



# Lake Meredith National Recreation Area

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**LAKE MEREDITH NATIONAL RECREATION AREA**

**DRAFT OFF-ROAD VEHICLE MANAGEMENT PLAN /**

**ENVIRONMENTAL IMPACT STATEMENT**



## **EXECUTIVE SUMMARY**

This Lake Meredith National Recreation Area Draft Off-road Management Plan / Environmental Impact Statement (plan/EIS) analyzes a range of alternatives and actions for the management of off-road vehicle (ORV) use at Lake Meredith National Recreation Area (the national recreation area). The plan/EIS assesses the impacts that could result from continuing current management (the no-action alternative) or implementation of any of the three action alternatives.

Upon conclusion of this plan and decision-making process, the alternative selected for implementation will become the ORV management plan, which will guide the management and control of ORVs at the national recreation area for the next 15 to 20 years. The plan will also form the basis for a special regulation to manage ORV use at the national recreation area.

## **BACKGROUND**

Lake Meredith was originally created by the construction of the Sanford Dam on the Canadian River in 1965, referred to as the Canadian River Project. The Sanford Dam was designed and built by the Bureau of Reclamation (BOR) to allow impoundment and diversion of water for municipalities in the Texas panhandle, including Amarillo, Borger, Brownfield, Lamesa, Levelland, Lubbock, O'Donnell, Pampa, Plainview, Slaton, and Tahoka. The National Park Service (NPS) became involved with the recreational use of the area in 1961 through a memorandum of understanding and agreement with the BOR (Contract No. 14-06-500-579). This agreement authorized the NPS to investigate, plan, and develop recreational resources for the Canadian River Project. In March 1964, another memorandum of agreement between the NPS and the BOR established that the public recreational use for the Canadian River Project area would be the responsibility of the NPS. By 1968, the BOR turned over the operation and maintenance of the Sanford Dam and associated facilities to the Canadian River Municipal Water Authority (CRMWA), resulting in a cooperative effort between the NPS and the CRMWA for the management of the reservoir and its facilities. This reservoir was referred to as the Sanford Recreation Area until 1974, when it was renamed to Lake Meredith Recreation Area in honor of A. A. Meredith, a civic leader and early promoter of the lake.

On November 28, 1990, Public Law 101-628, 16 U.S. Code (USC) 460eee, established the area as NPS land, stating, "In order to provide for public outdoor recreation use and enjoyment of the lands and waters associated with Lake Meredith in the State of Texas, and to protect the scenic, scientific, cultural, and other values contributing to the public enjoyment of such lands and waters, there is hereby established the Lake Meredith National Recreation Area." The national recreation area, containing over 44,977 acres, preserves one of the largest manmade lakes in the Texas panhandle, many archeological sites, and flora and fauna of the area, making it a valuable part of American heritage. From 1971 through 2008, over 55 million people visited the national recreation area, which is an average of almost 1.5 million visitors annually.

## **PURPOSE OF THE PLAN**

The purpose of this plan/EIS is to manage ORV use in the national recreation area for visitor enjoyment and recreation opportunities, while minimizing and correcting damage to resources.

## **NEED FOR ACTION**

The Lake Meredith National Recreation Area provides a variety of visitor experiences, including the use of ORVs. In the 1970s, a special regulation in Title 36 of the Code of Federal Regulations (CFR),

Section 7.57, designated two authorized ORV use areas in the national recreation area: Blue Creek at the north end and Rosita (also known as Rosita Flats) at the south end. ORV use at the national recreation area has changed drastically since the establishment of the special regulation and the first use of ORVs, both in intensity and in the types of ORVs used. Modern all-terrain vehicles (ATVs) are the primary ORVs used today; however, they were not in use when the original regulations took effect. The intensity of ORV use at the national recreation area affects natural and cultural resources and results in visitor use conflicts.

As a result of these considerations, an ORV management plan for Lake Meredith National Recreation Area is needed at this time to:

- Comply with Executive Order 11644, Use of Off-road Vehicles on Public Lands, as stated in *Friends of the Earth v. Department of Interior*
- Provide for sustainable recreational ORV use areas
- Address the lack of an approved plan, which has led to ORV use outside of authorized areas
- Address resource impacts resulting from ORV use
- Address the change in numbers, power, range, and capabilities of ORVs.

## **OBJECTIVES IN TAKING ACTION**

Objectives are “what must be achieved to a large degree for the action to be considered a success.” All alternatives selected for detailed analysis must meet project objectives to a large degree and resolve the purpose of and need for action. Objectives must be grounded in the national recreation area’s enabling legislation, purpose, significance, and mission goals, and must be compatible with direction and guidance provided by the national recreation area’s general management plan (GMP), strategic plan, and/or other management guidance. National recreation area staff identified the following objectives for developing this plan/EIS.

### **VISITOR USE AND SAFETY**

- Manage ORV use to minimize conflicts among different ORV users.
- Promote safe operation of ORVs and safety of all visitors.

### **MANAGEMENT**

- Build stewardship through public awareness and understanding of NPS resource management and visitor use policy and responsibilities as they pertain to the national recreation area and ORV management.

### **NATURAL RESOURCES**

- Minimize adverse impacts on threatened, endangered, and other protected species and their habitats.
- Define effective strategies for soil erosion control and restoration of plant resources to support wildlife populations.

## **NATIONAL RECREATION AREA OPERATIONS**

- Identify ORV plan implementation needs and costs.
- Minimize national recreation area operations and cost impacts as the result of implementing an ORV plan.

## **PURPOSE AND SIGNIFICANCE OF LAKE MEREDITH NATIONAL RECREATION AREA**

All units of the national park system were established for a specific purpose and to preserve significant resources or values for the enjoyment of future generations. The purpose and significance identify uses and values that individual NPS plans should support. The following provides background on the purpose and significance of Lake Meredith National Recreation Area.

As stated in the national recreation area's enabling legislation, Congress established Lake Meredith National Recreation Area in 1990 "to provide for public outdoor recreation use and enjoyment of the lands and waters associated with Lake Meredith in the State of Texas, and to protect the scenic, scientific, cultural, and other values contributing to the public enjoyment of such lands and waters" (16 USC 460eee) (Public Law 101-628).

A park significance statement captures the essence of the park's importance to the nation's natural and cultural heritage. Understanding park significance helps managers make decisions that preserve the resources and values necessary to each park's purpose. The following significance statements recognize the important features of the national recreation area. As stated in the *Lake Meredith National Recreation Area General Management Plan*, the national recreation area has the following significance:

Lake Meredith National Recreational Area is the largest area of public lands in the Texas panhandle, providing opportunities for access to diverse, affordable outdoor land- and water-based recreation activities.

Lake Meredith and Canadian River basin in the recreation area provide aquatic, wetland, and riparian habitats, and one of the few areas in the region with trees. These habitats and the ecological transition zones between them and the surrounding landscape support diverse plant and animal species, including migratory waterfowl.

The natural and geologic resources of the recreation area have enabled human survival, subsistence, and adaptation that have resulted in a continuum of human presence in the Texas panhandle for more than 13,000 years. Cultural sites in Lake Meredith National Recreation Area and the adjacent Alibates Flint Quarries National Monument offer views of lifeways in every cultural period that have been identified.

The exposed geologic features of the Canadian River breaks in the recreation area reveal active geological processes that are easily visible to an extent not present elsewhere in the region. The topography and geography of the Canadian River breaks create a divergence from the surrounding landscape that offers scenic values and opportunities not found elsewhere in the region.

## ISSUES AND IMPACT TOPICS

The national recreation area staff identified issues associated with implementing an ORV management plan at Lake Meredith National Recreation Area during the internal scoping meeting and the public identified issues during the public scoping process, including the three public meetings. Table ES-1 details the issues that were discussed and analyzed in the plan/EIS.

**TABLE ES-1: ISSUES AND IMPACT TOPICS**

Issue	Reason for Analysis
Soils	<p>Impacts on soils from ORV use have occurred and continue to occur in the designated area of Rosita, particularly between the entrance and Bull Taco Hill. Extensive soil erosion has occurred over the last 40 years, primarily due to the use of ORVs above the 3,000-foot elevation line. On hillsides with slopes of 15 degrees or more, soils often erode during and after rainfall events because of the steep slopes and the removal of vegetation by ORV use.</p> <p>In addition, this event generally continues through rainstorms, and the potential for damage to geologic resources increases considerably. The soils at the Blue Creek ORV use area remain in better condition than at Rosita Flats due to greater ranger presence and the rangers' ability to control ORV use and the associated impacts on hillsides and slopes. However, the potential for ORV use to impact geologic resources in the Blue Creek area remains, especially if such use increases or occurs outside designated routes or areas.</p>
Vegetation	<p>Use of ORVs in the Blue Creek and Rosita Flats areas has caused severe damage to plant communities, as documented in several planning documents and resource studies at Lake Meredith. At the Blue Creek ORV use area, ORV tracks parallel and cross Big Blue Creek several times, cutting through adjacent vegetation. Damage in the Rosita Flats area is extensive, both in geographic area and in the types of effects on the natural communities. Riparian area trees, including cottonwoods and tall grasses, have also been impacted by having their roots exposed by ORV traffic. Invasive species are a potential threat to the native vegetation communities of the national recreation area. Thirty-seven nonnative species have been documented in the national recreation area, 10 of which have been classified as "highly invasive" and are displacing native species and 8 of which are classified as "invasive and potentially problematic." Because ORVs have been found to spread the seeds of invasive species, this issue is addressed in the plan/EIS.</p>
Water Resources	<p>Lake Meredith National Recreation Area contains important water resources, including the surface of the lake and tributaries and groundwater in various aquifers beneath the national recreation area. The primary drainage in and out of the lake is the Canadian River, much of which flows underground. For drinking water supply, Lake Meredith water is blended with wellfield water from the Ogallala aquifer. The Blue Creek and Rosita Flats ORV use areas contain water features including rivers and streams. Current management allows the operation of vehicles within and adjacent to portions of Big Blue Creek, the Canadian River, and Bonita Creek. ORV use in riparian areas could impact water quality because of increased soil erosion, vehicle fluid leakage, and discarded trash, which could result in pollutants entering surface or groundwater resources.</p>
Soundscapes and the Acoustic Environment	<p>Impacts related to soundscapes could occur where ORVs are allowed in Rosita Flats or Blue Creek. A wide variety of ORV use occurs at the national recreation area (trucks, ORVs, utility terrain vehicles (UTVs), dune buggies, rock climbers, etc.), each emitting various levels of noise. Vehicular noise has the potential to impact other users in these areas, such as those camping, enjoying picnics with their families, or participating in other activities. ORV noise could also discourage wildlife from using these areas.</p>



Issue	Reason for Analysis
Wildlife and Wildlife Habitat	<p>Lake Meredith National Recreation Area provides important habitat for wildlife in the region, especially water-dependent species. Reservoirs, playa lakes, and the river systems are used as important stopover points for birds during migration. Common mammals known to live in and around the national recreation area include mule deer, white-tailed deer, coyotes, porcupines, raccoons, skunks, ground squirrels, rabbits, pocket gophers, moles, a few bat species, and several varieties of rats and mice. Pronghorn antelope may occasionally stray into the area, but are primarily found in the flatter topography in upland prairies away from the Canadian River. Prominent birdlife consists of wild turkeys, northern bobwhites, scaled quail, mourning doves, greater roadrunners, and red-winged blackbirds. The national recreation area lies along the Central Flyway, which is a major north-south bird migration route located between the arid region to the west and the moister landscapes to the east. Large numbers of ducks, geese, and other migratory birds come to use open water areas as well as wetland areas during the fall through spring months. Turtles, lizards, frogs, and snakes, including two poisonous species (prairie rattlesnake and western diamondback rattlesnake), can be found in the national recreation area. Extensive ORV use at the national recreation area has resulted in the loss of a considerable amount of ground vegetation, which is important to support native wildlife such as birds, deer, and mice. ORV use also has the potential to cause impacts on wildlife as a result of vehicle noise, which contributes to species disturbance or displacement, and habitat damage caused by vehicle use outside of permitted areas and within the riverbed in the Rosita ORV use area.</p>
Threatened and Endangered Species/Species of Concern	<p>Habitat for federally threatened and endangered species, such as the Arkansas River shiner (<i>Notropis girardi</i>), may be vulnerable to disturbances caused by recreational uses, including ORV use. Current and possible future management alternatives for ORV and other recreational uses would take into consideration the needs of federally listed threatened and endangered species, as well as species of concern, in determining management measures.</p>
Archeological Resources	<p>Due to its use as a major trade route, the Canadian River and its tributaries were a major focal point for prehistoric and historic activities, as demonstrated by a high density of sites located on the uplands, side drainages, and tributary drainages of the river. Archeological surveys conducted in the Rosita Flats area as part of a plan for prescribed burns in 2005 identified six archeological sites. ORV use has the potential to expose and disturb archeological sites through the erosion that can result from tire ruts and other ORV use. Because of known archeological sites in the Rosita Flats area and the potential for unknown sites in this area and in Blue Creek, impacts on archeological resources are analyzed in this plan/EIS.</p>
Visitor Use and Experience / Health and Safety	<p>ORV use has taken place at Rosita and Blue Creek since at least the 1950s and today this area is still popular with ORV enthusiasts. Because ORV use at the national recreation area is an integral component of the experience for some visitors, visitors may be affected by potential ORV management actions, especially if certain restrictions or user fees are involved. Visitors who do not use ORVs may also be impacted by ORV use, either through visitor conflicts or aesthetic/visitor experience issues. While there are no documented conflicts between ORV users, campers, fishermen, boaters, bird-watchers, and others, some public comments gathered through the public scoping process indicate visitors are concerned for their safety in ORV use areas, particularly due to speeding vehicles, reckless driving, and crime.</p>
Lake Meredith National Recreation Area Management and Operations	<p>The NPS manages natural and cultural resources, public recreation, and associated facilities in the national recreation area. The superintendent has overall authority and uses five divisions for managing the park unit: (1) resource management, (2) law enforcement and visitor protection, (3) facility management, (4) administration, and (5) interpretation. In addition to numerous other responsibilities, national recreation area staff members are charged with enforcing closures, monitoring motorized vehicle use for general violations, and providing interpretive and educational information to visitors. The implementation of additional management measures or regulations associated with this plan/EIS has the potential to impact the day-to-day operations and management of Lake Meredith National Recreation Area.</p>

## **ALTERNATIVES**

The National Environmental Policy Act (NEPA) requires federal agencies to explore a range of reasonable alternatives that address the purpose of and need for the action. The alternatives under consideration must include the “no action” alternative as prescribed by 40 CFR 1502.14. Action alternatives may originate from the proponent agency, local government officials, or members of the public at public meetings or during the early stages of project development. Alternatives may also be developed in response to comments from coordinating or cooperating agencies.

The alternatives analyzed in this document, in accordance with NEPA, are the result of internal and public scoping. These alternatives meet the management objectives of the national recreation area while also meeting the overall purpose of and need for the proposed action. Alternative elements that were considered but were not technically or economically feasible, did not meet the purpose of and need of the project, created unnecessary or excessive adverse impacts on resources, and/or conflicted with the overall management of the national recreation area or its resources were dismissed from further analysis.

## **ELEMENTS COMMON TO ALL ALTERNATIVES**

The following describes alternative elements common to all alternatives, including the no-action alternative.

### **Operator/Vehicle Requirements**

Vehicles operating in any ORV use area of the national recreation area must have an ORV use decal, per Texas state law.

ATV-specific operator and vehicle requirements, per Texas state law, include the following:

- ATV operators must wear eye protection and helmets approved by the Texas Department of Transportation.
- ATV operators must possess valid safety certificates issued by the state of Texas under Section 663.031 of the Texas Transportation Code.
- ATV operators under the age of 14 must be accompanied by a parent or guardian.
- ATV operators may not carry passengers unless the vehicle is designed by the manufacturer for carrying a passenger.

### **National Park Service Regulations**

Title 36 of the CFR, “Parks, Forests, and Public Properties,” is applicable in all national park units, including Lake Meredith National Recreation Area. These regulations include those in Title 36 applicable to the operation of ORVs in the park and those applicable to individuals visiting the park. Of particular note are the provisions of 36 CFR 1.5 and 1.6, which state that the superintendent may impose public use limits or may close all of the park or a portion of a park area to all public use or to a specific use or activity; may designate areas for a specific use or activity; may impose conditions or restrictions on a use or activity; and may establish a permit, registration, or reservation system.

## **Superintendent's Compendium**

The provisions detailed in the Superintendent's Compendium define recreation area-specific regulations imposed under the discretionary authority of the superintendent of the recreation area. These provisions, as described below, are common to all alternatives, and may vary annually as the contents of the compendium change.

### **Campfires**

The Superintendent's Compendium would continue to regulate camping-related activities, such as campfires, with additional restrictions during high fire-danger times (bans in Rosita Flats and Blue Creek follow county bans).

### **Education and Outreach**

Under all alternatives, the park would continue to

- Provide a bulletin board at Blue Creek and Rosita Flats with campground rules and regulations and other national recreation area information
- Provide education through visitor contact with rangers, maintenance staff, and other national recreation area staff, and through on-site educational opportunities
- Provide trash bags to visitors on busy weekends
- Develop a bulletin on ORV use areas and regulations, available at the national recreation area headquarters and at ranger stations (this information would also be displayed on the Blue Creek and Rosita Flats bulletin boards on a larger scale).

## **NO-ACTION ALTERNATIVE**

The Council on Environmental Quality (CEQ) requires that the alternatives analysis in an environmental impact statement (EIS) "include the alternative of no action" (40 CFR 1502.14[d]). The no-action alternative is developed for two reasons. First, a no-action alternative may represent the agency's past and current actions or inaction on an issue continued into the future, which may represent a viable alternative for meeting the agency's purpose and need. Second, a no-action alternative may serve to set a baseline of existing impacts against which to compare the impacts of the action alternatives.

Under alternative A (no action), the national recreation area would continue to manage ORV use at Rosita Flats and Blue Creek per the 2007 *Interim OHV Use Plan*, as well as through the regulations contained in 36 CFR 7.57 and the Superintendent's Compendium as authorized under the national recreation area's special regulation at 36 CFR 7.57. This alternative would maintain the ORV use areas at Blue Creek, along the creek bottom, officially known as "cutbank to cutbank" and at Rosita Flats below the 3,000-foot elevation line. No specific ORV routes would be established in either ORV use area.

