RECLAMATION

Managing Water in the West

San Angelo Project Transportation Management Plan Finding of No Significant Impact and Environmental Assessment

San Angelo Project, Texas
Great Plains Region
19-18-TX-SA

U.S. Department of the Interior
Bureau of Reclamation
Great Plains Region
Oklahoma-Texas Area Office

May 2019

Mission Statements

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to Indian Tribes and our commitments to island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

FINDING OF NO SIGNIFICANT IMPACT

San Angelo Project, Texas
Great Plains Region

FONSI# 19-18-TX-SA

I. INTRODUCTION

Under the Proposed Action, Reclamation would designate over 70 miles of motorized vehicle routes, including 56 miles of designated "Access" routes and 17 miles of designated "Moto/ATV" routes. Routes designated as "Access" would allow all motorized vehicles travel to the north and south pools of Twin Buttes Reservoir, including boat ramps, shoreline. Routes designated as "Moto/ATV" would allow motorcycles and smaller ATVs access to exposed land adjacent to and surrounding the north side of Reservoir's north pool. In addition, approximately 338 acres of land would be designated as "ORV Areas" that allow ORV use at three popular recreation areas known as "The Bowl", "South Butte", and "Tin Can". *Motorized use outside designated routes and areas would be strictly prohibited and punishable through citations issued by TPWD game wardens*. Under the Proposed Action, approximately 84 miles of existing routes would be closed because their existing condition makes them unsuitable and unsafe for continued use.

To authorize and allow continued ORV use at the Project, Reclamation must ensure that proposed activities conform to numerous Federal laws and regulations that outline motor vehicle use on Federal land, as well as the process of doing such. For example, Executive Order 11644, Use of Off-Road Vehicles on Public Lands and Reclamation Manual LND 01-03, Recreation Program Management, requires "*the development of a plan that ensures that the use of ORVs on public lands may 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*". Such a plan, henceforth called a Transportation Management Plan (TMP), is required to ensure that the proposed activities do not unreasonably impact the Federal estate or authorized project purposes.

Pursuant to National Environmental Policy Act (NEPA), as amended, an Environmental Assessment (EA) assists Federal land and resource management agencies in project planning, ensuring compliance with NEPA, and determining whether any significant impacts could result from the analyzed actions. Significance is defined by the Council on Environmental Quality (CEQ) regulations for implementing NEPA; its definition is found in 40 Code of Federal Regulations (CFR) 1508.27. An EA provides evidence for determining whether to prepare a finding of no significant impact (FONSI) or to proceed to an environmental impact statement (EIS). A FONSI is a document that presents reasons why implementation of the selected alternative would not result in significant environmental effects. If the decision-maker determines the project would result in significant effects based on the analysis performed by the assigned interdisciplinary team and as summarized in the EA, a notice of intent to prepare an EIS would be published in the Federal Register and an EIS would be prepared for the project.

II. BACKGROUND

Twin Buttes Reservoir was constructed by the Bureau of Reclamation (Reclamation) in 1963 and is located within the Concho River Basin approximately nine miles southwest of San Angelo, Texas in Tom Green County (Figure 1). The Reservoir is a major component of the San Angelo Project (Project), which was originally authorized by Public Law 85-152 in 1957. The Project is comprised of Twin Buttes Dam and Reservoir, as well as a distribution system that provides municipal and industrial (M&I) water to the city of San Angelo (City) and irrigation water to 15,000 acres within Tom Green County Water Control and Improvement District No. 1. Project operations are integrated with that of O.C. Fisher Dam and Lake and Nasworthy Reservoir, both of which were constructed by the U.S. Army Corps of Engineers. In addition to M&I and agricultural water supply, the Project provides flood control, fish and wildlife, and recreation benefits.

When Twin Buttes Reservoir is full (at conservation pool), the Project consists of approximately 9,799 surface acres of water and 3,059 acres of Federally-owned land surrounding the Reservoir. However, for decades, dry conditions significantly reduced Twin Buttes Reservoir's storage, thus exposing thousands of acres of land that otherwise would have been inundated. At the time this EA was initiated, approximately 11,000 acres of Federal land were exposed around the reservoir.

The Project is owned by the U.S. and administered by Reclamation. Operation and Maintenance (O&M) responsibility for the Project has been transferred to the City of San Angelo (City) through a contract with the U.S., Reclamation reimburses the City on an annual basis for the portion of O&M costs that are attributable to flood control, fish and wildlife, and recreation benefits.

The Project has faced numerous land management challenges over the years. These challenges primarily stem from lack of enforcement related to legal jurisdictions, as well as lack of funding and resources. Illegal activities, including drug activity, dumping, trespasses, and unauthorized motor vehicle use have been prevalent. Motorized vehicle use, in particular ORVs use, has increased dramatically over the years as declining reservoir levels exposed large tracts of land. At the time this EA was initiated, it was estimated that 157 miles of trails had been created through the approximated 11,000 acres of exposed Federal land. This rapid and continued use resulted in vegetation loss, erosion, adverse water quality impacts, loss of fish and wildlife habitat, and potentially adverse impacts on cultural and archeological resources. Public safety concerns also were raised.

In an effort to address these challenges, the City and Reclamation entered into a Memorandum of Understanding (MOU) with the Texas Parks and Wildlife Department (TPWD) on May 13, 2016 to place all Federal lands associated with the Project within the TPWD's Annual Public Hunt (APH) Program. This designation provided the TPWD with the necessary legal jurisdiction to allow game wardens to enforce laws and address illegal activities on Federal land around Twin Buttes Reservoir while also providing opportunities for family-oriented outdoor recreation activities such as hunting and fishing. Furthermore, strong public interest exists to maintain ORV access while protecting various land resources.

III. ALTERNATIVES

The EA analyzes the No Action Alternative and the Proposed Action Alternative of implementing the Twin Buttes Transportation Management Plan.

IV. CONCLUSIONS OF FACT

Based on the evidence presented in the Final EA, Reclamation has drawn the following conclusions about the potential impacts of the proposed action:

1. **Controversial effects**
   The nature and extent of the potential impacts to the quality of the human environment from the Proposed Action are not considered controversial.

2. **Public Health/Safety**
   The Proposed Action would reduce the risk of public health and safety, by defining use areas and increasing awareness. The Proposed Action will not have significant impacts on public health and safety.

3. **Natural Resources and Unique Geographical Features**
   There is no reasonably foreseeable or significant changes to the current uses of land within the area.

4. **Uncertain Impacts**
   Based on existing information, the nature and extent of the potential impacts to the quality of the human environment from the Proposed Action are known with a high degree of certainty, and that there are no unique risks associated with any aspect of the Proposed Action.

5. **Precedent**
   The Proposed Action would not establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration. Any modification or alteration would be further analyzed.

6. **Cumulative Impacts**
   The proposed action is not related to other actions with individually insignificant but cumulatively significant impacts.

7. **Historical/Cultural Resources**
   The State Historic Preservation Officer has concurred with a no adverse impacts determination associated with the Proposed Action. The Proposed Action will utilize the existing routes and trails.

   Reclamation will perform an annual condition assessment, for a five-year period to identify and analyze potential changes in the condition of cultural resource sites of

interest.

8. **Threatened or Endangered Species**
   There will be "no effect" on Federal or state listed threatened or endangered species or their habitats.

9. **Federal, State, Local, or Tribal Laws**
   The TMP will comply with all applicable laws and obtain all necessary permits. As a result no Federal, State, or local laws will be violated

10. **Indian Trust Assets**
    The proposed action would not affect tribal water rights or Indian Trust Assets.

11. **Socioeconomics/Environmental Justice**
    No significant natural resource or socioeconomic impacts adversely affecting minority and low-income populations have been identified. Therefore, there are no environmental justice impacts.

12. **Sacred Sites**
    Affiliated tribes associated with the project area were consulted and no response was received. Therefore, the proposed project would have no affect Indian sacred sites.

13. **Noxious or Invasive weeds**
    It is reasonably foreseeable that vegetation would transition to a state similar to that of preconstruction. In addition, it is reasonably foreseeable that routine operations and maintenance will further aid in the control of noxious or invasive weeds.

V. FINDING OF NO SIGNIFICANT IMPACT

Based on the evidence presented as part of the EA and upon the conclusions of fact presented above, Reclamation has determined that the Proposed Action would not individually or cumulatively have significant effects on the quality of the human environment; therefore, an Environmental Impact Statement is not warranted.

Approved: _____ Date: 5/17/19
Mark A. Treviño, Area Manager

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Twin Buttes Transportation Management Plan

Final Environmental Assessment

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Chapter 1: Purpose and Need

1.1 Introduction

The Bureau of Reclamation's (Reclamation) Oklahoma-Texas Area Office, in coordination with the United States Forest Service (USFS), has prepared this Environmental Assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and relevant Federal and State laws and regulations. The EA supports Reclamation's decision on whether to implement a Twin Buttes Transportation Management Plan (TMP). The TMP is an adaptive management plan that provides a framework and guidance for the efficient implementation, monitoring, and enforcement of motorized use, including Off-Road Vehicle (ORV) use, on Reclamation lands surrounding Twin Buttes Reservoir.

Pursuant to NEPA, an EA assists Federal land and resource management agencies in project planning, ensuring compliance with NEPA, and determining whether any significant impacts could result from the analyzed actions. Significance is defined by the Council on Environmental Quality (CEQ) regulations for implementing NEPA; its definition is found in 40 Code of Federal Regulations (CFR) 1508.27. An EA provides evidence for determining whether to prepare a finding of no significant impact (FONSI) or to proceed to an environmental impact statement (EIS). A FONSI is a document that presents reasons why implementation of the selected alternative would not result in significant environmental effects. If the decision-maker determines the project would result in significant effects based on the analysis performed by the assigned interdisciplinary team and as summarized in the EA, a notice of intent to prepare an EIS would be published in the Federal Register and an EIS would be prepared for the project.

1.2 Location and Background

Twin Buttes Reservoir was constructed by Reclamation in 1963 and is located within the Concho River Basin approximately nine miles southwest of San Angelo, Texas in Tom Green County (Figure 1). The Reservoir is a major component of the San Angelo Project (Project), which was originally authorized by Public Law 85-152 in 1957. The Project is comprised of Twin Buttes Dam and Reservoir, as well as a distribution system that provides municipal and industrial (M&I) water to the City of San Angelo (City) and irrigation water to 15,000 acres within Tom Green County Water Control and Improvement District No. 1. Project operations are integrated with that of O.C. Fisher Reservoir and Nasworthy Reservoir, both of which were constructed by the U.S. Army Corps of Engineers. In addition to M&I and agricultural water supply, the Project provides flood control, fish and wildlife, and recreation benefits.

When Twin Buttes Reservoir is full (at conservation pool), the Project consists of approximately 9,799 surface acres of water and 3,059 acres of Federally-owned land surrounding the Reservoir. However, for decades, dry conditions significantly reduced Twin Buttes Reservoir's storage, thus exposing thousands of acres of land that otherwise would have been inundated. At the time this EA was initiated, approximately 11,000 acres of Federal land were exposed around the reservoir.

