NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR

Foundation Document

Joshua Tree National Park

California

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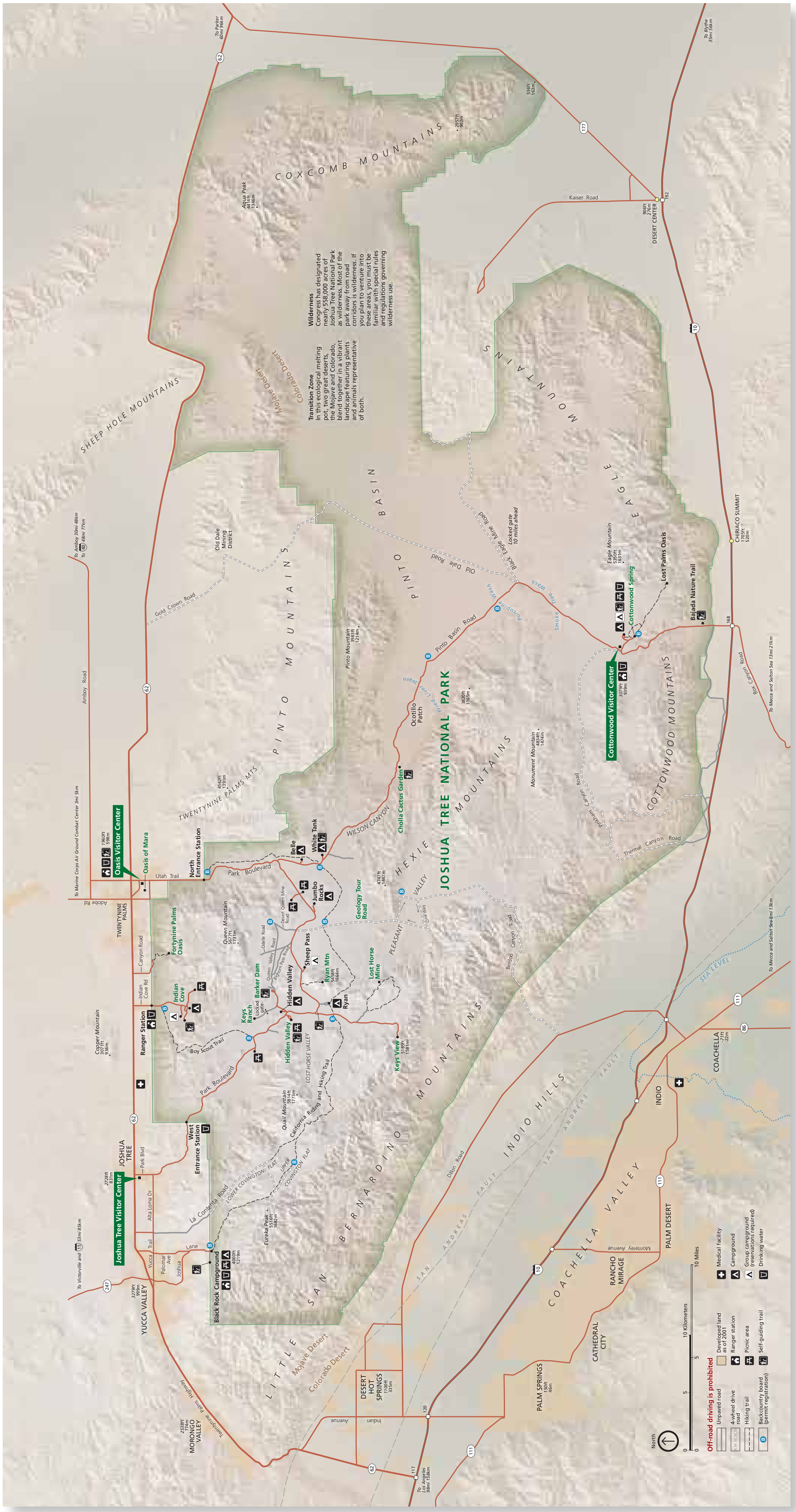

JOSHUA TREE NATIONAL PARK
Wilderness
Congress has designated nearly 558,000 acres of Joshua Tree National Park as wilderness. Most of the park away from road corridors is wilderness. If you plan to venture into these areas, you must be familiar with special rules and regulations governing wilderness use.
Transition Zone
In this ecological melting pot, two great deserts, the Mojave and Colorado, blend together in a vibrant landscape featuring plants and animals representative of both.
Mojave Desert
Colorado Desert
COXCOMB MOUNTAINS
SHEEP HOLE MOUNTAINS
PINTO MOUNTAINS
PINTO BASIN
EAGLE MOUNTAINS
COTTONWOOD MOUNTAINS
HEXIE MOUNTAINS
LITTLE SAN BERNARDINO MOUNTAINS
TWENTYNINE PALMS MTS
INDIO HILLS
COACHELLA VALLEY
SAN ANDREAS FAULT
SEA LEVEL
Aqua Peak 4416ft 1346m
2957ft 902m
536ft 163m
To Parker 60mi 96km
To Blythe 35mi 56km
Kaiser Road
DESERT CENTER 906ft 276m
CHIRIACO SUMMIT 1705ft 520m
Old Dale Mining District
Gold Crown Road
Old Dale Road
Black Eagle Mine Road
Locked gate 10 miles ahead
Pinto Mountain 3983ft 1214m
Pinto Basin Road
Porcupine Wash
Smoke Tree Wash
Fried Liver Wash
Ocotillo Patch
Eagle Mountain 5350ft 1631m
Cottonwood Spring
Lost Palms Oasis
Bajada Nature Trail
Cottonwood Visitor Center 3079ft 939m
3820ft 1165m
Monument Mountain 4834ft 1474m
Pinkham Canyon Road
Thermal Canyon Road
Box Canyon Road
To Mecca and Salton Sea 13mi 21km
To Mecca and Salton Sea 8mi 13km
To Amboy 30mi 48km
To 40 48mi 77km
Amboy Road
To Marine Corps Air Ground Combat Center 3mi 5km
Oasis Visitor Center 1960ft 598m
Oasis of Mara
Utah Trail
Adobe Rd
TWENTYNINE PALMS
North Entrance Station
Park Boulevard
4562ft 1391m
WILSON CANYON
Cholla Cactus Garden
Belle
White Tank
Jumbo Rocks
Geology Tour Road
4747ft 1447m
VALLEY
PLEASANT
One Way
Berdoo Canyon Road
Queen Mountain 5677ft 1731m
Desert Queen Mine Road
Odelle Road
Queen Valley Road
Bighorn Pass Road
Sheep Pass
Ryan Mtn 5458ft 1664m
Lost Horse Mine
Ryan
Hidden Valley
Barker Dam
Keys Ranch
Locked gate
Indian Cove
Fortynine Palms Oasis
Canyon Road
Indian Cove Rd
Ranger Station
Copper Mountain 3071ft 936m
Boy Scout Trail
LOST HORSE VALLEY
California Riding and Hiking Trail
Keys View 5185ft 1581m
Quail Mountain 5814ft 1773m
West Entrance Station
JOSHUA TREE
Park Blvd
Joshua Tree Visitor Center 2728ft 831m
Alta Loma Dr
La Contenta Road
LOWER COVINGTON FLAT
UPPER COVINGTON FLAT
Eureka Peak 5516ft 1682m
Black Rock Campground 4000ft 1219m
Lane
Yucca Trail
Palomar Ave
Joshua
To Victorville and 15 53mi 85km
YUCCA VALLEY 3279ft 999m
Twentynine Palms Highway
MORONGO VALLEY 2538ft 774m
DESERT HOT SPRINGS 1100ft 335m
Indian Avenue
To Los Angeles 98mi 158km
PALM SPRINGS 150ft 46m
CATHEDRAL CITY
RANCHO MIRAGE
Monterey Avenue
PALM DESERT
INDIO
COACHELLA -71ft -22m
Dillon Road
North
0 5 10 Kilometers
0 5 10 Miles
Off-road driving is prohibited
Unpaved road
4-wheel drive road
Hiking trail
Backcountry board (permit registration)
Developed land as of 2001
Ranger station
Picnic area
Self-guiding trail
Medical facility
Campground
Group campground (reservations required)
Drinking water

Contents

Mission of the National Park Service

The National Park Service (NPS) preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

The NPS core values are a framework in which the National Park Service accomplishes its mission. They express the manner in which, both individually and collectively, the National Park Service pursues its mission. The NPS core values are:

Shared stewardship: We share a commitment to resource stewardship with the global preservation community.

Excellence: We strive continually to learn and improve so that we may achieve the highest ideals of public service.

Integrity: We deal honestly and fairly with the public and one another.

Tradition: We are proud of it; we learn from it; we are not bound by it.

Respect: We embrace each other's differences so that we may enrich the well-being of everyone.

The National Park Service is a bureau within the Department of the Interior. While numerous national park system units were created prior to 1916, it was not until August 25, 1916, that President Woodrow Wilson signed the National Park Service Organic Act formally establishing the National Park Service.

The national park system continues to grow and comprises 401 park units covering more than 84 million acres in every state, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands. These units include, but are not limited to, national parks, monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers and trails, and the White House. The variety and diversity of park units throughout the nation require a strong commitment to resource stewardship and management to ensure both the protection and enjoyment of these resources for future generations.

The arrowhead was authorized as the official National Park Service emblem by the Secretary of the Interior on July 20, 1951. The sequoia tree and bison represent vegetation and wildlife, the mountains and water represent scenic and recreational values, and the arrowhead represents historical and archeological values.

Introduction

Every unit of the national park system will have a foundational document to provide basic guidance for planning and management decisions—a foundation for planning and management. The core components of a foundation document include a brief description of the park as well as the park's purpose, significance, fundamental resources and values, and interpretive themes. The foundation document also includes special mandates and administrative commitments, an assessment of planning and data needs that identifies planning issues, planning products to be developed, and the associated studies and data required for park planning. Along with the core components, the assessment provides a focus for park planning activities and establishes a baseline from which planning documents are developed.

A primary benefit of developing a foundation document is the opportunity to integrate and coordinate all kinds and levels of planning from a single, shared understanding of what is most important about the park. The process of developing a foundation document begins with gathering and integrating information about the park. Next, this information is refined and focused to determine what the most important attributes of the park are. The process of preparing a foundation document aids park managers, staff, and the public in identifying and clearly stating in one document the essential information that is necessary for park management to consider when determining future planning efforts, outlining key planning issues, and protecting resources and values that are integral to park purpose and identity.

While not included in this document, a park atlas is also part of a foundation project. The atlas is a series of maps compiled from available geographic information system (GIS) data on natural and cultural resources, visitor use patterns, facilities, and other topics. It serves as a GIS-based support tool for planning and park operations. The atlas is published as a (hard copy) paper product and as geospatial data for use in a web mapping environment. The park atlas for Joshua Tree National Park can be accessed online at: http://insideparkatlas.nps.gov/.