User and operator requirements described under "Elements Common to All Alternatives" would continue to be implemented and enforced. There would also continue to be no limitation on the operating hours of vehicles in Rosita Flats and Blue Creek. There would be no established speed limits for ORV use in Rosita Flats or Blue Creek other than those on park roads as established in the CFR.

Alternative A would include camping opportunities throughout Rosita Flats and Blue Creek. There are currently no officially designated camping areas at either site, and camping could occur anywhere the

visitor can access. Campfires would continue to be regulated under the Superintendent's Compendium, and could be restricted further during times of high fire danger, which follow when county burn bans are in effect. Existing amenities in these areas, such as picnic tables and trash receptacles, as well as pit toilets at Blue Creek, would be maintained, but none would be added.

The national recreation area would continue to provide waste disposal services at Blue Creek and Rosita Flats at the same frequency as under current conditions. At Blue Creek, trash pickup would occur on a daily basis from mid-April to September and as needed, typically two to three times per week, from October to April. At Rosita Flats, trash pickup would occur once a week year-round.

Rules and regulations related to ORV use at Rosita Flats and Blue Creek would be enforced by park law enforcement officers. Current methods of enforcement that would continue include patrolling Rosita Flats, with more frequent patrols at Blue Creek due to the remote nature of Rosita Flats. During high visitor-use times or special events, the NPS may coordinate with other agencies in the area for additional law enforcement support.

No additional ORV management measures, such as establishment of user zones, use limits, or a permit system (beyond what is already required by the state), would be established.

Interpretation services would not be provided in Rosita Flats and Blue Creek. Additional education, research, and monitoring would occur, as described under "Elements Common to All Alternatives."

## **ACTION ALTERNATIVES**

Elements that are common to all action alternatives include the following:

**Operator/Vehicle Requirements**—Additional operator/vehicle requirements would be implemented and would include the following:

- All ORVs would be required to have a functioning muffler system, a qualified spark arrester (ATVs only), and functioning headlights and taillights. If a vehicle does not have functioning headlights or taillights, it would be permitted to operate during the day, but not after dark.
- Vehicle mufflers on ORVs that allow more than 96 decibels of sound would be prohibited. Noise level would be measured 50 feet from the centerline of the vehicle, the SAE J1287 standard.
- All ATVs would be required to have a triangular orange flag on top of an 8-foot pole attached to the back of the vehicle.
- All ORVs would be required to display lighted headlights and taillights after dark.

**Waste Disposal**—The NPS would continue to provide waste disposal services at Blue Creek and Rosita Flats and would develop new educational programs/materials for clarifying issues such as proper waste disposal techniques.

**Hours of Vehicle Operation**—Under the action alternatives, there would continue to be no limitation on the operating hours of vehicles in Rosita Flats and Blue Creek, except for in the designated camping areas, where non-registered motorized vehicles (such as ATVs/UTVs, dune buggies, etc.) would be prohibited from operating between 10:00 p.m. and 6:00 a.m. Visitors would be able to use their vehicles to access their camping site entrances and exits, but otherwise, quiet hours in campground areas would be between 10:00 p.m. and 6:00 a.m.

**Glass Bottle Ban**—All action alternatives would include a glass bottle ban in the Rosita Flats and Blue Creek ORV use areas.

**Speed Limits**—Speed limits in Rosita Flats and Blue Creek would be 35 miles per hour (mph) on designated routes and areas, on sandy bottom flats the speed limit would be 55 mph, and in designated camping areas the speed limit would be 15 mph.

**Temporary Route and Area Closures**—The national recreation area may temporarily close ORV routes and areas if resource conditions warrant. This could include closing areas that become overly rutted or closing an area after heavy rains to prevent resource damage. Once the resource condition has been corrected or conditions improve, the area would be reopened to ORV use.

## **Arkansas River Shiner Protection Measures**

Under the action alternatives, the national recreation area would take additional steps to ensure the protection of the Arkansas River shiner. These include, but are not limited to, the following:

- No parking or staging of vehicles of any kind adjacent to or in the river.
- Access to the river allowed only from designated access points.
- Educational materials will be provided when the visitor receives a permit (either with cost or at no cost, depending on the alternative).
- Educational messages will include information about the prohibition of driving in full pools or entering and leaving the river at undesignated access points, as well as other information about the Arkansas River shiner.
- The national recreation area will monitor the shiner population every three to five years to ensure that additional management is not necessary.
- The superintendent always retains the authority to close any portion of the national recreation area for protection of park resources.

## **Education and Outreach**

The current education and interpretation efforts related to ORV use at Blue Creek would be expanded under all action alternatives to also include

- Providing literature and trash bags to users. Literature would contain basic safety messages (speed limits, etc). ATV rules and other national recreation area rules could be printed directly on the trash bags. NPS field staff would visit each campsite to provide this information and increase visitor contacts.
- Providing ATV safety programs in schools, including more education about ORV use at community events the national recreation area staff attends, such as the Howdy Neighbor Day in Fritch.
- Including ORV education when providing information at the annual Water Safety Day program.
- Providing information containing Lake Meredith National Recreation Area ORV use area maps and rules to local retail establishments for display.
- Increasing the number of educational signs in ORV use areas and increasing patrols.

- Establishing a volunteer group to assist with cleanup and other efforts.
- Continuing to work with Texas Off-road Association on additional outreach efforts.
- Developing “tread lightly” pamphlets for ORV use.

## **Research and Monitoring**

Under all action alternatives, national recreation area staff would monitor ORV use areas to identify ORV use outside designated routes and areas. National recreation area staff would monitor ORV use on the ground throughout the year and close visitor-created ORV routes and areas by using physical barriers, signs, etc., as appropriate. During monitoring, national recreation area staff would look for new trails and new signs of disturbance, including broken fence lines. Monitoring would also include a review of law enforcement records to determine how many citations are being issued for off-trail use.

Additional monitoring would be done by aerial photography. Photos would be taken of both ORV use areas every two to four years, depending on funding. National recreation area staff would use these aerial photographs to identify ORV use occurring outside designated routes and areas. National recreation area staff would provide physical barriers, signs, etc., as appropriate to prohibit ORV use on any new visitor-created routes. Additional patrols would likely resume as well.

## **User Capacity**

The NPS defines user capacity as the types and levels of visitor use that can be accommodated while sustaining the quality of park resources and visitor experiences consistent with the purposes of the park. Managing user capacity in national parks is inherently complex and depends not only on the number of visitors but on where visitors go, and what they do. In managing user capacity, the NPS employs a variety of management tools and strategies rather than relying solely on regulating the number of people in a park area. In addition, the ever-changing nature of visitor use in parks requires an adaptive approach to user capacity management.

The ongoing GMP effort for Lake Meredith National Recreation Area and Alibates Flint Quarry National Monument establishes parkwide user capacity program. This program includes indicators and standards for ORV use areas in Lake Meredith National Recreation Area. Indicators and standards are measurable features that are monitored to track changes in resource conditions and visitor experiences. The indicators and standards help the NPS ensure that desired conditions are being met.

Table ES-2 includes the indicators, standards, and potential future management strategies that could be implemented in the ORV use areas. After the most appropriate indicators were identified, standards that represent the minimum acceptable condition for each indicator were assigned. The standards incorporate qualitative descriptions of the desired conditions, data on existing conditions, relevant research studies, staff management experience, and scoping on public preferences.

**TABLE ES-2: SUMMARY OF USER CAPACITY INDICATORS,  
STANDARDS, AND POTENTIAL MANAGEMENT STRATEGIES APPLICABLE TO ORV USE AREAS**

Indicator	Zone	Standard	Management Strategies
Number of breaches to the designated boundary per month	ORV Semi-primitive	No more than six breaches of designated ORV boundary per month	Educate users on impacts of leaving designated ORV use areas Remotely monitor trails (for example, with cameras) Require permits Implement temporary closures
Change in campsite condition class	Developed ORV Rural Semi-primitive	No less than 15% above condition class 4 based on site condition assessment (to be measured annually)	Educate visitors in a program that includes the use of designated sites and the prohibition on camping outside designated areas; tools could include flyers, press releases, public events such as with hunters, and information postings at the visitor contact station and on waysides Mark designated campsites, survey with global positioning system equipment, and incorporate the results in the geographic information system to provide a baseline Increase enforcement
Number of incidences of camping outside designated areas	Developed ORV Rural Semi-primitive	Zero tolerance for camping in undesignated areas	Same as strategies for change in campsite condition class
Number of ticketed incidents related to damage of park resources per six-month period	Park-wide	No more than one ticketed violations related to park resources per six-month period	Provide pre-incident education Increase patrols based on locations of incidents / increase number of signs Implement more intensive mitigation measures based on resource impacted, such as applying coating that prevents graffiti from sticking, or rerouting trails Close facilities or areas if incidents continue
Number of incidences of vehicles traveling outside the designated road or route	Cultural Developed ORV Rural	Three informal roads within 0.5 mile of designated road or route	Educate visitors to increase awareness of the impacts associated with travelling on undesignated roads Increase number of signs, with carsonite poles Increase the number of patrols Close area to mitigate resource damage Physical damage and productivity

As monitoring of conditions continues, managers may decide to modify or add indicators if better ways are found to measure important changes in resource and social conditions. If ORV use levels and patterns change appreciably, NPS staff might need to identify new indicators to ensure that desired conditions are achieved and maintained. This iterative learning and refining process, a form of adaptive management, is a strength of the NPS user capacity management program.

**Alternative B: Zone System – Separation of Visitor Uses, with a Permit for Educational Purposes—**

Under alternative B the national recreation area would, in part, base the designation of routes and areas on a zoning system, with one of the purposes being the separation of visitor uses that have the potential to be in conflict with one another. At Rosita Flats, two areas would be established as an ORV “area” and open to ORV use: 1) the area south of the river (currently denuded) and 2) the area east of Bull Taco hill. Access to the riverbed from the ORV use area south of the river would be from designated access points only. Outside of the two ORV use areas, ORV use would only be allowed on designated, marked routes.

At Blue Creek, ORVs would only be allowed on sandy bottom areas and designated routes, with ORV use prohibited on vegetated areas. Alternative B would also institute a zoning system that would be a “layer” on top of these routes and areas, further managing use. Established zones could include camping only, hunting, resource protection, low-speed, and beginner.

**Alternative C: Management through Use of a Permit System at Current ORV Use Areas**—Under alternative C, the national recreation area would manage ORV use through a permit system as well as through the establishment of use limits. Permits would include a fee and initially there would be no limit on the number of permits issued. ORV routes and areas would be the same as those under alternative B, except that there would be one designated ORV use area in Rosita Flats, instead of two.

**Alternative D: Management through Use of a Zoning and Permitting System at Current ORV Use Areas**—Under alternative D the park would, in part, base the designation of routes and areas on a zoning system, with one of the purposes being the separation of visitor uses that have the potential to conflict with one another, similar to the system under alternative B. In addition, a fee permit system would be instituted that would allow the national recreation area to provide additional enforcement and amenities in the ORV use area but would not establish use limits. Management would include designating routes and areas, zones, and the permit system.

## ENVIRONMENTAL CONSEQUENCES

Impacts of the alternatives were assessed in accordance with NPS Director’s Order 12 and Handbook: Conservation Planning, Environmental Impact Analysis and Decision-Making. This handbook requires that impacts on park resources be analyzed in terms of their context, duration, and intensity. The analysis provides the public and decision-makers with an understanding of the implications of ORV management actions in the short and long term, cumulatively, and in context, based on an understanding and interpretation by resource professionals and specialists.

For each impact topic, methods were identified to measure the change in the park’s resources that would occur with the implementation of each management alternative. Intensity definitions were established for each impact topic to help understand the severity and magnitude of changes in resource conditions, both adverse and beneficial.

Each management alternative was compared to baseline conditions (Alternative A: No Action – Continuation of Current Management”) to determine the context, duration, and intensity of resource impacts.

The elements of all four alternatives are detailed in table ES-3. Table ES-4 details how each of these alternatives meets the objectives of the draft plan/EIS. Table ES-5 summarizes the results of the impact analysis for the impact topics that were assessed.



TABLE ES-3: ALTERNATIVE ELEMENTS SUMMARY

Alternative	Brief Alternative Description	Designated Vehicle Routes/Areas – Land Management	Zone System (separation of visitor uses)	Permit Requirements	Use Limits	Hours of Vehicle Operation	Vehicle Requirements	Equipment Requirements	Speed Limits	Education/ Outreach Component	Camping, Campfires, and Other Amenities	Waste Disposal	Monitoring and Enforcement
Alternative A: No Action – Continuation of Current Management	Continuation of management by the 2007 <i>Interim OHV Use Plan</i> and regulations contained in the Superintendent's Compendium.	ORV use permitted at two designated areas: Rosita Flats—use authorized below the 3,000-foot elevation line. Blue Creek—use authorized in and along the creek bottom (cutbank to cutbank).	ORVs permitted in two areas in the national recreation area (Rosita Flats and Blue Creek)—in those areas, no separation of visitor uses.	No NPS vehicle permit required to operate an ORV at Rosita or Blue Creek ORV use area.  A decal would be required by the state for all motorized vehicles, but not administered by the national recreation area.	No use limits in designated ORV use areas.	No limitations on the times when vehicles can operate in Rosita Flats and Blue Creek ORV use areas.	Each ATV user younger than 14 must be accompanied by a parent or guardian.  ORVs may not carry passengers unless the ORV is designed by the manufacturer for carrying passengers.	All ATV operators must wear eye protection and helmets approved by the Texas Department of Transportation. Each ATV operator must possess a valid safety certificate issued by the state of Texas under Section 663.031 of the Texas Transportation Code.	No speed limits other than on national recreation area roads, as established in the CFR.	No interpretation provided at Rosita Flats or Blue Creek.  Bulletin boards with campground rules and regulations and other national recreation area information located at Blue Creek and Rosita Flats.  Education through visitor contact with rangers, maintenance staff, other national recreation area staff, and on-site educational opportunities. Trash bags provided on busy weekends.  A site bulletin regarding ORV use at headquarters and at ranger station, and also at the Blue Creek and Rosita Flats bulletin boards on a larger scale. The bulletin boards are currently out of date.	Camping permitted at Rosita Flats and Blue Creek, without designated camping areas. Campfires regulated under the Superintendent's Compendium. Further restrictions in place during high fire-danger times (following the county burn bans).  Amenities provided: Blue Creek: picnic tables, trash receptacles, pit toilets. Rosita Flats: picnic tables, trash receptacles (at entrance).	Blue Creek: Trash pickup from mid-April to September on a daily basis and as needed (two to three times per week) from October to April.  Rosita Flats: Trash pickup once per week.	Rules and regulations related to ORV use at Rosita Flats and Blue Creek enforced by national recreation area law enforcement officers.  Continuation of current methods of enforcement, including patrolling Rosita Flats, with more frequent patrols at Blue Creek due to the remote nature of Rosita Flats.  Interagency law enforcement at large events.

Alternative	Brief Alternative Description	Designated Vehicle Routes/Areas – Land Management	Zone System (separation of visitor uses)	Permit Requirements	Use Limits	Hours of Vehicle Operation	Vehicle Requirements	Equipment Requirements	Speed Limits	Education/ Outreach Component	Camping, Campfires, and Other Amenities	Waste Disposal	Monitoring and Enforcement
Alternative B: Zone System – Separation of Visitor Uses, with a Permit for Educational Purposes	Create zones in Rosita Flats and Blue Creek for various uses. In addition, implement a permit system for educational purposes that would be easy for the visitor to obtain and at no cost.	<p>ORV use permitted at Blue Creek.</p> <p>The use area at Blue Creek redefined as</p> <ul style="list-style-type: none"> <li>ORVs would only be allowed on sandy bottom areas and designated routes (see figures 6 and 7 in chapter 2).</li> <li>ORV use prohibited on vegetation.</li> <li>Designated routes and camping areas marked by carsonite posts.</li> </ul> <p>ORV use permitted at Rosita Flats and redefined as:</p> <ul style="list-style-type: none"> <li>Area south of river (currently denuded) open to ORV use, with no designated access points to the riverbed area.</li> <li>Other ORV use (outside the area described above) allowed only on designated, marked routes. ORVs could access the riverbed area only from marked and designated access points off designated ORV routes. Driving on vegetation prohibited.</li> </ul> <p>Zoning system applied as a “layer” to these use areas, as described in the next column.</p>	<p>Establish a zone system in Blue Creek and Rosita Flats ORV use areas to provide for a separation of visitor uses. Zones include:</p> <ul style="list-style-type: none"> <li>ORV routes/areas.</li> <li>Camping-only zones with vehicle access provided to the area but no recreational vehicle use allowed. Speeds limited to 15 mph within camping-only zones. Camping-only zones are shown on figures 6 and 7 in chapter 2.</li> <li>Designated hunting areas zoned for an ORV closure during rifle season (would not apply to ORV use for hunting). On average, these closures would last two to eight weeks (up to two months).</li> <li>New low-speed, beginner zone at loop in Rosita Flats area.</li> <li>At Blue Creek a new low-speed zone for family use on either side of the Farm to Market (FM) 1913 bridge (see speed limits).</li> <li>A resource protection zone in Rosita Flats where vehicles with a wheelbase greater than 5 feet would not be permitted.</li> </ul>	<p>No-cost educational permit required for access to ORV use areas.</p> <p>Same permit for both ORV use areas. No limit on the number of permits issued. Permit could be obtained easily (i.e., online, at the visitor’s center, and at local shops, like existing boat permits), or from rangers in the field.</p> <p>Permit would consist of a piece of paper or brochure and would contain ORV regulations and information. The permit would need to be signed by the operator and kept in the vehicle.</p>	Same as alternative A.	<p>No operation of non-registered motorized vehicles in designated campground zones/areas 10:00 p.m.–6:00 a.m.</p> <p>All ORVs must display lighted headlights and taillights after dark.</p>	<p>Same as alternative A, plus:</p> <p>All ORVs must have a muffler, spark arrester, and functioning headlights and taillights.</p> <p>Muffler requirements—96 decibel limit for ORVs. Park rangers to use decibel meters to measure.</p>	<p>Same as alternative A, plus:</p> <p>All ATVs must have a triangular orange flag on top of an 8-foot pole attached to the back of the ATV.</p>	<p>Speed limit of 15 mph in camping-only zones.</p> <p>Outside these areas, a speed limit of 35 mph on all ORV routes and 55 mph on sandy bottom flats recommended. A lower speed limit (could be 15 mph) within sight of the bridge at Blue Creek (about a half mile in either direction)—signs painted on bridge pillars (creates a low-speed use zone for families to play in the water; see “zone system” column).</p> <p>In Rosita Flats, provide a lower speed limit for beginner loop (less than 20 mph).</p>	<p>Same as alternative A, plus:</p> <ul style="list-style-type: none"> <li>Provide safety literature and trash bags to users. ORV and other rules could be printed on the trash bags. Rangers seek out visitors and provide this information and increase visitor contacts</li> <li>Provide ORV safety programs in schools and attend Fritch Howdy Neighbor Day.</li> <li>Increase education about ORVs at community events the national recreation area staff attends.</li> <li>Add ORV education to Water Safety Day.</li> <li>Provide signs to local businesses containing Lake Meredith National Recreation Area ORV use area map and rules.</li> <li>Increase educational signs in ORV use areas.</li> <li>Establish a volunteer group to assist with cleanup and other efforts.</li> </ul> <p>Develop “tread lightly” pamphlet for ORV use.</p>	<p>Designated camping zones with lower speed limit.</p> <p>Picnic tables and fire pits in these areas as funding allows (not funded through the permit system).</p> <p>No camping in designated ORV routes or areas.</p> <p>No additional amenities provided beyond alternative A (except for designated camping areas).</p>	<p>Same as alternative A, plus:</p> <p>Add waste management issues to educational components.</p>	<p>Law enforcement staff levels increased.</p> <p>ORV use outside designated routes and areas could cause routes/areas to close temporarily.</p> <p>Post signs prohibiting ORV use in areas of pooled water during times of drought.</p>