The Project is owned by the United States (U.S.) and administered by Reclamation. Operation and Maintenance (O&M) responsibility for the Project has been transferred to the City through a contract with Reclamation, Reclamation reimburses the City on an annual basis for the portion of O&M costs that are attributable to flood control, fish and wildlife, and recreation benefits.

The Project has faced numerous land management challenges over the years. These challenges primarily stem from lack of enforcement related to legal jurisdictions, as well as lack of funding and resources. Illegal activities, including drug activity, dumping, trespasses, and unauthorized motor vehicle use have been prevalent. Motorized vehicle use, in particular ORV use, has increased dramatically over the years as declining reservoir levels exposed large tracts of land. At the time this EA was initiated, it was estimated that 157 miles of trails had been created through the approximated 11,000 acres of exposed Federal land. This rapid rate of trail development and continued use resulted in vegetation loss, erosion, adverse water quality impacts, loss of fish and wildlife habitat, and potentially adverse impacts on cultural and archeological resources. Public safety concerns also were raised.

In an effort to address these challenges, the City and Reclamation entered into a Memorandum of Understanding (MOU) with the Texas Parks and Wildlife Department (TPWD) on May 13, 2016 to place all Federal lands associated with the Project within the TPWD's Annual Public Hunt (APH) Program. This designation provided the TPWD with the necessary legal jurisdiction to allow game wardens to enforce laws and address illegal activities on Federal land around Twin Buttes Reservoir while also providing opportunities for family-oriented outdoor recreation activities such as hunting and fishing. Furthermore, strong public interest exists to maintain ORV access while protecting various land resources.

To authorize and allow continued ORV use at the Project, Reclamation must ensure that proposed activities conform to numerous Federal laws and regulations that outline motor vehicle use on Federal land. For example, Executive Order 11644, Use of Off-Road Vehicles on Public Lands and Reclamation Manual LND 01-03, Recreation Program Management, requires "*the development of a plan that ensures that the use of ORVs on public lands may 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*". Such a plan, henceforth called a Transportation Management Plan (TMP), is required to ensure that the proposed activities do not unreasonably impact the Federal estate or authorized project purposes.

1.3 Resources and Land Use

Popular water-based activities at Twin Buttes Reservoir include boating, fishing (largemouth bass, white bass, catfish, crappie, and sunfish), wind surfing, and water skiing. Popular land-based activities include hunting (whitetail deer, turkey, waterfowl, and dove), primitive camping; ORV activities, all-terrain vehicles (ATV) and motorcycles; mountain biking, trail running, hiking, bird watching, and photography.

Land ownership within the San Angelo area is over 98 percent privately owned, the remaining portion is Federally-owned (USGS 2016). The Project area along with San Angelo State Park play a vital role in providing area residents with outdoor recreation opportunities. The Twin Buttes reservoir, however, is the only public recreation area providing opportunities for motorized vehicle use.

The ongoing recreational activities in the Project area provide visitors with opportunities to develop and strengthen relationships, engage in outdoor physical activity, get the rest and relaxation that contribute to mental and physical health, and sustain traditions that connect communities to their heritage and shared values.

1.4 Purpose and Need

Reclamation's goals are to:

- Authorize motor vehicle use around Twin Buttes Reservoir while maintaining Project benefits and authorized Project purposes.
- Enhance the public experience at Twin Buttes Reservoir through improved land management and stewardship.
- Improve access to hunting, motorized use, and ORV use while also protecting public safety and important cultural, land, and environmental resources.
- Ensure that management activities are adaptable to the changing needs of the public and evolving conditions on the ground.

To accomplish this goal, Reclamation needs to develop a TMP. This TMP proposes to:

- Utilize only existing trails/routes that are determined to be sustainable and manageable by an interdisciplinary team and in coordination with key stakeholders
- Provide access to designated ORV uses, as well as access to water-based activities.

1.5 Consistency with Laws, Regulations, and Policies

The Proposed Action is consistent with relevant Federal, Departmental, and agency regulations and guidelines and helps move the project area towards Reclamation goals and objectives as outlined in the purpose and need section (Appendix C).

1.6 Public Involvement

The purpose of engaging the public early on in the process is to identify areas that warrant special attention and eliminate from detailed study the issues which are of minimal concern, are otherwise insignificant, or which have been covered by prior environmental review. The goal is to narrow the discussion down to concisely determine whether the Proposed Action may have significant effect on the human environment.

Reclamation, TPWD, and the City held an initial public meeting on April 18, 2017 in San Angelo, Texas to collect baseline information from the public on various uses and resources and to perform initial planning of a Proposed Action. Following the initial public meeting, three "focus group" meetings were held to gather more specific

information on the needs and priorities of various user groups. The goal was to develop a preliminary Proposed Action prior to initiating a formal scoping period involving a broader public audience. On September 25, 2018, a preliminary Proposed Action was presented at a public scoping meeting. The scoping meeting marked the beginning of a 35-day public comment period to solicit input on the preliminary Proposed Action. No significant concerns were raised during the public comment period.

Even though no significant concerns were raised, four key priorities were identified by the public during scoping period: (1) Minimize damage to natural resources; (2) Prevent illegal activity, including littering, dumping, and drug activity; (3) Enhance visitor experience, and (4) Maintain access to Federal lands and to Twin Buttes Reservoir. Reclamation refined the preliminary Proposed Action as needed to address these public priorities.

2 Chapter 2: Alternatives

Alternatives were formulated to meet Reclamation's purpose and need statements provided above. In short, Reclamation's purpose (i.e., goal) is to authorize motor vehicle use around Twin Buttes Reservoir while maintaining Project benefits and authorized Project purposes. To accomplish this goal, Reclamation needs to develop a TMP that: (1) utilizes existing trails/routes that are determined to be sustainable and manageable by an interdisciplinary team and in coordination with key stakeholders; and (2) provides access to all ORV uses, as well as access to water-based activities, while also protecting public safety and important cultural, land, and environmental resources.

2.1 Alternatives Considered But Eliminated

Consideration was given towards closing motorized public access on all Federal lands surrounding Twin Buttes Reservoir, but this alternative was eliminated from consideration because it did not meet Reclamation's purpose and need statement. While closing access to all Federal lands would accomplish the goal of protecting important land, cultural, and environmental resources, it would do so at the expense of the goal of improving public access and enhancing recreation benefits. Therefore, this alternative was eliminated. No other alternatives were considered that to meet the established purpose and need.

2.2 No Action Alternative

Under NEPA regulations, EAs must consider and contrast the impacts of a Proposed Action with the current and expected future condition if the Proposed Action were not implemented. This current and expected future condition is called the No Action Alternative. Under the No Action, a TMP would not be developed, and the network of trails would continue to grow, as would off trail motorized cross country travel. Threats to public safety, as well as land, cultural, and environmental resources would continue. Illegal activity would continue.

2.3 Proposed Action Alternative

The Proposed Action includes the development, implementation, and monitoring of a TMP at Twin Buttes Reservoir. The TMP's focus is on motorized vehicle use and does not include non-motorized uses such as hiking, bicycling, etc., although these uses would be enhanced by restricting motorized use to designated routes and areas. The designated routes/areas were selected under the TMP following a detailed condition assessment and resource inventory conducted by a team of multidisciplinary experts. Conditions were evaluated based on a set of "fatal flaw" criteria that were developed to ensure Reclamation's purpose and needs are met. For example, any existing routes that had caused severe and unacceptable degradation were closed, as were routes that could adversely affect safety, wildlife, wetland/riparian areas, and cultural resources. Any remaining existing routes that were not eliminated were considered authorized and included as part of the Proposed Action. With this inclusion, however, comes an assumption that certain adaptation/mitigation provisions (i.e., "environmental commitments") would be followed to ensure the TMP is sustainable in terms of adapting to changing site conditions, outcomes in the field, and stakeholder expectations.

The TMP itself is separate from this EA and documents formulation, evaluation, and selection of proposed routes/areas. The TMP includes monitoring and adaptation management components.

Under the Proposed Action (as documented in the TMP), Reclamation would designate over 70 miles of motorized vehicle routes, including 56 miles of designated "Access" routes and 17 miles of designated "Moto/ATV" routes. Routes designated as "Access" would allow all motorized vehicles travel to the north and south pools of Twin Buttes Reservoir, including boat ramps, and shoreline. Routes designated as "Moto/ATV" would allow motorcycles and smaller ATVs access to exposed land adjacent to and surrounding the north side of Reservoir's north pool. In addition, approximately 338 acres of land would be designated as "ORV Areas" that allow ORV use at three popular recreation areas known as "The Bowl", "South Butte", and "Tin Can". *Motorized use outside designated routes and areas would be strictly prohibited and punishable through citations issued by TPWD game wardens*. Under the Proposed Action, approximately 84 miles of existing routes would be closed because their existing condition makes them unsuitable and unsafe for continued use. The Proposed Action designations are summarized in Table 1 below.

Under the Proposed Action, all authorized and unauthorized uses would be monitored and enforced through an adaptive TMP that is approved by Reclamation, TPWD, and the City. Motorized uses on or within designated routes/areas, excluding "Access" routes would require a motorized TPWD Off-Highway Vehicle (OHV) decal. The TMP would be updated as conditions evolve. The TMP would be evaluated on an annual basis for an initial five-year period. As Reservoir storage fluctuates, so too would the amount of exposed land available for motorized vehicle use.

Table 1. Use Type

Use Type	Miles/Acres	Description	TPWD OHV Decal
Access Routes	**56 miles**	Designated routes providing reasonable access to lands surrounding Twin Buttes' North and South Pools, shoreline, boat ramps, etc.	No
Moto/ATV Routes	**17 miles**	A network of one directional trails designed for motorized use by motorcycles and small ATVs	Yes
ORV Areas	**338 acres**	Tracts of land that consist of variable terrain, and requiring varying skill levels.	Yes
- Area I: Tin Can	*224 acres*		
- Area II: The Bowl	*20 acres*		
- Area III: South Butte	*94 acres*		