Part 1: Core Components

The core components of a foundation document include a brief description of the park, park purpose, significance statements, fundamental resources and values, and interpretive themes. These components are core because they typically do not change over time. Core components are expected to be used in future planning and management efforts.

Brief Description of the Park

Joshua Tree National Park lies along the east-west transverse ranges of the Little San Bernardino Mountains in southern California. The southern boundary of the park follows the base of these mountains along the northern edge of the Coachella Valley; the northern boundary is defined by the Morongo Basin. Ecologically, Joshua Tree National Park lies at the convergence of two deserts—two large ecosystems whose characteristics are determined primarily by elevation. Below 3,000 feet, the Colorado Desert encompasses the eastern part of the park and features natural gardens of creosote bush, ocotillo, and cholla cactus. The special habitat of the Joshua tree is found in the higher, more moist, and slightly cooler Mojave Desert. In addition to Joshua tree forests, the western part of the park also includes some of the most interesting geologic displays found in California's deserts. The park includes five fan palm oases, which are the few areas where surface water occurs naturally.

The park lands include a rich and diverse cultural history. Human occupation dates to the early Holocene period, with what is known as Pinto culture; human occupation continues throughout the historical era with tribes known today as Cahuilla, Chemehuevi, Mojave, and Serrano. In the last quarter of the 19th century, European American surveyors, cattlemen, miners, and homesteaders began to arrive and, alongside native peoples, created a set of enduring social and cultural legacies for these lands.

On August 10, 1936, President Franklin D. Roosevelt established Joshua Tree National Monument as a unit of the national park system through a Presidential Proclamation. After two boundary changes in 1950 and 1961, Congress designated 429,690 acres of the monument as wilderness and 37,550 acres as potential wilderness in 1976. Then, in 1984, the monument was designated as part of a biosphere reserve system that included Joshua Tree and Death Valley National Monuments, Anza Borrego Desert State Park, Santa Rosa Mountains Wildlife Management Area, and Deep Canyon Research Center. In 1994, the California Desert Protection Act added 234,000 acres (including 163,000 acres of new wilderness) to the park, and redesignated the area as Joshua Tree National Park.

The park boundary currently contains 772,676 acres in federal ownership and 19,834 acres of nonfederal lands. Of these lands, 595,370 acres are designated as wilderness and 70,557 acres of potential wilderness. The park lies within both San Bernardino and Riverside counties approximately 100 miles from the Los Angeles metropolitan area—more than 18 million people live within a three-hour drive of the park. The natural desert expanse of the park provides ideal conditions for campers, photographers, star gazers, naturalists, as well as anyone seeking space for quiet introspection, exploration, or outdoor learning. In addition, the extensive granite rock outcrops, boulder piles, desert mountain ranges, and canyons create a world-class destination for rock climbers, as well as hundreds of miles of scenic trails for hikers and equestrians.

Given the its location along a transition line between two desert ecosystems, the park is home to a fascinating diversity of desert plants and animals. More than 900 species of flowering plants have been identified, with the most distinctive being the ocotillo, the cholla, and the Joshua tree. The park also preserves more native palm oases than any other unit in the national park system. These oases support vegetation and wildlife distinct from other species found in the park. The park contains highly diverse fauna. More than 250 species of birds have been recorded at Joshua Tree National Park, as have many unique species of reptiles, amphibians, mammals, and invertebrates. Some examples include the desert tortoise, the California treefrog, the desert bighorn sheep, and a species of tarantula that is found only in the Joshua tree plant community.

Joshua Tree National Park protects numerous archeological sites associated with the Pinto Culture, one of the earliest prehistoric cultures found in the California desert (7,000–10,000 years old). The park preserves sites and materials associated with at least four overlapping ethnographic native cultures—the Cahuilla, Serrano, Chemehuevi, and Mojave Indians. Other historic sites preserve information on the history of the processing of gold ore, cattle ranching, rustling, and homesteading of the southwestern deserts.

Park Purpose

The purpose statement identifies the specific reason(s) for establishment of a particular park. The purpose statement for Joshua Tree National Park was drafted through a careful analysis of its enabling legislation and the legislative history that influenced its development. The park was established by Presidential Proclamation by President Franklin D. Roosevelt on August 10, 1936 (see appendix A for subsequent amendments). The purpose statement lays the foundation for understanding what is most important about the park.

Joshua Tree National Park preserves and protects the scenic, natural, and cultural resources representative of the Colorado and Mojave deserts' rich biological and geological diversity, cultural history, wilderness, recreational values, and outstanding opportunities for education and scientific study.

Park Significance

Significance statements express why a park's resources and values are important enough to merit designation as a unit of the national park system. These statements are linked to the purpose of Joshua Tree National Park, and are supported by data, research, and consensus. Statements of significance describe the distinctive nature of the park and why an area is important within a global, national, regional, and systemwide context. They focus on the most important resources and values that will assist in park planning and management.

The following significance statements have been identified for Joshua Tree National Park. (Please note that the sequence of the statements does not reflect the level of significance.)

1. Joshua Tree National Park preserves a world-renowned, undisturbed population of Joshua trees (*Yucca brevifolia*), an integral component of the Mojave Desert ecosystem.

2. Outstanding examples of Mojave and Colorado Desert landscapes that converge at Joshua Tree National Park create a biologically rich system of plant and animal life characterized by iconic Joshua tree woodlands, native palm oases, and vast expanses of creosote scrub that are uniquely adapted to desert conditions. The park also contributes significantly to the connectivity of open lands and large protected areas across the California desert.

3. Joshua Tree National Park provides accessible and diverse opportunities in a remote desert to large and burgeoning urban populations.

4. Joshua Tree National Park preserves a rich array of prehistoric, historic, and contemporary resources that demonstrate the integral connection between desert ecosystems, land use, and human cultures.

5. Joshua Tree National Park lies along one of the world's most active earthquake faults, the San Andreas Fault. Geologic processes, including tectonic activity, have played and continue to play a major role in shaping the mountains, valleys, and basins of the park.

6. Joshua Tree National Park offers unparalleled opportunities for research of arid land ecosystems and processes, adaptations of and to desert life, sustainability, and indications of climate change. The proximity of the park to urban regions of Southern California and Nevada enhances its value for scientific research and education.

7. Huge, eroded monzogranite boulder formations are world-renowned natural features that provide unique aesthetic, educational, and recreational opportunities for Joshua Tree National Park visitors.

8. Geologic, climatic, and ecological processes create scenic landscapes unique to deserts and fundamental to the character of Joshua Tree National Park.

Fundamental Resources and Values

Fundamental resources and values (FRVs) are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance. Fundamental resources and values are closely related to a park's legislative purpose and are more specific than significance statements.

Fundamental resources and values help focus planning and management efforts on what is truly significant about the park. One of the most important responsibilities of NPS managers is to ensure the conservation and public enjoyment of those qualities that are essential (fundamental) to achieving the purpose of the park and maintaining its significance. If fundamental resources and values are allowed to deteriorate, the park purpose and/or significance could be jeopardized.

The following fundamental resources and values have been identified for Joshua Tree National Park:

- Oases and other riparian areas
- Habitat for the desert tortoise
- Interconnectivity of California desert lands
- Biological diversity and healthy ecosystem function
- Wilderness values and wilderness accessibility
- Recreational opportunities and values
- Night sky
- Clean and breathable air
- Natural quiet (soundscape)
- Prehistoric sites and ethnographic resources relating to American Indian inhabitants, including the type site for Early Pinto culture
- Historic and ethnographic resources related to European American inhabitants
- History of the desert preservation movement
- Museum collections of archives, natural history specimens, and archaeological artifacts, including the Campbell Collection
- Geological resources
- Hydrological resources
- Desert landforms
- Ever-expanding knowledge base
- Opportunity to understand, apply, and share this knowledge to benefit the park and beyond
- Recreational activities centered around the boulders and rock formations
- Viewsheds
- Access to scenic vistas
- Visibility

Interpretive Themes

Interpretive themes are often described as the key stories or concepts that visitors should understand after visiting a park—they define the most important ideas or concepts communicated to visitors about a park unit. Themes are derived from, and should reflect, park purpose, significance, resources, and values. The set of interpretive themes is complete when it provides the structure necessary for park staff to develop opportunities for visitors to explore and relate to all park significance statements and fundamental [and other important – add if applicable] resources and values.

Interpretive themes are an organizational tool that reveal and clarify meaning, concepts, contexts, and values represented by park resources. Sound themes are accurate and reflect current scholarship and science. They encourage exploration of the context in which events or natural processes occurred and the effects of those events and processes. Interpretive themes go beyond a mere description of the event or process to foster multiple opportunities to experience and consider the park and its resources. These themes help explain why a park story is relevant to people who may otherwise be unaware of connections they have to an event, time, or place associated with the park.

The following interpretive themes have been identified for Joshua Tree National Park:

- Joshua Tree National Park encompasses two desert ecosystems within its boundaries; the higher, cooler Mojave Desert in the northwestern portion of the park merges with the Colorado Desert, a region of the lower, warmer Sonora Desert, creating an unusual ecological transition zone rich in desert biodiversity.
- The Joshua tree, with its iconic shape and adaptations, is a perfect species to help us understand the interdependence of organisms living in the desert; it is an important symbol and indicator species of the Mojave Desert. Other desert plants and animals, such as the desert tortoise, creosote bush, and kangaroo rat, demonstrate creative solutions to the problems of desert survival.
- The park area has been occupied since the early Holocene period by Native American groups. Habitation and ceremonial sites, petroglyphs, and bedrock mortars remind us that human cultures can adapt successfully to life in a desert environment.
- Historic properties from the late 1800s through the 1960s offer evidence for the era of prospectors, miners, cattle ranchers, and homesteaders. These popular visitor destinations help depict the challenges of rural life in an arid environment. The industry and resourcefulness of desert homesteaders, such as the William F. Keys family, in this challenging desert environment provide a compelling view of the desert's past.
- Mountain ranges, desert basins, and massive rock outcrops were created by dynamic processes such as plate tectonics, volcanism, earthquakes, and erosion.

Part 2: Dynamic Components

The dynamic components of a foundation document include special mandates and administrative commitments and an assessment of planning and data needs. These components are dynamic because they will change over time. New special mandates can be established and new administrative commitments made. As conditions and trends of fundamental resources and values change over time, the analysis of planning and data needs will need to be revisited and revised, along with key issues. Therefore, this part of the foundation document will be updated accordingly.

Assessment of Planning and Data Needs

Once the core components of part 1 of the foundation document have been identified, it is important to gather and evaluate existing information about the park's fundamental resources and values and to develop a full assessment of the park's planning and data needs. The assessment of planning and data needs section presents planning issues, the planning projects that will address these issues, and the associated information requirements for planning, such as resource inventories and data collection, including GIS data.

There are three sections in the assessment of planning and data needs:

1. identification of key issues and associated planning and data needs
2. identification of planning and data needs (including spatial mapping activities or GIS maps)
3. analysis of fundamental resources and values (see appendix C)

The analysis of fundamental resources and values and identification of key issues leads up to and supports the identification of planning and data collection needs.