Alternative	Brief Alternative Description	Designated Vehicle Routes/Areas – Land Management	Zone System (separation of visitor uses)	Permit Requirements	Use Limits	Hours of Vehicle Operation	Vehicle Requirements	Equipment Requirements	Speed Limits	Education/ Outreach Component	Camping, Campfires, and Other Amenities	Waste Disposal	Monitoring and Enforcement
Alternative C: Management through Use of a Permit System at Current ORV Use Areas	Manage ORV use (including level of use) with a permit system with a fee at Rosita Flats and Blue Creek. Develop a monitoring plan and criteria for use limits.	Blue Creek: Same as alternative B. Rosita Flats: Same as alternative B, except there is no designated ORV use area east of Bull Taco Hill.	Same as alternative A.	Fee permit required to access the ORV use areas. Price structure consistent with boat permits. Permits available for \$4/day, \$10/three days, and \$40/year. Same permit for both ORV use areas. Potential for limits on number of permits based on results of use limit studies. Permits available via mail, at headquarters, online, or at other vendors. A kiosk and “Iron Ranger” could be used to supply daily permits. Permit would take the form of a bumper sticker on the ORV (even those brought in by trailer). Provide permit holders with a Lake Meredith National Recreation Area ORV regulations brochure.	Develop use limits based on indicators and standards developed through the GMP planning process. Criteria developed and monitored to determine when the use limit is reached. Develop monitoring plan to describe these studies and how the implementation of use limits would be achieved.	Same as alternative B.	Same as alternative B.	Same as alternative B.	Same as alternative B.	Same as alternative B, plus: interpretive wayside program starting at Blue Creek and expanding as necessary. Cost of program covered by permit fee.	Designated camping areas with lower speed limits would be established for tent and vehicle camping. Establish fire pits and designated campsites using funds from permit fees. No camping on designated ORV routes. Outside designated camping areas, tent camping would be permitted in areas that have no vegetation or previously disturbed vegetation. Visitors in these areas would be required to walk into their campsites because vehicles must be parked off vegetation along designated ORV routes or areas. Pit toilets, fire rings, and picnic tables in the designated camping areas would be provided, on a phased basis. While these would be the priority, other amenities could include shade shelters, emergency call stations, and additional kiosks/bulletin boards for more information.	Same as alternative B.	Law enforcement staff levels increased and additional law enforcement resources provided using funds from permit fees. Explore options for having law enforcement staff located closer to the Rosita Flats ORV use area. Develop a monitoring plan that looks at vegetation, erosion, and other predetermined factors. Aerial imagery to track new visitor-created routes/ noncompliance. ORV use outside designated routes and areas could cause routes/areas to close temporarily.

Alternative	Brief Alternative Description	Designated Vehicle Routes/Areas – Land Management	Zone System (separation of visitor uses)	Permit Requirements	Use Limits	Hours of Vehicle Operation	Vehicle Requirements	Equipment Requirements	Speed Limits	Education/ Outreach Component	Camping, Campfires, and Other Amenities	Waste Disposal	Monitoring and Enforcement
Alternative D: Management through Use of a Zoning and Permitting System at Current ORV Use Areas	Develop a permit system with a fee to allow NPS to provide additional amenities and increase enforcement in the two ORV use areas. No user capacity established.	<p>ORV use permitted at Blue Creek as described under alternative B.</p> <p>ORV use permitted at Rosita Flats and redefined as</p> <ul style="list-style-type: none"> <li>Area south of river (currently denuded) open to ORV use. Designated access points to the riverbed area would be established.</li> <li>Area east of Bull Taco Hill open to ORV use.</li> <li>Other ORV use (outside the area described above) allowed only on designated, marked routes. ORVs could access the riverbed area only from marked and designated access points off designated ORV routes. Driving on vegetation prohibited.</li> </ul> <p>A zoning system would be applied as a “layer” to these use areas, as described in the next column.</p>	<p>Establish a zone system in Blue Creek and Rosita Flats ORV use areas to provide for a separation of visitor uses. Zones include</p> <ul style="list-style-type: none"> <li>ORV routes/areas.</li> <li>Camping-only zones with vehicle access provided to the area but no recreational vehicle use allowed. Speeds limited to 15 mph within camping-only zones. Camping-only zones are shown on figures 6 and 7 in chapter 2.</li> <li>Designated hunting areas zoned for an ORV closure during rifle season (would not apply to ORV use for hunting). On average, these closures would last two to eight weeks (up to two months).</li> <li>New low-speed, beginner zone at loop in Rosita Flats area.</li> <li>At Blue Creek a new low-speed zone for family use on either side of the FM 1913 bridge (see speed limits).</li> <li>A resource protection zone in Rosita Flats where vehicles with a wheelbase greater than 5 feet would not be permitted.</li> </ul>	<p>Fee permit required to access the ORV use areas.</p> <p>Price based on consistency with boat permits.</p> <p>Permits available for \$4/day, \$10/three days, and \$40/year.</p> <p>Same permit for both ORV use areas.</p> <p>Permits available via mail, at headquarters, online, or at other vendors. A kiosk and “Iron Ranger” could be used supply daily permits.</p> <p>Permit would take the form of a bumper sticker on the ORV (even those brought in by trailer).</p> <p>Permit holders would also receive a Lake Meredith National Recreation Area ORV regulations brochure.</p>	Same as alternative A.	Same as alternative B.	Same as alternative B.	Same as alternative B.	<p>Speed limit of 15 mph in camping-only zones.</p> <p>Outside these areas, a speed limit of 35 mph on all ORV routes and 55 mph on sandy bottom flats would be recommended. A lower speed limit (could be 15 mph) within sight of the bridge at Blue Creek (about a half mile in either direction)—signs painted on bridge pillars (creates a low-speed use zone for families to play in the water; see “zone system” column).</p> <p>In Rosita Flats, provide a lower speed limit for beginner loop (less than 20 mph).</p>	<p>Same as alternative B, plus:</p> <p>Install fencing and signs around ORV use boundary at Rosita Flats to better define ORV use in this area.</p>	<p>Designated camping zones with lower speed limit.</p> <p>Picnic tables and fire pits as funding allows (through the permit system) in these areas.</p> <p>No camping in designated ORV routes or areas.</p> <p>Pit toilets, fire rings, and picnic tables in the designated camping zones provided, on a phased basis. While these would be the priority, other amenities could include shade shelters, emergency call stations, and additional kiosks/bulletin boards for more information.</p>	Same as alternative B.	<p>Law enforcement staff levels increased and additional law enforcement resources provided using funds from permit fees.</p> <p>Explore options for having law enforcement staff located closer to the Rosita Flats ORV use area.</p> <p>Develop a monitoring plan that looks at vegetation, erosion, and other predetermined factors.</p> <p>Aerial imagery to track new visitor-created routes/ noncompliance.</p> <p>ORV use outside designated routes and areas could cause routes/areas to close temporarily.</p>

**TABLE ES-4: ANALYSIS OF HOW ALTERNATIVES MEET OBJECTIVES**

	Alternative A: No Action – Continuation of Current Management	Alternative B: Zone System – Separation of Visitor Uses, with a Permit for Educational Purposes	Alternative C: Management through Use of a Permit System at Current ORV Use Areas	Alternative D: Management through Use of a Zoning and Permitting System at Current ORV Use Areas
<b>Visitor Use and Safety</b>				
Manage ORV use to minimize conflicts among different ORV users.	Does not meet this objective because there would be no separation of uses (e.g., camping) in the ORV use areas, no established ORV routes, and no speed limits. Visitors with varying skills, interests, and expectations would use the areas together.	Fully meets this objective by establishing routes for ORV use in both Blue Creek and Rosita Flats. Camping-only zones would be designated, with reduced ORV speed. Low-speed and beginner zones would also be designated to provide areas for riders of specific skill levels. Recreational ORV use would be prohibited during hunting season.  These options would separate users, allow increased variety of ORV use, and eliminate the recreational ORV / hunting conflict; a revocable ORV permit would increase the NPS's ability to manage for inappropriate use and could result in reduced visitor conflicts.	Meets this objective to a large degree by designating ORV routes in both Blue Creek and Rosita Flats. Establishes designated camping areas, improves visitor amenities, and could provide “camp hosts” to assist visitors. An ORV permit would increase the NPS's ability to manage for inappropriate use and could result in reduced visitor conflicts. If conditions warrant, a use limit could be implemented.	Fully meets this objective by establishing routes for ORV use in both Blue Creek and Rosita Flats. Camping-only zones would be designated, with reduced ORV speeds. Low-speed and beginner zones would also be designated to provide areas for riders of specific skill levels. Recreational ORV use would be prohibited during hunting season.  These options would separate users, allow increased variety of ORV use, and eliminate the recreational ORV / hunting conflict; a revocable ORV permit would increase the NPS's ability to manage for inappropriate use and could result in reduced visitor conflicts.  In addition, an ORV permit would increase NPS ability to manage for inappropriate use, and could result in reduced visitor conflict.
Promote the safe operation of ORVs and safety of all visitors.	Meets this objective to some degree by requiring standard rider protection, Texas safety certification, and parental presence for young riders. However, alternative A would not implement speed limits, riders of varying skill level would not be separated, and there would be no requirements for safety items on ORVs.	Fully meets this objective by implementing measures common to alternatives B, C, and D, separating users of various skill levels, establishing speed limits and use zones, and requiring safety items on ORVs and riders. Camping and riding areas would be separated, and recreational ORV use would not be allowed in hunting areas during hunting season; an ORV permit would allow the NPS to better manage unsafe uses in the national recreation area.	Meets this objective to a large degree by implementing measures common to alternatives B, C, and D; camping and riding areas would be separated; an ORV permit would allow the NPS to better manage unsafe uses in the national recreation area; and visitor capacity could be established if conditions warrant.	Fully meets this objective by implementing measures common to alternatives B, C, and D; separating users of various skill levels; establishing speed limits and use zones; and requiring safety items on ORVs and riders. Camping and riding areas would be separated, and recreational ORV use would not be allowed in hunting areas during hunting season; an ORV permit would allow the NPS to better manage unsafe uses in the national recreation area.
<b>Management</b>				
Build stewardship through public awareness and understanding of NPS resource management and visitor use policy and responsibilities as they pertain to the national recreation area and ORV management.	Meets this objective to some degree by continuing NPS education, interpretation, and enforcement in the ORV use areas.	Meets this objective to a moderate degree by increasing education and outreach regarding ORV safety and resource protection, increasing signs in the national recreation area, and establishing a volunteer group to assist with ORV use area cleanup. Establishes resource protection zones that would reduce impacts on vegetation and soils and fence ORV use areas, which would reduce impacts on wildlife.	Meets this objective to a large degree by increasing education and outreach regarding ORV safety and resource protection, increasing signs in the national recreation area, and establishing a volunteer group to assist with ORV use area cleanup. The implementation of a permit system with an educational emphasis would also promote further understanding of national recreation area resources.	Meets this objective to a large degree by increasing education and outreach regarding ORV safety and resource protection, increasing signs in the national recreation area, and establishing a volunteer group to assist with ORV use area cleanup. The implementation of a permit system with an educational emphasis would also promote further understanding of national recreation area resources.
<b>Natural Resources</b>				
Minimize adverse impacts on threatened, endangered, and other protected species and their habitats.	Does not meet this objective because formal plans to reduce direct and indirect impacts on the Arkansas River shiner and its habitat would not be implemented.	Meets this objective to a large degree by establishing resource protection zones that would reduce impacts on vegetation and soils, indirectly benefiting the Arkansas River shiner by reducing erosion and impacts on water quality. Restricting ORV traffic from pooled water during drought would reduce direct impacts on the Arkansas River shiner and its habitat.	Meets this objective to a large degree by allowing ORV travel only on sandy bottoms and designated routes in Blue Creek and confining ORVs to denuded areas and designated routes in Rosita Flats. Would establish a use limit based on desired conditions for resources (including threatened and endangered) to be identified in ongoing GMP process.	Meets this objective to a large degree by establishing resource protection zones that would reduce impacts on vegetation and soils, indirectly benefiting the Arkansas River shiner by reducing erosion and impacts on water quality. Restricting ORV traffic from pooled water during drought would reduce direct impacts on the Arkansas River shiner and its habitat.
Define effective strategies for soil erosion control and the restoration of plant resources to support wildlife populations.	Does not meet this objective because no formal plans to reduce erosion or impacts on vegetation would be established.	Meets this objective to a moderate degree by establishing resource protection zones, designating routes for a variety of ORV uses, restricting ORVs from vegetated areas, and clearly marking areas where ORV use is allowed.	Meets this objective to a moderate degree by allowing ORV travel only on sandy bottoms and designated routes in Blue Creek and confining ORVs to denuded areas and designated routes in Rosita Flats. Would establish a use limit based on desired conditions for resources to be identified in ongoing GMP process.	Meets this objective to a moderate degree by establishing resource protection zones, designating routes for a variety of ORV uses, restricting ORV from vegetated areas, and clearly marking areas where ORV use is allowed.

	Alternative A: No Action – Continuation of Current Management	Alternative B: Zone System – Separation of Visitor Uses, with a Permit for Educational Purposes	Alternative C: Management through Use of a Permit System at Current ORV Use Areas	Alternative D: Management through Use of a Zoning and Permitting System at Current ORV Use Areas
National Recreation Area Operations				
Identify ORV plan implementation needs and costs.	Meets objective to a large degree. Through the ORV planning process, all costs for plan implementation would be identified.	Meets objective to a large degree. Through the ORV planning process, all costs for plan implementation would be identified.	Fully meets this objective. Through the ORV planning process, all costs for plan implementation would be identified. In addition, a fee-permit system would allow for a level of cost recovery for administering ORV management at the national recreation area.	Fully meets this objective. Through the ORV planning process, all costs for plan implementation would be identified. In addition, a fee permit system would allow for a level of cost recovery for administering ORV management at the national recreation area.
Minimize national recreation area operations and cost impacts as the result of implementing an ORV plan.	Does not meet this objective because ORV users would not pay fees to support services or restore damage done by ORV use.	Does not meet this objective because ORV users would not pay fees to support services or restore damage done by ORV use.	Meets this objective to a large degree by implementing a fee structure to cover costs of ORV visitor amenities, resource monitoring, and restoration needs associated with ORV use.	Fully meets this objective by implementing a fee structure to cover costs of ORV visitor amenities, resource monitoring, and restoration needs associated with ORV use.