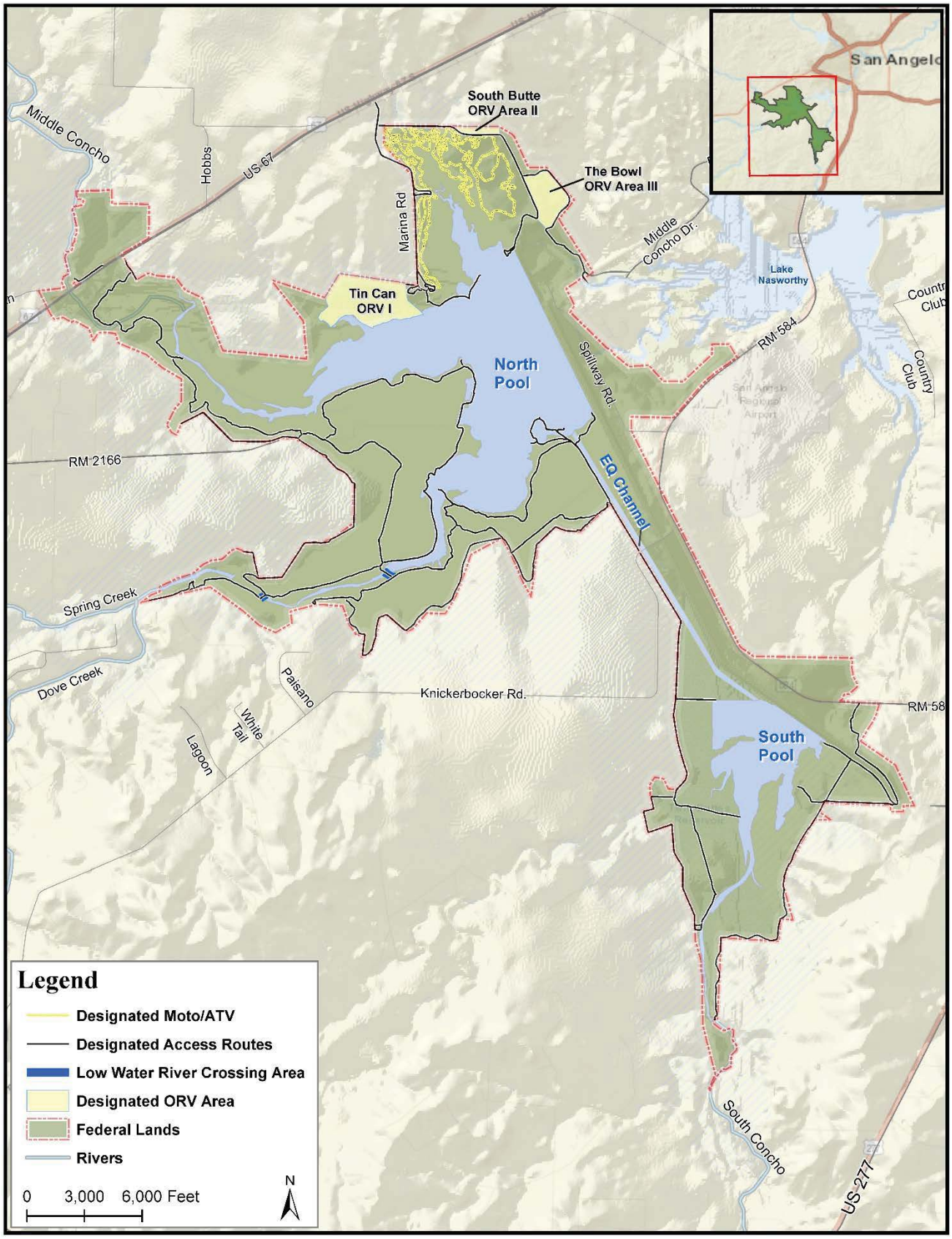

Figure 1. Twin Buttes map with proposed motorized use.

3 Chapter 3: Affected Environment and Environmental Consequences

3.1 Soil and Water Resources

No major pollution sources exist within the South or Middle Concho Rivers upstream of Twin Buttes Reservoir, so water quality in the Reservoir is generally good. Water quality in Spring Creek tends to be only fair due to high turbidity (a measure of total suspended solids), total dissolved solids, and hardness levels. All water quality parameters meet required state standards (Texas Commission on Environmental Quality 2008). The Reservoir is not on the Texas 303(d) list of waterbodies that fail to meet standards, yet invasive plant monocultures have resulted in bare, open spaces between plants that may increase runoff and erosion. Twin Buttes is a relatively shallow reservoir thus, sediments can easily be re-suspended during storm events. High turbidity can also eliminate sensitive food organisms and reduce sunlight penetration to aquatic plants, thereby impeding photosynthesis. Suspended particles also provide increased surface area for transport of pesticides, heavy metals, and other toxic compounds.

Soils around Twin Buttes Reservoir are generally similar and mostly located on flat lands, low hills and mesas. Slopes are generally below 20 percent, but some can approach 90 percent. Slope lengths in this area are short, generally less than about 100 ft. A few areas have shallow gullies, mainly along stream courses. Primary soil types are of the Angelo, Kimbrough, and Tulia soil series. Soils are generally well-drained, have medium surface runoff, have moderate erodibility, and are moderately permeable. There is an isolated area of red clay between the Twin Buttes and Nasworthy Lake area downhill from some routes. These clays occur on the approach to the “Bowl” ORV area and access roads are gullied in some areas. The site condition assessment showed that most routes were stable and not visibly eroding. Of the areas observed, full-sized vehicle riding areas in crawler areas had the most soil displacement and erosion observed. Areas of erosion were also found along streams in primarily motorcycle use areas and on isolated steeper sloped areas.

Access Routes

Access routes generally follow the Reservoir shoreline, as well as the South Fork Concho River, which flows into the South Pool of the Reservoir; and Spring Creek and the Middle Fork Concho River, which flow into the North Pool of the Reservoir. Roads are a common source of sediment that can erode and be transported through runoff into the Reservoir. However, because slopes on the roads have low gradients, existing sediment erosion is relatively low. The likelihood of eroded sediment reaching the Reservoir is increased by proximity of the road to either stream channels or the Reservoir. The primary area of road surface erosion is from the cleared areas near paved road access on the south side of the Reservoir (Figure 2). This area has several large, cleared areas and a crossing over the Equalization Channel (EQ Channel).

Figure 2. Location of access routes relative to near EQ Channel

ATV/MOTO Routes

The existing trails in this area are generally stable with a few lower areas prone to saturation during wet periods. Runoff is diverted off the trails adequately and surface erosion is light. Many of the trails are native surface and in most places do not appear to need additional hardening to be suitable for motorcycle or ATV traffic. Several intermittent streams occur in this area. Stream gullies exist in several areas that have been deepened and expanded into a main stream gully due to extensive use (Figure 3). The main gully leads directly to the Reservoir and would transport sediment to the reservoir if not properly mitigated.

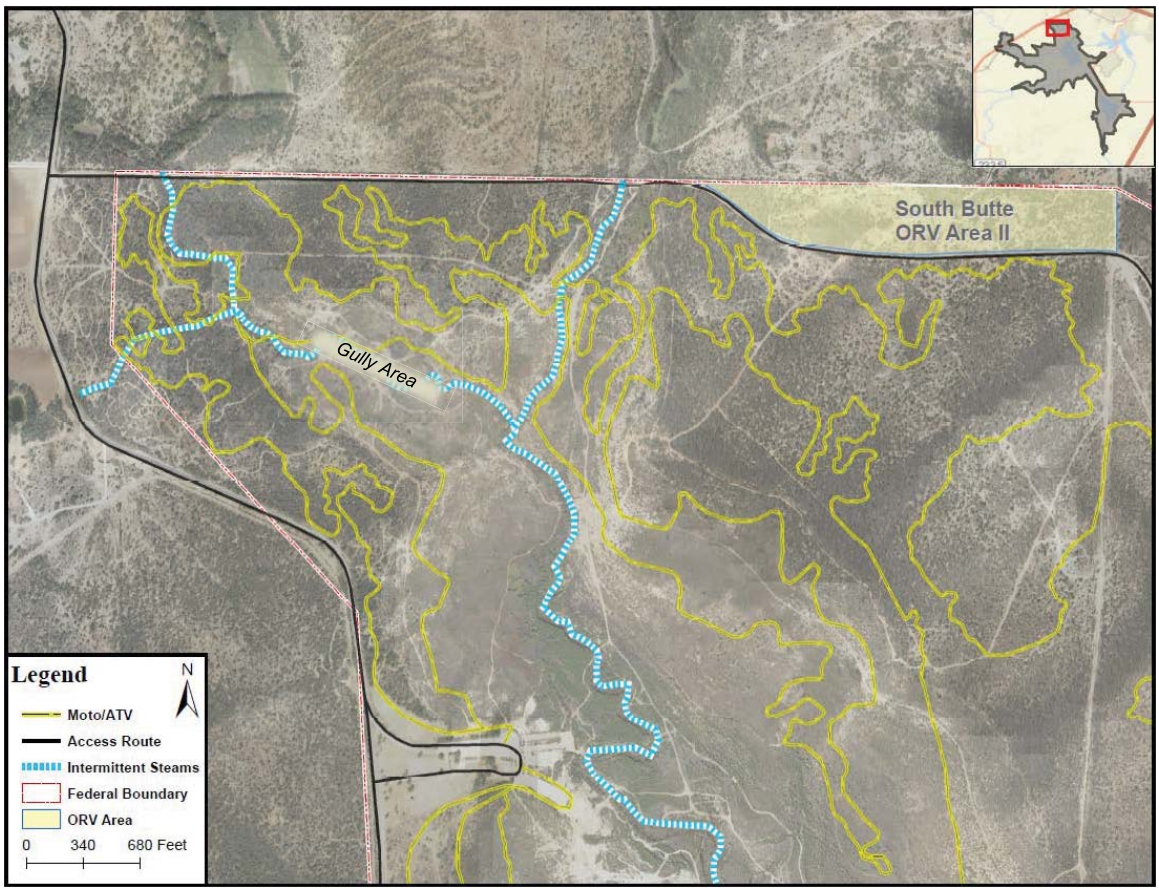

Figure 3. An intermittent stream in a complex of ATV/Moto routes containing a gully.

ORV Area I – "Tin Can"

Overall, existing trails within the "Tin Can" ORV Area are in fairly stable condition with minimal risk of erosion into drainages that feed into the Reservoir (Figure 4). Similar to the Moto/ATV Area, networks of intermittent streams in "Tin Can" have the potential to contribute sediment from eroded trails; however, most of the trails are located away from these drainages. Trail surfaces are native surface, are well-drained, and do not show evidence of adverse surface erosion.