Identification of Key Issues and Associated Planning and Data Needs

This section considers key issues to be addressed in planning and management and therefore takes a broader view over the primary focus of part 1. A key issue focuses on a question that is important for a park. Key issues often raise questions regarding park purpose and significance and fundamental resources and values. For example, a key issue may pertain to the potential for a fundamental resource or value in a park to be detrimentally affected by discretionary management decisions. A key issue may also address crucial questions that are not directly related to purpose and significance, but which still affect them indirectly. Usually, a key issue is one that a future planning effort or data collection needs to address and requires a decision by NPS managers.

The following are key issues for Joshua Tree National Park and the associated planning and data needs to address them:

Habitat Connectivity. Plants and wildlife in Joshua Tree National Park rely on habitat and migration corridors that extend beyond park boundaries. The park links three desert ecosystems but also serves as a vital link for the mosaic of protected lands spread across the California Desert, including lands managed by the Bureau of Land Management, U.S. Fish and Wildlife Service, Department of Defense, as well as other National Park Service lands. Fragmentation and loss of regional habitat connectivity could potentially isolate Joshua Tree's plant and animal populations, reducing their numbers, increasing their susceptibility to environmental change, and exposing them to potential genetic deterioration. Connectivity between large protected areas is particularly vital for the long-term population viability of certain species, especially those with long-range movement such as bighorn sheep, mountain lion, and bobcat. Protection of habitat corridors becomes even more critical given the pressures exerted by the effects of climate change. Primary threats to habitat connectivity around Joshua Tree National Park include urbanization, military land use, and energy development.

Even within existing public lands certain areas important for habitat connectivity are compromised by transportation corridors, renewable energy development, and urbanization. Ecological interconnectivity, biodiversity, and natural community quality within Joshua Tree National Park is threatened by visitor use impacts, development within and adjacent to the park, and encroachment on park boundaries.

Opportunities exist to work with neighboring land managers to develop strategies for maintaining and enhancing habitat connectivity. Partnerships among neighboring land managers are needed to foster coordination of protection efforts.

Associated plans and/or data needs include: boundary protection plan, boundary study, park strategic plan, and carrying capacity study (visitor use study).

Wilderness Protection. Approximately 595,000 acres of designated wilderness (almost 80% of the park) make Joshua Tree one of the largest wilderness areas in southern California. Another 44,390 acres of parklands have been identified as potential wilderness areas. Given the large amount of wilderness area in the park, ample opportunities exist for visitors to enjoy the solitude and untrammeled landscape that are characteristic of a high quality wilderness experience. However, in areas radiating from popular wilderness access points, some wilderness values are diminished (e.g., certain recreational uses, social trail development, encounters with other visitors). Wilderness character values such as solitude are impacted from external threats. For example, large development projects impact views from wilderness while airplane overflight noise affects natural quiet. In some areas, illegal dumping occurs along the wilderness perimeters.

Associated plans and/or data needs include: boundary protection plan, boundary study, park strategic plan, and carrying capacity study (visitor use study).

Changing Demographics and Visitor Use Trends. Joshua Tree National Park provides a wide variety of access and recreational opportunities; however, increasing visitation (1.4 million visitors in 2012) and changing recreational uses and demands often result in conflicts between recreational users and impacts on natural and cultural resources. Visitor use impacts include trampling, illegal collecting, wildlife disturbances, natural soundscape impacts, spread of invasive species, and damage to geologic features.

Visitation patterns have changed from primarily seasonal to year round. The demographics of surrounding communities are also evolving with population growth being the highest near the southern boundary of the park where visitor facilities, including trailheads, are minimal. The presence and understanding of the park and its mission to residents in outlying Coachella Valley towns and cities has been limited, yet there are considerable opportunities to engage new audiences in this area.

A variety of issues germane to the following uses affect visitor experience and resource protection efforts at Joshua Tree National Park:

- **Climbing** – Without proper management, rock climbing activities can result in impacts on park resources. While not a large user-group, climbers spend a large amount of time in the frontcountry and backcountry areas with large amounts of gear, and thus have some of the most notable impacts on sensitive resources. Signage and fencing to better direct climbers are lacking in climbing access areas. An increase in use of frontcountry climbing areas can stress infrastructure and operational capabilities, detract from the visitor experience, and threaten sensitive natural and cultural resources.
- **Bicycling** – Narrow roads with limited shoulders create unsafe conditions for road-biking. Other opportunities for bicycling in the park have not been explored. Interest in mountain biking is increasing but overall opportunities in the park are limited.
- **Trails** – Evaluation of the trail system is needed to address: trails that enter the park from private lands; social trailing in high visitor use areas; and a lack of trail signage and marking to direct visitors. Social trails are having adverse impacts on desert habitats causing vegetation trampling, disturbance of cultural resources, and habitat fragmentation. Hikers are unaware of trail locations because some trails are not well-marked or signed. Greater trail access from the south may be needed to accommodate increasing visitation as a result of the growing population in Coachella Valley.
- **Campgrounds** – Campground design and capacity are not adequate for current uses and camping equipment. Group camping has increased.

Associated plans and/or data needs include: Cottonwood comprehensive site plan, park strategic plan, carrying capacity study (visitor use study), and long-range interpretive plan.

Development and Uses Adjacent to the Park (Boundary Encroachment). Regional urban development and encroachment of park boundaries for unpermitted uses, such as wildlife poaching, off-highway vehicle (OHV) use, and trespassing in general, impact park resources and surrounding viewsheds. Approximately 30% of the park boundary is affected by OHV encroachment, which has the greatest adverse impact on Joshua Tree's fundamental resources and values. While scenic views within the park boundaries are generally exceptional, some views beyond have been impacted by communication facilities, solar farm and energy development, and urban development. For example, the Riverside East Solar Energy Zone on BLM-administered lands includes nearly 150,000 acres of land along the southeast boundary of the park. Approximately 80% of this land is proposed for solar renewable energy projects.

Associated plans and/or data needs include: boundary protection plan, boundary study, park strategic plan, and visitor use surveys.

Cultural Resources Protection, Data, and Management Guidance. Joshua Tree National Park contains numerous cultural resources, including historic resources, prehistoric trail systems, rock art, and prehistoric archeological sites. However, evaluation and documentation for many cultural resources has not been completed, limiting the scope of decision-making about the protection of these resources. Cultural resources face impacts from both human and natural sources such as vandalism, trampling, collecting, erosion, fire, flooding, burrowing animals, rot, insects, and climate change. Historic structures are in need of intervention to ensure their long-term preservation. Sites and landscapes are affected by urban encroachment, and possibly from impacts associated with increasing visitation. Cultural resources are also threatened by increasing and uncontrolled advertisement of cultural sites on the internet and in publications.

Associated plans and/or data needs include: cultural resources condition assessment, Cottonwood comprehensive site plan, boundary protection plan, boundary study, park strategic plan, and carrying capacity study (visitor use study).

Aging Park Infrastructure. Facilities and infrastructure at Joshua Tree National Park are aging and are poorly located given current visitation and demographic trends. Long-term sustainability of facilities parkwide is a concern. Visitor facilities currently exist at Black Rock Campground, Joshua Tree Village (in partnership with the Joshua Tree National Park Association), in Twentynine Palms (Oasis Visitor Center), and at Cottonwood Springs. Facilities within the park currently have no cohesive design aesthetic.

Access to the park from the south is by one road just 30 miles from the major population center of the Coachella Valley. Aside from the southern entry road and Cottonwood area, visitor access from the south is mainly restricted to four-wheel-drive canyons where visitors have little to no interaction with park staff. Parking areas and visitor facilities in Cottonwood are inadequately sized to meet peak demand, but little expansion is possible without impacts on the riparian area. Severe flooding in 2013 damaged many resources as well as facilities in the southern area of the park including roads, trails, campgrounds, and the Cottonwood Visitor Center.

Associated plans and/or data needs include: Cottonwood comprehensive site plan, park strategic plan, and long-range interpretive plan.

Water Resource Protection (including Oases). Joshua Tree National Park lies in a desert region of southern California with limited water resources. Freshwater sources occur at springs, wells, oases, and seeps. Springs flow from fractures and joints in the bedrock. The presence of water in a desert landscape allows life to flourish and attracts high levels of natural and human use. Water resources are primarily threatened by alterations to precipitation from climate change. The lack of accurate baseline data and understanding of local and regional surface water and groundwater limits the park's ability to manage for surface and groundwater. Climate change and variability could have significant impacts on the protection of water resources.

Joshua Tree National Park contains five desert fan palm oases and more than 200 springs. Desert fan palm oases often occur along fault lines, where uplifted layers of hard impermeable rock forces underground water to the surface. A well-known destination for bighorn sheep, coyotes, mountain lion and many other species of wildlife, these verdant oases are the only year-round dependable water source in the park. The oases have great cultural resource significance due to their long history of human use. Some of the park's oases are well-protected and unspoiled; others such as Cottonwood Spring and 49 Palms receive high visitor use and associated impacts. Oasis of Mara is probably affected by both natural and unnatural factors. Unnatural effects include a lowered groundwater table from adjacent water uses/drawdown and supplemental watering to sustain the oasis (by the National Park Service and adjacent landowners). Natural effects could include hydrogeologic changes associated with the shifting fault line that could block and/or reduce spring flows.

There are several artificial impoundments in the park, including Barker Dam, Cow Camp, and Keys Lake. The artificial impoundments are historic structures associated with early ranching activities.

Associated plans and/or data needs include: boundary study, Cottonwood comprehensive site plan, carrying capacity study (visitor use study), and park strategic plan.

Planning and Data Needs

To maintain connection to the core elements of the foundation and the importance of these core foundation elements, the planning and data needs listed here are directly related to protecting fundamental resources and values, park significance, and park purpose, as well as addressing key issues. To successfully undertake a planning effort, information from sources such as inventories, studies, research activities, and analyses may be required to provide adequate knowledge of park resources and visitor information. Such information sources have been identified as data needs. Geospatial mapping tasks and products are included in data needs.

Items considered of the utmost importance were identified as high priority, and other items identified, but not rising to the level of high priority, were listed as either medium- or low-priority needs. These priorities inform park management efforts to secure funding and support for planning projects.

Criteria and Considerations for Prioritization.
The following criteria were used to evaluate the priority of each planning or data need:

- Emergency/urgency of the issue
- Feasibility to conduct a plan or study, including factors such as funding and resources
- Ability to improve the visitor experience; ability to create/tap into opportunities to benefit visitor understanding
- Protection of park fundamental resources and values
- Ability to address multiple issues
- Ability to address data and inventory needs
- Unfulfilled legal mandates; risk-based exercise or calculation
- The NPS agency priorities
- Result in direct results on the ground; relative relationship of actions

High Priority Planning Needs

Cottonwood Comprehensive Site Plan.
Rationale — In 2011 and 2013, substantial rainfall events and associated flash flooding significantly impacted the oasis and visitor facilities at Cottonwood Springs. As a result of the flooding, the National Park Service was forced to close the site to visitors for an extended period of time to restore and repair facilities for safe visitor access and to manage for impacted resources. The heavy floods exposed sensitive cultural resources making them vulnerable to theft and other impacts. Trails have been damaged and access to Cottonwood Spring Oasis, Lost Palms Oasis, and Mastodon Peak remain closed. Trail safety concerns include trail condition, archeological resource protection, and potential exposure to exposed mine tailings as a result of flooding. The existing Cottonwood campground is located within the floodplain and is threatened by future floods. The campground location is also impacting a sensitive archeological site.