**TABLE ES-5: ENVIRONMENTAL IMPACT SUMMARY BY ALTERNATIVE**

	<b>Alternative A: No Action – Continuation of Current Management</b>	<b>Alternative B: Zone System – Separation of Visitor Uses, with a Permit for Educational Purposes</b>	<b>Alternative C: Management through Use of a Permit System at Current ORV Use Areas</b>	<b>Alternative D: Management through Use of a Zoning and Permitting System at Current ORV Use Areas</b>
Soils	Under alternative A, continued ORV use at Blue Creek and Rosita Flats would result in long-term localized major adverse impacts on soils. Incremental contributions to soil erosion would be most notable at the extreme edges of the cutbanks and the eastern extent of the Blue Creek ORV use area and at the edges of the Rosita Flats ORV use area. The long-term minor adverse effects of past, present, and reasonably foreseeable future actions, when combined with the long-term major adverse impacts of alternative A, would result in long-term moderate adverse cumulative impacts on soil resources.	Under alternative B, continued ORV use at Blue Creek and Rosita Flats would result in localized short- and long-term moderate adverse impacts on soils. There would also be long-term beneficial impacts on soils accruing from educational measures provide increased awareness and behavior modification among ORV users. Incremental contributions to soil erosion would result from the intensification of uses in certain areas, such as the proposed beginner zone and designated camping areas, and would impact soils at those locations. However, this impact would potentially be mitigated by the establishment of zoning restrictions. The long-term minor adverse effects of past, present, and reasonably foreseeable future actions, when combined with the long-term moderate adverse impacts of alternative B, would result in long-term moderate adverse cumulative impacts on soils.	Under alternative C, continued ORV use at Blue Creek and Rosita Flats would result in localized long-term moderate adverse impacts on soils. There would also be long-term beneficial impacts on soils accruing from enhanced resource protection measures. Incremental contributions to soil erosion would result from intensification of uses at certain areas and would impact soils at those locations. However, this impact would potentially be mitigated by the establishment of use restrictions such as hike-in-only camping. The long-term minor adverse effects of past, present, and reasonably foreseeable future actions, when combined with the long-term moderate adverse impacts of alternative C, would result in long-term moderate adverse cumulative impacts on soils.	Under alternative D, continued ORV use and management at Blue Creek and Rosita Flats would result in localized long-term minor to moderate impacts. There would also be long-term beneficial impacts on soils accruing from enhanced resource protection measures. Incremental contributions to soil erosion would result from intensification of uses in certain areas and would impact soils at those locations. However, this impact would potentially be mitigated by the establishment of no-camping zones around vegetated areas. The long-term minor adverse effects of past, present, and reasonably foreseeable future actions, when combined with the long-term minor to moderate adverse impacts of alternative D, would result in long-term minor to moderate adverse cumulative impacts on soils.
Vegetation	Localized short- and long-term moderate adverse effects on vegetation would occur under alternative A as a result of localized impacts, including damage to plants; erosion, which can result in further loss of vegetation; reduction in soil productivity, which can affect natural recovery; and the potential introduction or spread of nonnative plants. The parkwide long-term minor to moderate adverse impacts of past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the localized short- and long-term moderate adverse impacts from continued ORV use under alternative A, would result in localized long-term moderate adverse cumulative impacts on vegetation.	Localized short- and long-term minor adverse impacts on vegetation could occur in areas open to ORV use. These adverse impacts would occur in fewer vegetated areas under alternative B because more of the land would be closed to ORVs compared to under alternative A. The designation of ORV routes and areas would allow previously disturbed vegetated areas the opportunity to recover. As a result, there would be long-term beneficial impacts on vegetation associated with closed routes and areas. In combination with the parkwide long-term minor to moderate adverse impacts of past, present, and reasonably foreseeable future actions, cumulative impacts on vegetation would be parkwide, long term, minor, and adverse.	Localized short- and long-term minor adverse impacts on vegetation would occur in areas open to ORV use. However, there would be impacts in fewer vegetated areas because several areas would be closed to ORVs. Vegetation in these closed areas would have the opportunity to recover, resulting in long-term beneficial impacts on vegetation associated with closed routes and areas. In combination with the parkwide long-term minor to moderate adverse impacts of past, present, and reasonably foreseeable future actions, cumulative impacts on vegetation would be parkwide, long term, minor, and adverse.	Localized short- and long-term minor adverse impacts on vegetation could occur in areas open to ORV use. However, impacts would occur in fewer vegetated areas because only designated routes and specific areas would be open to ORVs. Vegetation in these closed areas would have the opportunity to recover, resulting in long-term beneficial impacts on vegetation associated with closed routes and areas. In combination with the parkwide long-term minor to moderate adverse impacts of past, present, and reasonably foreseeable future actions, cumulative impacts on vegetation would be parkwide, long term, minor, and adverse.
Water Resources	Under alternative A, continued ORV use at Blue Creek and Rosita Flats would result in long-term localized moderate adverse impacts on water quality due to ongoing disturbances under current management that would continue to impact surface water quality in the ORV use areas. Sedimentation of surface waters in Lake Meredith would continue to result from the ongoing erosion of soils due to ORV use. The short- and long-term minor adverse and long-term beneficial effects of past, present, and reasonably foreseeable future actions, when combined with the long-term moderate adverse impacts of alternative A, would result in long-term minor adverse cumulative impacts on water resources.	Under alternative B, continued ORV use at Blue Creek and Rosita Flats would result in short- and long-term localized minor to moderate adverse impacts on water resources. Incremental contributions to erosion and resulting sediment delivery to streams would result from the intensification of uses in certain areas and would impact water resources at those locations. However, this impact would potentially be mitigated by the establishment of zoning restrictions. The short- and long-term minor adverse and long-term beneficial effects of past, present, and reasonably foreseeable future actions, when combined with the short- to long-term minor to moderate adverse impacts of alternative B, would result in long-term minor adverse cumulative impacts on water resources.	Under alternative C, continued ORV use at Blue Creek and Rosita Flats would result in short- to long-term localized minor to moderate adverse impacts on water resources. Impacts on water quality would result from the intensification of uses in certain areas and would impact water resources at those locations. However, this impact would potentially be mitigated by the establishment of use restrictions such as hike-in -only camping. The short- and long-term minor adverse and long-term beneficial effects of past, present, and reasonably foreseeable future actions, when combined with the short- to long-term minor to moderate adverse impacts of alternative C, would result in long-term minor adverse cumulative impacts on water resources.	Under alternative D, continued ORV use at Blue Creek and Rosita Flats would result in short- and long-term localized minor adverse impacts on water resources. Incremental contributions to erosion and resulting sediment delivery to streams would result from the intensification of uses in certain areas and would impact water resources at those locations. However, this impact would potentially be offset by the establishment of zoning restrictions. The short- and long-term minor adverse and long-term beneficial effects of past, present, and reasonably foreseeable future actions, when combined with the short- to long-term minor adverse impacts of alternative D, would result in long-term minor adverse cumulative impacts on water resources.
Soundscapes and the Acoustic Environment	The effects of alternative A on soundscapes at Blue Creek would be long term, minor, and adverse. The effects of alternative A on soundscapes at Rosita Flats would be long term, moderate, and adverse. Cumulative impacts on soundscapes would be long term, minor to moderate, and adverse.	The effects of alternative B on soundscapes at Blue Creek would be long term, minor, and adverse. The effects of alternative B on soundscapes at Rosita Flats would be long term, minor, and adverse. Cumulative impacts on soundscapes would be long term, minor, and adverse.	The effects of alternative C on soundscapes at Blue Creek would be long term, minor, and adverse. The effects of alternative C on soundscapes at Rosita Flats would be long term, minor, and adverse. Cumulative impacts on soundscapes would be long term, minor, and adverse.	The effects of alternative D on soundscapes at Blue Creek would be long term, minor, and adverse. The effects of alternative D on soundscapes at Rosita Flats would be long term, minor, and adverse. Cumulative impacts on soundscapes would be long term, minor, and adverse.

	Alternative A: No Action – Continuation of Current Management	Alternative B: Zone System – Separation of Visitor Uses, with a Permit for Educational Purposes	Alternative C: Management through Use of a Permit System at Current ORV Use Areas	Alternative D: Management through Use of a Zoning and Permitting System at Current ORV Use Areas
Wildlife and Wildlife Habitat	Localized short- and long-term moderate adverse impacts on wildlife and wildlife habitat would result from species disturbance and displacement, habitat damage and fragmentation, and individual mortality. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the short- and long-term moderate adverse impacts from continued ORV use under alternative A, would result in long-term moderate adverse and long-term beneficial cumulative impacts on wildlife and wildlife habitat.	Although short- and long-term moderate adverse impacts on wildlife and wildlife habitat could occur due to continued use of ORVs in the Rosita Flats and Blue Creek ORV use areas, impacts would be less than under alternative A as a result of increased resource management. The use of a zone system, including a resource protection zone, as well as restrictions on driving in areas of pooled water in times of drought and designation of ORV access points at the riverbed at Rosita Flats, would result in long-term beneficial impacts on wildlife and wildlife habitat at both ORV use areas. Therefore, overall impacts under alternative B would be short and long term, minor, and adverse. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the impacts of alternative B, would result in long-term minor to moderate adverse and long-term beneficial cumulative impacts on wildlife and wildlife habitat.	Although short- and long-term moderate adverse impacts on wildlife and wildlife habitat could occur due to the continued use of ORVs in the Blue Creek and Rosita Flats ORV use areas, the impacts would be less than under alternative A due to increased resource management, resulting in short- and long-term minor adverse impacts under alternative C. The development of a monitoring plan and interpretive wayside program, the implementation of use limits and permitting system, and the designation of ORV access points at the riverbed at Rosita Flats would result in long-term beneficial impacts on wildlife and wildlife habitat at both ORV use areas. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the short- and long-term minor adverse impacts of alternative C, would result in long-term minor to moderate adverse and long-term beneficial cumulative impacts on wildlife and wildlife habitat.	Although the continued use of ORVs at Blue Creek and Rosita Flats would result in localized short- and long-term moderate adverse impacts on wildlife and wildlife habitat, impacts would be less than under alternative A due to increased resource management, resulting in short- and long-term minor adverse impacts under alternative D. The implementation of a zoning system and fee-based permitting system, as well as the enactment of resource protection rules, such as the headlight/taillight and muffler requirements and the prohibition on driving on vegetation, would result in long-term beneficial impacts on wildlife and wildlife habitat at the Blue Creek and Rosita Flats ORV use areas. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the overall short- and long-term minor adverse impacts under alternative D, would result in long-term minor adverse and long-term beneficial cumulative impacts on wildlife and wildlife habitat.
Threatened and Endangered Species / Species of Concern	Under alternative A, short- and long-term moderate adverse effects on the Arkansas River shiner could occur as a result of localized impacts including disturbance, mortality, or damage to/loss of habitat. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the short- and long-term moderate adverse impacts from continued ORV use under alternative A, would result in long-term moderate adverse cumulative impacts on the Arkansas River shiner.	Short- and long-term moderate adverse impacts on the Arkansas River shiner could occur in localized areas due to the continued use of ORVs in the Rosita Flats area. However, the use of a zone system, including a resource protection zone, as well as designating ORV access points at the riverbed and restrictions on driving in areas of pooled water in times of drought, would help mitigate these adverse impacts on Arkansas River shiner habitat. Therefore, overall impacts under alternative B would be short and long term, minor to moderate, and adverse. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the impacts of alternative B, would result in long-term minor to moderate adverse cumulative impacts on the Arkansas River shiner.	Short- and long-term moderate adverse effects on the Arkansas River shiner could occur in localized areas due to the continued use of ORVs in the Rosita Flats area. However, the implementation of use limits, a fee-based permit system, the designation of ORV access points at the riverbed, and increased resource management would help mitigate the adverse impacts of ORV use on the Arkansas River shiner and its associated habitat. Therefore, the overall impacts of implementing alternative C would be short and long term, minor, and adverse. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the impacts of alternative C, would result in long-term minor to moderate adverse cumulative impacts on the Arkansas River shiner.	Although the continued use of ORVs at Rosita Flats would result in short- and long-term moderate adverse impacts on the Arkansas River shiner in localized areas, impacts would be less than under alternative A due to increased resource management, resulting in long-term minor to moderate adverse impacts. The implementation of a zoning system and fee-based permit system would help mitigate the adverse impacts of ORV use on the shiner at Rosita Flats. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the overall short- and long-term minor to moderate adverse impacts under alternative D, would result in long-term minor to moderate adverse impacts on the Arkansas River shiner.
Archeological Resources	Alternative A would result in continued potential long-term minor to moderate adverse impacts on archeological resources along or near open ORV use areas, routes, or access points; however, none of these sites are considered eligible for the National Register of Historic Places. Cumulative impacts would be long term, minor to moderate, and adverse.	Alternative B would result in long-term minor to moderate adverse potential impacts on archeological resources along or near open ORV areas, routes, or access points; however, none of these sites are considered eligible for the National Register of Historic Places, with the potential to yield information important in prehistory or history on a local or statewide level, for which the NPS has stewardship responsibility. Cumulative impacts would be long term, minor to moderate, and adverse.	Alternative C would result in long-term minor to moderate adverse potential impacts on archeological resources along or near open ORV areas, routes, or access points. However, none of these sites are considered eligible for the National Register of Historic Places, with the potential to yield information important in prehistory or history on a local or statewide level, for which the NPS has stewardship responsibility. Cumulative impacts would be long-term, minor to moderate, and adverse.	Alternative D would result in long-term, minor to moderate, adverse potential impacts on archeological resources along or near open ORV areas, routes, or access points. However, none of these sites are considered eligible for the National Register of Historic Places, with the potential to yield information important in prehistory or history on a local or statewide level, for which the NPS has stewardship responsibility. Cumulative impacts would be long-term, minor to moderate, and adverse.



	Alternative A: No Action – Continuation of Current Management	Alternative B: Zone System – Separation of Visitor Uses, with a Permit for Educational Purposes	Alternative C: Management through Use of a Permit System at Current ORV Use Areas	Alternative D: Management through Use of a Zoning and Permitting System at Current ORV Use Areas
Visitor Use and Experience / Health and Safety	Under alternative A there would be no change to the current visitor use and experience, access, or recreational opportunities. The current safety risk of unregulated ORV use in the national recreation area would remain the same. As a result, impacts on visitor use and experience / health and safety would be long term, moderate, and adverse. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the long-term moderate adverse impacts under alternative A, would result in long-term minor to moderate adverse cumulative impacts on visitor use and experience / health and safety.	Although the establishment of zones and the implementation of a permit system would have adverse impacts for the majority of visitors by requiring visitors to obtain an ORV permit, beneficial impacts would result from the separation of visitor uses, improved safety, and enhanced resource conditions at the national recreation area. A minority of users would experience moderate adverse effects by loss of access to the resource protection zone and temporary loss of the hunting zone in Rosita Flats. Some users could experience long-term negligible to minor adverse impacts because the potential for user conflicts may arise with hunters not using ORVs in the hunting zone. Overall, impacts under alternative B would be long term, minor to moderate, and adverse as well as long term and beneficial for ORV users at the national recreation area. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the impacts of alternative B, would result in long-term minor to moderate adverse and long-term beneficial cumulative impacts on visitor use and experience / health and safety.	The proposed permit fee, while being an additional cost to visitors, would create more visitor amenities that would enhance visitor use and experience at the national recreation area. Additionally, a greater presence of law enforcement, as well as the rangers' ability to revoke ORV permits, may cause visitor violations and illegal activity to decrease. As a result, impacts under alternative C would be long term, minor, and adverse, because users would need to adjust to a user fee, as well as long term and beneficial from enhanced safety and additional amenities, ORV rules, and education. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the impacts of alternative C, would result in long-term minor adverse and long-term beneficial cumulative impacts on visitor use and experience / health and safety.	The proposed permit fee, while being an additional cost to visitors, would fund more visitor amenities that would enhance visit use and experience at the national recreation area. Additionally, a greater presence of law enforcement and the rangers' ability to revoke ORV permits may cause visitor violations and illegal activity to decrease, which would have beneficial effects on visitor health and safety. Additionally, the establishment of zones and implementation of a permit system would have beneficial impacts for the majority of visitors by separating uses, implementing rules (speed limits, headlights, and orange flags for ATVs), education, improving safety, and enhancing resource conditions at the national recreation area. Overall, impacts under alternative D would be long term, minor to moderate, and adverse, because users would need to adjust to a user fee and a zoning system, and long term and beneficial due to improvements to visitor use and experience / health and safety. Past, present, and reasonably foreseeable future actions both inside and outside the national recreation area, when combined with the impacts of alternative D, would result in long-term minor to moderate adverse and long-term beneficial cumulative impacts on visitor use and experience / health and safety.
Lake Meredith National Recreation Area Management and Operations	Staffing and funding levels would continue at the same levels as currently managed. The total approximate cost of implementing alternative A would be \$315,000. Actions under alternative A would result in long-term negligible adverse impacts because there would be no noticeable change in national recreation area management and operations. Past, present, and reasonably foreseeable future actions, when combined with the impacts of implementing alternative A, would result in parkwide long-term negligible to minor adverse impacts on national recreation area management and operations	The implementation of alternative B would require additional efforts from park staff. Law enforcement staff levels would be increased to ensure compliance with the additional regulations under alternative B. Additionally, there would be an increase in responsibilities for the interpretation and resource management staff. The total approximate cost of implementing alternative B would be \$1,775,000. The implementation of alternative B would result in long-term minor to moderate adverse impacts on national recreation area management and operations, with impacts more moderate than minor because a fee permit system would not be in place to help offset additional expenses. Past, present, and reasonably foreseeable future actions, when combined with the impacts of implementing alternative B, would result in long-term minor to moderate adverse impacts.	The implementation of alternative C would require additional efforts from national recreation area staff in the areas of law enforcement, resource management, interpretation, and facilities management, which would in part be offset by fees from the ORV permit. The total approximate cost of implementing alternative C would be \$442,500 and would be offset, in part, by money collected in the proposed fee system. The implementation of alternative C would result in long-term minor to moderate adverse impacts, which would be more minor than moderate due to the funding from the permit system. Past, present, and reasonably foreseeable future actions, when combined with the impacts of implementing alternative C, would result in long-term minor to moderate adverse cumulative impacts.	The implementation of alternative D would require additional efforts from park staff in the area of law enforcement, which would in part be offset by fees from the ORV permit. The total approximate cost of implementing alternative D would be \$1,775,000. The implementation of alternative D would result in long-term minor to moderate adverse impacts, which would be more minor than moderate due to the funding from the permit system. Past, present, and reasonably foreseeable future actions, when combined with the impacts of implementing alternative D, would result in long-term minor to moderate adverse cumulative impacts.



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## Acronyms

ASMIS	Archeological Sites Management Information System
ASU	Arizona State University
ATV	all-terrain vehicle
BOR	Bureau of Reclamation
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CRMWA	Canadian River Municipal Water Authority
dBA	A-weighted decibel
EIS	environmental impact statement
EMNRD	Energy, Minerals and Natural Resources Department
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FM	farm to market
GIS	Geographical Information System
GMP	general management plan
mph	miles per hour
MTBE	methyl tertiary butyl ether
NEPA	National Environmental Policy Act
NPOMA	National Parks Omnibus Management Act
NPS	National Park Service
OHV	off-highway vehicle
ORV	off-road vehicle
PEPC	Planning, Environment and Public Comment
plan/EIS	ORV Management Plan / Environmental Impact Statement
ROI	region of influence
TCEQ	Texas Department of Environmental Quality
TMDL	total maximum daily load
TPWD	Texas Parks and Wildlife Department
USC	U.S. Code
USFWS	U.S. Fish and Wildlife Service
UTV	utility terrain vehicle



# Purpose of and Need for Action

CHAPTER 1





# CHAPTER 1: PURPOSE OF AND NEED FOR ACTION

This “Purpose of and Need for Action” chapter explains what the Lake Meredith National Recreation Area Draft Off-road Management Plan / Environmental Impact Statement (plan/EIS) intends to accomplish and why the National Park Service (NPS) is taking action at this time to evaluate a range of alternatives and management actions for off-road vehicle (ORV) use at Lake Meredith National Recreation Area (the national recreation area). This plan/EIS presents three action alternatives for managing ORV use and assesses the impacts that could result from continuing current management (the no-action alternative) or from the implementation of any of the action alternatives. An ORV is considered to be any type of vehicle that is capable of driving on and off a paved or gravel surface.