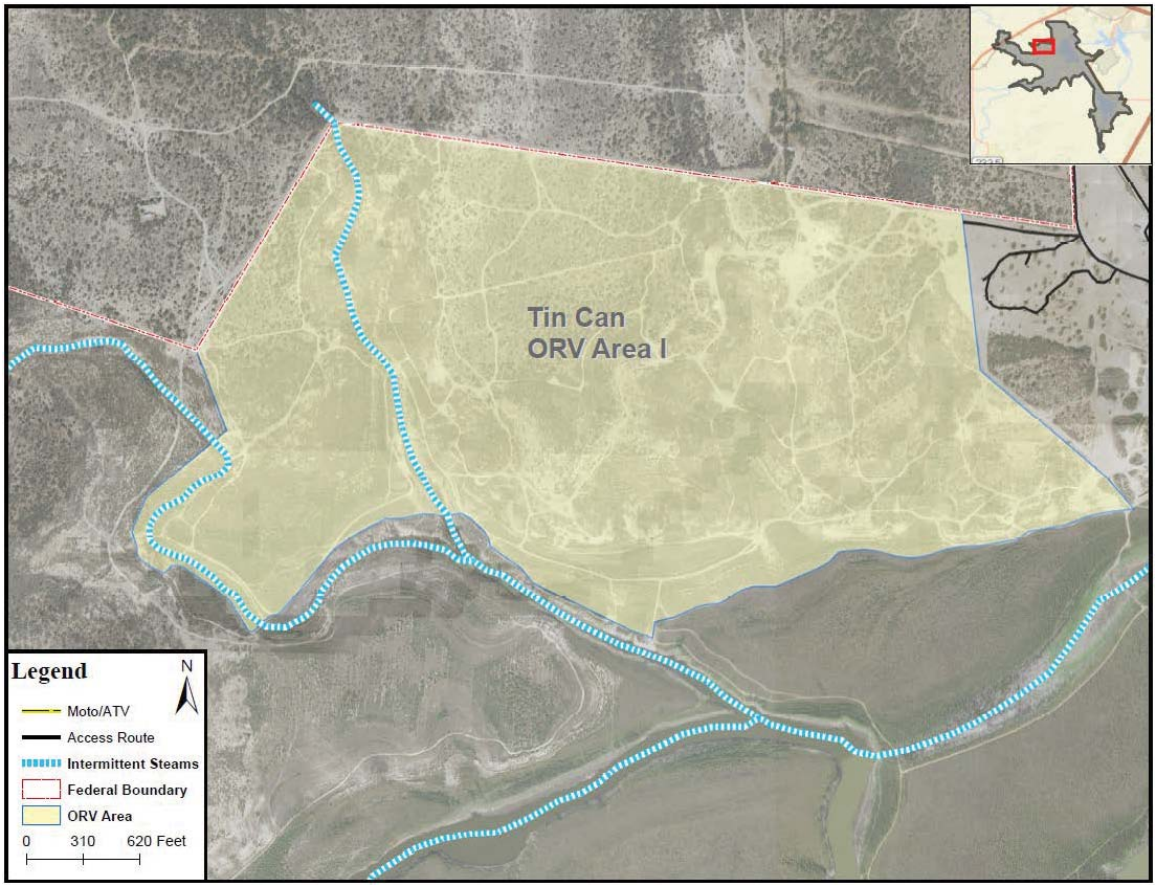

Figure 4. ORV Area I – "Tin Can": Location of trails relative to intermittent streams.

ORV Area II – "South Butte"

The South Butte area consists of rolling topography with trails that are generally native surface and stable and lacks intermittent streams (Figure 5). Erosion from this area does not appear to reach surface water and any sediment eroded from this area likely settles out locally.

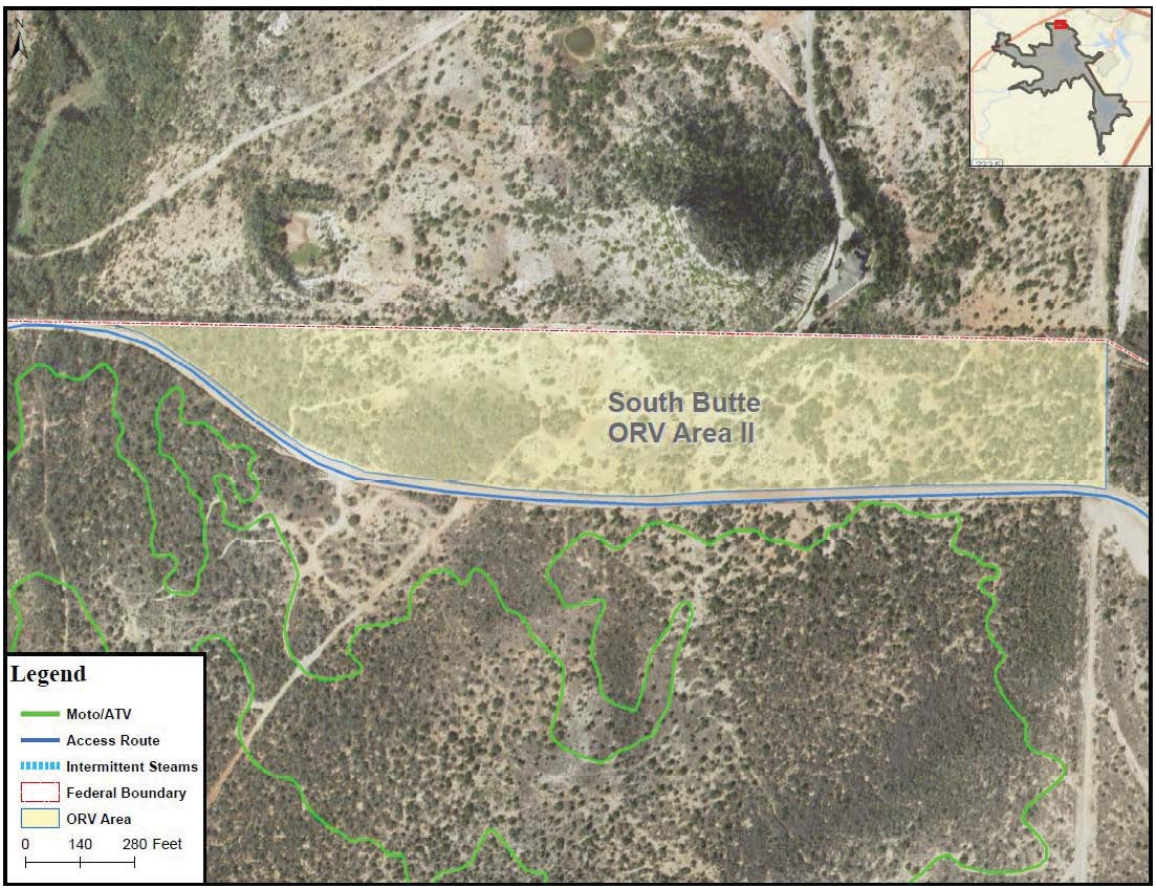

Figure 5. ORV Area II – "South Butte": Location of trails with no intermittent streams

ORV Area III – "The Bowl"

The Bowl is surrounded by low-gradient access routes and contains a dense network of routes located on much steeper hillslopes (Figure 6). The landforms within "The Bowl" are predominantly flat-topped mesas in the San Angelo formation. The geologic layers are a cap limestone with complex and discontinuous underlying sandstone, mudstone, and lower mudstone and clay layers. The layering has harder rock types like sandstone near the mesa rimrock, which serves to protect the underlying rock and clay layers from erosion. The routes typically are directly down slope, and gradients can exceed 90 percent. Slope lengths can vary from 50 to over 100 feet, depending on the trail.

Erosion exists on routes located on the steeper slopes and when softer layers underneath are exposed to runoff from repeated use. As softer layers erode, sandstone layers can collapse, leading to further erosion of the underlying softer layers. Increased runoff from the steeper slopes has led to route gully erosion on the east side of "The Bowl". Runoff from these areas appear to flow into flat areas and disperse before reaching local water courses. Rates of erosion are variable depending on the slope of the land feature, vegetation, and underlying geology.

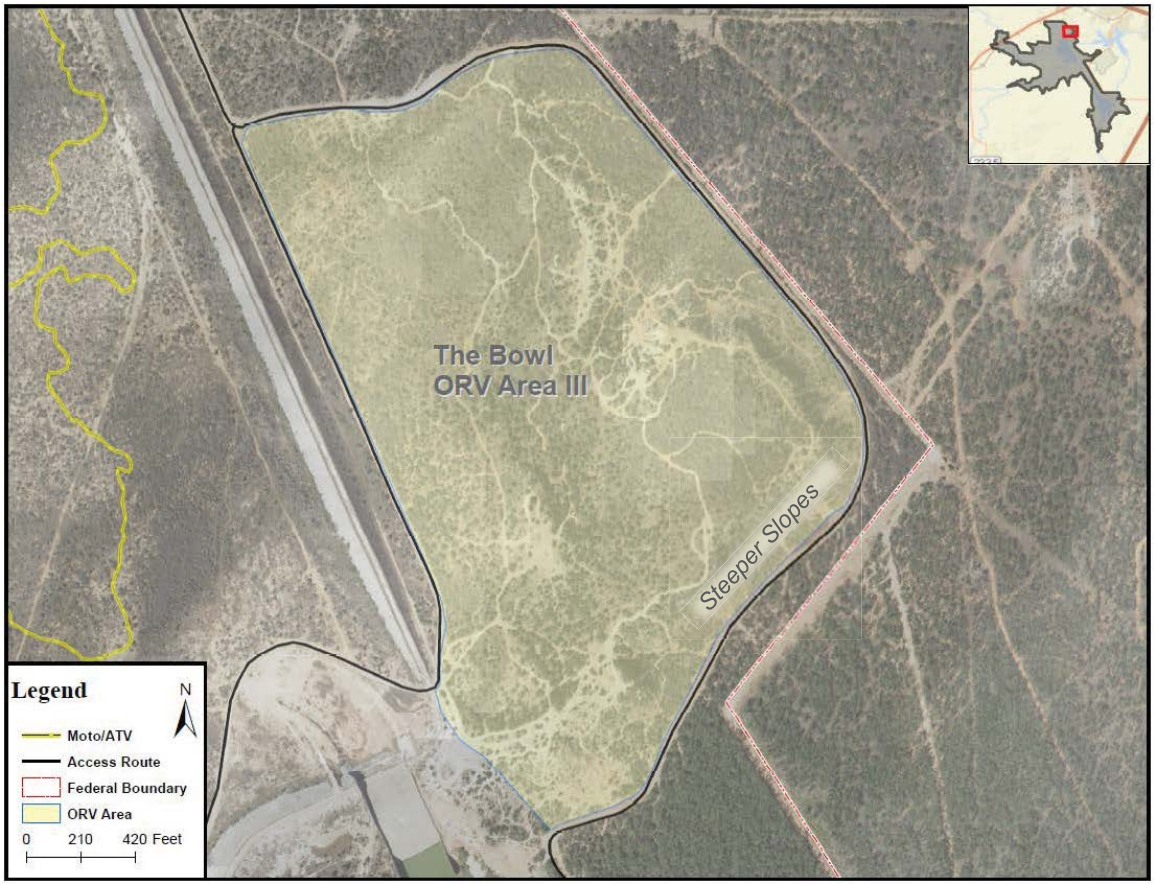

Figure 6. "The Bowl" ORV Area, with surrounding access route.

3.1.1 Impacts of Proposed Action

In general, many trails are on stable soils and located outside of areas where run-off could cause sedimentation into Twin Buttes Reservoir. For areas with existing gully systems, routes were selected to avoid sensitive areas and only in locations where erosion may be managed using best management practices. Areas of poorly drained and wet soils would be avoided, reconstructed or re-routed. Other Best Management Practices may be used to provide proper runoff management from trails and access routes. Over time, natural revegetation of closed areas or trails should reduce potential erosion in cleared areas and improve overall conditions.

3.1.2 Impacts of No Action

Continued unauthorized and unmanaged motorized vehicle use in the area would result in soil disturbance, degradation, with excessive gully erosion persisting. Erosion into drainage areas would increase sedimentation into some areas of Twin Buttes Reservoir, which would increase reservoir turbidity and suspended solids.