The Cottonwood visitor center, a modular trailer placed on site in the mid-1990s as a temporary facility, serves as a visitor contact station for visitors who enter the park from the southern entrance. Although the facility was never meant to be a permanent facility, it continues to serve as the primary visitor contact point for the Cottonwood District. The appearance and location of the visitor center does not encourage visitors to stop at the facility. Many visitors drive past the visitor center resulting in lost fee revenue and visitor contact. Neither the modular trailer nor other supporting visitor facilities in the Cottonwood District are equipped to handle the increasing volume of visitors who access the park from the south. There are challenges in retrofitting existing visitor facilities to meet current Americans with Disabilities Act standards and site development constraints in terms of power and water.

Safety concerns at the Cottonwood District include lack of telephone service, limited cellular service, and Occupational Health and Safety Administration violations as a result of Hantavirus threats at the interpretive office and the maintenance compound.

Scope — Joshua Tree National Park has both immediate and long-term needs to address resource protection, facility, and visitor use issues at Cottonwood Springs. The comprehensive site plan would identify measures for the protection of cultural resources and the oasis, particularly with the ongoing threat of floods. The plan would also provide recommendations for the type, location, and scale of visitor and operational facilities including the visitor center, trails, campground, housing, and maintenance areas. It is anticipated that civic engagement would be part of this planning effort.

The comprehensive site plan would evaluate opportunities for rehabilitation, relocation, or replacement of existing facilities including the visitor center, parking, campground, trails, staff housing, office space, and maintenance facilities. Necessary infrastructure upgrades would be included. Development of an entrance station to move this function from the temporary trailer would be considered in the scope of the plan. Visitor access, including improved accessibility and overall circulation along the south boundary of the park, would be evaluated as part of the plan.

Sequencing — Resource surveys would be necessary in the development of the comprehensive site plan. A hazmat evaluation has been completed. Archeologists have been on-site since the flood. Additional data required as part of the planning process include cultural resource surveys to better understand the resources and a floodplain study. Most of the existing operational facilities at Cottonwood Springs were constructed as part of the Mission 66 initiative. The park would complete a determination of eligibility for these structures, which includes the interpretive office, three houses, maintenance bays, and the campground.

Immediate planning needs include addressing safety concerns with the mine tailings, Hantavirus, and protection of the oasis and archeological resources. Campground location evaluation and consideration of an entrance station or replacement visitor contact facility could be done at a later phase.

Boundary Protection Plan.
Rationale — Routine illegal uses and access along the park boundary cause resource damage and pose security and safety risks. There are 240 miles of boundary at Joshua Tree National Park. Approximately 30% of the park's boundary is affected by OHV encroachment. Other impacts include trash dumping, poaching of plants and animals, and resource damage. Traditional fencing and barriers have been ineffective in preventing encroachment and illegal uses that damage resources. Park operations are impacted by the high cost of continual barrier replacement and monitoring. Boulders are physically removed and there are broken fence lines along the park boundary. The majority of the boundary is wilderness and activities related to encroachment are in violation of the Wilderness Act. Security on the remote southern park boundary is especially lacking, resulting in high levels of encroachment. Strategies are needed to protect resources, enhance safety, and reduce operational expenses associated with resource damage, monitoring and enforcement, and destruction of barriers.

Illegal access into park canyons also impacts inholders and adjacent landowners. For example, landowners and park partners who own contiguous parcels of land have experienced difficulties meeting protection commitments and dealing with the effects of illegal access to their lands and park lands. Some agencies that own parcels adjacent to the park do not have the capacity to address encroachment issues. Opportunities exist to work with adjacent landowners to collaborate on providing access in appropriate areas and to coordinate efforts to address encroachment issues such as illegal dumping.

Scope — The boundary protection plan would include a range of strategies for protecting the park, including wilderness and resource values from boundary encroachment including:

- Methods to provide information, orientation, and education to park visitors to encourage appropriate behaviors and to promote resource protection. For example, at places such as Long Canyon where the road dead ends at the park boundary, information could be provided to clearly identify where NPS lands begin and what activities are appropriate.
- Recommendations for more effective barrier options.
- Partnership opportunities with surrounding agencies, including cooperative management through use of Service First Agreements. There is a potential opportunity to partner with the military to design and install appropriate barriers/fencing that will not impact wildlife migration.
- Documentation of threats related to habitat fragmentation, loss of habitat, and poaching, and identification of strategies for protecting habitat connectivity and wildlife migration corridors.
- Appropriate opportunities for visitor access to deter illegal encroachment. For example, designated trailheads and establishment of safe and appropriate access routes or corridors.

It is anticipated that civic engagement would be part of this planning effort.

Sequencing — Boundary surveys are needed at various locations. Compliance and consistency with the backcountry/wilderness management plan would be considered.

Boundary Study.
Rationale — Fragmentation and loss of regional habitat connectivity could adversely affect the viability of plant and animal species in Joshua Tree National Park. Protection of habitat corridors becomes even more critical given the pressures exerted by the effects of climate change. Primary threats to habitat connectivity around Joshua Tree National Park include urban development, military land use, and energy development. Some views within the park, including wilderness, have been impacted by communication facilities, solar farm and energy development, and urban development. A boundary study will help the park identify critical lands to better protect the park's fundamental resources and values, including

- interconnectivity of California desert lands
- biological diversity and healthy ecosystem function
- wilderness values and wilderness accessibility
- viewsheds
- habitat for the desert tortoise

Several interagency groups have identified critical corridor gaps and linkages along the boundary of the park. Although many of these groups are working to coordinate efforts, improved coordination of management actions/decisions across boundaries is needed. Partnerships among neighboring land managers are needed to foster coordination of protection efforts. A boundary study will help Joshua Tree National Park to more effectively participate with the various working groups.

Scope — By applying the boundary study criteria identified in NPS Management Policies 2006 (section 3.5), the boundary study will determine the appropriateness of including certain lands within the park boundary in order to protect Joshua Tree National Park's fundamental resources and values. The boundary study will evaluate management options and whether lands will be feasible to administer, considering size, configuration, ownership, costs, and other factors. In addition to the potential for inclusion of certain lands within the park boundary, management options will also explore opportunities to partner with neighboring land managers and protect these resources.

The study will evaluate lands along the park boundary, including lands that were formerly within the park boundary at one time. The resources considered are directly related to the purpose and significance of the park and will support protection of fundamental resources and values. The study will document threats related to habitat fragmentation, loss of habitat, and strategies for wildlife and vegetation linkages, connectivity, and migration corridors. Surrounding corridor studies should feed into a boundary study. It is anticipated that civic engagement would be part of this planning effort.

Strategic Plan.

Rationale — Joshua Tree National Park lacks a multiyear plan for operations and funding that is guided by a long-term vision for the park. Since the completion of the general management plan in 1995, funding and operational capacity at Joshua Tree National Park have decreased while new mandates and administrative commitments have increased. A strategic plan would address this need by setting goals and priorities to address the most pressing operational, organizational, administrative, and resource issues.

Scope — The strategic planning process will establish a clear direction for park management, and then set goals and priorities accordingly. Specific components of the process include identifying the most significant challenges and opportunities facing the park or program, figuring out how to address those challenges and opportunities, and following through with effective implementation. The overall intent of strategic planning is to focus employee attention and energy on effectively addressing the biggest operational, organizational, administrative, and resource issues in a timely manner.

The strategic planning process would evaluate what can be accomplished within the constraints of funding limitations. This evaluation helps to identify staff positions that need to be filled. The strategic plan would also help assess current operations and gaps, in the context of the budget, and would inform development of a workforce management / staffing management plan.

Carrying Capacity Study (e.g., Visitor Use Study).
Rationale — Regional demographics and visitor use trends at Joshua Tree National Park have changed considerably since the completion of the general management plan in 1995. Communities surrounding the park, especially on the south side, have been growing. It is important to document current conditions to maintain them for the future rather than to shift the baseline as conditions degrade. Increased visitation without proper management threatens park resources. Fragile desert ecosystems can take years to recover from visitor use damage. Park facilities are aging and are not meeting the needs of visitors. Use of the current park infrastructure has exceeded what it can handle. Guidance is needed to identify ways to address visitor use conflicts and how to disperse use and to determine what uses facilities can support. There are resource concerns with climbing and erosion especially in frontcountry climbing areas. Bouldering activities have more impacts than traditional climbing (e.g., crash pads, vegetation removal). The Joshua Tree National Park resource stewardship strategy recommends conducting ecological and visitor carrying capacity studies to understand how visitor activities affect other visitor experiences and the condition of resources.

Scope — The carrying capacity study would take a focused look at desert ecology as well as the visitor experience. The study would consider ecological, cultural, visitor use, and facility carrying capacities. The study would evaluate current visitor use patterns and characteristics and identify potential indicators and standards that define acceptable levels of use and appropriate management strategies. The study would provide guidance for mitigating adverse impacts on cultural and natural resources. It is anticipated that civic engagement would be part of this planning effort.

Sequencing — This planning need is a precursor to several other priority planning needs. This study would consider guidance in the resource stewardship strategy. This would then provide data for the

- visitor use management plan
- climbing/bouldering management plan
- camping management plan
- Hidden Valley site plan
- accessibility transition plan

Long-Range Interpretive Plan.
Rationale — Joshua Tree National Park lacks comprehensive interpretive planning guidance, including a current long-range interpretive plan required by Director's Order 6: Interpretation and Education. The park's interpretive program would benefit from a planned approach that would be more effective in reaching audiences. Visitor use patterns at the park have changed considerably since the completion of the 1995 general management plan. Adjacent to growing metropolitan areas, visitor use has increased and demographics have changed, bringing in new audiences and new ways of enjoying park resources. The park needs strategies for incorporating the new realm of technology and media to improve visitor experiences. Interpretive media and programs lack current knowledge about park resources.

Scope — The long-range interpretive plan would define the overall vision and long-term interpretive goals of the park. It contains foundation elements such as park purpose, significance, and interpretive themes.

The plan would evaluate opportunities for nonpersonal media, new technology/social media, new visitor programming and activities, as well as lifelong learning and youth engagement opportunities that would resonate with current visitors. The plan would explore opportunities in surrounding communities and would also serve park partners (friends groups), other local parks, agencies, tribes, local communities, and schools. The plan would strive to develop stewardship through changed attitudes and behaviors. The plan would incorporate current knowledge of natural and cultural resources. Assistance from Harpers Ferry Center and regional and network assistance would be beneficial. Opportunities to partner with other agencies and organizations would also benefit the plan process.