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*This “Purpose of and Need for Action” chapter explains what the plan/EIS intends to accomplish and why the NPS is taking action at this time to evaluate a range of alternatives and management actions for ORV use at the national recreation area.*

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Upon conclusion of this plan/EIS and decision-making process, the alternative selected for implementation will become the ORV management plan, which will guide the management and control of ORVs at the national recreation area for the next 15 to 20 years. The plan will also form the basis for a special regulation to manage ORV use at the national recreation area. Brief summaries of the purpose and need are presented here; however, more information is available in the section titled “Lake Meredith National Recreation Area Background.”

## PURPOSE OF THE PLAN / ENVIRONMENTAL IMPACT STATEMENT

The purpose of this plan/EIS is to manage ORV use in the national recreation area for visitor enjoyment and recreation opportunities, while minimizing and correcting damage to resources.

## NEED FOR ACTION

The Lake Meredith National Recreation Area provides a variety of visitor experiences, including the use of ORVs. In the 1970s, a special regulation in Title 36 of the Code of Federal Regulations (CFR), Section 7.57, designated two authorized ORV use areas in the national recreation area: Blue Creek at the north end and Rosita (also known as Rosita Flats) at the south end. ORV use at the national recreation area has changed drastically since the establishment of the special regulation and the first use of ORVs, both in intensity and in the types of ORVs used. Modern all-terrain vehicles (ATVs) are the primary ORVs used today; however, they were not in use when the original regulations took effect. The intensity of ORV use at the national recreation area affects natural and cultural resources and results in visitor use conflicts.

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*ORV use at the national recreation area has changed drastically since the establishment of the special regulation and the first use of ORVs, both in intensity and in the types of ORVs used.*

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In addition to providing recreation opportunities, the national recreation area is home to the Arkansas River shiner (*Notropis girardi*), a federally threatened aquatic species.

Executive Order 11644, “Use of Off-road Vehicles on the Public Lands” (issued in 1972 and amended by Executive Order 11989 in 1977), requires federal agencies that allow ORV use to designate specific areas and routes on public lands where the use of ORVs may be allowed. Therefore, motorized travel off established roads would not be permitted in any areas unless designated under a special regulation. Section 3 of this executive order, as amended, authorizes the NPS to designate ORV use areas provided that the designation of such areas and trails will be based on protecting the resources of public lands, promoting the safety of all users of those lands, and minimizing conflicts among the various uses on those lands. Executive Order 11644 was issued in response to the widespread and rapidly increasing use of ORVs on public lands “often for legitimate purposes but also in frequent conflict with wise land and resource management practices, environmental values, and other types of recreational activity.” Title 36 of the CFR, Section 4.10(b), contains regulations regarding vehicles and traffic safety on NPS lands and requires that “routes and areas designated for ORV use shall be promulgated as special regulations” and that the designation of routes and areas “shall comply with §1.5 of this chapter and [Executive Order] 11644” (Volume 37 Federal Register, p. 2887 [37 FR 2887]). In addition, such routes and areas may be designated only in national recreation areas, national seashores, national lakeshores, and national preserves.



ORV Use in Lake Meredith National Recreation Area

As a result of these considerations, an ORV management plan for Lake Meredith National Recreation Area is needed at this time to

- Comply with Executive Order 11644, Use of Off-road Vehicles on Public Lands, as stated in *Friends of the Earth v. Department of Interior*
- Provide for sustainable recreational ORV use areas
- Address the lack of an approved plan, which has led to ORV use outside authorized areas
- Address resource impacts resulting from ORV use
- Address the change in numbers, power, range, and capabilities of ORVs



## OBJECTIVES IN TAKING ACTION

Objectives are “what must be achieved to a large degree for the action to be considered a success” (NPS 2011a). All alternatives selected for detailed analysis must meet project objectives to a large degree and resolve the purpose of and need for action. Objectives must be grounded in the national recreation area’s enabling legislation, purpose, significance, and mission goals, and must be compatible with direction and guidance provided by the national recreation area’s general management plan (GMP), strategic plan, and/or other management guidance. National recreation area staff identified the following objectives for developing this plan/EIS.

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*Objectives are “what must be achieved to a large degree for the action to be considered a success.” All alternatives selected for detailed analysis must meet project objectives to a large degree and resolve the purpose of and need for action.*

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## VISITOR USE AND SAFETY

- Manage ORV use to minimize conflicts among different ORV users.
- Promote safe operation of ORVs and safety of all visitors.

## MANAGEMENT

- Build stewardship through public awareness and understanding of NPS resource management and visitor use policy and responsibilities as they pertain to the national recreation area and ORV management.

## NATURAL RESOURCES

- Minimize adverse impacts on threatened, endangered, and other protected species and their habitats.
- Define effective strategies for soil erosion control and restoration of plant resources to support wildlife populations.

## NATIONAL RECREATION AREA OPERATIONS

- Identify ORV plan implementation needs and costs.
- Minimize national recreation area operations and cost impacts as the result of implementing an ORV plan.

## PROJECT STUDY AREA

The geographic study area for this plan/EIS is Lake Meredith National Recreation Area in Texas (figure 1), unless otherwise noted under each resource topic. Although the entire national recreation area is within the study area, the plan/EIS will focus on the Blue Creek and Rosita Flats areas, as shown in figures 2 and 3, which are the only two areas that are designated for ORV use, also known as off-highway vehicle (OHV) use by the state of Texas and in some park planning documents.

## LAKE MEREDITH NATIONAL RECREATION AREA BACKGROUND

### HISTORY OF LAKE MEREDITH NATIONAL RECREATION AREA

Lake Meredith was originally created by the construction of the Sanford Dam on the Canadian River in 1965, referred to as the Canadian River Project (CRMWA 2008). The Sanford Dam was designed and built by the Bureau of Reclamation (BOR) to allow impoundment and diversion of water for municipalities in the Texas panhandle, including Amarillo, Borger, Brownfield, Lamesa, Levelland, Lubbock, O'Donnell, Pampa, Plainview, Slaton, and Tahoka. The NPS became involved with the recreational use of the area in 1961 through a memorandum of understanding and agreement with the BOR (Contract No. 14-06-500-579) (NPS 1973). This agreement authorized the NPS to investigate, plan, and develop recreational resources for the Canadian River Project. In March 1964, another memorandum of agreement between the NPS and the BOR established that the public recreational use for the Canadian River Project area would be the responsibility of the NPS. By 1968, the BOR turned over the operation and maintenance of the Sanford Dam and associated facilities to the Canadian River Municipal Water Authority (CRMWA), resulting in a cooperative effort between the NPS and the CRMWA for the management of the reservoir and its facilities (NPS 1973). This reservoir was referred to as the Sanford Recreation Area until 1974, when it was renamed to Lake Meredith Recreation Area in honor of A. A. Meredith, a civic leader and early promoter of the lake (Texas State Historical Association 2008).

On November 28, 1990, Public Law 101-628, 16 U.S. Code (USC) 460eee, established the area as NPS land, stating, "In order to provide for public outdoor recreation use and enjoyment of the lands and waters associated with Lake Meredith in the State of Texas, and to protect the scenic, scientific, cultural, and other values contributing to the public enjoyment of such lands and waters, there is hereby established the Lake Meredith National Recreation Area." The national recreation area, containing over 44,977 acres, preserves one of the largest manmade lakes in the Texas panhandle, many archeological sites, and flora and fauna of the area, making it a valuable part of American heritage. From 1971 through 2008, over 55 million people visited the national recreation area, which is an average of almost 1.5 million visitors annually (NPS 2009j).

### PURPOSE AND SIGNIFICANCE OF LAKE MEREDITH NATIONAL RECREATION AREA

All units of the national park system were established for a specific purpose and to preserve significant resources or values for the enjoyment of future generations. The purpose and significance identify uses and values that individual NPS plans should support. The following provides background on the purpose and significance of Lake Meredith National Recreation Area.

As stated in the national recreation area's enabling legislation, Congress established Lake Meredith National Recreation Area in 1990 "to provide for public outdoor recreation use and enjoyment of the lands and waters associated with Lake Meredith in the State of Texas, and to protect the scenic, scientific, cultural, and other values contributing to the public enjoyment of such lands and waters" (16 USC 460eee) (Public Law 101-628).

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*As stated in the national recreation area's enabling legislation, Congress established Lake Meredith National Recreation Area in 1990 "to provide for public outdoor recreation use and enjoyment of the lands and waters associated with Lake Meredith in the State of Texas, and to protect the scenic, scientific, cultural, and other values contributing to the public enjoyment of such lands and waters."*

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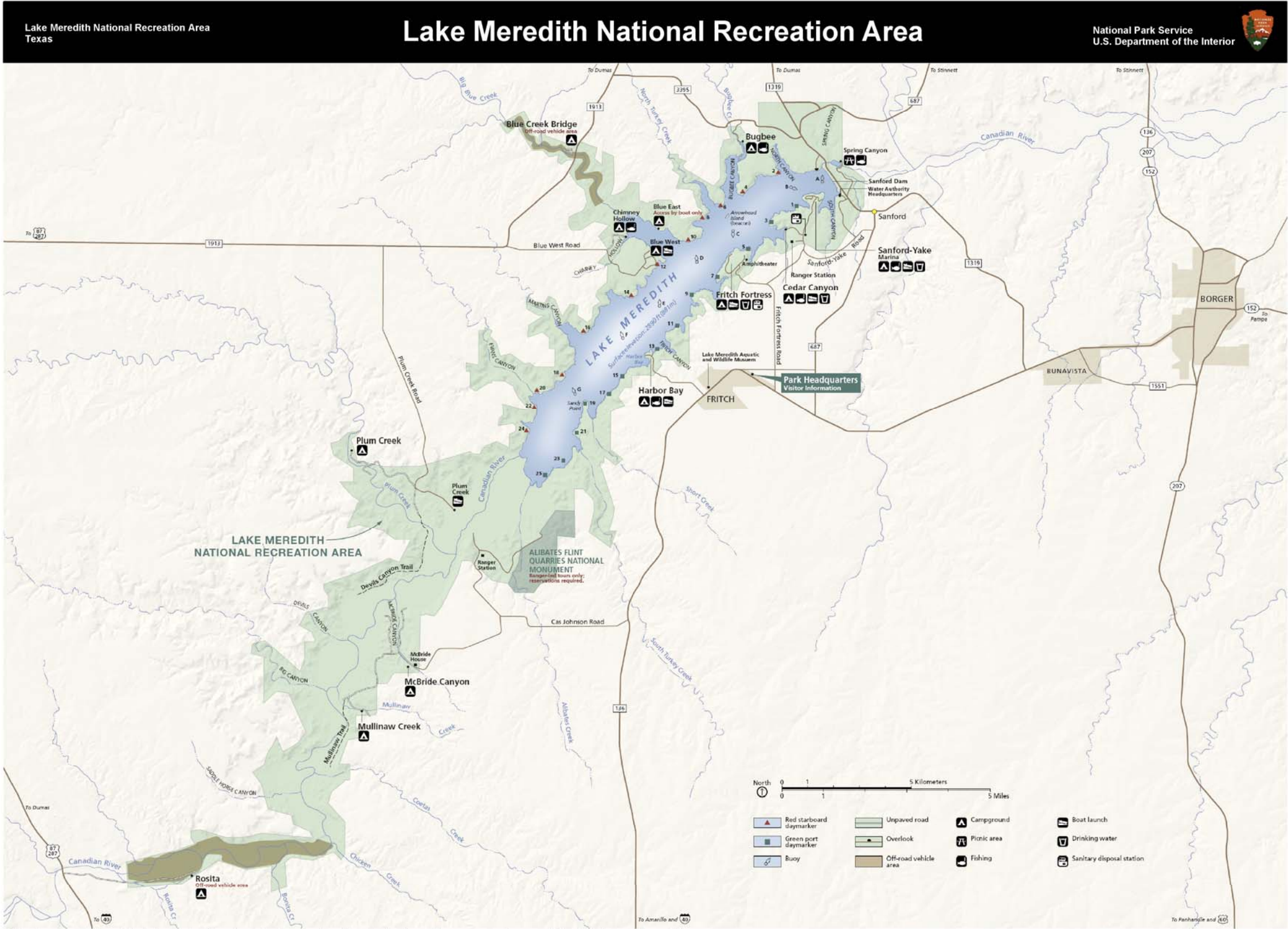