3.2 Recreation, Scenic, and Esthetic Resources

Popular water-based recreation activities at Twin Buttes Reservoir include boating, fishing (largemouth bass, white bass, catfish, crappie, and sunfish), wind surfing, and water skiing. Popular land-based activities include hunting (whitetail deer, turkey,

waterfowl, dove, etc...), primitive camping; ORV activities, ATVs and motorcycles; mountain biking, trail running, hiking, bird watching, and photography.

Visitors using full size four-wheel drive vehicles, jeeps, and side-by-side ORVs tend to use the ORV areas (The Bowl, South Buttes, and Tin Can) and seek challenging terrain and opportunities to develop their four-wheel driving skills. Visitors who prefer smaller ATVs or motorcycles tend to use the motorcycle and ATV routes since these are narrower trails with dips and loops that appeal to smaller vehicles traveling at somewhat higher speeds and in one direction. Access routes are popular among all users wishing to access the reservoir's shoreline for various land and water-based recreation opportunities.

Of particular importance is motorized ORV use, which supports various organized user groups comprised of members from the nearby communities of San Angelo, Midland/Odessa, Abilene, and McCamey. Federal regulations prohibit ORV use on Federal lands that do not have officially designated areas and/or trails for ORV use. Illegal activities have historically occurred on the lands around Twin Buttes Reservoir including, mudding, garbage dumping, and other unwanted uses that often results in litter, illegal use of fireworks, damage and vandalism of Federal property, abandoned firearm shells and drug use.

3.2.1 Impacts of Proposed Action

The TMP includes a stakeholder-driven process that has allowed motorized user groups to have a voice in selecting areas that meet their experience preferences while minimizing the potential for conflict between different types of visitor use. While existing trails would be reduced from 157 miles to 56 miles, responses from the public have been overwhelmingly positive relative to the No Action Alternative. This is because visitors want to maintain access to recreation opportunities on Federal lands, seek to reduce illegal activities, and want a safe recreation experience while protecting land and environmental resources. Although routes would be reduced by 64 percent (157 miles to 56 miles), most of these closed routes are unsuitable for off road use and are unsafe for the public. In the three designated "ORV Areas", motorized opportunities would largely remain unchanged relative to No Action, albeit use would be restricted under the Proposed Action to only existing routes. Although the route designations would not apply to non-motorized uses such as mountain biking, trail running, or hiking, opportunities for non-motorized activities would be enhanced by limiting motorized vehicle use to designated routes and areas, thereby creating areas free from the influence of motorized vehicles.

The TMP would reduce unauthorized off road travel or travel on routes that are either unsafe or not suitable for a specific vehicle type. Some routes that do not receive regular use are naturally re-vegetating, increasing soil stability in these areas. Natural re-vegetation of vehicle routes that are not designated for use by motorized vehicles would improve esthetics across the landscape and return the area to a more natural appearance. Enforcement of motorized vehicle use designations would improve public safety and reduce illegal activity, improving the overall quality of the recreation experience.

3.2.2 Impacts of the No Action

Continued unauthorized and unmanaged motorized vehicle use in the area would lead to deteriorating route conditions, with some becoming rutted, impassable, and lead to the development of new routes. Public safety concerns would continue, as would illegal activities such as drug use, dumping, littering, etc. Overall, the recreational experience would be expected to degrade over time.

3.3 Vegetation

Executive Order 13112 prevents Federal agencies from undertaking actions that are likely to cause or promote the introduction or spread of invasive species. Tom Green County is located in the semi-arid ecological transition zone between the Central Great Plains and Edwards Plateau ecoregions. The three most dominate ecological systems, as identified by Texas Ecosystem Analytical Mapper are; Mesquite Shrubland, Floodplain Deciduous Shrubland, and Floodplain Herbaceous Vegetation. The most dominant native species includes mesquite *(Prosopis spp*.), with codominant species that include lotebush (*Ziziphus obtusifolia*), juniper (*Juniperus spp*.), sugar hackberry (*Celtis laevigata*), prickly pear (*Opuntia spp.*) and agarito (*Mahonia trifolioata*). In many areas, noxious and/or invasive species such as salt cedar (*Tamarix spp*.) and willow baccharis (*Baccharis salicina*) have replaced native vegetation. Salt cedar is the only designated noxious weed reported in the project area, although others may be present.

3.3.1 Impacts of the Proposed Action

The TMP would limit motorized use to existing routes and would close routes that are degraded and unsuitable for use; the closed areas would revegetate. The proposed project would be compliant with Executive Order 13112.

3.3.2 Impacts of the No Action

Continued unauthorized and unmanaged motorized vehicle use in the area would likely result in continued degradation of existing routes and the addition of new routes, which would damage vegetation communities and increase the spread of invasive and noxious plant species. The negative effects of roads and motorized travel on vegetation are well documented (Trombulak and Frissell 2000, Ouren et al. 2007, Von der Lippe and Kowarik 2007, Taylor et al. 2011).

3.4 Fish and Wildlife Species

Fish species found in Twin Buttes Reservoir include largemouth and smallmouth bass (*Micropterus spp*.), walleye (*Stizostedion vitreum*), crappie (*Pomoxis spp*.), several species of sunfish (*Lepomis spp*.), blue, bullhead, and channel catfish (*Ictalurus spp*.), carp (*Cyprinus carpio.*), and freshwater drum (*Aplodinotus grunniens*.). Many of these species are stocked for recreational fishing.

Popular wildlife in the area include white-tailed deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), opossum (*Didelphis marsupialis*), armadillo (*Dasypus novemcinctus*) rats and mice (Family Heteromyidae), rabbits (*Sylvilagus* spp.), nutria (*Myocastor coypus*), squirrel (*Sciurus* spp.), and fox (*Vulpes* spp.). The nutria is a non-native,

invasive species. Birds include wild turkey (*Meleagris gallopavo*), mourning dove (*Zenaidura macroura*), and great blue heron (*Ardea herodias*), as well as various woodpeckers, hawks, owls, vultures, waterfowl, and songbirds. Snakes, lizards, and frogs are also abundant.

3.4.1 Impacts of the Proposed Action

The TMP would limit motorized use to existing routes and would close routes that are degraded and unsuitable for use. Closed areas would revegetate and improve terrestrial habitat for wildlife. It also would reduce erosion into the Reservoir in areas adjacent to drainages. Overall, habitat for terrestrial wildlife and aquatic species would be improved.

3.4.2 Impacts of the No Action

The No Action alternative would result in continued erosion and degradation of vegetation, with areas adjacent to drainages continuing to cause sedimentation into the Reservoir. This would negatively impact terrestrial wildlife, as well as reduce water quality and negatively impact fish and other aquatic organisms and their habitats in Twin Buttes Reservoir.

3.5 Threatened and Endangered Species

No Federally-listed threatened or endangered vegetation or fish/aquatic species exist within the project area. The U.S. Fish and Wildlife Service list (Appendix D) three threatened or endangered species for Tom Green County, Least Tern (*Sterna antillarum athalassos*), Piping Plover (*Charadrius melodus*), and Red Knot (*Calidris canutus rufa*). Yet, only the Least Tern must be considered[1]. The Least Tern is Federally-listed as endangered, and prefer vegetated sand or gravel bars within wide river channels, along salt flats, or on artificial habitats such as sand pits. Least Terns may periodically nest in sandy areas along the shoreline of Twin Buttes Reservoir, yet are considered transients. However, any potential suitable nesting areas would be outside the project area.

3.5.1 Impacts of the Proposed Action

The Proposed Action would have no effect on any Federally-listed species or critical habitat because none are present in the project area.

3.5.2 Impacts of the No Action

The No Action alternative would have no effect on any Federally-listed species or critical habitat because none are present in the project area.

3.6 Migratory Birds

The Migratory Bird Treaty Act of 1918 (MBTA), in conjunction with Executive Order (EO) 13186, requires agencies to ensure that NEPA analyses include an evaluation of potential effects on migratory birds. The MBTA prevents the “taking” of migratory birds, where “take” is defined by hunting, pursuing, wounding, killing, possessing or

[1] Impacts on the Piping Plover and Red Knot must only be considered for proposed wind energy projects.

transporting any migratory bird, nest, egg, or part thereof. Many different species of migratory birds travel through the Central Flyway, which includes the project area, with some nesting in the area between March 1 and August 31 (the migratory bird nesting season. Overall, the Reservoir and surrounding areas provide excellent habitat for migratory birds, including waterfowl, shorebirds, and neo-tropical passerines.

3.6.1 Impacts of the Proposed Action

The TMP would limit motorized use to existing routes and would close routes that are degraded and unsuitable for use. Closed areas would revegetate and improve habitat for migratory birds. It also would reduce erosion into the Reservoir in areas adjacent to drainages. This would improve habitat for migratory birds that use the Reservoir for habitat.

3.6.2 Impacts of the No Action

The No Action alternative would result in continued erosion and degradation of vegetation, with areas adjacent to drainages continuing to cause sedimentation into the Reservoir. This would reduce water quality and could negatively impact habitat for migratory birds.

3.7 Cultural Resources

In accordance with NEPA, the National Historic Preservation Act of 1966 (NHPA), 36 CFR 800, 43 CFR 420.22, and with adherence to the Reclamation Manual Directives and Standards LND 02-01, this section details the analysis of cultural resources and potential effects to historic properties and unevaluated cultural resources resulting from the Twin Buttes TMP. The term "historic property" is defined in the NHPA as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register of Historic Places (NRHP).

Detailed cultural resource surveys were conducted of the project area. The survey identified 71 archaeological sites, of which two sites were determined to be "eligible" for listing in the NRHP, and the remaining 69 sites were either determined to be "not eligible" for listing in the NRHP or did not have to be evaluated. In either case, all archeological sites were avoided, with the exception of three sites, including two sites determined as "eligible" for listing in the NRHP. The State Historic Preservation Officer (SHPO) concurred with these determinations in May 2018 (Appendix C), yet Reclamation will perform an annual condition assessment to identify and analyze changes in conditions of unavoided sites. Pursuant to 36 CFR 296.18, the nature and locations of cultural resources are confidential.

3.7.1 Impacts of Proposed Action

The TMP would limit motorized use to existing routes and would close routes that could potentially affect archaeological sites, with the exception of three sites. During the detailed cultural resources survey, these potentially impacted sites were identified as containing previously existing road beds that demonstrate the ability to withstand motorized vehicle activity for the foreseeable future with minimal degradation. To

mitigate potential impacts on these sites, an annual condition assessment for a five-year period would be performed to analyze potential condition changes and identify additional mitigation measures, if necessary.

3.7.2 Impacts of No Action

The No Action alternative would result in continued erosion and degradation of vegetation, which could further result in adverse impacts to cultural resources. As uses increase and expand, unauthorized collection of artifacts may occur the foreseeable future.

3.8 Environmental Justice

Executive Order No. 12898, Environmental Justice, is "intended to promote nondiscrimination in Federal programs substantially affecting human health and the environment, and to provide minority and low-income communities access to public information on, and an opportunity for participation in, matters relating to human health and the environment." It requires each Federal agency to achieve environmental justice as part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects, including social and economic effects, of its programs, policies, and activities on minority and low-income populations.