The long-range interpretive plan could benefit from visitor use trends and data. Guidance should be informed by data on current visitor use patterns and local demographics, and should evaluate Joshua Tree National Park visitor use in relation to visitor use patterns in the broader region. An updated visitor use study would help to inform this effort.

Cultural Resources Condition Assessment.
Rationale — The park lacks baseline documentation, including inventories, and management guidance for a diverse array of cultural resources. A comprehensive condition assessment is needed to understand the threats to cultural resources and to develop strategies to better protect and manage the resources.

Scope — The condition assessment process helps identify data gaps and research needs, and may lead to funding initiatives to address the most critical information needs. For various cultural resource categories, such as archeological resources, cultural landscapes, historic structures, and museum collections, the cultural resources condition assessment would identify

- condition indicators
- condition measures
- condition status-trend-confidence
- rationale for status-trend-confidence, and
- preliminary actions to improve condition

The condition assessment would include information to be used for resource management actions and decision making. Comprehensive strategies to move resource condition toward a management target would be identified. The status of key scientific data and information relative to the park's fundamental and other important resources and values would be included.

Sequencing — This assessment would be used to inform a variety of plans and studies. Completion of a cultural resource condition assessment is scheduled for 2015.

High Priority Data Needs

Visitor Use Surveys.
Rationale, scope, and sequencing — Greater understanding of park visitation patterns and the visitor use needs of surrounding communities is needed for planning decisions, visitor use management, and interpretive and educational programming. Visitor use data will feed into other planning efforts including carrying capacity / visitor use studies, site-specific plans, long-range interpretive plan, and a visitor use management plan. Visitor use forecasting and research on recreational preferences of surrounding communities are needed to plan for future facilities and develop programing to engage new audiences. Visitor use data and research, broad-based and site-specific, would be necessary to understand and guide visitor behavior in high-use areas.

Table 1. Summary of High Priority Planning and Data Needs

High Priority Plan or Data Need	Key Issues to Address	Fundamental Resources and Values Affected
Cottonwood Comprehensive Site Plan	• Aging infrastructure • Changing demographics and visitor use trends • Cultural resources protection, data and management guidance • Water resource protection	• Oases and other riparian areas • Hydrological resources • Recreational opportunities and values • Prehistoric sites and ethnographic resources relating to American Indian inhabitants • Biological diversity and healthy ecosystem function
Boundary Protection Plan	• Habitat connectivity • Wilderness protection • Development and uses adjacent to park • Cultural resources protection, data and management guidance	• Interconnectivity of California desert lands • Biological diversity and healthy ecosystem function • Wilderness values and wilderness accessibility • Night sky • Natural quiet (Soundscape) • Habitat for the desert tortoise • Hydrological resources
Boundary Study	• Habitat connectivity • Wilderness protection • Development and uses adjacent to park • Cultural resources protection, data and management guidance • Water resource protection	• Interconnectivity of California desert lands • Biological diversity and healthy ecosystem function • Wilderness values and wilderness accessibility • Night sky • Natural quiet (Soundscape) • Habitat for the desert tortoise • Hydrological resources
Park Strategic Plan	• Aging infrastructure • Habitat connectivity • Changing demographics and visitor use trends • Development and uses adjacent to park • Cultural resources protection, data and management guidance • Water resource protection	• Many FRVs depending on park's priorities

High Priority Plan or Data Need	Key Issues to Address	Fundamental Resources and Values Affected
Carrying Capacity Study (e.g., Visitor Use Study)	• Habitat connectivity • Wilderness protection • Changing demographics and visitor use trends • Cultural resources protection, data and management guidance • Water resource protection	• All FRVs
Long-Range Interpretive Plan	• Changing demographics and visitor use trends • Aging infrastructure	• Most FRVs, including: • Recreational opportunities and values • Recreational activities centered around the boulders and rock formations • Wilderness values and wilderness accessibility • Access to scenic vistas • Interconnectivity of California desert lands • Biological diversity and healthy ecosystem function • Prehistoric sites and ethnographic resources relating to American Indian inhabitants • Historic and ethnographic resources related to European American inhabitants • History of the desert preservation movement
Cultural Resources Condition Assessment	• Cultural Resources Protection, Data And Management Guidance	• Prehistoric sites and ethnographic resources relating to American Indian inhabitants, including the type site for Early Pinto culture • Historic and ethnographic resources related to European American inhabitants • History of the desert preservation movement • Museum collections of archives, natural history specimens, and archaeological artifacts, including the Campbell Collection • Ever-expanding knowledge base • Opportunity to understand, apply, and share this knowledge to benefit the park and beyond
Visitor Use Surveys	• Changing demographics and visitor use trends • Development and uses adjacent to park	• Wilderness values and wilderness accessibility • Recreational opportunities and values • Recreational activities centered around the boulders and rock formations • Access to scenic vistas

Table 2. Summary of other Planning and Data Needs

Planning or Data Needs	Priority (M, L)	Notes
Natural Resources		
Plans		
Water resource management plan	M	Address oases, springs and riparian management as well as water provisioning in wilderness and spring development (e.g., guzzlers).
Oasis of Mara management plan	M	
Invasive species management plan	M	Park has an existing invasive species management plan prior to 2003. Staffing and funding are needed to implement the plan. The park would need to determine whether the current plan adequately meets park needs.
Fire management plan	M	Consider new spatial format that is more useful for project planning and fire operations.
Data Needs and Studies		
Data collection and source analysis on air quality, lighting, and soundscape.	M	
Park hydrogeology and hydrology study	M	Accurate baseline data and understanding of local and regional surface water and groundwater to improve park's ability to manage for surface and groundwater.
Data collection and studies on Joshua tree demographic study, climate change effects, stronghold areas, etc.	L	
Modeling studies related to climate change on park natural resources, precipitation, fire regime.	L	
Data collection and studies on paleontological resources.	L	
Other Park Strategies and Actions		
Climate change response strategy		
Cooperation with U.S. Fish and Wildlife Service on desert tortoise species recovery plan (ongoing)		
Science and research strategy that identifies ways to seek cooperative involvement, attract funding, assign available students, etc. (ongoing)		The park is engaging outside help in park science and research; has about 28 cooperative agreements.
Cultural Resources		
Plans		
Plan to prioritize cultural resource treatments (restore, stabilize, preserve) for structures and for cultural landscapes	L	
Cultural landscape reports	L	
Data Needs and Studies		
Traditional cultural property studies	M	
Systematic survey of archeological resources throughout the park	M	

Planning or Data Needs	Priority (M, L)	Notes
Data Needs and Studies (continued)		
Oral histories collection	L	In-house or through cooperative agreement with a university.
Other Park Strategies and Actions		
Tribal outreach strategy (ongoing)		
Wilderness		
Plans		
Wilderness management plan update (wilderness stewardship plan)	L	
Data Needs and Studies		
Wilderness basics	M	
Visitor Experience		
Plans		
Visitor use management plan	M	
Climbing/bouldering management plan	M	
Wayside exhibit plan	M	This plan would be developed after the long-range interpretive plan is completed or could be integrated into a facilities master plan.
Hidden Valley comprehensive site plan	M	
Trail management plan	M	Analyze and possibly provide additional opportunities for access. Includes equestrian use.
Camping management plan	L	
Commercial services strategy	L	
Other Park Strategies and Actions		
Expand outreach efforts and programs with user groups to provide them information before they arrive at the park. Use digital technology including mapping and GIS capabilities.		
Facilities, Operations, Boundary, and Regional Coordination		
Plans		
Park asset management plan	M	This is important for future and ongoing funding for facilities. Consider accessibility transition plan.
South boundary comprehensive plan	M	May also be completed as part of a broader boundary study.
Staffing management plan /workforce management plan	M	
Land protection plan update (underway)	M	
Partnership plan	M	Build on existing partnerships and develop new partnerships to foster stewardship and provide outreach to nearby communities. Include social science study to understand what visitors and local communities view as threats.
Facilities master plan	L	Include architectural style guidelines, accessibility, and wayside exhibits.

Planning or Data Needs	Priority (M, L)	Notes
Data Needs and Studies		
Parkwide visitor center and educational facility need assessment	L	Some work is underway with seismic retrofit and Naturebridge demo project.
Other Park Strategies and Actions		
Develop strategies with partners to address external impacts to lighting		
External conservation protection priorities		Ecoregional conservation priorities assessment. Support initiatives to look beyond boundaries.
Develop a strategy to work with the military and commercial/private carriers on overflight issues		

Analysis of Fundamental Resources and Values

The fundamental resource or value analysis table includes current conditions, potential threats and opportunities, planning and data needs, and selected laws and NPS policies related to management of the identified resource or value. Please see appendix C for the analysis of fundamental resources and values.

Part 3: Contributors

Joshua Tree National Park

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Jeff Ohlfs, *Chief Ranger*

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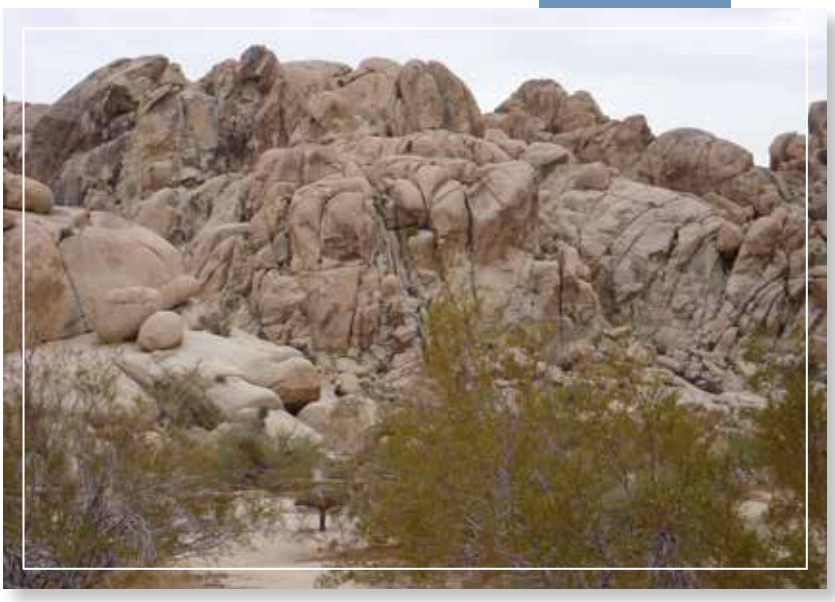

Appendixes

Appendix A: Presidential Proclamation and Legislative Acts for Joshua Tree National Park

Legislation for Joshua Tree National Park (and Monument)

Proclamation (No. 2193) of August 10, 1936

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

WHEREAS certain public lands in the State of California contain historic and prehistoric structures, and have situated thereon various objects of historic and scientific interest; and

WHEREAS it appears that it would be in the public interest to reserve such lands as a national monument, to be known as the Joshua Tree National Monument:

Now, THEREFORE, I, Franklin D. Roosevelt, President of the United States of America, under and by virtue of the authority vested in me by section 2 of the act of June 8, 1906, ch. 3060, 34 Stat. 225 (U. S. C., title 16, sec. 431), do proclaim that, subject to existing rights and prior withdrawals, the following-described lands in California are hereby reserved from all forms of appropriation under the public-land laws and set apart as the Joshua Tree National Monument:

SAN BERNARDINO MERIDIAN

T. I S., R. 5 E., sees. 19 to 36, inclusive. T. 2 S., R. 5 E., sees. I to 6, 11 to 13, inclusive, and those parts of secs. 7, 8, 9, 10, 14, 15 and 24 lying north of the north boundary of the Colorado River Aqueduct right-of-way. T. I S., R. 6 E., sees. 19 to 36, inclusive.