FIGURE 1: LAKE MEREDITH NATIONAL RECREATION AREA MAP





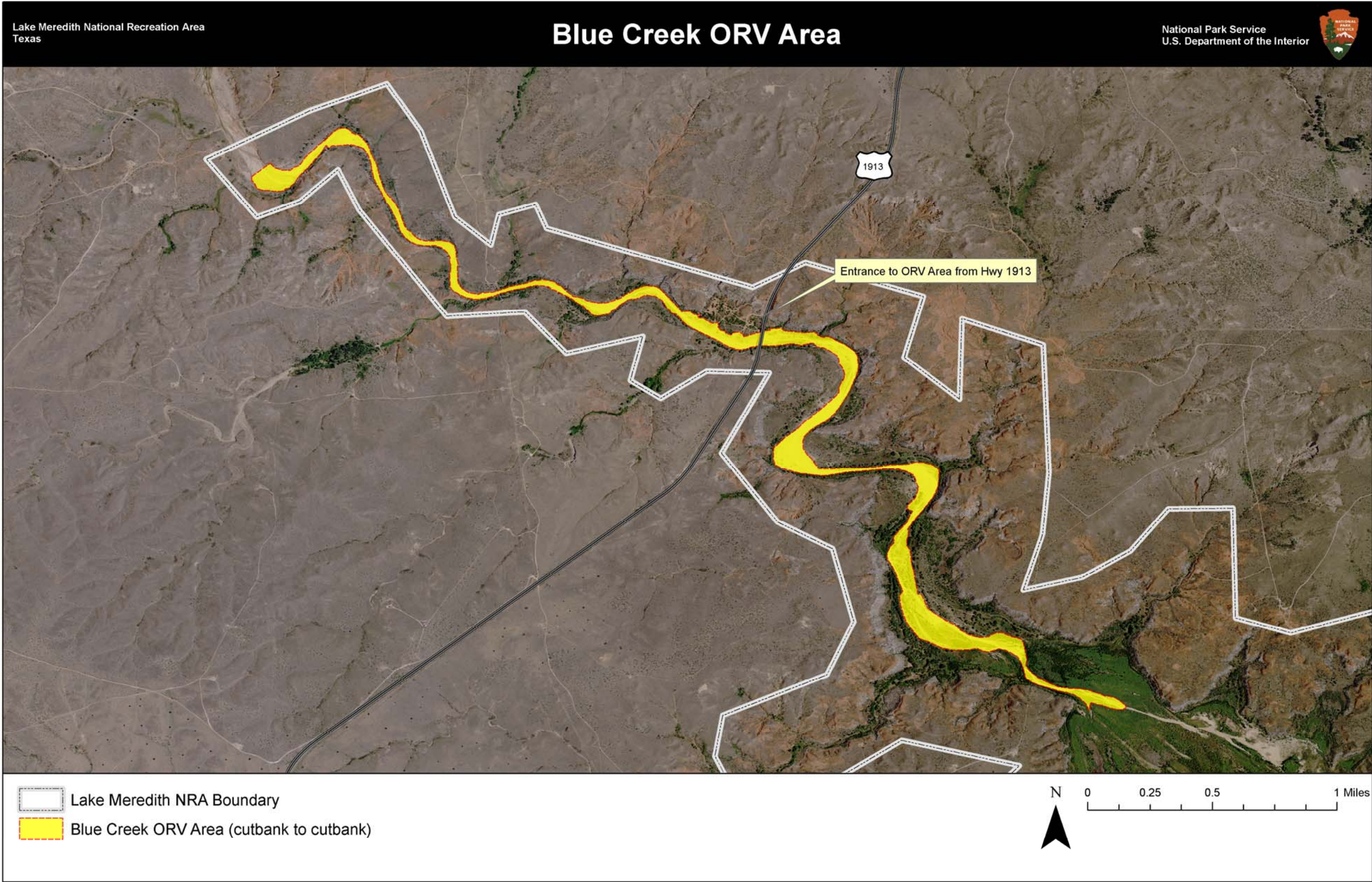


FIGURE 2: BLUE CREEK OFF-ROAD VEHICLE AREA







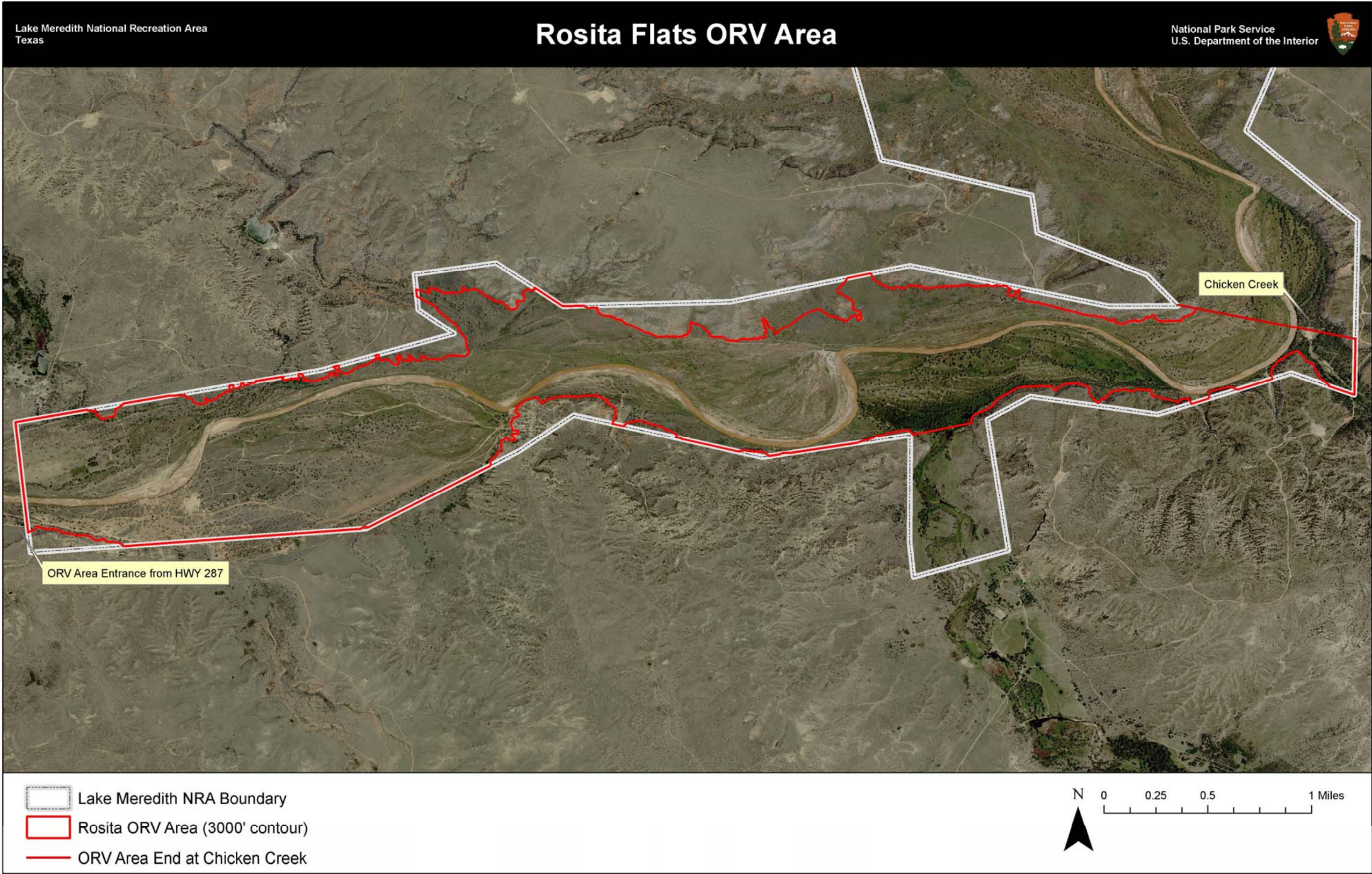


FIGURE 3: ROSITA FLATS OFF-ROAD VEHICLE AREA







A park significance statement captures the essence of a park's importance to the nation's natural and cultural heritage. Understanding park significance helps managers make decisions that preserve the resources and values necessary to each park's purpose. The following significance statements recognize the important features of the national recreation area. As stated in the *Lake Meredith National Recreation Area Draft General Management Plan*, the national recreation area has the following significance (NPS n.d.c):

Lake Meredith National Recreational Area is the largest area of public lands in the Texas panhandle, providing opportunities for access to diverse, affordable outdoor land- and water-based recreation activities.

Lake Meredith and Canadian River basin in the recreation area provide aquatic, wetland, and riparian habitats, and one of the few areas in the region with trees. These habitats and the ecological transition zones between them and the surrounding landscape support diverse plant and animal species, including migratory waterfowl.

The natural and geologic resources of the recreation area have enabled human survival, subsistence, and adaptation that have resulted in a continuum of human presence in the Texas panhandle for more than 13,000 years. Cultural sites in Lake Meredith National Recreation Area and the adjacent Alibates Flint Quarries National Monument offer views of lifeways in every cultural period that have been identified.

The exposed geologic features of the Canadian River breaks in the recreation area reveal active geological processes that are easily visible to an extent not present elsewhere in the region. The topography and geography of the Canadian River breaks create a divergence from the surrounding landscape that offers scenic values and opportunities not found elsewhere in the region.

## **SUMMARY OF OFF-ROAD VEHICLE USE AND MANAGEMENT AT LAKE MEREDITH NATIONAL RECREATION AREA**

In recent years, ORV management has become an issue of concern in many national park system units. Two areas of Lake Meredith National Recreation Area are currently designated as OHV areas (to avoid confusion, and for the purpose of this plan/EIS, the term "ORV" includes OHV areas): Rosita (also known as Rosita Flats), with approximately 1,740 acres for ORV use below the 3,000-foot elevation line, and Blue Creek, with 275 acres for ORV use. Rosita Flats is a riparian area of the Canadian River at the southern end of the national recreation area. The Blue Creek ORV use area is in the Blue Creek riparian area (which empties into Lake Meredith). Historically the local community used these two areas for recreational purposes prior to the establishment of the Sanford River Project in 1965 (NPS 2007a).



*ORV Use in Lake Meredith National Recreation Area*

Since the designation of Rosita Flats and Blue Creek as ORV use areas by special regulation 36 CFR 7.57, ORV use at the national recreation area has changed considerably, both in intensity and in the types

of vehicles used. Throughout the 1960s, the vehicles primarily consisted of a small number of “river buggies” crafted from old automobiles to operate in the Canadian River bottom (NPS 2007a). A few people used dirt bikes, motorcycles, or surplus military vehicles to access the area. The standard four-wheel-drive vehicles that are prevalent today were not as common and were rarely seen at the national recreation area. Regardless of the vehicle type, the majority of ORV use at the national recreation area has been for recreation, as opposed to transportation. Visitors from the vicinity and nearby urban areas use the ORV use areas, especially at Rosita Flats. Every February, an event called Sand Drags is held just outside the national recreation area to the north of Rosita Flats. This locally sponsored racing event draws approximately 30,000 visitors to the area, including hundreds of motorcycles, four-wheelers, sand rails (a type of dune buggy), and river buggies. Participants and spectators come from Texas, Oklahoma, New Mexico, Colorado, and California.

ORV use at Blue Creek is allowed only in the creek bottom along both sides from cutbank to cutbank. Cutbanks are defined by the national recreation area as the area at the base of the hills at the edges of the creek bed. Trails at Blue Creek generally stay within 0.5 mile of the creek. ORV use at Rosita is in the Canadian River bed as well as the surrounding hills, in some cases out to a mile or more. Although the authorized area at Rosita is below the 3,000-foot elevation line, and ORV use outside the authorized use areas is officially not allowed, it is difficult for ORV users to determine the exact location of the 3,000-foot elevation line.

Although maps of designated ORV use areas are made available on bulletin boards and provided to ORV groups, once visitors enter the Rosita Flats area or the Blue Creek area, ORV boundaries may not be clearly visible. Sporadic fencing exists at the 3,000-foot elevation line in parts of Rosita, but encroachment above the line still occurs. Likewise, ORV users may find staying within the cutbanks in the Blue Creek area difficult, as the cutbank demarcation may be ambiguous.

As stated in the 2007 *Interim OHV Use Plan* (NPS 2007a), because of the length of time that ORV use has been occurring at the national recreation area, measuring the level of impacts on resources is difficult because most of the information and data about the areas have been collected since ORVs have been present.



*Regulations Bulletin Board at Blue Creek*

## **SUMMARY OF RESEARCH ON OFF-ROAD VEHICLE USE**

A literature review was prepared to support the development of the ORV management plan at Lake Meredith National Recreation Area, and is included as appendix A. The literature review summarizes the available information related to the potential effects of motorized vehicle use on natural and cultural resources, such as air and water quality, soils, vegetation, wildlife, and archeological resources. The literature review examines information on the effects of motorized vehicles on socioeconomics, aesthetics/sound, safety, and land management. Because the national recreation area is located in a semiarid region, the literature review focused on mountainous, semiarid, and desert environments, where appropriate.

The literature review was not intended to be all inclusive in covering ORV impact- and management-related studies, but it did incorporate the scientific literature used in developing the plan/EIS for the national recreation area. Some topics addressed in this review, such as air quality, can experience impacts from ORV use. However, they were not carried forward as impact topics for analysis in this plan/EIS because their impact level or frequency was not sufficient to warrant a full analysis. A list of impact topics addressed and those considered, but dismissed, is provided later in this chapter.

## SCOPING PROCESS AND PUBLIC PARTICIPATION

National Environmental Policy Act (NEPA) regulations require an “early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action” (40 CFR 1501.7). To determine the scope of issues to be analyzed in depth in this plan/EIS, meetings were conducted with national recreation area staff, NPS personnel from the Environmental Quality Division, neighboring land management agencies, and other interested parties. The public was given the opportunity to learn about the planning process and to provide input during three public scoping meetings held in July 2008. The meetings were open-house-style sessions to allow the public to ask questions and provide input to the national recreation area staff in an informal atmosphere. The public had another opportunity to comment on the draft range of alternatives with a newsletter distributed and public meetings held in April 2010. As a result of this scoping effort, numerous issues were identified as requiring further analysis in this plan/EIS. These issues represent existing concerns as well as concerns that might arise during the consideration and analysis of alternatives. The issues identified during internal and public scoping are presented below and the individuals and groups involved in the scoping are presented in chapter 5, which contains more details about agency and public scoping activities that were an integral part of the planning process.

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*As a result of this scoping effort, numerous issues were identified as requiring further analysis in this plan/EIS. These issues represent existing concerns as well as concerns that might arise during consideration and analysis of alternatives.*

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## ISSUES AND IMPACT TOPICS

The national recreation area staff identified issues associated with implementing an ORV management plan at Lake Meredith National Recreation Area during the internal scoping meeting and the public identified issues during the public scoping process, including the three public meetings. The following text discusses these issues, which are the basis for the impact topics discussed in chapters 3 and 4.



2008 Public Scoping Meeting



## SOILS

Impacts on soils from ORV use have occurred and continue to occur in the designated area of Rosita, particularly between the entrance and Bull Taco Hill. Extensive soil erosion has occurred over the last 40 years, primarily due to the use of ORVs above the 3,000-foot elevation line. On hillsides with slopes of 15 degrees or more, soils often erode during and after rainfall events because of the steep slopes and the removal of vegetation by ORV use.

The annual Sand Drags event held in February attracts over 30,000 spectators and hundreds of people racing motorcycles, four-wheelers, sand rails, and river buggies. Although it is held outside the national recreation area, there is a substantial increase in visitation associated with this event. The increased visitor and ORV traffic, and therefore the increased ORV-use intensity, have the potential to exacerbate the removal of vegetation and erosion. In addition, this event generally continues through rainstorms, and the potential for damage to geologic resources increases considerably with ORV use in wet conditions. The soils at the Blue Creek ORV use area remain in better condition than at Rosita Flats due to greater ranger presence and the rangers' ability to control ORV use and the associated impacts on hillsides and slopes. However, the potential for ORV use to impact geologic resources in the Blue Creek area remains, especially if such use increases or occurs outside designated routes or areas.



View of Rosita Flats from Bull Taco Hill

## VEGETATION

Native vegetation is important for many reasons, including wildlife habitat and water quality protection. Use of ORVs in the Blue Creek and Rosita Flats areas has caused severe damage to plant communities, as documented in several planning documents and resource studies at Lake Meredith. At the Blue Creek ORV use area, ORV tracks parallel and cross Big Blue Creek several times, cutting through adjacent vegetation. The damage in the Rosita Flats area is extensive, both in geographic area and in the types of effects on the natural communities (Nesom and O'Kennon 2005). Riparian area trees, including cottonwoods (*Populus deltoides*) and tall grasses, have also been impacted by having their roots exposed by ORV traffic. Invasive species are a potential threat to the native vegetation communities of the national recreation area. Thirty-seven nonnative species have been documented in the national recreation area, 10 of which have been classified as "highly invasive" and are displacing native species and 8 of which are classified as "invasive and potentially problematic." Examples of highly invasive species found at the national recreation area include saltcedar (*Tamarix ramosissima*), Russian thistle (*Salsola tragus*), and Mexican fireweed (*Bassia scoparia*). Invasive or noxious weeds present a potential threat to the ecosystems of national park units throughout the country and control or eradication of these species is often extremely difficult and expensive. Because ORVs have been found to spread the seeds of invasive species, this issue is addressed in the plan/EIS.

## WATER RESOURCES

Lake Meredith National Recreation Area contains important water resources, including the surface of the lake and tributaries and groundwater in various aquifers beneath the national recreation area. The primary drainage in and out of the lake is the Canadian River, much of which flows underground. For drinking water supply, Lake Meredith water is blended with wellfield water from the Ogallala aquifer. Almost 100 miles of streams, fed primarily by springs, feed into the national recreation area (NPS 2007b). The Blue Creek and Rosita Flats ORV use areas contain water features including rivers and streams. Current management allows the operation of vehicles within and adjacent to portions of Big Blue Creek, the Canadian River, and Bonita Creek. ORV use in riparian areas could impact water quality because of increased soil erosion, vehicle fluid leakage, and discarded trash, which could result in pollutants entering surface or groundwater resources.



*View of the Canadian River Bed at Rosita Flats*

## SOUNDSCAPES AND THE ACOUSTIC ENVIRONMENT

Impacts related to soundscapes could occur where ORVs are allowed in Rosita Flats or Blue Creek. A wide variety of ORV use occurs at the national recreation area (trucks, ORVs, utility terrain vehicles (UTVs), dune buggies, rock climbers, etc.), each omitting various levels of noise. Vehicular noise has the potential to impact other users in these areas, such as those camping, enjoying picnics with their families, or participating in other activities. ORV noise could also discourage wildlife from using these areas.

## WILDLIFE AND WILDLIFE HABITAT

Lake Meredith National Recreation Area provides important habitat for wildlife in the region, especially water-dependent species. Reservoirs, playa lakes, and the river systems are used as important stopover points for birds during migration. The following species are believed to be native to the national recreation area: 60 mammals, 32 reptiles, 11 amphibians, and over 200 birds (NPS 1998b). A 2002–2003 survey recorded the presence of 18 fish, 9 amphibian, 27 reptile, 72 breeding bird, and 32 mammal species at the national recreation area and Alibates Flint Quarries, including native and nonnative (exotic) species (Patrikeev 2004). Common mammals known to occur in and around the national recreation area include mule deer, white-tailed deer, coyotes, porcupines, raccoons, skunks, ground squirrels, rabbits, pocket gophers, moles, a few bat species, and several varieties of rats and mice. Pronghorn antelope may occasionally stray into the area, but are primarily found in the flatter topography in upland prairies away from the Canadian River. Prominent birdlife consists of wild turkeys, northern bobwhites, scaled quail, mourning doves, greater roadrunners, and red-winged blackbirds. The national recreation area lies along the Central Flyway, which is a major north–south bird migration route located between the arid region to the west and the moister landscapes to the east. Large numbers of ducks, geese, and other migratory birds come to use open water areas as well as wetland areas during the fall through spring months. Turtles,

lizards, frogs, and snakes, including two poisonous species (prairie rattlesnake and western diamondback rattlesnake), can be found in the national recreation area (NPS 2006a).

Deer and turkeys in the national recreation area have become accustomed to the crowds and noise associated with the Rosita and Blue Creek ORV use areas. Generally, neither area supports other wildlife. However, because the Rosita and Blue Creek areas can be the only source of drinking water for wildlife in times of drought, ORV use during drought could adversely impact wildlife. Extensive ORV use at the national recreation area has resulted in the loss of a considerable amount of ground vegetation, which is important to support native wildlife such as birds, deer, and mice. ORV use also has the potential to cause impacts on wildlife as a result of vehicle noise, which contributes to species disturbance or displacement, and habitat damage caused by vehicle use outside permitted areas and within the riverbed in the Rosita ORV use area.

## **THREATENED AND ENDANGERED SPECIES / SPECIES OF CONCERN**

Habitat for federally threatened and endangered species, such as the Arkansas River shiner, may be vulnerable to disturbances caused by recreational uses, including ORV use. The Arkansas River shiner, listed as federally threatened by the U.S. Fish and Wildlife Service (USFWS), is currently the only listed species or species of concern known to inhabit Lake Meredith National Recreation Area. Within the national recreation area, the Arkansas River shiner is present in the Canadian River from Chicken Creek upstream to the U.S. Highway 287 bridge, which includes the Rosita ORV use area. Successful reproduction of this species appears to be strongly correlated with streamflow, where Arkansas River shiners are likely to spawn in the upper to mid-water column during elevated flows (70 FR 59825–59826; USFWS 2005a). In the absence of sufficient streamflows, their eggs would likely settle to the channel bottom and be smothered (70 FR 59825–59826). According to the USFWS, the Arkansas River shiner needs more than 130 miles of unimpounded, flowing water to successfully complete its reproductive cycle (USFWS 2005d).

Within the last few decades, the Arkansas River shiner has disappeared from over 80 percent of its historical range and is almost entirely restricted to approximately 508 miles (820 kilometers) of the Canadian River (69 FR 59861). Their decline is primarily the result of modification of the duration and timing of streamflows, habitat loss by inundation, stream depletion due to water diversion and groundwater pumping, water quality degradation, competition with invasive nonnative species, and the construction of impoundments (70 FR 59828; USFWS 2009). Within the national recreation area, it is common for rivers and streams to dry up, leaving fish congregated in small to large puddles. ORVs ridden through the puddles pose a threat to the congregated fish species, including the Arkansas River shiner (Wimer 2010a).

Current and possible future management alternatives for ORV use and other recreational uses would take into consideration the needs of federally listed threatened and endangered species, as well as species of concern, in determining management measures.

## **ARCHEOLOGICAL RESOURCES**

Due to its use as a major trade route, the Canadian River and its tributaries were a major focal point for prehistoric and historic activities, as demonstrated by a high density of sites located on the uplands, side drainages, and tributary drainages of the river (NPS 2002a). Archeological surveys conducted in the Rosita Flats area as part of a plan for prescribed burns in 2005 identified six archeological sites (4G Consulting 2005). ORV use has the potential to expose and disturb archeological sites through the erosion that can result from tire ruts and other ORV use. Because of known archeological sites in the

Rosita Flats area and the potential for unknown sites in this area and in Blue Creek, impacts on archeological resources are analyzed in this plan/EIS.

