Canyon National Recreation Area, celebrated National Fossil Day in October 2022. That is an annual celebration held to highlight the scientific and educational value of paleontology and the importance of preserving fossils for future generations. The celebration was a huge success and was very well attended with over 200 members of the public taking part. The activities included free entertainment and activities for all ages and highlighted the importance of paleontological resources on public lands.

In March 2023, monument staff participated in the second annual Symposium on Ways of Understanding and Protecting Land and Water Resources in the Grand Staircase-Escalante Region. Over 100 people participated in Escalante or on Zoom, with talks on vegetation, water, Indigenous perspectives, wildlife, and history of the region.



Figure 11. Announcement for the 2023 symposium on ways of understanding the Grand Staircase-Escalante region.

Words from the staff

Allysia Angus, BLM Landscape Architect

For the 11th year, GSENM participated in the BLM's Artist in Residence Program. GSENM was one of the first National Conservation Lands units to develop an Artist-in-Residence program. The program is a partnership-based model because the month-long residency is co-sponsored with the local Escalante Canyons Art Festival and the Glen Canyon Conservancy. Melody Greenlief of Sandy, Utah, was GSENM's 2023 Artist in Residence.



Figure 12. Melody Greenlief, GSENM artist in residence for 2023.

Jabe Beal, BLM Outdoor Recreation Planner

BLM completed the GSENM Old Spanish National Historical Trail Inventory, Assessment, and Monitoring Report in the Fall of 2023. The inventory report will be used to establish a National Trail Management Corridor through the BLM's land use planning process, to evaluate proposals for management consistency, and to aid impact analysis for National Environmental Policy Act compliance. The Old Spanish National Historic Trail was established by Congress in 2002 under Public Law 107-325 as part of the National Trails System. It is jointly administered by the National Park Service and BLM. National Historic Trails commemorate original trails or routes of travel of cultural significance including past routes of exploration, migration, and military action. The Old Spanish National Historic Trail identifies and protects a historic trade and travel route from the early 19th century between Sante Fe, New Mexico and Los Angeles, California, including remnants and artifacts, for public appreciation and enjoyment.



Figure 13. A portion of the Old Spanish Trail in the Paria River area of GSENM.

Alan Titus, BLM Paleontologist

GSENM paleontology program inventoried 1,120 new acres in FY23 and documented 35 new paleontological sites. The paleontology laboratory had an especially productive year, with 34 volunteers donating 3,413 hours to fossil preparation and stabilization. This resulted in 89 individual fossil projects (some containing multiple specimens) to be readied for study, curation, or educational use.

Dr. Alan Titus co-chaired the Laramidia session of the 14th Conference on Mesozoic Terrestrial Ecosystems dedicated to the paleobiology of Laramidia in Salt Lake City, which had five presentations with substantial content based on research in GSENM.

The paleontology team was joined by the former Curator of Dinosaurs for the Denver Museum of Nature and Science, Dr. Joseph Sertich, who is one of the leading dinosaur researchers in North America. He and Dr. Titus are completing a multi-year effort to entirely revise tyrannosaur systematics and biogeography of North America inspired by Grand Staircase fossils. The results of this research will soon be submitted for peer-reviewed publication and are expected to gain global media attention.

Sean Stewart, BLM Rangeland Management Specialist

Rangeland management staff were able to collect monitoring data on 60 livestock grazing allotments, conduct 183 compliance inspections, process seven transfers, and issue 189 grazing bills. Work was also initiated on five water-related range improvement projects that, when completed, will aid in the distribution of grazing livestock and moderate utilization levels within those allotments.



Figure 14. Cattle in the Skutumpah region of GSENM.



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Grand Staircase-Escalante National Monument

669 S. Highway 89A

Kanab, UT 84741

Phone: 435-644-1200

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Report compiled by:

Adé Nelson, Monument Manager

Doug Rowles, Assistant Monument Manager

Marc Coles-Ritchie, Ecologist & Science Coordinator

Allysia Angus, Landscape Architect

Jabe Beal, Outdoor Recreation Planner

Raven Chavez, Soil Scientist

Cameron McQuivey, Wildlife Biologist

Clay Stewart, Outdoor Recreation Planner

Dr. Alan Titus, Paleontologist

Sean Stewart, Rangeland Management Specialist

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