3.8.1 Impacts of Proposed Action

The Proposed Action would not result in any disproportionate impacts on minority or low-income populations. The TMP would authorize motorized use on some routes (i.e., "Moto/ATV" routes and routes within "ORV Areas") that would require an OHV decal, but access would be open to all citizens.

3.8.2 Impacts of No Action

The No Action alternative would not result in any disproportionate impacts on minority or low-income populations.

3.9 Socioeconomics

Socioeconomics is a measure of the impacts of a proposed action in terms of spending, value added, and measurable changes in the economy. Direct impacts are often expressed by using metrics such as income and employment and are measured by construction activities, changes in local employment, variations in agricultural, municipal, and/or manufacturing outputs, and long-term deviations to the operation and maintenance costs of a proposed action. Indirect impacts occur when surrounding individuals and businesses are affected the proposed action.

3.9.1 Impacts of Proposed Action

The proposed action would not be anticipated to result in measurable impacts to the local and regional economy that are not otherwise already provided by the San Angelo Project. The San Angelo Project, as a whole, offers important water supply, flood control, recreation, and fish and wildlife benefits to the local and regional economy. While the TMP would authorize motor vehicle use around Twin Buttes Reservoir by enhancing the

public experience at Twin Buttes Reservoir through improved land management and access to hunting and motorized vehicle use, the goal is for the TMP to maintain Project benefits and authorized Project purposes.

3.9.2 Impacts of No Action

The No Action alternative would not result in any measurable impacts to the local and regional economy. While resource degradation and illegal activities would be expected to continue, the impacts of such would likely not be quantifiable on the local and regional economy.

3.10 Air Quality and Climate Change

The U.S. Environmental Protection Agency (EPA) does not maintain any air quality monitoring stations in Tom Green County. The nearest site is located in Odessa, approximately 132 miles north-northwest. Air quality at Odessa meets or exceeds the primary EPA standard for air quality, with very few exceptions, and the area is therefore classified as an attainment area. Council on Environmental Quality draft guidance requires Federal agencies to determine whether and to what extent their actions affect the climate, and the extent to which changing climate affects their actions.

3.10.1 Impacts of Proposed Action

The Proposed Action would not have any measurable impact on air quality because the amount and frequency of motorized vehicle use in the area would not be expected to change as a result of the proposed action. Conversely, any potential changes in climate would have no effect on the Proposed Action.

3.10.2 Impacts of No Action

The Proposed Action would not have any measurable impact on air quality because the amount and frequency of motorized vehicle use in the area would not be expected to change as a result of the proposed action. Conversely, any potential changes in climate would have no effect on the Proposed Action.

3.11 Cumulative Impacts

Regulations require an analysis that considers the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions. No other actions would exist or would be expected to exist in the project area that could result in cumulative impacts when combined with impacts of either the Proposed Action or No Action.

4 Chapter 4: Consultation and Coordination

Consultation and coordination process presents other agencies, interest groups, and the general public with opportunities to obtain information about a given project and allows interested parties to participate in the project. The key objective is to facilitate a well-

informed, active public that assists decision-makers throughout the process, culminating in the implementation of an alternative.

The following local, state, and Federal agencies were contacted and consulted in the preparation of this EA. Additional opportunities were given during the scoping period.

- Texas Parks and Wildlife Department
- City of San Angelo
- Texas State Historic Preservation Officer
- Alabama-Coushatta Tribe
- Comanche Nation
- Kickapoo Traditional Tribe
- Ysleta Del Sur Pueblo Tribe

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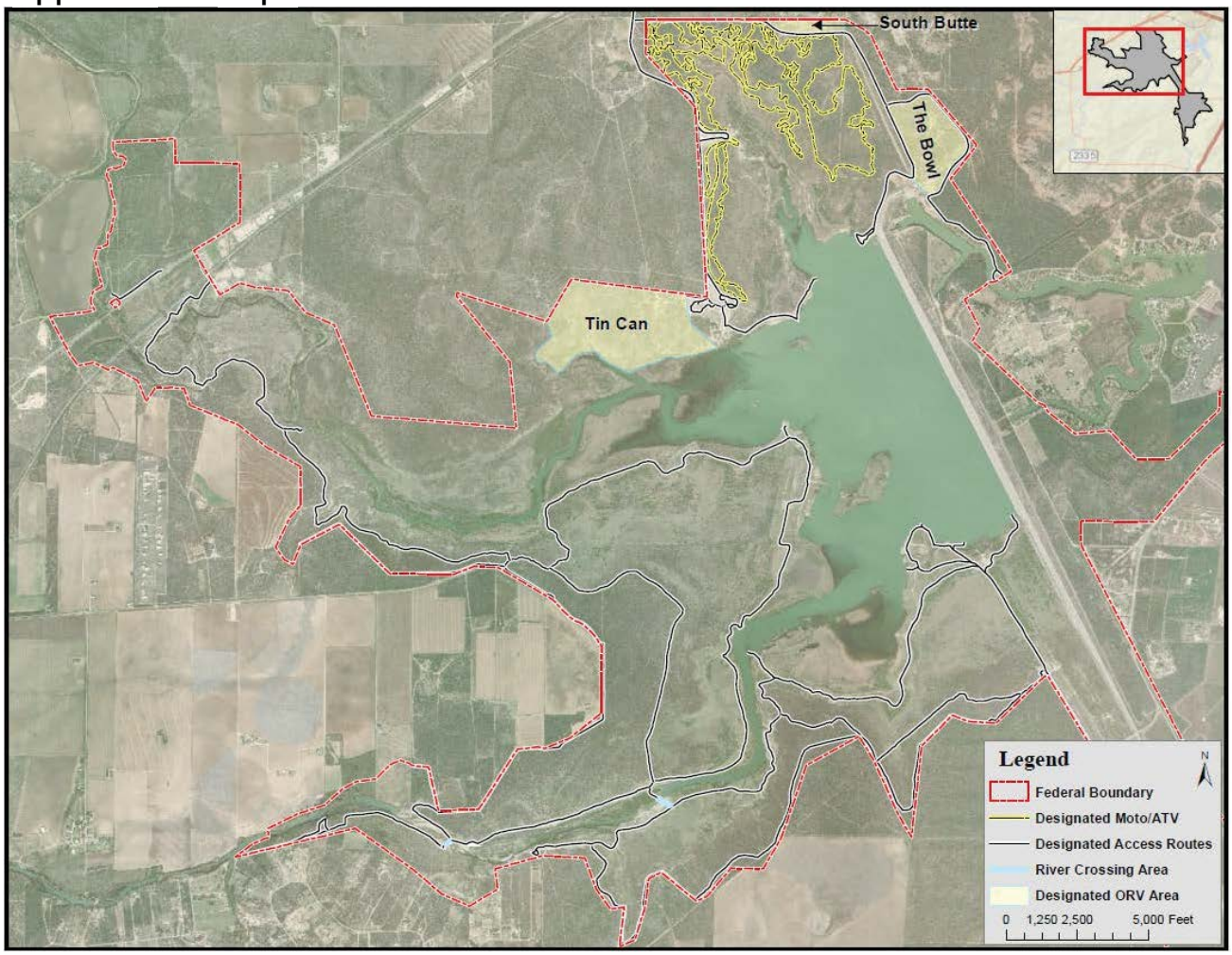
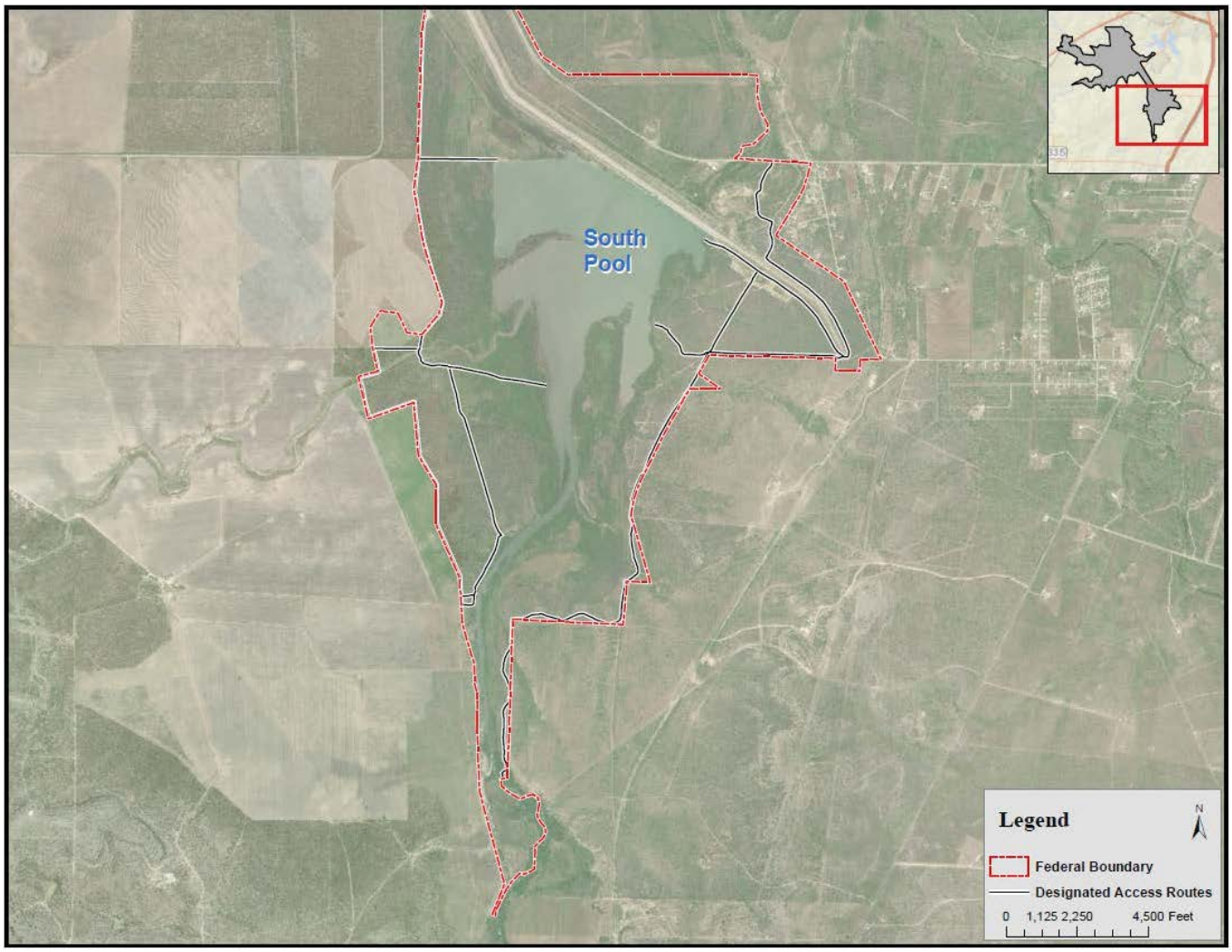
Appendix A - Maps

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Federal Boundary
Designated Access Routes
0 1,125 2,250 4,500 Feet

Appendix B – Relevant Laws and Regulations

National Environmental Policy Act (NEPA) - The basic doctrine of the National Environmental Policy Act (NEPA) requires the Federal Government to use all practicable means and measures to protect environmental values. It establishes policy, sets goals and provides means for carrying out the policy. NEPA encourages the wise use of natural resources by requiring the consideration of environmental factors in Federal agency decision-making.