## **VISITOR USE AND EXPERIENCE / HEALTH AND SAFETY**

ORV use has taken place at Rosita and Blue Creek since at least the 1950s and today this area is still popular with ORV enthusiasts. Because ORV use at the national recreation area is an integral component of the experience for some visitors, visitors may be affected by potential ORV management actions, especially if certain restrictions or user fees are involved. Other popular visitor activities at the national recreation area include camping, picnicking, swimming, hunting, fishing from the shore, boating, and visiting archeological sites (Arizona State University [ASU] 2004). Visitors who do not use ORVs may also be impacted by ORV use, either through visitor conflicts or aesthetic/visitor experience issues. While there are no documented conflicts between ORV users, campers, fishermen, boaters, bird-watchers, and others (NPS 2007a), some public comments gathered through the public scoping process indicate visitors are concerned for their safety in ORV use areas, particularly due to speeding vehicles, reckless driving, and crime.



*Visitor and ORV Users in Lake Meredith National Recreation Area*

## **LAKE MEREDITH NATIONAL RECREATION AREA MANAGEMENT AND OPERATIONS**

The NPS manages natural and cultural resources, public recreation, and associated facilities in the national recreation area. The superintendent has overall authority and uses five divisions for managing the park unit: (1) resource management, (2) law enforcement and visitor protection, (3) facility management, (4) administration, and (5) interpretation. In addition to numerous other responsibilities, national recreation area staff members are charged with enforcing closures, monitoring motorized vehicle use for general violations, and providing interpretive and educational information to visitors. The implementation of additional management measures or regulations associated with this plan/EIS has the potential to impact the day-to-day operations and management of Lake Meredith National Recreation Area.

## **ISSUES CONSIDERED BUT DISMISSED FROM FURTHER CONSIDERATION**

The following issues and impact topics were dismissed from further analysis:

**Geohazards**—No known geohazards in the national recreation area would be affected by the implementation of an ORV management plan; therefore, this topic was not carried forward for analysis in this plan/EIS.

**Floodplains**—While the entire area of Rosita Flats is a designated floodplain, no actions are being proposed that would involve the building of structures in the floodplain or that would otherwise alter the floodplain; therefore, this topic was not carried forward for analysis in this plan/EIS.

**Prime Farmlands**—No designated prime farmland soils exist in the national recreation area that would be affected by an ORV management plan; therefore, this topic was not carried forward for analysis in this plan/EIS.

**Museum Collections**—No museum collections that would be affected by an ORV management plan exist in the national recreation area; therefore, this topic was not carried forward for analysis in this plan/EIS.

**Paleontology**—While paleontological resources have been found in other areas of the national recreation area, formations present in the Rosita and Blue Creek areas are unlikely to contain these resources. Therefore, this resource topic was not carried forward for analysis in this plan/EIS.

**Energy Resources**—This topic involves assessing energy requirements and the potential for energy conservation associated with the various alternatives, but is most relevant to facility construction projects. The national recreation area would continue to operate under the wise energy use guidelines and requirements stated in the *NPS Management Policies 2006*, Executive Order 13123 (“Greening the Government through Effective Energy Management”), Executive Order 13031 (“Federal Alternative-fueled Vehicle Leadership”), Executive Order 13149 (“Greening the Government through Federal Fleet and Transportation Efficiency”), and the 1993 *NPS Guiding Principles of Sustainable Design*.

**Socioeconomics**—The social and economic environment of a region is characterized by its demographic composition, the structure and size of its economy, and the types and levels of public services available to its citizens. The national recreation area provides recreation, quality of life, and other amenities to regional visitors and residents. The NPS evaluated the socioeconomic environment in the three counties surrounding Lake Meredith in the center of the Texas panhandle. The national recreation area boundaries extend into Hutchinson County, Moore County, and Potter County. These three counties form the economic region of influence (ROI) and define the geographic area in which the predominant social and economic impacts from the proposed alternatives are likely to take place.

Although the national recreation area contributes to the local economy, analysis suggests that the proposed alternatives for managing ORV use would have a long-term negligible adverse impact on the overall economy within the ROI. The majority of visitors to the national recreation area live in the ROI or the state of Texas (ASU 2004). Based on the experience of national recreation area staff and a survey of local businesses, visitor spending in the ROI is low. Close proximity allows most visitors to take day trips to the national recreation area rather than spending the night. There are few hotels in the immediate vicinity of the national recreation area, and most people who spend the night camp within the national recreation area boundaries. Furthermore, only around 10 to 15 percent of national recreation area visitors participate in the activities that would potentially be affected by the alternatives, including four-wheel driving, motorized trail biking, and ATV riding (ASU 2004). The small share of the overall visitation affected by changes in ORV regulations combined with the low level of spending suggests that any impact on the local economy would be long term, negligible, and adverse as well.

To support this assessment, a regional economic impact model, IMPLAN (Minnesota IMPLAN Group [MIG] 2008), was used to assess the quantitative impacts that the proposed alternatives may have on the local economy. An annual baseline spending level was generated using the daily visitor spending assumptions and average annual national recreation area visitation statistics from *Economic Benefits to Local Communities from National Park Visitation and Payroll, 2009* (NPS 2011b). Potential decreases in



visitation to the national recreation area resulting from implementing any of the alternatives are manifested in the model through decreases in spending in the local economy. Several possible visitation scenarios that could follow the implementation of the rule were used to account for a range of possible impacts on the local economy. Extreme changes in visitation were used to illustrate the worst-case outcomes for the overall impact on the economy. These scenarios are unlikely to result from any of the alternatives and should overstate any impact of new national recreation area regulations. Results from the IMPLAN model showed that the impact on regional economic output and employment would be negligible under any of the scenarios evaluated. Even with the drop in spending associated with the 50 percent decrease in visitation, the effects on the region's economic output and employment would be minimal.

Although the impact on the overall economy would be negligible, the impact on individual businesses may vary, and a few businesses may bear the majority of any potential impact from any of the alternatives. To assess the possible impacts of the proposed alternatives on businesses that serve visitors, RTI International conducted a small-scale business survey around the national recreation area. The survey focused on three primary businesses and one secondary business that are most likely to be directly affected by any change in national recreation area ORV regulations. All of the businesses are involved in selling and servicing equipment and parts for outdoor recreation (ATVs, motorized bicycles, recreational vehicles, etc.). They are all located in Amarillo, Texas. Overall, two of the four businesses felt that the alternatives would have a significant impact on their customers and, subsequently, their businesses.

The IMPLAN analysis and small business survey support the decision to dismiss further socioeconomic evaluation of the alternatives. Because the ROI does not rely on tourism to sustain its economy, even the unlikely event of a 50 percent decrease in visitation to the national recreation area would have a long-term negligible adverse impact on the overall economy; therefore, the topic of socioeconomics was not carried forward for analysis in this plan/EIS.

**Urban/Gateway Communities**—A gateway community is defined by the NPS *Management Policies 2006* as a community that exists in close proximity to a unit of the national park system whose residents and elected officials are often affected by the decisions made in the course of managing the park unit. Because of this, there are shared interests and concerns regarding decisions. Gateway communities usually offer food, lodging, and other services to park visitors. They also provide opportunities for employee housing and a convenient location to purchase goods and services essential to park administration. Although communities adjacent to the national recreation area would fall under this definition, as noted above under the dismissal for socioeconomics, impacts would not be greater than long term, negligible, and adverse. Therefore, this impact topic was not carried forward for analysis.

**Air Quality**—Air quality in the Texas panhandle is relatively good, due mostly to the constant breezes that blow year-round and seldom allow stagnant air to remain in the area. Since the establishment of Lake Meredith National Recreation Area, air quality is better than in the 1950s when three carbon black plants operated near the town of Sanford, which is near the northern boundary of the national recreation area (NPS 1996). Currently, the national recreation area is in attainment for all U.S. Environmental Protection Agency (EPA)-designated criteria pollutants (Texas Commission on Environmental Quality [TCEQ] 2009). However, due to the potential for site-specific, short-term impacts on visitor experience from vehicle emissions and dust, these topic elements are discussed in the “Visitor Use and Experience” section.

**Cultural Landscapes**—Cultural landscapes have not been identified in Lake Meredith National Recreation Area; therefore, this topic was not carried forward for analysis in this plan/EIS.

**Minority or Low-income Populations**—It was determined that no evidence indicates that there would be disproportionate impacts on minority and low-income populations through ORV management. Fees proposed as part of ORV management alternatives would be based on a cost-recovery system only and would be minimal. Therefore, this impact topic was dismissed from further analysis.

**Unique or Important Wildlife and Habitat**—No unique wildlife or wildlife habitats exist in Lake Meredith National Recreation Area; therefore, this impact topic was not carried forward for analysis in this plan/EIS.

**Prehistoric and Historic Structures**—No known prehistoric or historic structures exist in Lake Meredith National Recreation Area; thus, none would be impacted by the implementation of this plan/EIS and this topic was not carried forward for analysis in the plan/EIS.

## **RELEVANT LAWS, POLICIES, REGULATIONS, AND PLANS**

### **FEDERAL LAWS, POLICIES, REGULATIONS, AND PLANS DIRECTLY RELATED TO OFF-ROAD VEHICLE MANAGEMENT**

#### **Executive Order 11644: Use of Off-road Vehicles on the Public Lands**

On February 8, 1972, President Richard Nixon issued Executive Order 11644 to “establish policies and provide for procedures that will ensure the use of ORVs on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands.”

The executive order directs agencies to develop and issue regulations and administrative instructions to designate the specific areas and trails on public lands on which ORV use may and may not be permitted. According to this executive order, the location of ORV-permitted use areas and trails shall

- Minimize damage to soil, watershed, vegetation, or other resources of the public lands;
- Minimize harassment of wildlife or significant disruption of wildlife habitats;
- Minimize conflicts between ORV use and other existing or proposed recreational uses of the same on neighboring public lands, and ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors; and

Additionally, areas and trails shall not be located in officially designated wilderness areas or primitive areas but shall be located in areas of the national park system, natural areas, or national wildlife refuges and game ranges only if the respective agency head determines that ORV use in such locations will not adversely affect their natural, esthetic, or scenic values.

#### **Executive Order 11989: Off-road Vehicles on Public Lands**

This executive order, issued on May 24, 1977, by President Jimmy Carter, directs agencies to immediately close off-road areas or trails when it is determined that ORV use causes or will cause considerable adverse effects on the soil, vegetation, wildlife, wildlife habitat, or cultural or historic resources to the type of ORV causing such effects, until such time as determined that such adverse effects have been eliminated and measures have been implemented to prevent future recurrence. The executive order also includes the authority to preclude ORV use in portions of the public lands under an agency’s jurisdiction, except those areas or trails that are suitable and specifically designated as open to such use.

### **Code of Federal Regulations, Title 36, Section 4.10: Travel on Park Roads and Designated Routes**

This CFR section states, “operating a motor vehicle is prohibited except on park roads, in parking areas and on routes and areas designated for off-road motor vehicle use.” Additionally, routes and areas designated for ORV use shall be promulgated as special regulations, with designations complying with Executive Order 11644. Lake Meredith National Recreation Area will be in compliance with this regulation as a result of the plan/EIS and special regulation.

### **OTHER APPLICABLE FEDERAL LAWS, POLICIES, REGULATIONS, AND PLANS**

The plan/EIS must conform to the federal laws, policies, regulations, and plans described in this section. Although some of the following documents may not be directly related to ORV management, they are relevant to issues at the national recreation area that may be indirectly influenced by or associated with ORV use.

#### **Code of Federal Regulations, Title 36 (1992)**

Title 36, Chapter 1, provides the regulations “for the proper use, management, government, and protection of persons, property, and natural and cultural resources within areas under the jurisdiction of the National Park Service.” It states, “the National Park Service has the authority to manage the wildlife in the parks in fulfillment of the Organic Act without the consent of the state and by methods contrary to state law” (16 USC 3).

#### **Code of Federal Regulations, Title 43**

Title 43 of the CFR, Part 24, describes the four major systems of federal lands administered by the U.S. Department of the Interior. Section 24.4(f) states that “Units of the National Park System contain natural, recreation, historic, and cultural values of national significance as designated by Executive and Congressional action.” In describing appropriate activities, it states, “as a general rule, consumptive resource utilization is prohibited.” In addition, Section 24.4(i) instructs all federal agencies of the Department of the Interior, among other things, to “prepare fish and wildlife management plans in cooperation with State fish and wildlife agencies and other Federal (non-Interior) agencies where appropriate.” It also directs agencies to “consult with the States and comply with State permit requirements... except in instances where the Secretary of the Interior determines that such compliance would prevent him from carrying out his statutory responsibilities.”

#### **Endangered Species Act of 1973, as Amended**

This act requires all federal agencies to consult with the Secretary of the Interior on all projects and proposals with the potential to impact federally endangered or threatened plants and animals. It also requires federal agencies to use their authorities in furtherance of the purposes of the Endangered Species Act (ESA) by carrying out programs for the conservation of endangered and threatened species. Federal agencies are also responsible for ensuring that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat.

#### **Migratory Bird Treaty Act of 1918**

The Migratory Bird Treaty Act implements various treaties and conventions between the United States and Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Under this

act it is prohibited, unless permitted by regulations, to “pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention...for the protection of migratory birds...or any part, nest, or egg of any such bird” (16 USC 703). Subject to limitations in the act, the Secretary of the Interior may adopt regulations determining the extent to which, if at all, hunting, taking, capturing, killing, possessing, selling, purchasing, shipping, transporting or exporting of any migratory bird, part, nest, or egg will be allowed, having regard for temperature zones, distribution, abundance, economic value, breeding habits, and migratory flight patterns.

### **Federal Noxious Weed Act of 1975**

The Federal Noxious Weed Act (7 USC 2801–2814, January 3, 1975, as amended 1988 and 1994) provides for the control and management of nonnative weeds that injure or have the potential to injure the interests of agriculture and commerce, wildlife resources, or the public health. Because the potential exists for seeds of nonnative and potentially invasive or noxious plants to be introduced or spread by motorized vehicle use at the national recreation area, this act was considered in developing potential ORV management actions.

### **National Environmental Policy Act of 1969, as Amended**

The NEPA is implemented through regulations of the Council on Environmental Quality (CEQ) (40 CFR 1500–1508). The NPS has in turn adopted procedures to comply with the act and CEQ regulations, as found in Director’s Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* (NPS 2011a), and its accompanying handbook (NPS 2005b). Section 102(2)(c) of NEPA requires that an environmental impact statement (EIS) be prepared for proposed major federal actions that may significantly affect the quality of the human environment.

### **National Historic Preservation Act of 1966, as Amended**

Section 106 of this act requires federal agencies to consider the effects of their undertakings on properties listed or potentially eligible for listing on the National Register of Historic Places (national register). All actions affecting the national recreation area’s cultural resources must comply with this legislation.

### **National Parks Omnibus Management Act of 1998**

Both the National Parks Omnibus Management Act of 1998 (16 USC 5901 et seq.) (NPOMA) and NEPA are fundamental to NPS park management decisions. Both acts provide direction for articulating and connecting the ultimate resource management decision to the analysis of impacts using appropriate technical and scientific information. Both also recognize that such data may not be readily available and provide options for resource impact analysis in this case.

The NPOMA directs the NPS to obtain scientific and technical information for analysis. The NPS handbook for Director’s Order 12 states that if “such information cannot be obtained due to excessive cost or technical impossibility, the proposed alternative for decision will be modified to eliminate the action causing the unknown or uncertain impact or other alternatives will be selected” (NPS 2011a).

## NPS Organic Act of 1916

By enacting the NPS Organic Act of 1916, Congress directed the U.S. Department of the Interior and NPS to manage units of the national park system “to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (16 USC 1). The Redwood National Park Expansion Act of 1978 reiterates this mandate by stating that the NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 USC 1 a-1).

Despite these mandates, the Organic Act and its amendments afford the NPS latitude when making resource decisions that balance visitor recreation and resource preservation. By these acts Congress “empowered [the NPS] with the authority to determine what uses of park resources are proper and what proportion of the park’s resources are available for each use” (*Bicycle Trails Council of Marin v. Babbitt*, 82 F.3d 1445, 1453 [9th Cir. 1996]).

Yet courts consistently interpret the Organic Act and its amendments to elevate resource conservation above visitor recreation. *Michigan United Conservation Clubs v. Lujan*, 949 F.2d 202, 206 (6th Cir. 1991), states: “Congress placed specific emphasis on conservation.” The court in *National Rifle Association of America v. Potter* states, “in the Organic Act Congress speaks of but a single purpose, namely, conservation.” The NPS *Management Policies 2006* also recognizes that resource conservation takes precedence over visitor recreation. The policy dictates, “when there is a conflict between conserving resources and values and providing for enjoyment of them, conservation is to be predominant” (NPS 2006b, sec. 1.4.3).

Because conservation remains predominant, the NPS seeks to avoid or to minimize adverse impacts on park resources and values. Yet, the NPS has discretion to allow negative impacts when necessary (NPS 2006b, sec. 1.4.3). While some actions and activities cause impacts, the NPS cannot allow an adverse impact that constitutes resource impairment (NPS 2006b, sec. 1.4.3). Specifically, NPS *Management Policies 2006*, Section 1.4.3.1 states, “In the administration of authorized uses, park managers have the discretionary authority to allow and manage the use, provided that the use will not cause impairment or unacceptable impacts.” The Organic Act prohibits actions that permanently impair park resources unless a law directly and specifically allows for the action (16 USC 1a-1). An action constitutes “an impairment” when its impacts would “harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values” (NPS 2006b, sec. 1.4.5). To determine impairment, the NPS must evaluate “the particular resources and values that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts” (NPS 2006b, sec. 1.4.5).

Park managers must also not allow uses that would cause unacceptable impacts (NPS 2006b, sec. 1.4.7). These are impacts that fall short of impairment, but are still not acceptable in a particular park’s environment. For the purposes of these policies, unacceptable impacts are impacts that, individually or cumulatively, would

- Be inconsistent with a park’s purposes or values, or
- Impede the attainment of a park’s desired future conditions for natural and cultural resources as identified through the park’s planning process, or
- Create an unsafe or unhealthful environment for visitors or employees, or

- Diminish opportunities for current or future generations to enjoy, learn about, or be inspired by park resources or values, or
- Unreasonably interfere with:
  - Park programs or activities, or
  - An appropriate use, or
  - The atmosphere of peace and tranquility, or the natural soundscape maintained in wilderness and natural, historic, or commemorative locations within the park, or
  - NPS concessioner or contractor operations or services.