T. 2 S., R. 6 E., sees. I to 18, 21 to 26, inclusive, and those parts of secs.19, 20, 27, 28, 34, 35 and 36 lying north of aqueduct right-of-way.

T. 3 S., R. 6 E., that part of sec. 1 lying north if aqueduct right-of-way.

Ts. 1 and 2 S., R. 7 E. (Partly unsurveyed).

T. 3 S., R. 7 E., sees. 1 to 6, 8 to 16, 23 to 24, inclusive, and those parts of secs. 7, 17, 18, 21, 22, 25 and 26 lying north of aqueduct right-of-way.

Ts. I and 2 S., R. 8 E. (partly unsurveyed).

T. 3 S., R. 8 E., sees. 1 to 30, 33 to 36, inclusive, and those parts of secs. 31 and 32 lying north of aqueduct right-of-way.

T. 4 S., R. 8 E., those parts of secs. 4 and 5 lying north of aqueduct right-of-way.

T. 1 S., R. 9 E., secs. 5 to 9 and 16 to 36, inclusive.

Ts. 2 and 3 S., R. 9 E. (partly unsurveyed).

Ts. I to 3 S., R. 10 E. (partly unsurveyed).

T. 5 S., R. 10 E., secs. 1 to 30, inclusive, and those parts of secs. 31 to 36 lying north of aqueduct right-of-way.

Ts. 1 to 4 S., R. 11 E. (partly unsurveyed).

T. 5 S., R. 11 E., secs. 1 to 30 and 32 to 36, inclusive, and that part of sec. 31 lying north of aqueduct right-of-way.

T. 6 S., R 11 E., those parts of secs. 1 to 6 lying north of aqueduct right-of-way.

Ts. 1 to 5 S., R. 12 E. (partly unsurveyed).

T. 6 S., R. 12 E., those parts of secs. 1 to 6 lying north of aqueduct right- of-way.

Ts. 1 to 4 S., R. 13 E. (partly unsurveyed).

T. 5 S., R. 13 E., secs. 1 to 24, inclusive, and those parts of secs. 28, 29, 30 and 31 lying north of aqueduct right-of-way
(partly unsurveyed).

Ts. 1 to 3 S., R. 14 E. (partly unsurveyed).

T. 4 S., R. 14 E., secs. 1 to 11, 14 to 23, 27 to 34, inclusive, and those parts of secs. 12, 13, 24, 25, 26 and 35 lying west of aqueduct right-of-way (unsurveyed).

Ss. 1 and 2 S., R. 15 E. (partly unsurveyed).

T. 3 S., R. 15 E., secs. 1 to 19, inclusive, and sec. 24; those parts of secs. 20, 21, 22, 23, 25, 26, 29, 30 and 31 lying north of aqueduct right-of-way (partly unsurveyed).

T. 4 S., R. 15 E., those parts of secs. 6 and 7 lying west of aqueduct right-of-way; containing approximately 825,340 acres.

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 the 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 (ch. 408, 39 Stat. 535, U. S. C., title 16, secs. 1 and 2), and acts supplementary thereto or amendatory thereof.

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 10th day of August, in the year of our Lord nineteen hundred and thirty-six and of the Independence of the United States of America the one hundred and sixty-first.

FRANKLIN D. ROOSEVELT.

By the President:

WILLIAM PHILLIPS,

Acting Secretary of State.

1976 Designation of Joshua Tree Wilderness

PUBLIC LAW 94-567 [H.R. 13160] : OCT. 20, 1976

NATIONAL PARK SYSTEM-WILDERNESS DESIGNATED

An Act to designate certain lands within units of the National Park System as wilderness; to revise the boundaries of certain of those units; and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in accordance with section 3(c) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132(c)), the following q lands are hereby designated as wilderness, and shall be administered by the Secretary of the Interior in accordance with the applicable provisions of the Wilderness Act:

(g) Joshua Tree National Monument, California, wilderness comprising four hundred and twenty-nine thousand six hundred and ninety acres, and potential wilderness additions comprising thirty- seven thousand five hundred and fifty acres, depicted on a map entitled

"Wilderness Plan, Joshua Tree National Monument, California", numbered 156-20,003-D and dated May 1976, to be known as the Joshua Tree Wilderness.

Sec. 2. A map and description of the boundaries of the areas designated in this Act shall be on file and available for public inspection in the office of the Director of the National Park Service, Department of Interior, and in the office of the Superintendent of each area designated in the Act. As soon as practicable after this Act takes effect. maps of the wilderness areas and descriptions of their boundaries shall be filed with the Interior and Insular Affairs Committees of the United States Senate and House of Representatives, and such maps and descriptions shall have the same force and effect as if included in this Act: Provided, That correction of clerical and typographical errors in such maps and descriptions may be made.

Sec. 3. All lands which represent potential wilderness additions, upon publication in the Federal Register of a notice by the Secretary of the Interior that all uses thereon prohibited by the Wilderness Act have ceased, shall thereby be designated wilderness.

Sec. 4. The boundaries of the following areas are hereby revised, and those lands depicted on the respective maps as wilderness or as potential wilderness addition are hereby so designated at such time and in such manner as provided for by this Act:

1994 Designation as Joshua Tree National Park

TITLE IV - JOSHUA TREE NATIONAL PARK.

SEC. 401. FINDINGS.

The Congress finds that

a proclamation by President Franklin Roosevelt in 1936 established Joshua Tree National Monument to protect various objects of historical and scientific interest;

Joshua Tree National Monument today is recognized as a major unit of the National Park System, having extraordinary values enjoyed by millions of visitors;

the monument boundaries as modified in 1950 and 1961 exclude and thereby expose to incompatible development and inconsistent management, contiguous Federal lands of essential and superlative natural, ecological, archeological, paleontological, cultural, historical, and wilderness values;

Joshua Tree National Monument should be enlarged by the addition of contiguous Federal lands of national park caliber, and afforded full recognition and statutory protection as a National Park; and

the non-designated wilderness within Joshua Tree should receive statutory protection by designation pursuant to the Wilderness Act.

SEC. 402. ESTABLISHMENT OF JOSHUA TREE NATIONAL PARK.

There is hereby established the Joshua Tree National Park, (hereinafter in this section referred to as the "park"), as generally depicted on a map entitled "Joshua Tree National Park Boundary – Proposed", dated May 1991, and four maps entitled "Joshua Tree National Park Boundary and wilderness", numbered in the title one through four, and dated October 1991 or prior, which shall be on file and available for public inspection in the offices of the Superintendent of the park and the Director of the National Park Service, Department of the Interior. The Joshua Tree National Monument is hereby abolished as such, the lands and interests therein are hereby incorporated within and made part of the new Joshua Tree National Park, and any funds available for purposes of the monument shall be available for purposes of the park.

SEC. 403. TRANSFER AND ADMINISTRATION OF LANDS.

Upon enactment of this title, the Secretary shall transfer the lands under the jurisdiction of the Bureau of Land Management depicted on the maps described in section 402 of this title, without consideration, to the administrative jurisdiction of the National Park Service for administration as part of the National Park System. The boundaries of the park shall be adjusted accordingly. The Secretary shall administer the areas added to the park by this title in accordance with the provisions of law generally applicable to units of the National Park System, including the Act entitled "An Act to establish a National Park Service, and for other purposes", approved August 25, 1916 (39 9 Stat. 535; 16 U.S.C. 1, 2-4).

SEC. 404. MAPS AND LEGAL DESCRIPTION.

Within six months after the date of enactment of this title, the Secretary shall file maps and legal description of the park with the Committee on Energy and Natural Resources of the United States Senate and the Committee on Natural Resources of the United States House of Representatives. Such maps and legal description shall have the same force and effect as if included in this title, except that the Secretary may correct clerical and typographical errors in such legal description and maps. The maps and legal description shall be on file and available for public inspection in the appropriate offices of the National Park Service, Department of the Interior.

SEC. 405. WITHDRAWAL.

Subject to valid existing rights, all Federal lands within the park are hereby withdrawn from all forms of entry, appropriation, or disposal under the public land laws; from location, entry, and patent under the United States mining laws; and from disposition under all laws pertaining to mineral and geothermal leasing, and mineral materials, and all amendments thereto.

SEC. 406. UTILITY RIGHTS-OF-WAY.

Nothing in this title shall have the effect of terminating any validly issued right-of-way or customary operation maintenance, repair, and replacement activities in such right-of-way, issued, granted, or permitted to the Metropolitan Water District pursuant to the Boulder Canyon Project Act (43 U.S.C. 617-619b), which is located on lands included in the Joshua Tree National Park, but outside lands designated as wilderness under section 601(a)(2). Such activities shall be conducted in a manner which will minimize the impact on park resources. Nothing in this title shall have the effect of terminating the fee title to lands or customary operation, maintenance, repair, and replacement activities on or under such lands granted to the Metropolitan Water District pursuant to the Act on June 18, 1932 (47 Stat. 324), which are located on lands included in the Joshua Tree National Park, but outside lands designated as wilderness under section 601(a)(2). Such activities shall be conducted in a manner which will minimize the impact on park resources. The Secretary shall prepare within one hundred and eighty days after the date of enactment of this Act, in consultation with the Metropolitan Water District, plans for emergency access by the metropolitan Water District to its lands and rights-of-way.

Omnibus Public Land Management Act Of 2009

PUBLIC LAW 111-11 [H.R. 146] : MARCH 30, 2009

TITLE I

(F) JOSHUA TREE NATIONAL PARK WILDERNESS ADDITIONS- In accordance with the Wilderness Act (16 U.S.C. 1131 et seq.), certain land in Joshua Tree National Park, comprising approximately 36,700 acres, as generally depicted on the map numbered 156/80,055, and titled `Joshua Tree National Park Proposed Wilderness Additions', and dated March 2008, is designated as wilderness and is incorporated in, and shall be deemed to be a part of, the Joshua Tree Wilderness designated by section 1(g) of Public Law 94-567 (90 Stat. 2692; 16 U.S.C. 1132 note).