Executive Order 11644 (Use of Off-Road Vehicles on Public Lands) and Reclamation Directive and Standards LND 01-03 - Requires the development of a plan that ensures use of off-road vehicles on public lands is controlled and directed for protection of area resources, promotion of safety for all area users, and minimization of conflicts among various area land uses.

CFR 420.1 - For off-road vehicle use on Reclamation lands to protect the land resources, to promote the safety of all users, to minimize conflicts among the various uses, and to ensure that any permitted use will not result in significant adverse environmental impact or cause irreversible damage to existing ecological balances.

CFR 420.22 - Outlines criteria for off-road vehicle areas: (a) Areas and trails to be opened to off-road vehicle use shall be located: (1) to minimize the potential hazards to public health and safety, other than the normal risks involved in off-road vehicle use (2) To minimize damage to soil watershed, vegetation, or other resources of the public lands (3) To minimize harassment of wildlife or significant disruption of wildlife habitats (4) To minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure compatibility of uses with existing conditions in populated areas, taking into account noise and other factors. (5) In furtherance of the purposes and policy of the National Environmental Policy Act of 1969 (Pub. L. 91-190, 83 Stat. 852).

National Historic Preservation Act (NHPA) of 1966 (P.L. 89-665), as amended (P.L. 95-515) - Section 106 of NHPA requires Federal agencies to take into account the effects of their undertakings on historic properties.

American Indian Religious Freedom Act (AIRFA) of 1978 - Requires Federal agencies to consider the impacts of their projects on the free exercise of traditional Indian religions. Archaeological Resources Protection Act (ARPA) of 1979.

Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 - Requires Federal agencies and museums to provide information about Native American cultural items to parties with standing and, upon presentation of a valid claim, ensure the item(s) undergo disposition or repatriation.

EO 13175 - Consultation and Coordination with Indian tribal Governments

EO 11593 - Protection and Enhancement of the Cultural Environment

EO 13007 – Requires Federal agencies to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoid adversely affecting the physical integrity of such sacred sites.

The Migratory Bird Treaty Act (MBTA) and EO 13186 – Under MBTA it is unlawful "by any means or manner to pursue, hunt, take, capture or kill" any migratory bird, while EO 13186 provides further responsibilities of Federal agencies to protect migratory birds.

Endangered Species Act (P.L. 93-205) – Section 7 of this Act - Requires consultation with the U.S. Fish and Wildlife Service for actions that may affect Federally listed threatened or endangered plant, fish, or wildlife species.

Executive Order 12898 – Requires that Federal actions address Environmental Justice in minority populations and low-income populations.

Appendix C - SHPO Concurrence/ Tribe Consultation Letters

United States Department of Agriculture
United States Forest Service
Heritage Enterprise Unit

October 25, 2018

USFS Enterprise Heritage Division
Jacob Hemingway, MS
4553 Eastwood Drive
Okemos, MI 48664

Alabama-Coushatta Tribe of Texas
Historical Preservation Clerk
Bryant J. Celestine
571 State Park Road 56
Livingston, Texas 77351

Dear Bryant J. Celestine:

On behalf of the lead federal agency, Bureau of Reclamation (Reclamation), Oklahoma Texas Office, the United States Forest Service (USFS), Heritage Enterprise Unit, has determined and received Texas State Historic Preservation Office concurrence that no adverse effects to historic properties or unevaluated archaeological sites will occur as a result of the Twin Buttes Travel Management Project (TMP) in accordance with 36 CFR 800.5.

The area of potential effect (APE) includes a 50 meter buffer around the proposed travel routes. The TMP is designed to authorize sustainable motor vehicle use and alleviate unauthorized off road motor vehicle use. The undertaking consists of designating official authorized travel routes within the APE by utilizing existing road beds where applicable. All non-official travel routes will be closed by utilizing signage, natural/physical barriers, and/or law enforcement patrol. The official travel routes and closures will be selected to avoid or minimize impacts to archaeological sites. Furthermore, the TMP will provide an enforceable means that will aid in reducing potential impacts associated with unauthorized motor vehicle use of Federal lands.

Pursuant to 36 CFR 800.4, fieldwork and a review of the NRHP and Texas Historic Sites Atlas identified a total of 80 archaeological sites located within the proposed APE. Of the 80 archaeological sites, 2 sites have been determined “eligible” for listing in the NRHP, 32 sites are “unevaluated” for listing in the NRHP and 46 sites have been determined “not eligible” for listing in the NRHP. The 46 archaeological site determined “not eligible” are not included in this analysis.

Unevaluated archaeological site 41TG253 and NRHP eligible sites 41TG427 and 41TG447 were identified as containing previously existing road beds. The TMP is designed to limit the magnitude of the undertaking by utilizing the existing road beds and avoid ground disturbing activities within the aforementioned sites. The existing roads, within the aforementioned sites,

have been evaluated and demonstrate the ability to withstand motorized vehicle activity for the foreseeable future with minimal degradation. Reclamation will implement an annual condition assessment for five years to identify and analyze potential changes in the condition of archaeological sites 41TG253, 41TG427, and 41TG447, which could be attributable to the existing road. Data collected through the condition assessments will aid Reclamation in determining whether actions would need to be taken to develop treatment methods and preserve site integrities. All other unevaluated archaeological sites will be avoided during TMP implementation. On behalf of Reclamation, the USFS has determined that "no adverse effects" will occur as a result of the proposed TMP undertaking.

Please find the necessary documentation enclosed per 36 CFR 800.11. If you concur with the effects determination in this submission, please provide a concurrence letter returned to address noted above or via email to jacoblhemingway@fs.fed.us. If you do not concur, we request that you express your concerns and objections clearly in writing so that USFS and Reclamation may continue the consultation process as needed. Please respond in writing to the address provided above within 30 days of the receipt of this letter. Thank you for your prompt attention to this matter.

Sincerely,

Jacob Hemingway

Jacob Hemingway, M.S.
USFS Archaeologist

United States Department of Agriculture
United States Forest Service
Heritage Enterprise Unit

October 24, 2018

USFS Enterprise Heritage Division
Jacob Hemingway, MS
4553 Eastwood Drive
Okemos, MI 48664

Comanche Nation
Historic Preservation
Martina Callahan
P.O. Box 908
Lawton, OK 73507

Dear Martina Callahan:

On behalf of the lead federal agency, Bureau of Reclamation (Reclamation), Oklahoma Texas Office, the United States Forest Service (USFS), Heritage Enterprise Unit, has determined and received Texas State Historic Preservation Office concurrence that no adverse effects to historic properties or unevaluated archaeological sites will occur as a result of the Twin Buttes Travel Management Project (TMP) in accordance with 36 CFR 800.5.

The area of potential effect (APE) includes a 50 meter buffer around the proposed travel routes. The TMP is designed to authorize sustainable motor vehicle use and alleviate unauthorized off road motor vehicle use. The undertaking consists of designating official authorized travel routes within the APE by utilizing existing road beds where applicable. All non-official travel routes will be closed by utilizing signage, natural/physical barriers, and/or law enforcement patrol. The official travel routes and closures will be selected to avoid or minimize impacts to archaeological sites. Furthermore, the TMP will provide an enforceable means that will aid in reducing potential impacts associated with unauthorized motor vehicle use of Federal lands.

Pursuant to 36 CFR 800.4, fieldwork and a review of the NRHP and Texas Historic Sites Atlas identified a total of 80 archaeological sites located within the proposed APE. Of the 80 archaeological sites, 2 sites have been determined "eligible" for listing in the NRHP, 32 sites are "unevaluated" for listing in the NRHP and 46 sites have been determined "not eligible" for listing in the NRHP. The 46 archaeological site determined "not eligible" are not included in this analysis.

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have been evaluated and demonstrate the ability to withstand motorized vehicle activity for the foreseeable future with minimal degradation. Reclamation will implement an annual condition assessment for five years to identify and analyze potential changes in the condition of archaeological sites 41TG253, 41TG427, and 41TG447, which could be attributable to the existing road. Data collected through the condition assessments will aid Reclamation in determining whether actions would need to be taken to develop treatment methods and preserve site integrities. All other unevaluated archaeological sites will be avoided during TMP implementation. On behalf of Reclamation, the USFS has determined that "no adverse effects" will occur as a result of the proposed TMP undertaking.

Please find the necessary documentation enclosed per 36 CFR 800.11. If you concur with the effects determination in this submission, please provide a concurrence letter returned to address noted above or via email to jacoblhemingway@fs.fed.us. If you do not concur, we request that you express your concerns and objections clearly in writing so that USFS and Reclamation may continue the consultation process as needed. Please respond in writing to the address provided above within 30 days of the receipt of this letter. Thank you for your prompt attention to this matter.

Sincerely,

Jacob Hemingway

Jacob Hemingway, M.S.
USFS Archaeologist

United States Department of Agriculture
United States Forest Service
Heritage Enterprise Unit

October 23, 2018

USFS Enterprise Heritage Division
Jacob Hemingway, MS
4553 Eastwood Drive
Okemos, MI 48664

Kickapoo Traditional Tribe of Texas
Chairman
Estavio Elizondo
2212 Rosita Valley Road
Eagle Pass, Texas 78852

Dear Estavio Elizondo:

On behalf of the lead federal agency, Bureau of Reclamation (Reclamation), Oklahoma Texas Office, the United States Forest Service (USFS), Heritage Enterprise Unit, has determined and received Texas State Historic Preservation Office concurrence that no adverse effects to historic properties or unevaluated archaeological sites will occur as a result of the Twin Buttes Travel Management Project (TMP) in accordance with 36 CFR 800.5.

The area of potential effect (APE) includes a 50 meter buffer around the proposed travel routes. The TMP is designed to authorize sustainable motor vehicle use and alleviate unauthorized off road motor vehicle use. The undertaking consists of designating official authorized travel routes within the APE by utilizing existing road beds where applicable. All non-official travel routes will be closed by utilizing signage, natural/physical barriers, and/or law enforcement patrol. The official travel routes and closures will be selected to avoid or minimize impacts to archaeological sites. Furthermore, the TMP will provide an enforceable means that will aid in reducing potential impacts associated with unauthorized motor vehicle use of Federal lands.

Pursuant to 36 CFR 800.4, fieldwork and a review of the NRHP and Texas Historic Sites Atlas identified a total of 80 archaeological sites located within the proposed APE. Of the 80 archaeological sites, 2 sites have been determined "eligible" for listing in the NRHP, 32 sites are "unevaluated" for listing in the NRHP and 46 sites have been determined "not eligible" for listing in the NRHP. The 46 archaeological site determined "not eligible" are not included in this analysis.

Unevaluated archaeological site 41TG253 and NRHP eligible sites 41TG427 and 41TG447 were identified as containing previously existing road beds. The TMP is designed to limit the magnitude of the undertaking by utilizing the existing road beds and avoid ground disturbing activities within the aforementioned sites. The existing roads, within the aforementioned sites,

have been evaluated and demonstrate the ability to withstand motorized vehicle activity for the foreseeable future with minimal degradation. Reclamation will implement an annual condition assessment for five years to identify and analyze potential changes in the condition of archaeological sites 41TG253, 41TG427, and 41TG447, which could be attributable to the existing road. Data collected through the condition assessments will aid Reclamation in determining whether actions would need to be taken to develop treatment methods and preserve site integrities. All other unevaluated archaeological sites will be avoided during TMP implementation. On behalf of Reclamation, the USFS has determined that "no adverse effects" will occur as a result of the proposed TMP undertaking.

Please find the necessary documentation enclosed per 36 CFR 800.11. If you concur with the effects determination in this submission, please provide a concurrence letter returned to address noted above or via email to jacoblhemingway@fs.fed.us. If you do not concur, we request that you express your concerns and objections clearly in writing so that USFS and Reclamation may continue the consultation process as needed. Please respond in writing to the address provided above within 30 days of the receipt of this letter. Thank you for your prompt attention to this matter.

Sincerely,

Jacob Hemingway

Jacob Hemingway, M.S.
USFS Archaeologist

United States Department of Agriculture
United States Forest Service
Heritage Enterprise Unit

October 24, 2018

USFS Enterprise Heritage Division
Jacob Hemingway, MS
4553 Eastwood Drive
Okemos, MI 48664

Ysleta Del Sur Pueblo of Texas
Governor
Carlos Hisa
Ysleta Station
P.O. Box 17579
El Paso, Texas 79917

Dear Carlos Hisa:

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Sincerely,

Jacob Hemingway

Jacob Hemingway, M.S.
USFS Archaeologist

Parish, Jeremy (Trent) <jparish@usbr.gov>

Re: [EXTERNAL] FW: Project Review: 201811816 (Twin Buttes SHPO correspondence)

Parish, Jeremy (Trent) <jparish@usbr.gov>
To: Jeremy Parish <jparish@usbr.gov>

Tue, Mar 12, 2019 at 2:22 PM

From: noreply@thc.state.tx.us [mailto:noreply@thc.state.tx.us]
Sent: Tuesday, August 14, 2018 3:31 PM
To: Hemingway, Jacob - FS <jacobhemingway@fs.fed.us>; reviews@thc.state.tx.us
Subject: Project Review: 201811816

TEXAS HISTORICAL COMMISSION
real places telling real stories

Re: Project Review under Section 106 of the National Historic reservation act and/or the Antiquities Code of Texas
201811816
Bureau of Reclamation. Twin Buttes Reservoir Travel Management Plan
Intersection of Knickerbocker Rd. and Middle Dam Rd.
San Angelo, TX 79602

Dear Jacob Hemingway:
Thank you for your submittal regarding the above-referenced project. This response represents the comments of the State Historic reservation Officer, the Executive Director of the Texas Historical Commission (THC), pursuant to review under Section 106 of the National Historic reservation act.

The review staff led by Tiffany Osburn has completed its review and has made the following determinations based on the information submitted for review:

Archeology Comments

- No adverse effects on historic properties.
- THC/SHPO concurs with information provided
- Archeological sites should be avoided and protected from construction impacts.

We look forward to further consultation with your office and hope to maintain a partnership that will foster effective historic preservation. Thank you for your cooperation in this review process, and for your efforts to preserve the irreplaceable heritage of Texas. If you have any questions concerning your review or if we can be of further assistance, please email the following reviewers: tiffany.osburn@thc.texas.gov.

Sincerely,

For Mark Wolfe, State Historic reservation Officer
Executive Director, Texas Historical Commission

Please do not respond to this email.

4 attachments

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image004.png
2K

Appendix D – Environmental Commitments

Environmental commitments were developed to avoid or eliminate adverse impacts on public safety, and land, cultural, and environmental resources that could potentially result from implementation of Twin Buttes TMP activities, and thus are incorporated into the Proposed Action. The following environmental commitments are based upon best management practices that have been employed and proven effective in similar types of TMP activities:

- Locate or relocate routes to conform to the terrain, provide suitable drainage, provide adequate pollutant filtering between the trail and nearby waterbodies, and reduce potential adverse effects to soil, water quality, or riparian resources.
- Avoid sensitive areas, such as riparian areas, wetlands, stream crossings, inner gorges and unstable areas to the extent practicable. Use suitable measures to hydrologically disconnect trails from waterbodies to the extent practicable.
- Monitor trail conditions at regular intervals to identify drainage and trail surface maintenance needs to avoid, minimize or mitigate adverse effects to soil, water quality and/or riparian resources.
- Design stream crossings to use the most cost-efficient structure consistent with resource protection, facility needs and types of use, and safety obligations.
- Use suitable public relations and information tools, and enforcement measures to encourage the public to conduct motorized vehicle use activities within designated areas in a manner that will avoid, minimize or mitigate adverse effects to soil, water quality and riparian resources.

Also, in furtherance to promote sustainable motor vehicle use by designating authorized travel routes selected to avoid or minimize adverse impacts to historic properties, pursuant to 36 CFR 800.5(3)(b), Reclamation would:

- Perform an annual condition assessment, for a five-year period to identify and analyze potential changes in the condition of archaeological sites of interest to determine if additional mitigation measures will be required.
- Avoid all archaeological sites that are not considered as part of this Environmental Assessment, unless further evaluated.

Appendix E – USFWS Official Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
Phone: (512) 490-0057 Fax: (512) 490-0974
http://www.fws.gov/southwest/es/AustinTexas/
http://www.fws.gov/southwest/es/EndangeredSpecies/lists/

In Reply Refer To: March 13, 2019
Consultation Code: 02ETAU00-2019-SLI-0736
Event Code: 02ETAU00-2019-E-01496
Project Name: Twin Buttes TMP

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that *may* occur within the county of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please note that new information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Also note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq*.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of federally listed as threatened

or endangered species and to determine whether projects may affect these species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

While a Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment, the Federal Agency must notify the Service in writing of any such designation. The Federal agency shall also independently review and evaluate the scope and content of a biological assessment prepared by their designated non-Federal representative before that document is submitted to the Service.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by a federally funded, permitted or authorized activity, the agency is required to consult with the Service pursuant to 50 CFR 402. The following definitions are provided to assist you in reaching a determination:

- *No effect* - the proposed action will not affect federally listed species or critical habitat. A "no effect" determination does not require section 7 consultation and no coordination or contact with the Service is necessary. However, if the project changes or additional information on the distribution of listed or proposed species becomes available, the project should be reanalyzed for effects not previously considered.
- *May affect, but is not likely to adversely affect* - the project may affect listed species and/or critical habitat; however, the effects are expected to be discountable, insignificant, or completely beneficial. Certain avoidance and minimization measures may need to be implemented in order to reach this level of effect. The Federal agency or the designated non-Federal representative should consult with the Service to seek written concurrence that adverse effects are not likely. Be sure to include all of the information and documentation used to reach your decision with your request for concurrence. The Service must have this documentation before issuing a concurrence.
- *Is likely to adversely affect* - adverse effects to listed species may occur as a direct or indirect result of the proposed action. For this determination, the effect of the action is neither discountable nor insignificant. If the overall effect of the proposed action is beneficial to the listed species but the action is also likely to cause some adverse effects to individuals of that species, then the proposed action "is likely to adversely affect" the listed species. The analysis should consider all interrelated and interdependent actions. An "is likely to adversely affect" determination requires the Federal action agency to initiate formal section 7 consultation with our office.

Regardless of the determination, the Service recommends that the Federal agency maintain a complete record of the evaluation, including steps leading to the determination of effect, the qualified personnel conducting the evaluation, habitat conditions, site photographs, and any other related information. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

Migratory Birds

For projects that may affect migratory birds, the Migratory Bird Treaty Act (MBTA) implements various treaties and conventions for the protection of these species. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Migratory birds may nest in trees, brushy areas, or other areas of suitable habitat. The Service recommends activities requiring vegetation removal or disturbance avoid the peak nesting period of March through August to avoid destruction of individuals, nests, or eggs. If project activities must be conducted during this time, we recommend surveying for nests prior to conducting work. If a nest is found, and if possible, the Service recommends a buffer of vegetation remain around the nest until the young have fledged or the nest is abandoned.

For additional information concerning the MBTA and recommendations to reduce impacts to migratory birds please contact the U.S. Fish and Wildlife Service Migratory Birds Office, 500 Gold Ave. SW, Albuquerque, NM 87102. A list of migratory birds may be viewed at https://www.fws.gov/birds/management/managed-species/migratory-bird-treaty-act-protected-species.php. Guidance for minimizing impacts to migratory birds for projects including communications towers can be found at: https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/communication-towers.php. Additionally, wind energy projects should follow the wind energy guidelines

https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/wind-energy.php) for minimizing impacts to migratory birds and bats.

Finally, please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan https://www.fws.gov/birds/management/project-assessment-tools-and-guidance/guidance-documents/eagles.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Austin Ecological Services Field Office
10711 Burnet Road, Suite 200
Austin, TX 78758-4460
(512) 490-0057

Project Summary

Consultation Code: 02ETAU00-2019-SLI-0736

Event Code: 02ETAU00-2019-E-01496

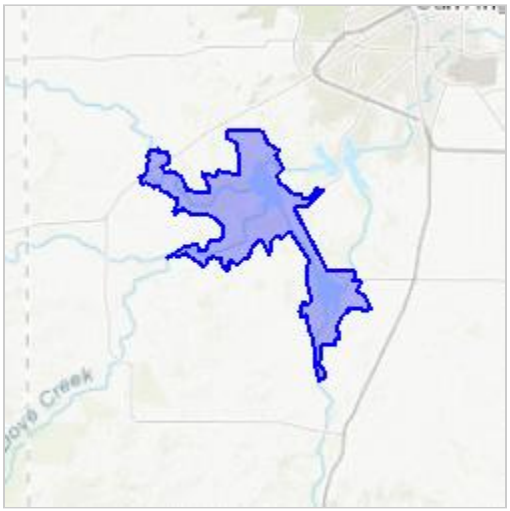
Project Name: Twin Buttes TMP

Project Type: LAND - MANAGEMENT PLANS

Project Description: Tom Green County, TX

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/31.329990612661724N100.56749224529878W



Counties: Tom Green, TX

Endangered Species Act Species

There is a total of 6 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 2 of these species should be considered only under certain conditions.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Birds

NAME	STATUS
Least Tern *Sterna antillarum* Population: interior pop. No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8505	Endangered
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location is outside the critical habitat. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Red Knot *Calidris canutus rufa* No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: ▪ Wind Energy Projects Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

Clams

NAME	STATUS
Texas Fatmucket *Lampsilis bracteata* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9041	Candidate
Texas Fawnsfoot *Truncilla macrodon* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8965	Candidate
Texas Pimpleback *Quadrula petrina* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8966	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.