Because park units vary based on their enabling legislation, natural resources, cultural resources, and missions, management activities appropriate for each unit and for areas in each unit vary as well. An action appropriate in one unit could impair or cause unacceptable impacts on resources in another unit. Thus, this plan/EIS analyzes the context, duration, and intensity of impacts related to the implementation of an ORV management plan at Lake Meredith National Recreation Area, as well as the potential for resource impairment or unacceptable impacts, as required by Director's Order 12: *Conservation Planning, Environmental Impact Analysis and Decision-making* (NPS 2011a).

### **Redwood National Park Act of 1978, as Amended**

Reasserting the system-wide standard of protection established by Congress in the original Organic Act, the Redwood Amendment stated:

The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress (P.L. 95-250, USC Sec 1a-1).

Congress intended the language of the Redwood Amendment to the General Authorities Act to reiterate the provisions of the Organic Act, not to create a substantively different management standard. The House committee report described the Redwood Amendment as a “declaration by Congress” that the promotion and regulation of the national park system is to be consistent with the Organic Act. The Senate committee report stated that under the Redwood Amendment, “The Secretary has an absolute duty, which is not to be compromised, to fulfill the mandate of the 1916 act to take whatever actions and seek whatever relief as will safeguard the units of the national park system.” Although the Organic Act and the General Authorities Act, as amended by the Redwood Amendment, use different wording (“unimpaired” and “derogation”) to describe what the NPS must avoid, both acts define a single standard for the management of the national park system—not two different standards. For simplicity, NPS *Management Policies 2006* uses “impairment,” not both statutory phrases, to refer to that single standard.

### **Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds**

Migratory birds are of ecological and economic value to this and other countries. They contribute to biological diversity and bring tremendous enjoyment to millions of people who study, watch, feed, or hunt these birds throughout the United States and other countries. The United States has recognized the critical importance of this shared resource by ratifying international, bilateral conventions for the conservation of migratory birds, including the Convention for the Protection of Migratory Birds with

Great Britain on behalf of Canada 1916, the Convention for the Protection of Migratory Birds and Game Mammals–Mexico 1936, the Convention for the Protection of Birds and Their Environment–Japan 1972, and the Convention for the Conservation of Migratory Birds and Their Environment–Union of Soviet Socialist Republics 1978. These migratory bird conventions impose substantive obligations on the United States for the conservation of migratory birds and their habitats, and through the Migratory Bird Treaty Act, the United States has implemented these migratory bird conventions with respect to the United States. This executive order directs executive departments and agencies to take certain actions to further implement the Migratory Bird Treaty Act.

### **Executive Order 11990: Protection of Wetlands**

This executive order directs federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

### **Executive Order 11988: Floodplain Management**

This executive order directs federal agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

### **Executive Order 13112, Invasive Species**

The use of motorized vehicles has the potential to introduce or spread the seeds of nonnative plants at the national recreation area. This executive order requires the NPS to prevent the introduction of invasive species, provide for their control, and to minimize the economic, ecological, and human health impacts that invasive species cause.

### ***NPS Management Policies 2006***

*NPS Management Policies 2006* addresses management of ORVs in Section 8.2.3.1, Off-Road Vehicle Use. This section (NPS 2006b) states:

Off-road motor vehicle use in national park units is governed by Executive Order 11644 (Use of Off-road Vehicles on the Public Lands, as amended by Executive Order 11989), which defines off-road vehicles as “any motorized vehicle designed for or capable of cross-country travel on or immediately over, land, water, sand, snow, ice, marsh, swampland, or other natural terrain” (except any registered motorboat or any vehicle used for emergency purposes). Unless otherwise provided by statute, any time there is a proposal to allow a motor vehicle meeting this description to be used in a park, the provisions of the executive order must be applied.

In accordance with 36 CFR 4.10(b), routes and areas may be designated only in national recreation areas, national seashores, national lakeshores, and national preserves, and only by special regulation. In accordance with the executive order, they may be allowed only in locations where there will be no adverse impacts on the area’s natural, cultural, scenic, and esthetic values, and in consideration of other existing or proposed recreational uses. The criteria for new uses, appropriate uses, and unacceptable impacts listed in sections 8.1 and 8.2 must also be applied to determine whether off-road vehicle use may be allowed. As required by the executive order and the Organic Act, superintendents must immediately close a designated off-road vehicle route whenever the use is causing or will

cause unacceptable impacts on the soil, vegetation, wildlife, wildlife habitat, or cultural and historic resources.

NPS administrative off-road motor vehicle use will be limited to what is necessary to manage the public use of designated off-road vehicle routes and areas; to conduct emergency operations; and to accomplish essential maintenance, construction, and resource protection activities that cannot be accomplished reasonably by other means. (NPS 2006b, Section 8.2.3.1)

Management policies relating to resource protection also were considered in developing this draft plan/EIS. For example, NPS *Management Policies 2006* instructs park units to maintain, as parts of the natural ecosystems of parks, all plants and animals native to the park ecosystems, in part by “minimizing human impacts on native plants, animals, populations, communities, and ecosystems, and the processes that sustain them” (NPS 2006a, Section 4.4.1).

### **Director’s Order 12: Conservation Planning, Environmental Impact Analysis, and Decision-making and Handbook**

NPS Director’s Order 12 (NPS 2011a) and its accompanying handbook (NPS 2005b) lay the groundwork for how the NPS complies with NEPA. Director’s Order 12 and handbook set forth a planning process for incorporating scientific and technical information and establishing a solid administrative record for NPS projects.

Director’s Order 12 requires that impacts on park resources be analyzed in terms of their context, duration, and intensity. It is crucial for the public and decision makers to understand the implications of those impacts in the short and long term, cumulatively, and in context, based on a review and analysis of potential impacts by resource professionals and specialists. Director’s Order 12 also requires that an analysis of impairment of park resources and values be made as part of the NEPA document.

### **Director’s Order 28: Cultural Resource Management**

This director’s order sets forth the guidelines for management of cultural resources, including cultural landscapes, archeological resources, historic and prehistoric structures, museum objects, and ethnographic resources (NPS 1998a). This order calls for the NPS to protect and manage cultural resources in its custody through effective research, planning, and stewardship in accordance with the policies and principals contained in NPS *Management Policies 2006*.

### **Director’s Order 77: Natural Resource Protection**

Director’s Order 77 addresses natural resource protection, with specific guidance provided in Reference Manual 77: *Natural Resource Management* (NPS n.d.b), which offers comprehensive guidance to NPS employees responsible for managing, conserving, and protecting the natural resources found in national park system units. The manual serves as the primary guidance on natural resource management in units of the national park system. Reference manual chapters that are particularly relevant to this plan/EIS include air resources management; endangered, threatened, and rare species management; geologic resources management; native animal management; shoreline management; vegetation management; special use permitting; wetland protection (Director’s Order 77-1 [NPS 2002b]); and floodplain management (Director’s Order 77-2 [NPS 2003]).



## **RELATIONSHIP TO OTHER LAKE MEREDITH NATIONAL RECREATION AREA PLANNING DOCUMENTS, POLICIES, AND ACTIONS**

The following plans, policies, and actions occurring at the national recreation area were considered during the development of this plan/EIS.

### **Resources Management Plan: Lake Meredith National Recreation Area and Alibates Flint Quarries National Monument (1996)**

This resources management plan provides goals for the national recreation area that address preserving national recreation area resources, providing for the public enjoyment and visitor experience, perpetuating cultural resources and enhancing recreational opportunities managed by partners, and ensuring organizational effectiveness. Specifically related to ORV use in the national recreation area, the resources management plan states that severe damage to soils and vegetation and resultant erosion have occurred in Rosita and Blue Creek as a result of continued ORV use. Damage to a lesser extent has occurred in other portions of the national recreation area due to illegal ORV use outside these designated ORV use areas. Furthermore, several archeological sites have been damaged both inside and outside the ORV use areas. Noise pollution from ORV use has also been a problem (NPS 1996). These resource conditions are identified and addressed in this plan.

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*Specifically related to ORV use in the national recreation area, the resources management plan states that severe damage to soils and vegetation and resultant erosion have occurred in Rosita and Blue Creek as a result of continued ORV use.*

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### **Alibates Flint Quarries National Monument / Lake Meredith National Recreation Area Strategic Plan FY-2008 through FY-2012**

This strategic plan (NPS n.d.a) was written to fulfill the requirements of Section 104 of NPOMA. This legislation requires all field units of the national park system prepare strategic plans and annual performance plans consistent with the Government Performance and Results Act of 1993 and make these documents available to the public. This plan contains long-term goals, which target in quantifiable, measurable ways what the national recreation area staff will accomplish during the planning period toward achieving the overall mission goals. The long-term goals in the plan address appropriate “Service-wide” goals as well as park-specific outcomes. The strategic plan includes information on how these goals will be accomplished, including staffing, fiscal, infrastructure, and other resources available to achieve the plan’s long-term goals. Goals stated under the strategic plan that relate to ORV use in the national recreation area include the following:

- By September 30, 2012, 85 percent of visitors to Lake Meredith National Recreation Area and Alibates Flint Quarries National Monument are satisfied with appropriate park facilities, services, and recreational opportunities.
- By September 30, 2012, Lake Meredith National Recreation Area and Alibates Flint Quarries National Monument will have or maintain 24 community partnerships designed to enhance the park’s ability to manage recreation activities seamlessly.

### **Interim Off-Highway Vehicle Plan**

This management plan (NPS 2007a, in conjunction with the *Superintendent’s Compendium*) provides guidelines for ORV use on an interim basis until this plan/EIS is completed and a federal rule is adopted, pursuant to the requirements of Executive Order 11644 as amended. It provides a history of ORV use in

the national recreation area, summarizes the issues of concern associated with ORV use, and recommends potential management actions for future planning efforts, stating that the national recreation area supports the continued use of ORVs at the national recreation area. This plan sets forth the issues of concern, but does not designate routes or areas, or park goals related to ORV use.

### **Superintendent's Compendium**

Under the provisions of 16 USC, Section 3, and 36 CFR 1, the *Superintendent's Compendium* (compendium) designates closures, permit requirements, and other restrictions imposed under the discretionary authority of the superintendent for Lake Meredith National Recreation Area. Regulations listed in the compendium are a requirement in addition to those listed in parts 1–7 of Title 36, unless otherwise noted. In addition to the compendium regulations, written determinations that explain the reasoning behind the superintendent's use of discretionary authority are required by 36 CFR 1.5(c) and appear in the document as italicized print or are available for review in the Chief Ranger's Office. Regulations in the compendium that are related to ORV use define areas where ORVs may be used and provide the authority for area closures. These regulations include the following:

- Section 1.5: Areas in the park may be closed to public use for resource protection. These areas will be designated with fencing, barriers, and/or signs stating that a closure is in effect.
- Backcountry areas across the Canadian River at the Mullinaw Crossing are closed to access by motor vehicle(s) except during the park's general deer hunting season, as determined by the superintendent.
- Section 1.5 (a)(2): Blue Creek and Rosita are designated as ORV use areas, regulated by 36 CFR 7.57(1)(b).
- Section 4.21 – Speed Limits: This section sets a speed limit of 15 miles per hour (mph) in the Rosita area and 35 mph in the Blue Creek area.

The compendium also addresses hunting restrictions, an activity that is permitted in Blue Creek and Rosita areas. The compendium requires recreation fees for lake use (vessels) but not for ORV use.

### **Visitor Study Final Technical Report: Lake Meredith National Recreation Area and Alibates Flint Quarries National Monument (2004)**

*Visitor Study Final Technical Report: Lake Meredith National Recreation Area and Alibates Flint Quarries National Monument* (ASU 2004) (visitor study) presents findings from a cooperative social science research project designed to inform the NPS general management planning efforts. Although recent data from the NPS Visitor Survey Card project was available, it proved to be insufficient because no specific data existed that would inform managers about visitors' responses to various alternative scenarios for the future (ASU 2004). Thus, this visitor study was implemented to meet those needs.

Data for the visitor study were collected from current and potential national recreation area visitors and residents of the communities adjacent to the national recreation area. The study draws on four sources of data: (1) on-site survey questionnaires of current adult national recreation area visitors, (2) mail survey questionnaires of current adult national recreation area visitors contacted on site, (3) mail survey questionnaires of current and potential national recreation area visitors who purchased annual watercraft permits in 2002 and 2003, and (4) focus group interviews with organized interest groups from nearby communities.

When visitors were asked to pick only one activity they participate in while at the national recreation area, approximately 11.5 percent of those surveyed by mail and on site chose ORV activities (four-wheel driving, motorized trail bike/dirt biking, dune buggy, or ATV riding) (ASU 2004). However, it is noted that a majority of the national recreation area visitors participate in multiple activities during their visit to the national recreation area. When allowed to choose multiple activities, most respondents chose picnicking and swimming above all other recreational activities.

### **Master Plan: Lake Meredith National Recreation Area (1973)**

The master plan for the national recreation area details the aspects of the national recreation area that make it unique, as well as providing a plan that facilitates access to land and water in the area. In regard to ORV use, the master plan identifies off-road vehicular travel, especially trail-biking, as an activity that occurs at the national recreation area. The development called for in the master plan focuses mainly around water-based uses, and not land-based uses, such as ORVs. This plan also calls for controlling various visitor uses as the need arises, noting that some areas should be designated for the consumptive use of ORVs.

### **General Management Plan for Lake Meredith National Recreation Area and Alibates Flint Quarries National Monument (Ongoing)**

In 2009, the NPS started an interactive planning process to develop a vision for the future of Lake Meredith National Recreation Area and Alibates Flint Quarries National Monument. The result of this planning process will be a general management plan that will articulate the long-term vision that will guide management of the recreation area and national monument for the next 15 to 20 years. A newsletter was distributed and public meetings held in April 2009 to allow the public to share their thoughts, ideas, and concerns about the future of the national recreation area and national monument. In April 2010, the NPS released a second newsletter summarizing public comments and identifying key questions for the GMP process as well as answering frequently asked questions. The GMP planning process is ongoing and a draft GMP document is expected to be released to the public Winter 2013 for review and comment. Decisions from this plan/EIS process will be incorporated into the GMP as planning progresses as it moves forward.

## **RELATIONSHIP TO OTHER STATE AND LOCAL PLANNING DOCUMENTS, POLICIES, ACTIONS, LAWS, AND REGULATIONS**

The following state and local documents, policies, actions, laws, and regulations are directly or indirectly related to ORV use and were therefore considered during the development of this plan/EIS.

### **Texas Wildlife Action Plan (2006)**

The Texas Parks and Wildlife Department's (TPWD) *Texas Wildlife Action Plan* (the plan) is an outline for various strategies that will assist the TPWD with the development of nongame initiatives that address the needs of animal species not typically hunted. The plan is also a requirement for the State Wildlife Grant program, as outlined by the USFWS, which provides state grants to address unmet wildlife conservation needs. In addition to analyzing detailed species information, the plan also provides broad habitat information in various ecoregions of Texas.

The plan recognizes the High Plains ecoregion of Texas as a "secondary priority ecoregion" (TPWD 2006). The High Plains ecoregion encompasses the Texas panhandle, including the Lake Meredith National Recreation Area. The plan explains that this ecoregion is one of the least conserved in Texas,

and that it has experienced a high rate of conversion to cropland. Threats to the region include fragmentation; damming of springs, streams, and rivers; and surface mining.

The plan also recognizes the Canadian River Basin in an analysis of various Texas river basins. The plan explains that threats to the Canadian River Basin include increased silt loads from erosion, which could affect the suitability of riverine habitat, invertebrate production, and fish survival. It also states that brush control could increase flow rates but may also lead to changes in streambank vegetation and erosion processes (TPWD 2006). While the plan does not identify ORV use as a contributing factor to resource damage in this ecoregion and river basin, ORV activities and management will likely have implications related to the various strategies outlined in this plan/EIS.

### **Land and Water Resources Conservation and Recreation Plan (2005)**

This plan, written by the TPWD, seeks to guide the TPWD in conserving Texas' natural and historical heritage while providing for public access and recreation to the outdoors. It specifically addresses the conservation of land and water resources, as well as land and water recreation. The NPS requires each state's park agency to update a Statewide Comprehensive Outdoor Recreation Plan every five years to be eligible for land and water conservation funds. Eligibility for this program allows the TPWD to receive matching grants for land acquisition and construction of recreational facilities on state and local parks. The *Land and Water Resources Conservation and Recreation Plan* will serve as Texas' comprehensive plan to meet the NPS eligibility requirements (TPWD 2005). While ORV use is not specifically identified in any of the conservation and recreation priorities, the plan does recognize the damage ORVs can cause to streambeds and the potential for conflicts between ORV users and other public land users or adjacent landowners. One of the major goals of the plan is to increase the participation in and quality of hunting, fishing, boating, and outdoor recreation.

### **Texas Off-highway Vehicle Program**

The TPWD has developed an OHV program (TPWD 2008) to encourage the responsible use of OHVs and to help OHV users locate places to ride safely and legally. The program is also designed to provide funding to develop more OHV-friendly recreational areas. Under Texas State Law, an OHV decal is required for all individuals operating an OHV in Texas in an area that is on public land or on lands that have been purchased with TPWD OHV grants. The decal is valid for a one-year period. Decals currently cost \$8.00 and revenue generated from decal sales is being used to create or improve existing OHV recreation areas in Texas. The program's website (<http://www.tpwd.state.tx.us/spdest/ohv/index.phtml>) provides information of where to buy OHV decals (including state offices and some OHV dealers), where to ride OHVs, information on responsible use, and other resources regarding safe and legal OHV operation. The State of Texas requires that all OHV users purchase and display the decal prior to operating the vehicle on public lands, including the national recreation area. Failure to obtain this decal constitutes a Class C misdemeanor and could result in a citation being issued to the OHV operator. Fines for this offense range from \$25 to \$500.





# Alternatives

CHAPTER 2