(c) Joshua Tree National Park Potential Wilderness-

(1) DESIGNATION OF POTENTIAL WILDERNESS- Certain land in the Joshua Tree National Park, comprising approximately 43,300 acres, as generally depicted on the map numbered 156/80,055, and titled `Joshua Tree National Park Proposed Wilderness Additions', and dated March 2008, is designated potential wilderness and shall be managed by the Secretary of the Interior insofar as practicable as wilderness until such time as the land is designated as wilderness pursuant to paragraph (2).

(2) DESIGNATION AS WILDERNESS- The land designated potential wilderness by paragraph (1) shall be designated as wilderness and incorporated in, and be deemed to be a part of, the Joshua Tree Wilderness designated by section 1(g) of Public Law 94-567 (90 Stat. 2692; 16 U.S.C. 1132 note), effective upon publication by the Secretary of the Interior in the Federal Register of a notice that--

(A) all uses of the land within the potential wilderness prohibited by the Wilderness Act (16 U.S.C. 1131 et seq.) have ceased; and

(B) sufficient inholdings within the boundaries of the potential wilderness have been acquired to establish a manageable wilderness unit.

Appendix B: Recent Park Plans and Other Guidance

Through the foundation process, Joshua Tree National Park identified the following recent park management plans and guidance documents that will help address issues and challenges facing the park:

- Resource stewardship strategy
- Safety plan
- Emergency medical services plan
- Structural fire plan
- Search and rescue plan
- Emergency action plan
- Transportation feasibility study
- Superintendent compendium

Appendix C:
Analysis of Fundamental Resources and Values

The following fundamental resources and values have been identified for Joshua Tree National Park and are listed with their related significance statement, the current conditions and trends, and current and potential threats.

Fundamental Resources and Values	Current Conditions and Trends	Current and Potential Threats
Joshua trees	• Adult populations of Joshua trees are stable. • Knowledge of community structure, distribution, etc. is incomplete and trends are unknown. • The Joshua tree is one of a multitude of plant species in the park that has an important role in the desert ecosystem. However, in the public eye, the Joshua tree is an iconic feature of the park and is also symbolic of a healthy desert ecosystem.	• Climate change. • Fire. • Limited seed distribution. The seed distribution for Joshua trees was previously attributed to a large ground sloth, which is now long extinct. Small mammals now serve as the primary seed distributors for the trees, but do not travel as far as the sloth had. It is uncertain whether this more limited seed distribution would allow the tree to "move" fast enough to keep up with changing climatic conditions. • Joshua trees are a slow-growing species. Therefore, threats may outpace research and understanding of the species. • Threats may result in an isolated "island effect" for the species.
Oases and other riparian areas	• Ecologically critical areas are threatened. • Some oases are unspoiled and well-protected. • Water impoundment safety is questionable (if impoundments fail riparian areas both downstream and upstream are impacted). • Water sources are variable. • Groundwater table has been lowered in multiple areas. • Oasis of Mara is probably being affected by both natural and unnatural factors. Unnatural attributes include a lowered groundwater table from adjacent water uses/drawdown and supplemental watering to sustain the oasis (by the National Park Service and adjacent landowners). Natural attributes could include hydrogeologic changes associated with the shifting fault line that could block/reduce spring flows. • Knowledge of local and regional groundwater hydrology is incomplete. Specific causes of lowering groundwater tables are not entirely known. • Management of oases (especially fire management) is variable.	• Groundwater aquifers are threatened by drawdown by adjacent domestic/urban water use and possibly from previous geological events (e.g., earthquakes). • Inefficient urban/domestic water use adjacent to park. Several communities around park are not maximizing water conservation potential (in both supply systems and demand). Continued urban growth and associated increased water demands will compound matters. • Lack of accurate baseline data and understanding of hydrogeology limits the park's ability to manage for surface and groundwater protection. • High visitor use and impacts at Cottonwood oasis and others • Water quality and quantity are at risk due to urban and agricultural diversions. • Invasive species (plants)

Fundamental Resources and Values	Current Conditions and Trends	Current and Potential Threats
Habitat for the desert tortoise	• Populations have dramatically declined, but have somewhat stabilized in recent years at very low numbers. • The Mojave desert portions of Joshua Tree National Park provide roughly 266,000 acres of high-quality tortoise habitat. • Habitat is stable within the park, but habitat is degrading outside the park.	• Urban growth (habitat loss and fragmentation). • Ravens (often correlated with urban growth) and other predators. • Upper Respiratory Tract Disease (URTD). • Alternative energy development is resulting in habitat loss and fragmentation. • Fire threat includes increased fire intensities, sizes, and frequencies from exotic plant infestations. • Invasive species. • Increasing vehicle traffic. • Poaching. • Climate change.
Interconnectivity of California desert lands	• Certain areas of public land connectivity are already compromised by transportation corridors and urban developments. • Collaboration on north boundary of park is acceptable; collaboration with south boundary communities could be improved. • Most municipalities have master planning and zoning policies but limited implementation and enforcement. • Future possible addition of two national monuments could strengthen interconnectivity.	• Urban sprawl and transportation corridors. • Lack of comprehensive master planning and zoning implementation and enforcement in and between local communities. • Climate change may affect landscapes and natural resource populations. • Production and development of alternative energy.
Biological diversity and healthy ecosystem function	• Biological diversity is generally high, but varies from site to site. Stability of the diversity levels is unknown. • Intact ecosystems exist in many areas due to relatively large, unfragmented landscape. • There is a lack of scientific information and knowledge. • Remote sites are not regularly monitored.	• Climate change. • Invasive species. • Fire. • Development of social trails. • Habitat fragmentation from park development and visitation. • Off-road vehicles. • Poaching. • Impacts on water quality from visitors. • Urban growth and encroachment (edge and island effects). • Visitation is expected to increase. • Human disturbances in wilderness areas.
Wilderness values and wilderness accessibility	• Given the large amount of wilderness area in the park, ample opportunities exist for visitors to enjoy the solitude and untrammeled landscape that are characteristic of a high quality wilderness experience. However, during periods of high visitation or in areas radiating from popular wilderness access points, some wilderness values are diminished (e.g., social trail development, encounters with other visitors).	• Dumping along wilderness perimeters. • Increased visitor use in wilderness, reducing opportunities for solitude. • Adjacent solar and wind power development. • Adjacent groundwater/ hydroelectric projects, and other similar large-scale geologic and hydrologic alterations.

Fundamental Resources and Values	Current Conditions a d Trends	Current and Potential Threats
Recreational opportunities and values	• Graffiti. • Fires – bonfires and campground fires. • Camping – seasonal crowding, generally campground design not adequate for today's camping equipment or visitors. Questionable campsite inventory versus visitor expectation (climbing parties versus serene or family camping opportunities – very different expectations and desires). Difficulty managing/permitting camping (e.g., reservation system may need improvement). • Campsite capacity averages 80% full during peak five months of the year. • Hiking – social trails forming or expanding in several high use areas. Visitors become confused as to where trails go or which ones to use, resulting in further proliferation of social trails. • Passive uses, such as photography, night sky observing, and wildlife and nature appreciation, are being impacted by a large variety of sources (e.g., graffiti, overcrowding, external threats, etc.). • Climbing – there is heavy use and expectations for access. Unbalanced management focus toward climbing activities. Management of routing and bolting could be improved. Climbing access areas are in need of improved signage and fencing to better direct climbers. While not a large user group (in number), climbers spend a large amount of time in the frontcountry and backcountry with large amounts of gear, and thus have some of the most notable impacts on natural and cultural resources. • Picnicking – there are changing demands based on changing visitor demographics. • Parking areas are crowded. • Road biking – unsafe and inadequate road biking conditions exist due to road design (narrow shoulders), road surface quality (deteriorated pavement), and road signage (driver and biker education). • Mountain biking – mountain bikers express concern regarding lack of singletrack mountain biking trails and very limited overall mountain biking opportunities. • Equestrian – staging facilities are adequate, but equestrians feel trail opportunities are limited. Expansion of equestrian trails could have notable effects on natural resources.	• Graffiti. • Biking conditions unsafe. • Overcrowding. • Vandalism. • Trash. • Noise. • Illegal campfires. • Light/air pollution. • Social trails and degradation of resources in the proximity of climbing areas. • Spread of nonnative species via animal excrement.

Fundamental Resources and Values	Current Conditions and Trends	Current and Potential Threats
Night sky	• The night sky is impacted in most areas of the park, except for the eastern portion. • There is a "floating baseline" regarding the night sky. Baseline data are currently being collected and will be used to establish trends related to development around the park and areas for improvement (e.g., working with developers, lighting suppliers, and local governments). • Declining quality of night sky experience is resulting from urban development, both near and far. Without active efforts to mitigate the threats (urban development lighting), the trend of declining quality will probably continue. • Park staff are currently working with San Bernardino County on promoting light pollution mitigation.	• Growing urban centers and commercial activities around the park contribute to poor conditions. • Local governments do not have effective lighting ordinances; there is also an unwillingness of local governments south of the park to enact light pollution mitigation policies. • Where ordinances exist, there is a lack of enforcement. • Large-scale urban growth in distant areas (e.g., Las Vegas) affects the night sky.
Clean and breathable air	• Ozone levels are in nonattainment status and are not improving. Although levels have been relatively stable in recent years, they can be expected to rise as development adjacent to the park continues to expand. • Dust (both natural and resulting from land use change). The park is in nonattainment status for fine particulate matter (PM10 and PM2.5). Particulate levels can be expected to increase as the result of anticipated Salton Sea water loss. • Photochemical smog (brown haze) effects on visibility are considerable. Levels have been relatively stable in recent years, but can be expected to rise as urban encroachment continues.	• Development adjacent to the park is expected to affect ozone levels. • Dust (both natural and resulting from land use change) is expected to increase. • Urban encroachment is expected to continue, increasing photochemical smog (brown haze).
Natural quiet (Soundscape)	• Natural quiet is altered under current conditions (as a result of surrounding land uses, aircraft, etc.). The trend may worsen as adjacent development continues.	• Military activities (overflights, bombing). • Commercial aircraft. • Construction activities for proposed energy developments near the eastern portions of the park. • Internal effects: generators in campground, loud motorcycles, camping activities, noisy school groups, climbing noises (shouting).

Fundamental Resources and Values	Current Conditions and Trends	Current and Potential Threats
Prehistoric sites and ethnographic resources relating to American Indian inhabitants, including the type site for Early Pinto culture	• Frontcountry sites are showing increased negative impacts from visitation. Retroactive site treatment and interpretation of heavily disturbed sites are proving to be somewhat effective. • Backcountry sites tend to be more stable than those in the frontcountry because of remoteness and inaccessibility. However, these same factors inhibit archeological condition assessment and site protection. • Surveys are ongoing in an effort to increase the archeological knowledge base and expand site inventory (currently 4% of the park has been surveyed). Numerous reported sites are still in need of official site recording and documentation (more than 3,000 reported isolates). • There is a heavy reliance on volunteers to conduct site monitoring and stewardship activities. • Oral history program is actively gathering interviews on a variety of topics, but is still incomplete. There is a need to complete more, particularly with tribal elders. • Park staff is currently working with tribes on two potential traditional cultural properties: Oasis of Mara and Queen Mountain. • There is insufficient staffing to cope with the task of maintaining recorded sites, recording new sites, conducting area surveys, accessioning and processing artifacts, and completing compliance documentation. • Several ethnographic projects have been funded, but internal limits (travel ceiling) are limiting collection of oral histories and related archival research.	• Vandalism. • Off-road vehicles. • Development of social trails and the associated direct and indirect site deterioration. • Urban encroachment and pollution. • Expansion of park operations and facilities. • Monetary value of artifacts and commercial looting. • Advertising of archeological sites via the internet, guidebooks, and word of mouth. • Increased recreation, in terms of both the number of visitors and the areas of the park that are receiving use. • Increased visitation to the backcountry by individuals and commercial guided groups. • Wind and water erosion; bioturbation. • Lack of visitor education (e.g., signs, materials, outreach). • Lack of law enforcement availability to patrol the many sites. • Climbing impacts (e.g., bolts, chalk) on known and unknown sites. • Potential narrators of oral history are being lost as they die or move. • Lack of park employee education and awareness relating to cultural resources and concerns. • Lack of qualified and specialized staff members to record, assess, maintain, and preserve sites in park. • Lack of funding. • Travel restrictions, which limit collection of oral histories. • Limits of government time tables and differences in tribal business culture.

Fundamental Resources and Values	Current Conditions and Trends	Current and Potential Threats
Historic and ethnographic resources related to European American inhabitants	• Although there is good representation of structures related to ranching and mining, these remain largely neglected leading to deterioration. Sites on the List of Classified Structures are better maintained. • Oral history program is still incomplete, in spite of the active gathering of interviews on a variety of topics. • Three historic landscapes are present, in fair condition, and are eligible for the National Register of Historic Places. • Backcountry sites tend to be more stable than those in the front country because of remoteness and inaccessibility. However, these same factors inhibit archeological condition assessment and site protection. • Surveys are ongoing in an effort to increase the archeological knowledge base and expand site inventory. Currently, only 4% of the park has been surveyed. • Historic sites, including roads, artifact scatters, dams, and mines are still in need of official site recording and documentation. Numerous other reported sites are still in need of official site recording and documentation (there are more than 3,000 reported isolates). • Because of insufficient staffing, there is a heavy reliance on volunteers to conduct site monitoring and stewardship. • There is insufficient staffing to cope with the task of maintaining recorded sites, recording new sites, conducting area surveys, accessioning and processing artifacts, and completing compliance documentation. • Several ethnographic projects have been funded, but internal limits (travel ceiling) are limiting collection of oral histories and related archival research.	• Weathering, bioturbation. • Wildfires and the methods used to contain them. • Urban encroachment and pollution. • Expansion of park operations and facilities. • Off-road vehicles. • Vandalism and theft. • Monetary value of artifacts and commercial looting. • Ineffective fences, gates, and closures of structures and areas (e.g., Lost Horse Mine, Wall Street Mill, Keys Ranch). • Advertising of archeological sites via the internet, guidebooks, and word of mouth. • Increased visitor use and the resulting inadvertent damage. • Increased recreation, in terms of both number of visitors and the areas of the park receiving use. • Development of social trails and the associated direct and indirect site deterioration. • Lack of visitor education (e.g., signs, materials, outreach). • Lack of law enforcement availability to patrol the many sites. • Lack of park employee education and awareness relating to cultural resources and concerns. • Lack of qualified and specialized staff members to record, assess, maintain, and preserve sites and structures in the park. • Lack of funding. • Travel restrictions, which limit collection of oral histories. • Potential narrators of oral history are being lost as they die or move.
History of the desert preservation movement	• Ongoing efforts to improve public awareness of deserts due to general lack of understanding and apathy about these areas. • Renewed appreciation and understanding of deserts (i.e., Desert Protection Act 2010). • Withdrawal of areas within the park (previously monument) prompted the establishment of park advocacy efforts and organizations.	• Historic lack of appreciation of desert. • Lack of education about desert values.

Fundamental Resources and Values	Current Conditions and Trends	Current and Potential Threats
Museum collections of archives, natural history specimens, and archaeological artifacts, including the Campbell Collection	• Storage facility is providing a stable and climate-controlled environment for artifacts. However, the storage facility is nearing capacity. • Increasing researcher use and interest in collections. • Available exhibit space is inadequate to house museum property (e.g., secure, climate controlled). • Museum archive collections are expanding rapidly.	• Limited artifact storage space (approaching capacity). • Researchers who receive collecting and science permits do not complete the required processing and accessioning of collected materials. • The lack of appropriate exhibition space parkwide makes it difficult to share knowledge with visitors. • There is a lack of funding and staffing to maintain collections and catalogs, assist researchers, and create exhibits.
Geological resources	• Geological resources are dynamic and continuously evolving with time. The rate of change may be imperceivable on human time scales, but change is inevitable. Episodic events are anticipated (e.g., large scale earthquakes) and will probably alter the landscape considerably. • Knowledge of paleontological resources is growing. • Geologic resources in wilderness are generally well-protected due to their isolation.	• Earthquakes. • Paleo resource impacts from off-road vehicles, visitors. • Climbing impacts (e.g., damage to lichens).
Hydrological resources	• Some hydrologic resources (quantity and quality) are starting to be affected by outside impacts (e.g., aquifer at Oasis of Mara). • Oasis of Mara is probably being affected by both natural and unnatural factors. Unnatural attributes include a lowered groundwater table from adjacent water uses/drawdown and supplemental watering to sustain the oasis (by the National Park Service and adjacent landowners). Natural attributes could include hydrogeologic changes associated with the shifting fault line that could block/reduce spring flows. • Most interior hydrologic resources are not being directly altered by exterior actions. • Internal withdrawals are not being recharged (e.g., Cottonwood aquifer may be at risk due to overdraft without recharge).	• Withdrawal/drawdown of groundwater from adjacent land uses (i.e., urban growth, agriculture, and alternative energy). For example, the eastern aquifer may be threatened by the hydropumped storage project and other energy development that uses water. • Water quality impacts from visitors (e.g., visitor use at 49 Palms Oasis).
Desert landforms	• Desert varnish is being impacted by visitor use and other activities in park. • Roads in park have altered overall desert landform.	• Off-road vehicle use (especially along southern boundary areas). • Earthquakes. • Trail construction and use. • Desert varnish is threatened by rock carving, vehicle use, graffiti, and other construction/ maintenance activities.

Fundamental Resources and Values	Current Conditions and Trends	Current and Potential Threats
Ever-expanding knowledge base	• Knowledge of baselines for various resources is increasing, although still limited in hydrology and certain biological resources. • Research projects are driven by what funding is available; funding is driven by project dollars and funding calls. This leads to a lack of knowledge in certain areas. • Prioritization of resource inventories and research across the whole park is inconsistent; some resources receive more attention than others. • Inventory and monitoring efforts are improving. • Data management and technology are improving. • Research and cooperation are improving. • I&M network structure allows improved communication between parks.	• Lack of funding for staff to perform resource surveys. • Lack of accountability and deliverables (e.g., external researcher impacts site but doesn't produce results and/or extracts resources). • Destruction of archeological sites without any research results. • Mandates redirecting resources.
Opportunity to understand, apply, and share this knowledge to benefit the park and beyond	• Increased awareness of the need to communicate externally and internally. • I&M program has guided and provided structure for communication. • Data management and technology is improving. • Research and cooperation is improving. • Enhanced and potential for enhancing educational and research opportunities at all levels (K-old, including citizen science). • Permitting of research and students is improving.	• There is a lack of focus in management strategies. • Priorities are a moving target. • Changing technology presents challenges to the agency. • Climate change issues (political and scientific) offer a great degree of complexity. • Threats to credibility.
Recreational activities centered around the boulders and rock formations	• Camping – seasonal and/or weekend crowding, and crowding during special "events" (e.g., New Year's Eve). • Campground design is not adequate for today's camping equipment or visitors. Questionable campsite inventory in relationship to visitor expectation (climbing parties versus serene or family camping opportunities; groups have very different expectations and desires). Campsites get enlarged and denuded. Campsites may need better delineation and signs. • Hiking – there is confusion regarding where trails go or which one to use (proliferation of social trails). • Photography. • Climbing – heavy use and expectations for access. Unbalanced management focus toward climbing activities. Management of routing and bolting could be improved. Large groups (often novice climbers, commercial and other groups) denude large areas within the formations and create social trails. Insufficient signage and fencing in and around high-use areas (e.g., providing climbers more information to direct use and/or avoid sensitive natural or cultural resources). • Picnicking – changing demands based on changing visitor demographics. • Parking areas are crowded. • There are ample opportunities for recreational use in the rock formations.	• Overcrowding. • Vandalism. • Trash and human waste. • Noise from climbers. • Illegal campfires. • Poorly placed/managed bolts and routes. • Dispersed, heavy use (creates large networks of social trails and trampled vegetation). • Closures for cultural and natural resource protection. • Filling all campgrounds half of the year.

Viewsheds	• Views of surrounding lands from the park are poor or at risk. • Viewsheds within the park are good, with the exception of those views that are affected by external development along boundary (water tanks, utility lines, urban developments). • Viewsheds offer contrast to urban areas outside the park. • Land use changes (solar farms, alternative energy developments) are occurring around the park. • Communication towers are being developed. • Federal Aviation Administration use and access is protected via the California Desert Protection Act. A new antenna is being constructed for public safety purposes by Riverside County.	• Surrounding urban development/boundary encroachment. • Land use change (solar farms, alternative energy developments). • Communication towers. • Facility development inside the park.
Access to scenic vistas	• Several scenic vistas are very accessible (e.g., Keys View) except in eastern area of park. • Some areas of the park are accessible at the level defined by wilderness policy and existing road network.	• Topography is a limitation to access.
Visibility	• Visibility is impacted sometimes and in some places by particulates, smog, etc. • Photochemical smog is a unique threat to visibility – different from ozone. • Particulate matter from Salton Sea may increase if water levels are further drawn down. • Invasive plant species contribute to increased fire frequency (emitting smoke/particulates). • Dust from increasing land use change decreases visibility.	• Urban uses, commercial uses, transportation. • Changes in climate (Salton Sea, wind). • Photochemical smog. • Changes in water use (particulate matter from Salton Sea). • Invasive plant species contribute to increased fire frequency (resulting in increased smoke/particulates). • Dust (land use change).

Pacific West Region Foundation Document Recommendation
Joshua Tree National Park

NOVEMBER 2014

This Foundation Document has been prepared as a collaborative effort between park and regional staff and is recommended for approval by the Pacific West Regional Director.

RECOMMENDED
David Smith, Superintendent, Joshua Tree National Park **Date**

APPROVED
Christine S. Lehnertz, Regional Director, Pacific West Region **Date**

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

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November 2014

Foundation Document • Joshua Tree National Park

NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR