DRAFT CONCHAS LAKE MASTER PLAN

Canadian River Basin

San Miguel County, New Mexico

August 2021

CONCHAS LAKE VISION

"The land, water, and recreational resources of Conchas Lake are managed to protect, conserve, and sustain natural and cultural resources, especially environmentally sensitive resources, and provide outdoor recreation opportunities that complement overall project purposes for the benefit of present and future generations."

US Army Corps of Engineers.
Albuquerque District

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EXECUTIVE SUMMARY

Conchas Lake Draft Master Plan
US Army Corps of Engineers
Prepared by Albuquerque District and the Regional Planning and Environmental Center
August 2021

PURPOSE

The revision of the *Conchas Lake Master Plan* (hereafter Plan or Master Plan) is a framework built collaboratively to serve as a guide toward appropriate stewardship of U.S. Army Corps of Engineers (USACE) administered resources at Conchas Lake over the next 25 years. The 1976 Conchas Lake Master Plan (Design Memorandum (DM) No. 25) served well past its intended 25-year planning horizon. The Master Plan is primarily a land use and outdoor recreation strategic plan. The lake and dam's primary purposes are flood risk management, water conservation storage, recreation, and fish and wildlife enhancement.

The 1976 Master Plan classified a total of 3,530 acres of USACE fee land which included 640 acres of land withdrawn from the public domain by the U.S. Bureau of Land Management. For the purpose of this Master Plan, the 640 acres is treated as if the land had been acquired as fee-simple lands. A comparatively small portion of the 3,530 acres was (and is) inundated by surface water, although the amount of water surface available for public recreation is largely located on flowage easments and can vary substantially. At elevation 4,155.0 feet, (NGVD 29), known as the Permanent Pool, the water surface is approximately 2,750 acres, but at elevation 4,201.0 feet, the top of the Irrigation Pool, the water surface is 9,727 acres. During a normal rainfall year, as water is withdrawn for irrigation purposes in the summer and early fall months, the average pool available for public recreation is approximately 6,000 acres. Due to land changes from erosion, sedimentation, land disposals as well as more advanced measurement technology these numbers have changed slightly[1]. Presently, Conchas Lake encompasses approximately 3,413 acres of fee-owned land at the time of writing this Master Plan. Approximately 320 acres of this fee-owned land is inundated by surface water. Built in the 1930's as part of the Emergency Relief Appropriation Act of 1935, Conchas Lake provides irrigation through 300 miles of canals irrigating 41,400 acres of land; water supply to surrounding communities; and flood mitigation for the areas below the dam. This master plan revision and supporting documentation provides an inventory, analysis, goals, objectives, and recommendations for USACE lands and water surface at Conchas Lake, New Mexico.

[1]These figures are for planning purposes only and differ slightly from the official real estate records.

PUBLIC INPUT

Conchas Lake is a federally owned and managed public property, and it is USACE's goal to be a good neighbor, as well as steward for public interest as it concerns Conchas Lake. As such, USACE is bound to the equal enforcement of policies and fees for this publicly held national asset and must balance the needs of the recreating public with the needs of Conchas Lake's operations and natural resources.

Public and agency input toward the Master Plan was obtained to ensure a balance between operational, environmental, and recreational outcomes. An Environmental Assessment (EA) was completed in conjunction with the Master Plan revision to evaluate the impacts of alternatives. The EA is included in Appendix B.

Due to the Covid-19 pandemic, the public input process was changed from a face-to-face meeting to a virtual presentation detailing the specifics of the Master Plan revision, followed by a 30-day comment period. The presentation included a description and definition of a master plan, descriptions of the new land use classification options, and instructions for commenting on the Master Plan revision. For Conchas Lake, USACE received 22 comments from four (4) individuals. While issues raised are important, most of the comments received do not pertain to land use. Public comments included hike and bike trails, improved facilities, roads, more recreation opportunities, and water quality and supply. All public comments received were noted and will be addressed as future funds and development are considered (see Chapter 7 for comments and USACE response).

Second public meeting information will be included in final draft.

RECOMMENDATIONS

The following land classifications changes (detailed in Chapter 8, Table 8.2) resulted from the inventory, analysis, and synthesis of data, documents, and public and agency input. In general, approximately 600 total acres were reclassified, with fee and conservation pool acreage changes due in part to siltation and improvements in measurement technology using Geographic Information System (GIS) technology and better definition of the fee boundary. GIS software allows for more finely tuned measurements and thus acreages may vary from official land acquisition records.

Table ES.1 Land Use Acreage Changes

1976 Land Class	1976 Acres	2021 Land Class	2021 Acres*
Project Operation	869	Project Operations	840
Recreation - Intensive Use**	1,243	High Density Recreation	683
		Environmentally Sensitive Areas	204
		Multiple-Resource Management Lands	
Low Density Recreation	105	Low Density Recreation	359
Natural Areas	532	Wildlife Management	505
Total Land Acres	**2,749**	**Total Land Acres**	**2,591**
		Water Surface	
		Open Recreation	6,000 (average)
		Restricted	7
		No Wake	4
Total Water Surface Acres* **	**6,000**	**Total Water Surface Acres *** **	**6,000 (average)**
Total Fee** **	**3,530**	**Total Fee**	**3,413**
Flowage Easement	20,112	Flowage Easement	20,079

*Acreage of land areas is based on measurements using GIS technology and may vary slightly from official real estate records.

**Original Operations: Recreation – Intensive Use includes 45 acres occupied by vacation home developments. These summer homes, which are under interim lease agreements between private individuals and the State of New Mexico Park and Recreation Commission (South Area) as well as cabins and trailers which are rented to individuals (North Area by the concessionaire) (Source: 1976 Master Plan).

*** Total water surface of 6,000 acres is the average pool available for recreation during a normal rainfall year

**** Taking into account that approximately 116 acres of land were disposed in 1986, well after the 1976 Master Plan, the 2021 fee acreage figure is virtually unchanged from the 1976 figure. Note that the 640 acres of BLM land that were withdrawn from the public domain by BLM in 1966 (by Public Land Order #4088), is treated by USACE in both the 1976 and 2021 Master Plans as if the 640 acres is equivalent to fee ownership.

PLAN ORGANIZATION

Chapter 1 of the Master Plan presents an overall introduction of Conchas Lake. Chapter 2 consists of an inventory and analysis of project resources. Chapters 3 and 4 lay out management goals, resource objectives, and land allocation and classification. Chapter 5 is the resource plan that identifies how project lands will be managed through a resource use plan for each land use classification. This includes current and projected park facility needs, an analysis of existing and anticipated resource use, and anticipated influences on overall project operation and management. Chapter 6 details topics that are unique to Conchas Lake. Chapter 7 identifies the coordination efforts and stakeholder input gathered for the development of the Master Plan, and Chapter 8 gives a summary of the changes in land classification from the previous Master Plan to the present one. Finally, the appendices include information and supporting documents for this Master Plan revision, including Land Classification and Park Plate Maps (Appendix A).

An EA analyzing alternative management scenarios for Conchas Lake has been prepared in accordance with the National Environmental Policy Act of 1969, as amended (NEPA); regulations of the Council on Environmental Quality; and USACE regulations, including Engineer Regulation 200-2-2: Procedures for Implementing NEPA. The EA is a separate document that informs this Master Plan and can be found in its entirety in Appendix B.

The EA evaluated two alternatives: 1) No Action Alternative, and 2) Proposed Action. The EA analyzed the potential impact the No Action Alternative and Proposed Action would have on the natural, cultural, and human environments. Because the Master Plan is conceptual, any action proposed in the plan that would result in significant disturbance to natural and cultural resources or result in significant public interest would require additional NEPA documentation at the time the action takes place.

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CHAPTER 1: INTRODUCTION

1.1. OVERVIEW

Conchas Lake is a multipurpose water resources project constructed and operated by the U.S. Army Corps of Engineers (USACE), Albuquerque District. The lake and associated federal lands are in San Miguel County, New Mexico (NM). Conchas Dam is situated on the Canadian River Basin in San Miguel County. The dam and associated infrastructure, as well as all lands acquired for the Conchas Lake project, are federally owned, and administered by the USACE.

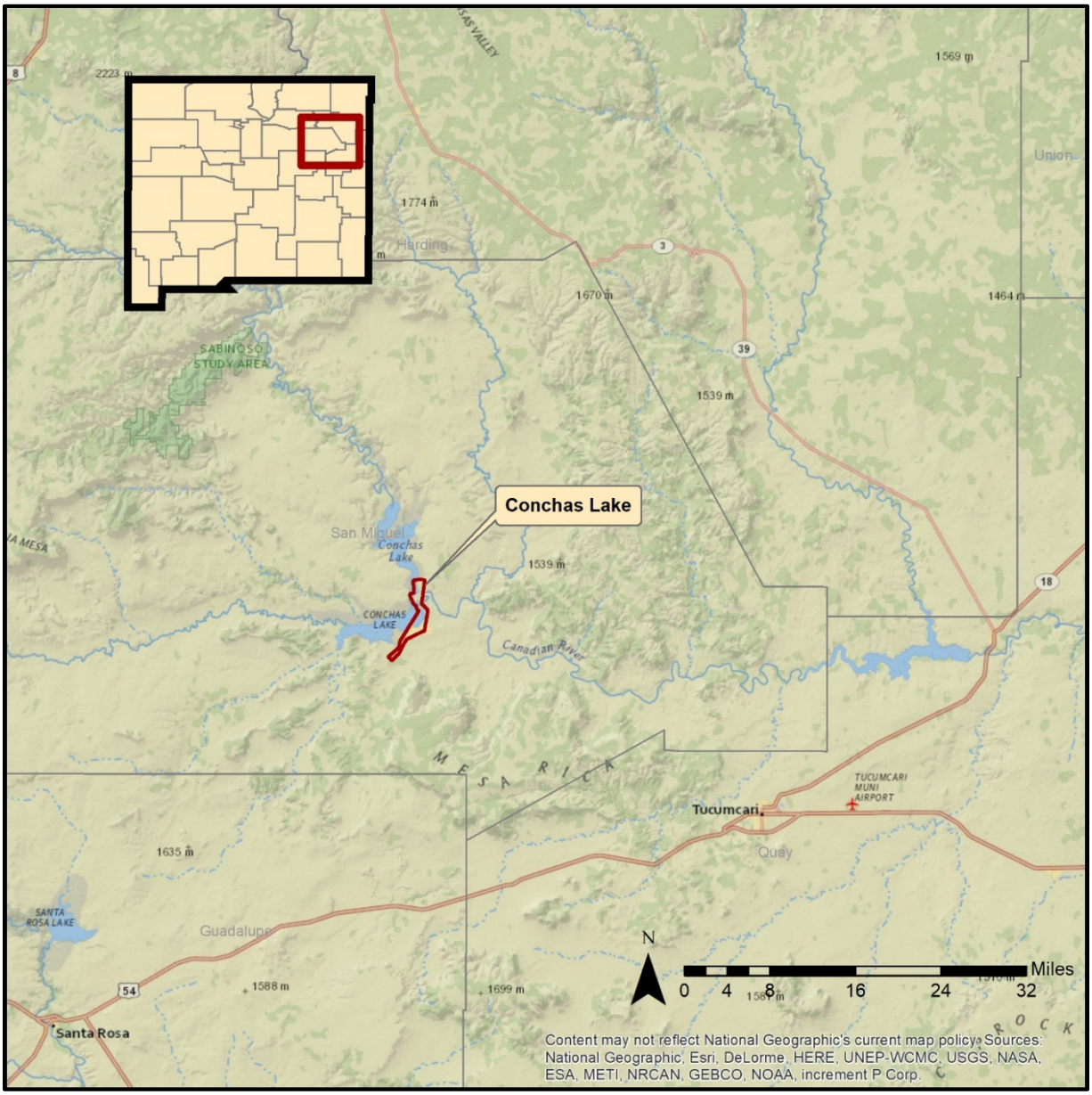


Figure 1-1 Conchas Lake Vicinity Map

The Conchas Lake Master Plan (hereafter Plan or Master Plan) is a revision of the 1976 Master Plan Update of the 1947 Master Plan, Design Memorandum (DM) No. 25, and is intended to serve as a comprehensive land and recreation management guide with an effective life of approximately 25 years. The focus of the Plan is to guide the stewardship of natural and cultural resources and make provision for outdoor recreation facilities and opportunities on federal land associated with Conchas Lake. The Plan does not address the flood risk management or water supply purposes of Conchas Lake (see the USACE Water Control Manual for Conchas Lake for a description of these project purposes).

National USACE missions associated with water resource development projects may include flood risk management, water conservation, navigation, recreation, fish and wildlife conservation, and hydroelectric power generation. Most of these missions serve to protect the built environment and natural resources of a region from the climate extremes of drought and floods. This creates a more resilient and sustainable region for the health, welfare, and energy security of its citizens. Mitigation, while not a formal mission at USACE lakes, may be implemented to achieve the fish and wildlife and recreation missions. Maintaining a healthy vegetative cover, including a tree canopy where ecologically appropriate, on Federal lands within the constraints imposed by primary project purposes helps reduce stormwater runoff and soil erosion, mitigates air pollution, and moderates temperatures. To this end, USACE has developed the following statements.

The USACE Sustainability Policy and Strategic Plan states that:

"The U.S. Army Corps of Engineers strives to protect, sustain, and improve the natural and man-made environment of our Nation, and is committed to compliance with applicable environmental and energy statutes, regulations, and Executive Orders. Sustainability is not only a natural part of the Corps' decision processes; it is part of the culture.

Sustainability is an umbrella concept that encompasses energy, climate change and the environment to ensure today's actions do not negatively impact tomorrow. The Corps of Engineers is a steward for some of the Nation's most valuable natural resources and must ensure customers receive products and services that provide sustainable solutions that address short and long-term environmental, social, and economic considerations."

The USACE mission of the Responses to Climate Change Program is:

"To develop, implement, and assess adjustments or changes in operations and decision environments to enhance resilience or reduce vulnerability of USACE projects, systems, and programs to observed or expected changes in climate."

1.2. PROJECT PURPOSE AND AUTHORIZATION

Conchas Lake is a multipurpose water resource project constructed and operated by USACE for the purpose of flood risk management, water supply, and recreation. Environmental stewardship, though not listed as a primary project purpose, is a major responsibility and inherent mission in the administration of federally owned lands.

The Conchas Dam project was approved by the U.S Congress April 8, 1935. , under the Emergency Relief Appropriation Act of 1935 and in the Flood Control Act of 1936 and amended by the River and Harbor Act t of 1938. Public Law 738, 74th U.S. Congress, dated June 22, 1936 (Flood Control Act of 1936), authorized the execution of the project to be located near the South Canadian River in New Mexico for the purpose of flood control, irrigation, and water supply. Legislation relating to the development of the reservoir and land areas under the jurisdiction of the Department of the Army is contained in Public Law 504, 76th U.S. Congress (H.R. 8500) approved May 01, 1940, Section 4 of the Flood Control Act of 1944 approved December 22, 1944 (Public Law 534, 78th U.S. Congress 2nd Session), as amended by Section 207 of the Flood Control Act of 1962 (Public Law 874, 87th U.S. Congress), as further amended by the Federal Water Project Recreation Act of 1965 (Public Law 89-72).

Several laws place emphasis on environmental stewardship of Federal lands. These laws, including, but not limited to, Public Law 91-190, National Environmental Policy Act of 1969 (NEPA), and Public Law 86-717 place emphasis on the environmental stewardship of Federal lands and USACE-administered Federal lands, respectively.

1.3. MASTER PLAN PURPOSE AND SCOPE

In accordance with Engineer Regulation (ER) 1130-2-550 Change 07, dated 30 January 2013, and Engineer Pamphlet (EP) 1130-2-550 Change 05, dated 30 January 2013, Master Plans are required for most USACE water resources development projects having a federally owned land base. The revision of the Master Plan is intended to bring it up to date to reflect current ecological, socio-demographic, and outdoor recreation trends that are affecting the lake, as well as those anticipated to occur within the planning period of 2021 to 2046 (i.e., 25 years).

The Conchas Master Plan is the strategic land use management document that guides the efficient, cost-effective, comprehensive management, development, and use of recreation, natural resources, and cultural resources throughout the life of the Conchas Lake project. It is a vital tool for responsible stewardship and sustainability of the project's natural and cultural resources and makes provision for outdoor recreation facilities and opportunities on federal land associated with Conchas Lake for the benefit of present and future generations. The Plan guides and articulates USACE responsibilities pursuant to federal laws to preserve, conserve, restore, maintain, manage, and develop the land, water, and associated resources. It is a dynamic and flexible tool designed to address changing conditions. The Plan focuses on carefully crafted resource-specific goals and objectives. It ensures that equal attention is given to

economy, quality, and needs in the management of Conchas Lake resources and facilities, and that goals and objectives are accomplished at an appropriate scale and rate.

The master planning process encompasses a series of interrelated and overlapping tasks involving the examination and analysis of past, present, and future environmental, recreational, and socioeconomic conditions and trends. With a generalized conceptual framework, the process focuses on four primary components, as follows:

- Regional and ecosystem needs
- Project resource capabilities and suitability
- Expressed public interests that are compatible with Conchas Lake authorized purposes
- Environmental sustainability elements

It is important to note what the Master Plan does not address. As noted in Section 1.1, the Plan does not address the flood risk management or water supply purposes of Conchas Lake. The Plan also does not address details of design, management and administration, or implementation, as these are addressed in the Conchas Lake Operational Management Plan (OMP). In addition, the Master Plan does not address the specifics of regional water quality or shoreline management with respect to private actions conducted by adjoining landowners such as vegetation modification. The operation and maintenance of primary project operations facilities, including, but not limited to, the dam, spillway, and gate-controlled outlet, are also not included in this Plan.

The 1976 Conchas Lake Master Plan was sufficient for prior land use planning and management. Changes in outdoor recreation trends, regional land use, population, current legislative requirements, and USACE management policy have occurred over the past decades. Additionally, increasing fragmentation of wildlife habitat, national policies related to land management, climate change, and growing demand for recreational access and protection of natural resources are all factors affecting Conchas Lake and the region in general. In response to these continually evolving trends, USACE has determined that a full revision of the 1976 Plan is required as set forth in this Plan.

1.4. BRIEF PROJECT AND WATERSHED DESCRIPTION

Conchas Lake lies in the northeast section of New Mexico and provides for a multi-recreational facility for populations that extends into portions of five surrounding states within a 200-mile radius. The lake is located on the South Canadian River, just below its confluence with the Conchas River. In the east central part of San Miguel County and within the boundaries of the Pablo Montoya Grand, the lake extends about 11 miles southwest along the Conchas River and northwest along the South Canadian River for approximately 14 miles. Most of the area surrounding Conchas Lake is privately owned cattle ranches.

The head waters of the South Canadian River are in the Rocky Mountains, west of the City of Raton in northern New Mexico. It flows southward 150 miles to Tucumcari, New Mexico, and then eastward 550 miles across the remainder of eastern New Mexico, Texas, and Oklahoma to the vicinity of Eufaula, Oklahoma, where it joins the North Canadian River. From this point, the Canadian River continues eastward to its confluence with the Arkansas River near Muskogee, Oklahoma. The drainage basin has an area of 7,409 square miles and is composed principally of a mountainous portion with steep slopes and rapid runoff. The plains area has gentle slopes and a more rapid runoff rate than plateau areas. The Conchas River Valley holds the larger portion of the reservoir storage, while most of the inflow is derived from the Canadian River and its tributaries.

The historic Conchas Dam is a concrete gravity dam flanked by earthen wing dikes, standing 235 feet high with a total length of 19,500 feet. The dam primarily serves irrigation water supply and flood control needs within the Canadian River Basin. The dam protects the surrounding communities, including the City of Logan, NM, approximately 56 miles downstream of Conchas Dam with a population of 975, and Tucumcari, NM, approximately 37 miles from Conchas Dam with a population of 4,000.

Figure 1-2 Water Basins in the Albuquerque District

The Bureau of Reclamation and Arch Hurley Conservancy District own all rights to conservation storage between elevation 4,201 feet and 4,155 feet NGVD29 (about 254,422 acre-feet).

1.5. PROJECT ACCESS

Access to Conchas Lake is approximately 24 miles north on State Highway 129 from its point of intersection with Interstate Highway 40 (U.S. 66) at Newkirk, New Mexico, and 32 miles north-west on State Highway 104 from its point of intersection with Interstate Highway 40 at Tucumcari, New Mexico.

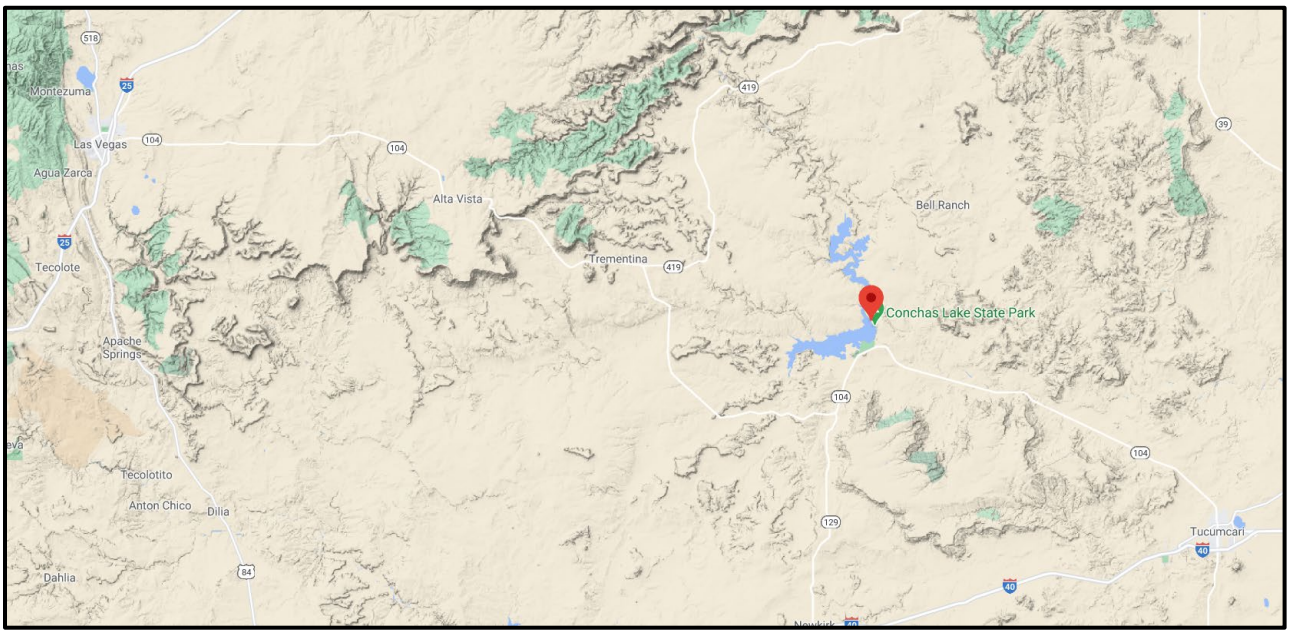


Figure 1-3 Conchas Lake Access (Source: Google Maps 2020)

1.6. PRIOR DESIGN MEMORANDA

Design Memoranda and Project Reports were prepared from 1935 through 1976 setting forth design criteria for all aspects of the project, including the prime flood risk management facilities, real estate acquisition, road and utility relocations, reservoir clearing, and the master plan for recreation development and land management. A list of the Design Memoranda for Conchas Lake is in Table 1.1 below.

Table 1-1 Design Memoranda

Item No.	TITLE	DATE
1	Preliminary Data, Conchas Reservoir Project South Canadian River, NM	Jul 1935
2	Report on Pressure testing Conchas Dam Site	Jul 10, 1936

Item No.	TITLE	DATE
3	South Canadian Rivers, Conchas Dam, Government Estimate for Construction of Main Dam and Wing Dams and Appurtenant Works	Mar 1937
4	Minutes of Meeting with Member of the District Consulting Board, December 6 & 7, 1937 on the North & South Abutments of the Main Dam	Jan 10, 1938
5	Report on Emergency Spillway Design	Jan 29, 1938
6	Design & Construction of Conchas Dam, New Mexico, Volumes I & II	No Date
7	Report on Text Dam No. 2, Conchas Dam Project	Feb 01, 1944
8	Master Recreation Plan, Conchas Dam Project	Feb 1946
9	Interim Report of Physical Measurement, Conchas Dam, New Mexico	Sep 1946
10	Survey (Review Report) on Flood Control, South Canadian River, Texas & Oklahoma (Tulsa District)	Sep 16, 1946
11	Master Recreation Plan, Conchas Dam Project	May 1947
12	Second Interim Report on Sedimentation in Conchas Reservoir, South Canadian River Watershed	Apr 1950
13	Summary of Possible Solutions for Navigation; Flood Control, Waterflow Retardation and Flood Forecasting; Drainage; and Domestic & Industrial Water Supply, Canadian River & Tributaries	May 1952
14	Review Report on Preliminary Examination of Advisability of Modifying Conchas Dam Project	Jan 1954
15	Project Information for Task Force on Water Resources & Power Commission on Organization of the Executive branch of the Government, Conchas Dam NM	Oct 1954
16	Investigations Project as Required by Federal Aid in Fish Restoration Act. Biological and Chemical Study of Conchas Reservoir. (By New Mexico Department of Game & Fish)	Mar 31, 1960
17	Design Memo on Additional Recreational Facilities	Dec 18, 1962
18	General Design Memoranda, Real Estate, for Conchas Reservoir, San Miguel, NM	Dec 17, 1965
19	Report on Sedimentation, Conchas Reservoir, Canadian River Basin, NM, Resurvey of 1963	Dec 1966
20	Conchas Reservoir Flood Control Regulation Manual	Oct 1965, Rev Jun 1967
21	Supplement to General Design Memoranda, Real Estate Interests, Conchas Reservoir, San Miguel County, NM	Feb 05, 1969

Item No.	TITLE	DATE
22	Report for Supplemental Studies of Review of Design Features of Existing Project, Conchas Reservoir	May 1969, Rev Sep 1969
23	Periodic Inspection & Continuing Evaluation of Completed Civil Works Structures, Conchas Reservoir	Nov 1969
24	Report of Sedimentation, Conchas Lake, Canadian River Basin, NM, Resurvey of 1970	Nov 1971
25	Updated Master Plan for Public Use Recreational Development	Sep 1976

1.7. PERTINENT LAWS

Numerous public laws apply directly or indirectly to the management of federal land at Conchas Lake. Listed below are several key public laws that are most frequently referenced in planning and operational documents. Refer to Appendix F for a more comprehensive listing.

- Public Law 78-534, Flood Control Act of 1944. - Section 4 of the Act, as amended , authorizes USACE to construct, maintain, and operate public parks and recreational facilities in reservoir areas and to grant leases and licenses for lands, including facilities, preferably to federal, state, or local governmental agencies.

- Public Law 85-624, Fish and Wildlife Coordination Act. - This Act, as amended, establishes the general policy that fish and wildlife conservation shall receive equal consideration with other project purposes and be coordinated with other features of water resource development programs. Opportunities for improving fish and wildlife resources, and adverse effects on these resources, shall be examined along with other purposes which might be served by water resources development.

- Public Law 89-665, National Historic Preservation Act of 1966. - This Act, as amended, provides for: (1) an expanded National Register of significant sites and objects; (2) matching grants to states undertaking historic and archeological resource inventories; (3) a program of grants-in-aid to the National Trust for Historic Preservation; and (4) the establishment of an Advisory Council on Historic Preservation. Section 106 requires the President's Advisory Council on Historic Preservation to have an opportunity to comment on any undertaking which adversely affects properties listed, nominated, or considered important enough to be included on the National Register of Historic Places.

- Public Law 86-717 - This law, sometimes referred to as the Forest Conservation Act, provides for the protection of forest and other vegetative cover for reservoir areas under the jurisdiction of the Secretary of the Army and the Chief of Engineers.

- Public Law 89-72, Federal Water Project Recreation Act of 1965. - This Act, as amended, requires that not less than one-half the separable costs of developing recreational facilities and all operation and maintenance costs at federal reservoir projects shall be borne by a non-federal public body. A HQUSACE/OMB implementation policy made these provisions applicable to projects completed prior to 1965.

- Public Law 91-190, National Environmental Policy Act of 1969 (NEPA). – NEPA declared it a national policy to encourage productive and enjoyable harmony between man and his environment, and for other purposes. Specifically, it declared a *"continuing policy of the Federal Government... to use all practicable means and measures...to foster and promote the general welfare, to create conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans."* Section 102 authorized and directed that, to the fullest extent possible, the policies, regulations, and public law of the United States shall be interpreted and administered in accordance with the policies of the Act. It is Section 102 that requires consideration of environmental impacts associated with federal actions. Section 101 of NEPA requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony. Specifically, Section 101 of NEPA declares:
  - Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations.
  - Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings.
  - Attain the widest range of beneficial uses of the environment without degradation, risk to health or safety, or other undesirable and unintended consequences.
  - Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever possible, an environment which supports diversity, and variety of individual choice.
  - Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities.
  - Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

- Public Law 101-601, Native American Graves Protection and Repatriation Act (16 November 1990), requires federal agencies to return Native American human remains and cultural items, including funerary objects and sacred objects, to their respective peoples.

1.8. REAL ESTATE

1.8.1 Project Land Acquisition

Below depicts the timeline of fee and easement acquisitions and disposals beginning May 13, 1936, at Contour 4,201.00 feet NGVD29. Conchas Dam has a total of 22,851.70 acres. Of those, 2,773.25 acres is in fee, 20,078.45 acres is in easement and 640 acres is the result of a public land withdrawal. USACE originally acquired the 640 acres through easement from the State of NM, who later transferred their interest to Bureau of Land Management (BLM) in April of 1965. Then, the BLM, under PLO Number 4088 of September of 1966, withdrew those interests from public land. There were two disposals, one of 42.62 acres in fee from the sale of cabin sites and 34.15 acres in easement from a gas line. Table 1.2 details the acquisitions and disposals of lands at Conchas Lake. With the exception of the acreage numbers provided in Table 1.2, acres have been rounded to the nearest whole acre throughout this Plan.

Table 1-2 Real Estate Acquisition and Disposal at Conchas Lake

Fee Land	
May 13, 1936 (acquisition)	2,250.00 acres from State of NM
January 25, 1940 (acquisition)	639.60 acres from Red River Valley Co.
November 3, 1986 (disposal)	63.23 acres of excess land sold
November 26, 1986 (disposal)	10.50 acres of excess land sold
1996 and 1997 (disposal)	42.62 acres from sales of cabin sites
	TOTAL FEE: 2,773.25 ACRES
Easement Land	
May 13, 1936 (acquisition)	15,190.40 acres from State of NM (the 1936 acreage was reduced by the 1966 BLM withdrawal)
May 13, 1936 (acquisition)	50.26 acres from a State of NM road easement
July 27, 1940 (acquisition)	34.15 acres from a gas line
February 11, 1944 (acquisition)	4,837.79 acres of State of NM flowage easement
August 6, 1953 (disposal)	34.15 acres from a gas line
	TOTAL EASEMENT: 20,078.45 ACRES
Public Land Withdrawn	
September 19, 1966 (acquisition)	640 acres from BLM[1]
	TOTAL FEE AND EASEMENT: 23,491.70 ACRES

[1] [1]For the purpose of this Master Plan, the withdrawn 640 acres are treated by USACE as if owned in fee simple

1.8.2 Outgrants

Real Estate outgrants at Conchas Lake include easements, licenses, leases, and other formal real estate documents. A summary of outgrants at Conchas Lake is provided as follows:

- Total Easements: 10 (4 pipelines, 2 electric power facilities, 2 roads, 1 aviation and 1 telecommunication facility
- Total Leases: 4 (2 non-profit organizations, 1 commercial concession, 1 state park)

Personnel of the USACE Albuquerque District Real Estate Division and Operations Division staff at Conchas Lake, conduct compliance inspections which include various kinds of easements, leases, and licenses annually in accordance with applicable regulations.

Individuals and entities interested in lease acquisition to provide services to the public on USACE fee-owned lands should be aware that specific restrictions and procedures apply to such leases. In many cases, individuals or entities will be encouraged to pursue a sublease with an existing lessee, such as with a marina lease. Any leases for new services are subject to a competitive bidding process following market studies and a determination by USACE that the prospective service or product would be beneficial to users at Conchas Lake. Questions regarding this topic can be directed to the lake office.

1.8.3 Trespass and Encroachment

Government property is monitored by USACE Conchas Lake personnel to identify and correct instances of unauthorized use, including trespasses and encroachments. The term “trespass” includes unauthorized transient use and occupancy, such as mowing, tree cutting and removal, livestock grazing, cultivation and harvesting crops, and any other alteration to Government property done without USACE approval. Unauthorized trespasses may result in a Title 36 citation to appear in Federal Magistrate Court, which could subject the violator to fines or imprisonment (See 36 Code of Federal Regulations (CFR) Part 327 Rules and Regulations Governing Public Use of Water Resources Development Projects Administered by the Chief of Engineers). More serious trespasses will be referred to the USACE Office of Counsel for enforcement under state and federal law, which may require restoration of the premises and collection of monetary damages.

The term “encroachment” pertains to an unauthorized structure or improvement on Government property. When encroachments are discovered, USACE Conchas Lake personnel will attempt to resolve the issue at the project level. Where no resolution is reached, or where the encroachment is a permanent structure, the method of resolution will be determined by USACE Real Estate Division, with recommendations from the Operations Division, and Office of Counsel. USACE’s general policy is to require removal of encroachments, restoration of the premises, and collection of appropriate administrative costs and fair market value for the term of the unauthorized use.

1.9 PERTINENT PROJECT INFORMATION

Table 1.3 outlines pertinent project information such as key elevations, water storage, and spillway flow capacity at Conchas Lake.

Table 1-3 Pertinent Data

Feature	Elev Feet* (NGVD29)	Area in Acres	Outlet Flow (CFS)	Spillway Flow (CFS)
Top of Dam	4,235.0	17,540		
Maximum Pool	4,228.6	16,134	9,800	632,000
Top of Flood Control and Emergency Spillway Crest	4,218.0	13,725	9,910	77,000
Top of Irrigation and Service Crest	4,201.0	9,727	9,800	0
Top of Permanent Pool and Below = Dead Storage	4,155.0	2,750	8,200	0
Zero Storage	4,071.0	0	0	0
Conduit Invert	4,060.0	0	0	0

Total capacity = 709,119 acre-feet
Canadian River Drainage Area = 7,409 square miles
Shoreline at Designed Conservation Pool – approximately 51 miles at elevation 4155 feet NGVD29, of which seven (7) miles is within the fee boundary.
* The elevation listed on the pertinent data sheet is based on the datum of NGVD29. The datum conversion from NGVD29 to NAVD88 is NGVD29+.03 feet = NAVD88

CHAPTER 2: PROJECT SETTING AND FACTORS INFLUENCING MANAGEMENT AND DEVELOPMENT

2.1. PHYSIOGRAPHIC SETTING

Physiographic settings are the Earth's distinct landform regions defined in a three-tiered system of (1) physiographic divisions; (2) physiographic provinces; and (3) physiographic sections. Conchas Lake is in the Southern High Plains section of the Great Plains province of the Interior Plains division. The Interior Plains cover a vast area of central North America, extending from the Gulf Coast to the Arctic Ocean along the east flank of the Rocky Mountains. The Great Plains is the broad expanse of flat land, much of it covered in prairie, steppe, and grassland. The Southern High Plains is a region that extends from the Pecos River on the west to Palo Duro Canyon in Texas on the east and southward to Hobbs, New Mexico, covering an area of about 32,000 square miles.

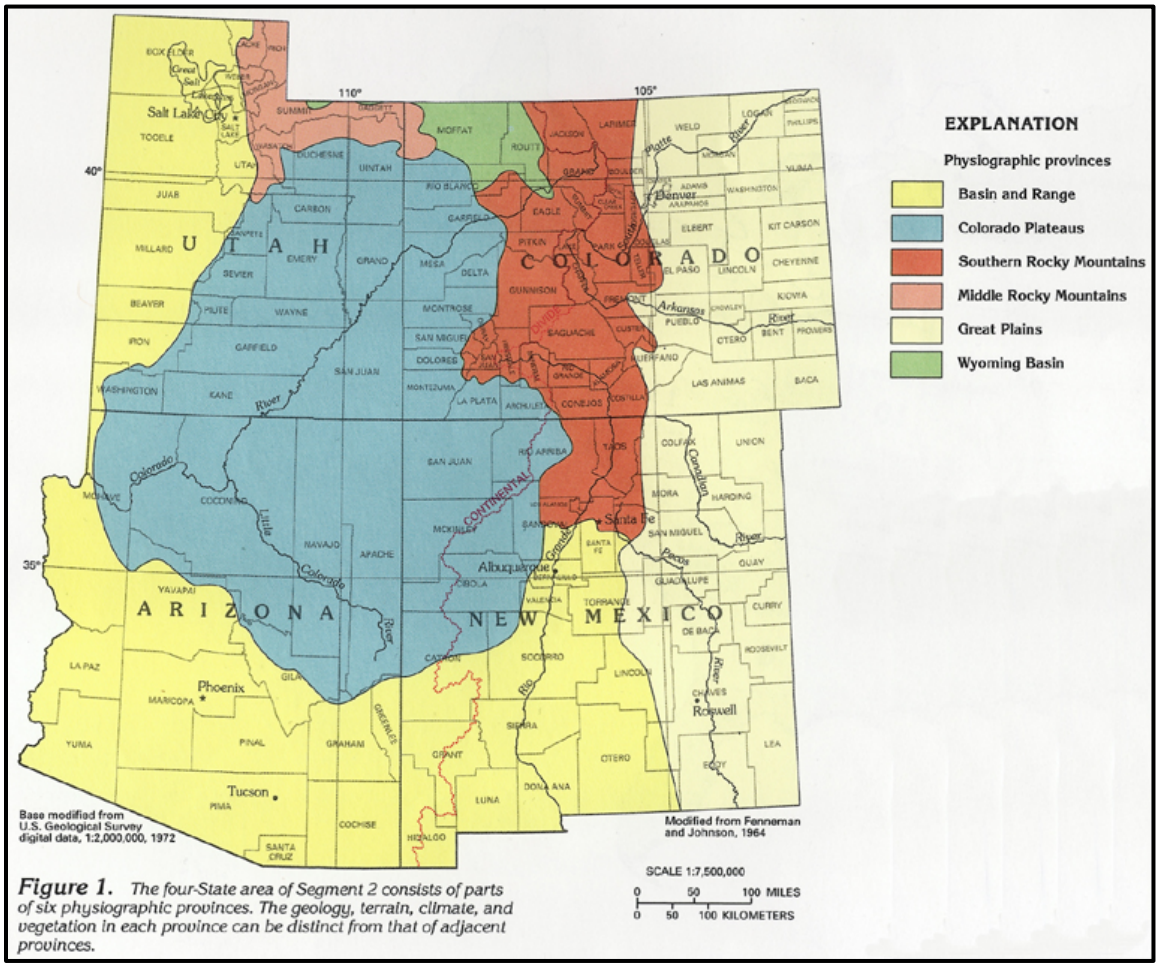


Figure 1. The four-State area of Segment 2 consists of parts of six physiographic provinces. The geology, terrain, climate, and vegetation in each province can be distinct from that of adjacent provinces.

Figure 2-1 Physiographic Regions of New Mexico
(Source USGS 2020, https://pubs.usgs.gov/ha/ha730/ch_c/C-text1.html)

2.1.1 Ecoregion Setting

Ecoregions are major ecosystems within physiographic regions defined by geographically distinct plant and animal species, natural communities, and environmental conditions. There are 8 different Level III and 55 Level IV ecoregions in New Mexico. Conchas Lake is in the Conchas/Pecos Plains (Level IV) of the Southwestern Tablelands ecoregion (Level III), which runs from the east-central to south-east Colorado, east-central and a small portion of east New Mexico, some eastern portions of the Oklahoma Panhandle, far south-central Kansas and portions of northwest Texas.

The Southwestern Tablelands is a semiarid region with broad, rolling plains, tablelands, and piedmonts. Broken by drainages to the Pecos, Conchas, and a small portion of the Canadian rivers. The region has lower elevations and thermic soils compared to the higher elevations and mix of mesic and thermic soils, which formed in material primarily from Quaternary, Triassic, and Permian sediments.

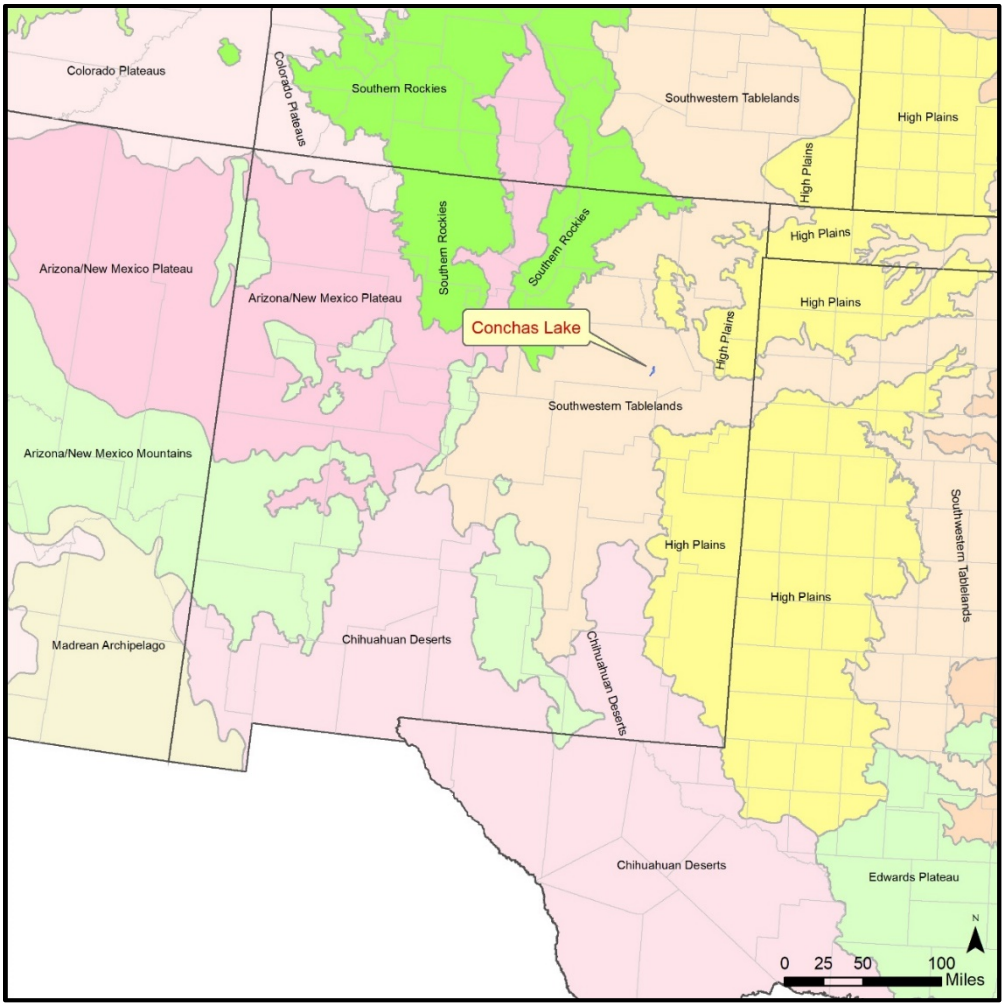


Figure 2-2 Conchas Lake Ecoregion

The Conchas/Pecos Plains supports a number of endemic plants. Before livestock grazing became the dominant use, the natural vegetation of these plains included blue grama, galleta, sand dropseed, threeawns, ring muhly, broom snakeweed, cacti, yucca, and cholla.

Some areas of sideoats grama and little bluestem, western wheatgrass, galleta and buffalograss also occurred.

To help understand the region and guide future management of the USACE lands at Conchas Lake, the following sections reflect conditions that are both typical of the Conchas/Pecos Plains region and unique to San Miguel County. While Section 2.1 covers the specifics of the region, Section 2.2 covers the natural resources specific to the region, its watershed, and the lake.

2.1.2 Climate

The basin region in which Conchas Lake lies varies from sub-humid in the high mountains to the northeast and west, to semiarid in the lower elevations near Conchas Lake. The climate is characterized by abundant sunshine, low relative humidity and fluctuating annual temperature ranges. Summer temperatures are generally hot during the day and warm at night, while winter temperatures are generally cold, including freezing temperatures and some nights below 0 degrees. Sub-zero temperatures are very rare. The average high in January is 54 degrees Fahrenheit (°F) and average low is 25°F, while the average high in July is 94°F and average low is 67°F. Average annual precipitation is 16.12 inches, with the highest accumulation in June, July and August, the monsoon season, averaging 2.17, 2.57, 2.92 inches, respectively. Conchas Lake receives an average of 11 inches of snowfall each year, falling predominantly from December through February, with three inches each. The highest recorded temperature at Conchas dam was 114°F on June 28, 1998 and the record low temperature was -20°F on January 13, 1963.

The U.S. Global Change Research Program (USGCRP) looks at potential impacts of climate change globally, nationally, regionally, and by resource (e.g., water resources, ecosystems, human health). Conchas Lake lies within the Great Plains region of analysis. The Great Plains region has already seen evidence of climate change in the form of rising temperatures and increased demand for water and energy which also has a negative impact on agricultural practices. Over the last few decades, the Great Plains region has experienced more frequent climate extremes of heat, drought, and precipitation, with a decrease in the number of cold days, which results in an overall lengthening of the frost-free season by one to two weeks.

New Mexico is the sixth fastest warming state in the nation, with an average annual temperature increase of approximately 0.6°F per decade since 1970, equating to a 2.7°F increase over 45 years. Across the Southwest, the average annual temperature has increased about 1.5°F, with the 2001-2010 decade being the warmest in over a century. Figure 2.3 depicts the overall rise in temperatures for New Mexico from 1890 to 2010.

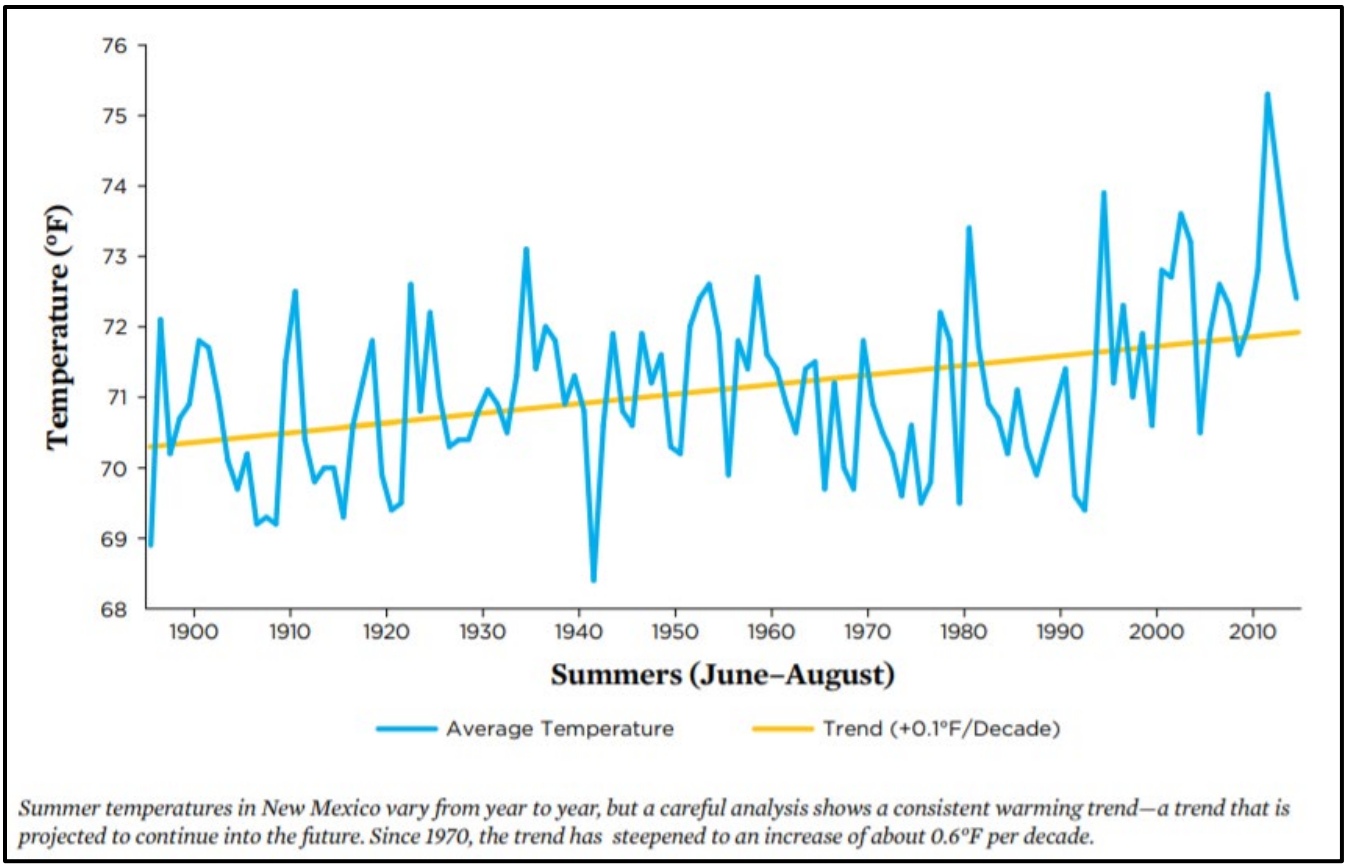


Figure 2-3 Temperature Chart for New Mexico (NOAA, 2016)

This trend of rising temperatures and more frequent extreme climate events such as heat waves, drought, and heavy rainfall is predicted to continue (USGCRP 2014). The USGCRP looks at two potential future conditions as part of its predictive modeling process; lowering Greenhouse Gas (GHG) emissions and continued current high GHG emissions. Under conditions of lower GHG emissions, the average temperature in the Great Plains region may increase as much as 4°F by 2020, 6°F by 2050, and 8°F by 2090 from averages observed in 2000. Under conditions of higher continuous GHG emissions, potential increase is greater in the long-term, and may be as much as 13.5°F by 2090. This will dramatically affect water and land usage throughout the region, including Conchas Lake, which protects the region from climate change by its flood risk management, irrigation, and water conservation missions, as well as helps sequester carbon (a greenhouse gas contributor) through its natural area while providing a recreation and relaxation area for people. Thus, maintaining a healthy natural environment is paramount to future sustainability and resilience in operations and recreation.

2.1.3 Geology and Topography

Conchas Lake is entirely surrounded by sedimentary rock belonging to the Upper Triassic Chinle Group. The Chinle Group consist of alternating layers of red-brown to maroon to gray mudstone, siltstone, and sandstone that were deposited in continental fluvial and lacustrine environments about 220 million years ago. Rocks of the Chinle Group were deposited by a river system that flowed from central Texas to central Nevada. This ancient river system was comparable in size to the modern Mississippi River system.

The Chinle Group is divided into five formations in this area: Santa Rosa, Garita Creek, Trujillo, Bull Canyon, and Redonda Formations. The medium- to light-gray, massive to cross-bedded sandstone exposed at the dam was called the Logan Sandstone by earlier geologists, but the unit was never formerly described or named. More recent investigations indicate that it belongs to the Trujillo Formation that extends into west Texas. Mudcracks indicate that sometimes the sandstones were exposed to drying. The red color is produced by the oxidation of iron in the minerals forming the sandstone; this oxidation is common to seasonally arid environments such as existed at the time the Chinle was deposited. Sections of the core drilled and recovered during construction of the dam are on display near the USACE administration building, north of the spillway.

Channel deposits of gravel and sand derived from the glaciated terrains in the Sangre de Cristo Mountains during the Pleistocene are found along the Canadian River above and below the dam. The Canadian River formed during the Pleistocene after the Wisconsin glaciation. The headwaters are in the Rocky Mountains in Las Animas County, Colorado, northwest of Raton, New Mexico. The river flows southeastward from the headwaters to Raton, where it flows south to Conchas Lake State Park. At Conchas Lake the river flows due east to Ute Lake State Park and eastward into west Texas and Oklahoma. For most of the river's course in New Mexico, it is a sinuous, meander belt that rarely exceeds 750 ft in width. Floods since 1938 have eroded and degraded the river rather than deposited new stream deposits.

The topography at Conchas Lake is typical of the Conchas/Pecos Plains and consists of broad, rolling plains, tablelands, and piedmonts. A piedmont is an area at the base of a mountain or mountain range, while a tableland is a butte, flank of a mountain or mountain that has a flat top.

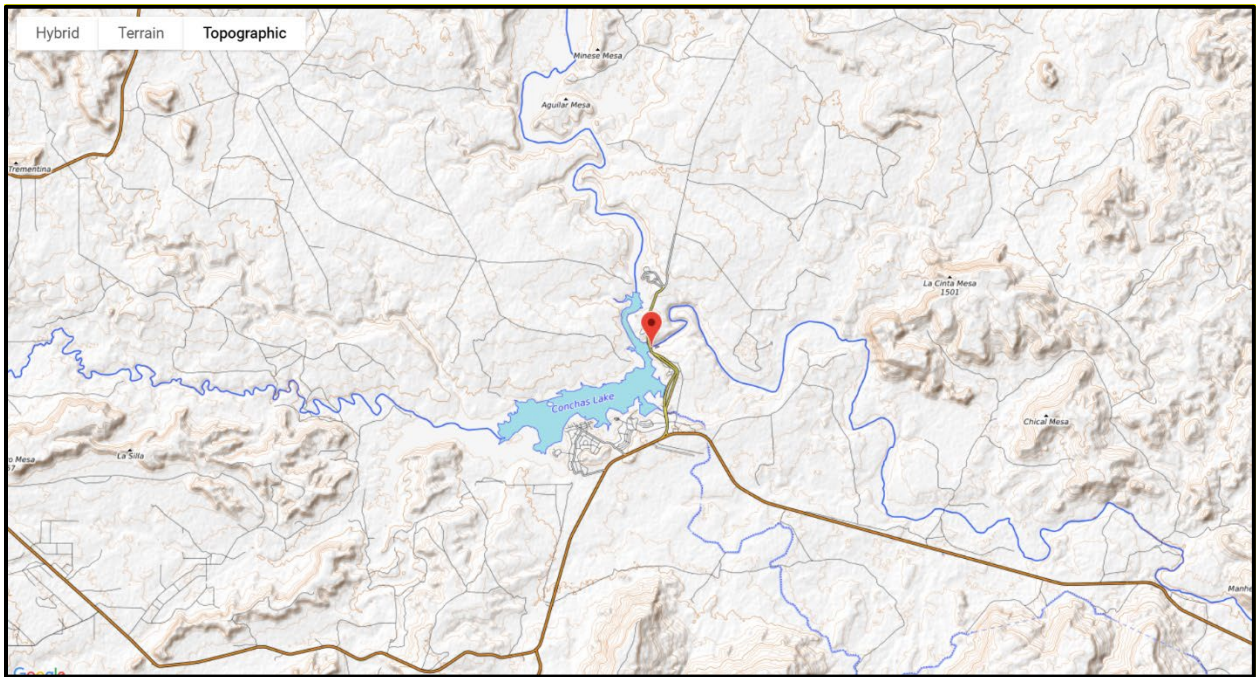


Figure 2-4 Topography at Conchas Lake (Worldwide Elevation Map Finder)

2.1.4 Hydrology and Groundwater

The headwaters of the South Canadian River are in the Rocky Mountains, west of the City of Raton in northern New Mexico. It flows southward 150 miles to Tucumcari, New Mexico, and then eastward 550 miles across the reminder of eastern New Mexico, Texas, and Oklahoma to the vicinity of Eufaula, Oklahoma, where it joins the North Canadian River. From this point, the Canadian River continues eastward to its confluence with the Arkansas River near Muskogee, Oklahoma. The drainage basin above the embankment has an area of 7,409 square miles and is composed principally of a mountainous portion with steep slopes and rapid runoff. The plains area has gentle slopes and a more rapid runoff rate than the plateau areas. The Conchas River Valley holds the larger portion of the reservoir storage, while most of the inflow is derived from the Canadian River and its tributaries.

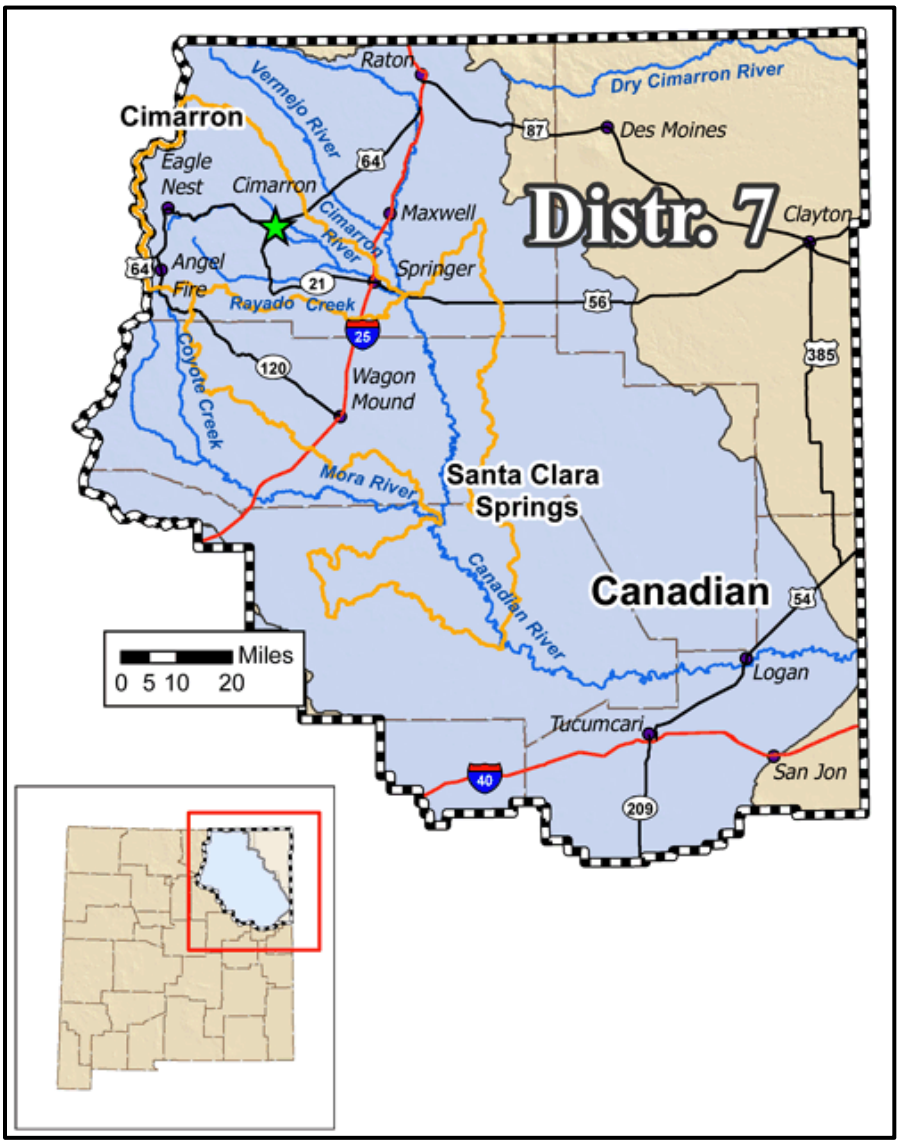


Figure 2-5 Canadian River Basin
(New Mexico Office of the State Engineer/Interstate Stream Commission)

New Mexico contains six major aquifer systems: the Roswell Basin, Rio Grande, High Plains, Colorado Plateau, Basin and Range, and Pecos River. However, there are no principal aquifers in the Conchas Lake region so that the region is dependent on surface water, making Conchas Lake a vital asset.

2.1.5 Soils

There are five major soil types occurring within Conchas Lake, excluding areas inundated by water and the dam footprint. The most abundant soil types in the Project easement are Conchas-Latom association and Latom-Newkirk-Rock outcrop association. These two soil types combined encompass 2,191.84 acres (72%) of Project fee-owned lands. Figure 2.6 represents the location of the different soil type.

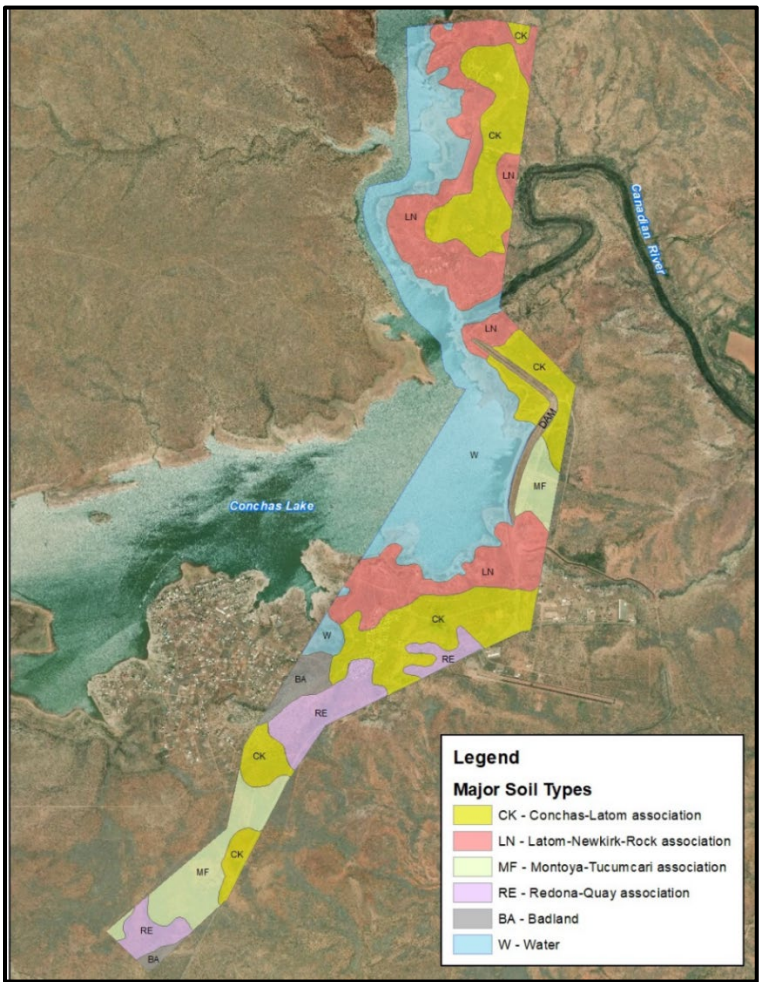


Figure 2-6 Conchas Lake Soils Map

A soil survey by the Natural Resource Conservation Service (NRCS) shows there are all eight possible general classifications (Class I through Class VIII) occurring in San Miguel County. The erosion hazards and limitations for use increase as the class number increases. Class I has few limitations, whereas Class VIII has many. The soil class data for project lands is provided in Table 2.1 This data is compiled by the NRCS and is a standard component of

natural resources inventories on USACE lands. This, and other inventory data, is recorded in the USACE Natural Resource Management system (NRM).

Table 2-1 Soil Classes

Soil Class	Acreage
Class I	0
Class II	214
Class III	0
Class IV	2
Class V	0
Class VI	761
Class VII	0
Class VIII	1,230

A general description of the soils at Conchas Lake and the land capability classes are described below.

- *Class I* soils have slight limitations that restrict their use.
- *Class II* soils have moderate limitations that reduce the choice of plants or require moderate conservation practices.
- *Class III* soils have severe limitations that reduce the choice of plants or require special conservation practices, or both.
- *Class IV* soils have very severe limitations that restrict the choice of plants or require very careful management, or both.
- *Class V* soils have little or no hazard of erosion but have other limitations, impractical to remove, that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
- *Class VI* soils have severe limitations that make them generally unsuited to cultivation and that limit their use mainly to pasture, range, forestland, or wildlife food and cover.
- *Class VII* soils have very severe limitations that make them unsuited to cultivation and that restrict their use mainly to grazing, forestland, or wildlife.
- *Class VIII* soils and miscellaneous areas have limitations that preclude their use for commercial plant production and limit their use to recreation, wildlife, or Water Supply or for aesthetic purposes.

Detailed information on all soil types surrounding Conchas Lake is available on websites maintained by the NRCS, U.S. Department of Agriculture.

2.2 ECOREGION AND NATURAL RESOURCE ANALYSIS

2.2.1 Vegetative Resources

USACE regulations and policy require a basic inventory of the vegetation at all operational projects. This inventory, referred to in EP 1130-2-540 as a Level 1 inventory, classifies the vegetation in accordance with the National Vegetation Classification System (NVCS) down to the Sub-Class level, which is a very broad classification level. The inventory data, presented in Table 2.2, is recorded in the USACE national database referred to as OMBIL and is useful in providing a general characterization of the vegetation on all operational projects. Daily management of USACE lands requires more detailed knowledge of the

vegetation down to the Association level within the NVCS, and for most management prescriptions, down to the individual species level of dominant vegetation.

Table 2-2 Vegetation Classification Using the NVCS Sub-Class Level

Land Cover/Vegetation Type	Acreage
Temperate & Boreal Shrubland & Grassland	1,940.5
Warm Semi-Desert Scrub & Grassland	93.8
Temperate Forest	46.3
Cool Semi-Desert Scrub & Grassland	10.6
Semi-Desert Nonvascular & Sparse Vascular Vegetation	0.2

Conchas Dam lies within the Southwestern Tablelands flank of the High Plains. This region is characterized by red hued canyons, mesas, badlands, and dissected river breaks. Unlike most adjacent Great Plains ecological regions, little of the Southwestern Tablelands is in cropland. Much of this region is in sub-humid grassland and semiarid rangeland. The eastern boundary represents a transition from the more extensive cropland within the High Plains to the generally more rugged and less arable land within the Southwestern Tablelands ecoregion. The natural vegetation in this region is mostly grama-buffalograss, with some juniper-scrub oak-grass savanna on escarpment bluffs. Prairie fires were likely important in maintaining the grasslands and suppressing encroachment of shrub and woody species. Pronghorn antelope is the most common large native mammal of the region. Broad, rolling plains, tablelands, and piedmonts characterize the Conchas/Pecos Plains, broken by drainages to the Pecos, Conchas, and a small portion of the Canadian rivers. The region has lower elevations than other areas in the basin and thermic soils. Livestock grazing is the dominant land use. Soils formed in material primarily from Quaternary, Triassic, and Permian sediments. The natural vegetation of these plains included blue grama (*bouteloua gracilis*), galleta grass *(pleuraphis jamesii)*, sand dropseed *(sporobolus cryptandrus)*, threeawns *(aristida, sp)*, ring muhly *(mulhenbergia torreyi)*, broom snakeweed *(Gutierrezia saothrae*), cacti (*cactaceae),* yucca *(asparagaceae),* and cholla (*cylindropuntia*). Some areas of sideoats grama (*bouteloua curtipendula)* and little bluestem (*schizachyrium scoparium)*, with blue grama, western wheatgrass *(pascopyrum smithii),* galleta, and buffalograss *(bouteloua dactyloides)* also occurred.

Riparian Plant Communities:

The NVCS sub-class level does not provide data for riparian vegetation communities. The riparian communities fell into the Temperate Boreal Shrubland and Grassland using the NVCS sub-class level. Riparian vegetation occurs along the Canadian River from the outflow of the dam and continues along the river to the Project boundary, and also along the shoreline of Conchas Lake. Salt cedar (*Tamarix* sp.), a non-native shrub/tree has become well-established throughout the riparian areas of Conchas Lake and the Canadian River. Native stands of Coyote willow (*Salix exigua*) mixed with rushes and grasses occur with salt cedar along the Canadian River as well as along some of the lake's shorelines.

Salt cedar, a highly invasive plant, outcompetes native vegetation and creates monotypic stands that decreases plant species diversity. It uses large amounts of water and interferes with the structure and stability of natural ecosystems.

Upland Vegetation Plant Communities*:*

The vast majority of Conchas lands (93%) are categorized as Temperate and Boreal Shrubland & Grassland. This vegetation community dominates the uplands at the Conchas Project. The general vegetation in the uplands is a shrubby grassland. Common grass species of this plant community include black grama (*Bouteloua eripoda*), Tobosa (*Hilaria mutica*), sand dropseed (*Sporobolus cryptandrus*), mesa dropseed (*Sporobolus* flexuosus), bush muhly (*Muhlenbergia porter*), blue grama (*Bouteloua gracilis*), threeawns (*Aristida* sp.), and non-native Johnson grass (*Setaria halpense*).

Four-wing saltbush (*Atriplex canescens*), Rubber rabbitbrush (*Chrysothamnus nauseosus*), and Soapweed (*Yucca glauca*) are shrubs that occur in the uplands. Certain cacti occur on slopes and hills as well as in sandy areas, including Cane cholla (*Cylindropuntia imbricate*), and Plains prickly pear (*Opuntia polyacantha*). Several perennial forbs, including Broom snakeweed (*Gutierrezia sarothrae*), Fragrant sand verbena (*Abronia fragrans*), New Mexico thistle (*Cirsium neomexicanum)*, and Tall wild buckwheat (*Eriogonum tenellum*) occur in the uplands.

Woodlands:

Temperate Forest NVCS sub-class occurs in scattered locations, mainly in the moist soil areas found along the shoreline of Conchas Lake. This NVCS sub-class accounted for only 46.3 acres (2.2%) of the NVCS vegetation communities occurring on Conchas Project lands.

The woodlands are characterized by small trees that are mainly well-spaced with grasses and forbs often occurring in open areas. Trees occurring in the woodlands include One-seed juniper (*Juniperus monosperma*), pinon pine (*Pinus edulis*), and salt cedar. Shrub species occurring with the small trees of the woodlands include Rubber rabbitbrush, and Four-wing saltbush. Figure 2.7 illustrates the different vegetative classes on federal fee-owned land at Conchas Lake.

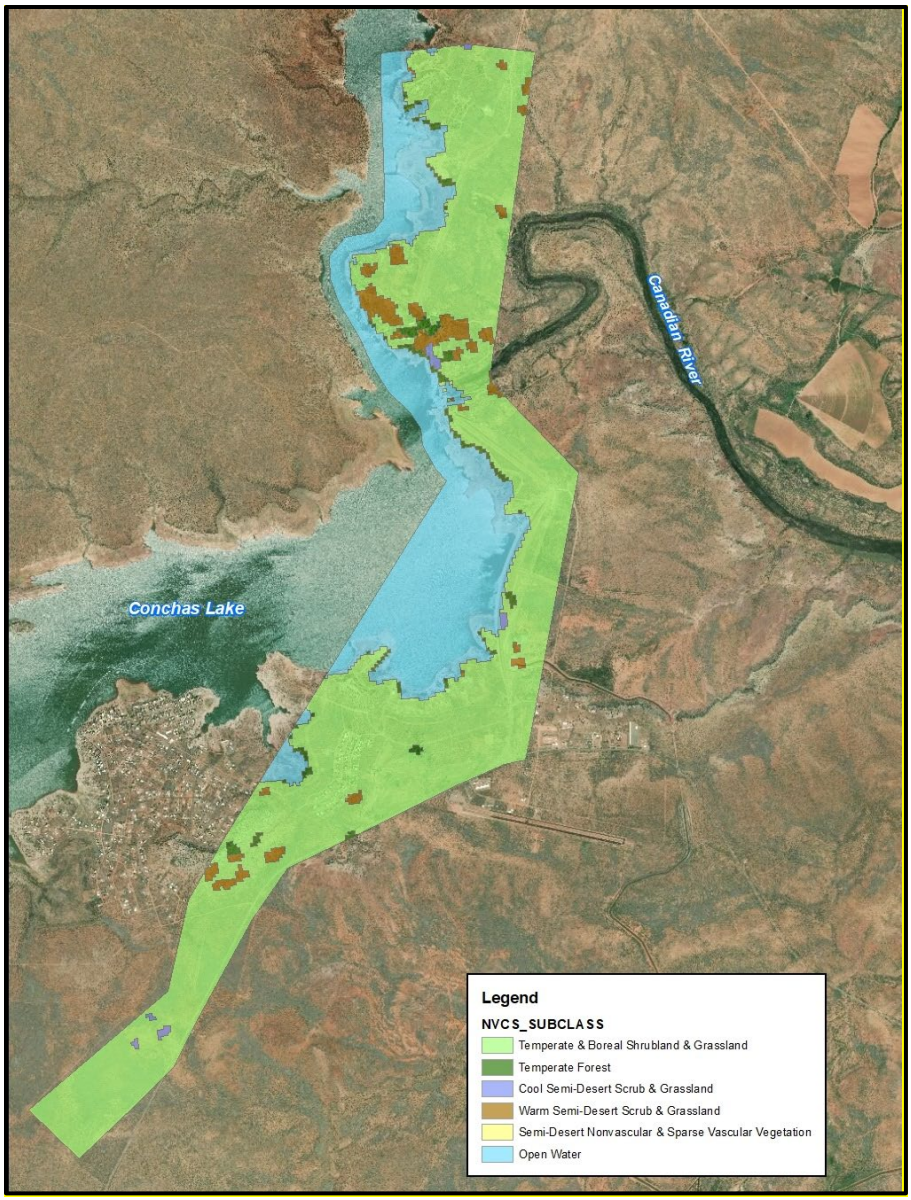


Figure 2-7 Vegetation Classification at Conchas Lake (National Vegetation Classification System (NVCS) Subclass level).

2.2.2 Wetland Resources

Waters of the United States are defined within the Clean Water Act (CWA), and jurisdiction is addressed by USACE and the United States Environmental Protection Agency (EPA). Wetlands are a subset of the waters of the United States that may be subject to regulation under Section 404 of the Clean Water Act (CWA) (40 CFR 120.2). Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions. For natural resource management and inventory purposes at operational USACE projects, USACE uses the National Wetlands Inventory (NWI) maintained by the USFWS. Figure 2.8 illustrates the different wetland types and locations near Conchas Lake, and Figure 2.9 illustrates the wetland classes on federal fee-owned lands at Conchas Lake.

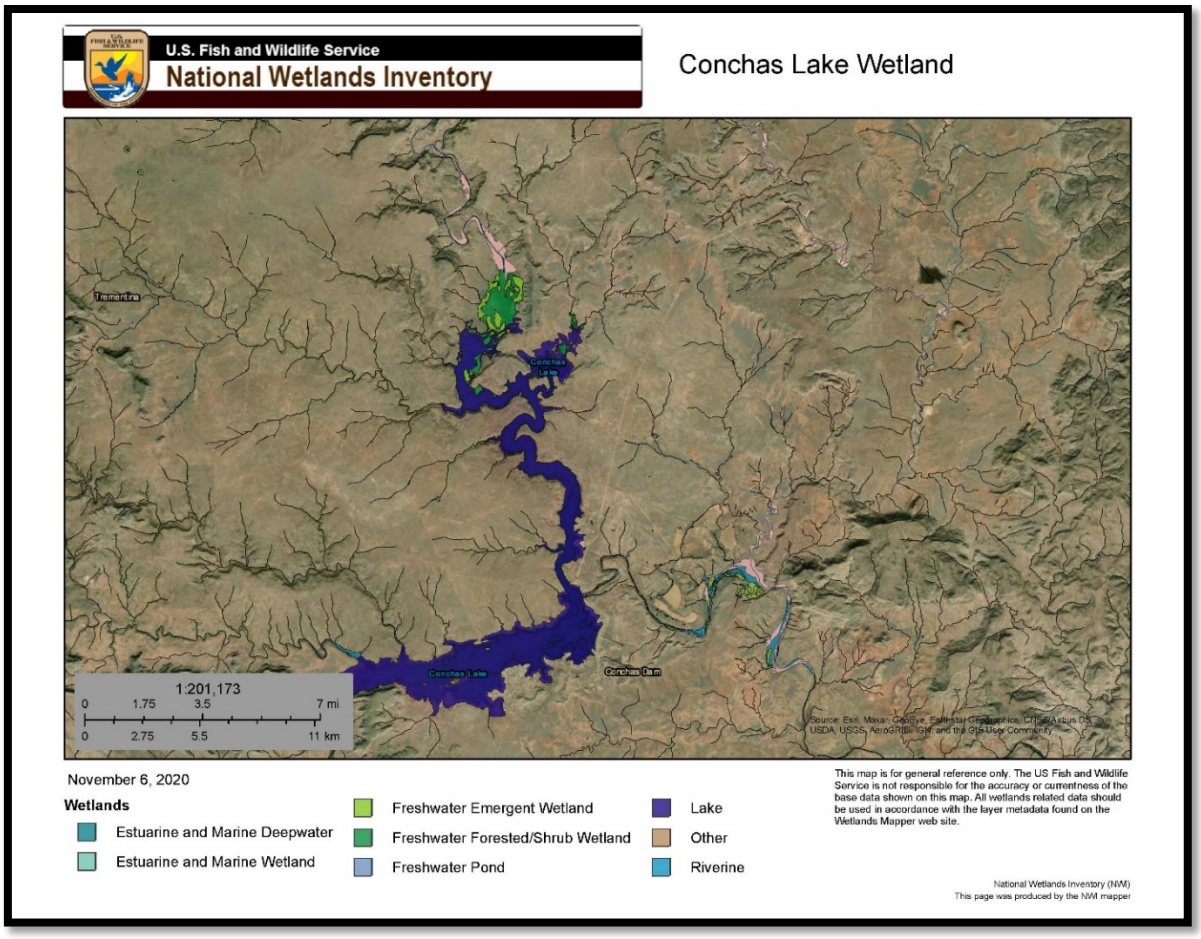


Figure 2-8 Wetland Resources Near Conchas Lake

Table 2.3 lists the acreages of various types of wetlands present on fee-owned land at Conchas Lake. Wetland classifications presented are derived from the U.S. Fish & Wildlife Service's (USFWS) Trust Resource List generated using the Information, Planning, and Conservation System decision support system.

Table 2-3 Wetland Resources

Wetland Types	Total Acres
Lacustrine Limnetic Open Water	606.67
Lacustrine Littoral Open Water	559.28
Lacustrine Open Water	29.47
Palustrine Open Water	3.42
Riverine	1.98
Total Inventoried	1,200.82

Note: Acreages from the USFWS website do not match exactly with the USACE digitized acreages. Acreages provided in this table reflect only acreage that is owned in fee-simple by USACE.

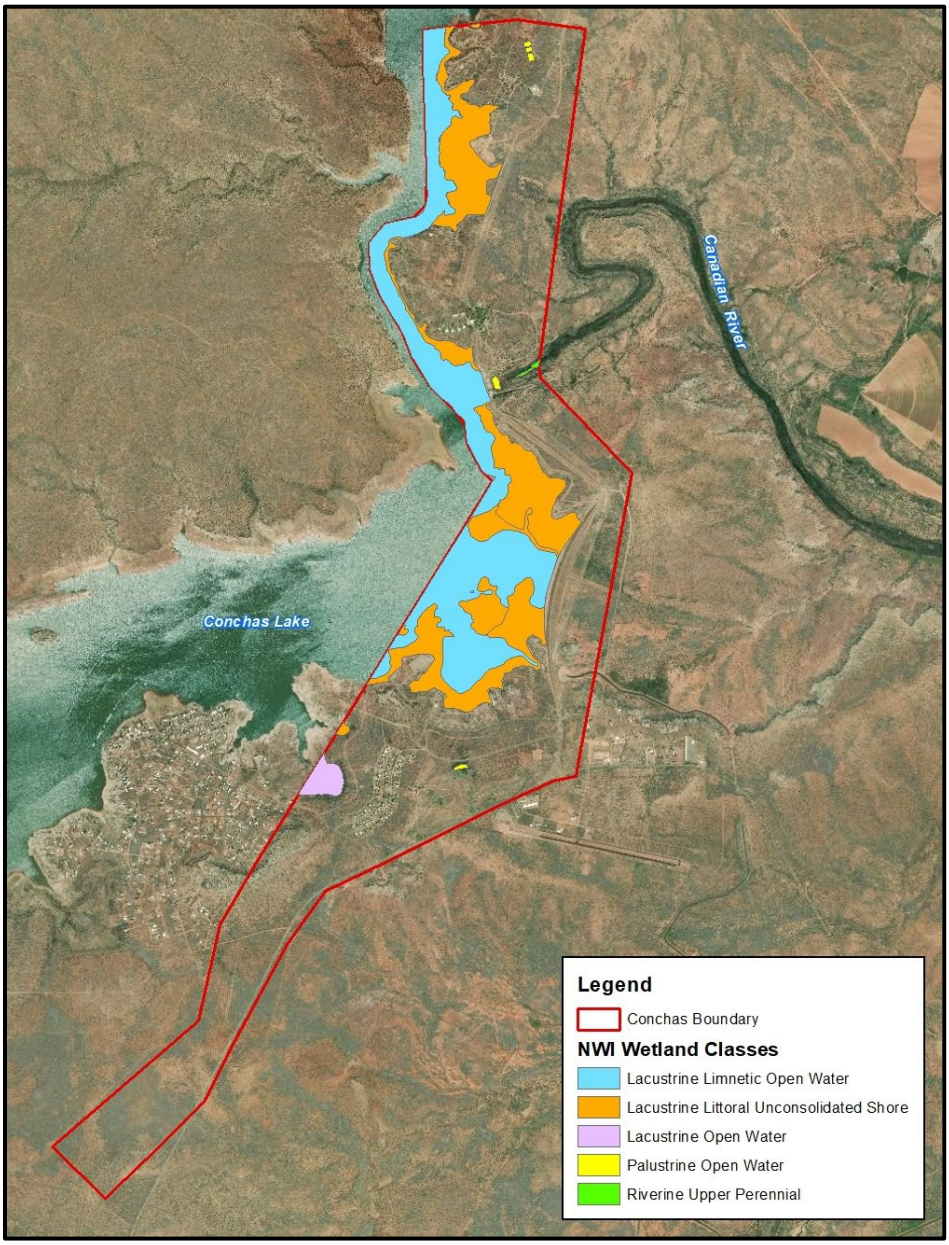


Figure 2-9 Wetland Resources on Conchas Lake Fee Lands

2.2.3 Fish and Wildlife Resources

Conchas Lake provides habitat for an abundance of fish and wildlife species. The lake provides a quality fishery, as well as quality wildlife habitat on public land associated with the project.

Fish Resources

Conchas Lake provides fishing opportunities for the boater and for the bank angler. Common fish species present in Conchas Lake are listed in Table 2.4. Stocking of Conchas Lake is conducted by New Mexico Game and Fish annually. During the month of May in 2007, 2008, 2009, and 2011, electrofishing surveys were conducted throughout Conchas Lake by the New Mexico Department of Game and Fish (NMDGF) using the NMDGF Fisheries Survey

Procedure (NMDGF 2011). The purpose of these surveys was to monitor changes in the Centrarchid populations to include large and smallmouth bass, bluegill and green sunfish. This survey found that channel catfish are the highest quality fishery. White bass is made up of mostly large individuals, but have average relative abundance, while walleye populations were found to be decreasing. The bluegill and green sunfish abundance remain below statewide averages for large reservoirs in New Mexico, while smallmouth bass remain stable and have increasing abundance. Largemouth bass, which have historically been above average at Conchas Lake, have shown a decreasing trend since 2006.

Table 2-4 Common Fish Species at Conchas Lake

Common Name	Scientific Name
Black bullhead	*Ameiurus melas*
Black crappie	*Pomoxis nigromaculatus*
Channel catfish	*Ictalurus punctatus*
Common carp	*Cyprinus carpio*
Gizzard shad	*Dorosoma cepedianum*
Largemouth bass	*Micropterus salmoides*
Smallmouth bass	*Micropterus dolomieu*
Walleye	*Sanders vitreus*
White bass	*Morone chrysops*
White crappie	*Pomoxis annularis*
Yellow bullhead	*Ameiurus natalis*

USACE is committed to continued cooperation with NMDGF, whose management strategies include:

- Manage sport fishes at Conchas Lake with statewide regulations.
- Plant additional native vegetation as water levels allow.
- Maintain invasive species signage at boat ramps and inform the public about the negative impacts of aquatic invasive species when meeting with Conchas Lake user groups.
- Conduct access and vegetation surveys.
- Conduct surveys with trap nets, gill nets, and electrofishing.
- Work with the USACE and constituent groups to inform and educate about best practices for tournament weigh-ins.

Wildlife Resources

Conchas Lake provides habitat for an abundance of wildlife species, including game and non-game species, migratory waterfowl, resident and migratory songbirds, wading birds, reptiles, amphibians, and insects. Mammals that may be found in the park include Barbary sheep, which are native to northern Africa and were released in the area by NMDGF in the 1950s, and those found in Table 2.5.

Table 2-5 Wildlife Resources at Conchas Lake

Common Name	Scientific Name
Badger	*Taxidea taxus*
Beaver	*Castor canadensis*
Black-tailed jackrabbit	*Lepus californicus*
Bobcat	*Lynx rufus*
Coyote	*Canis latrans*
Desert cottontail	*Sylvilagus audubonii*
Mule deer	*Odocoileus hemionus*
Mountain lion	*Puma concolor*
Muskrat	*Ondatra zibethicus pallidus*
Porcupine	*Erethizon dorsatum*
Pronghorn antelope	*Antilocapra americana americana*
Raccoon	*Procyon lotor*
Red fox	*Vulpes vulpes*
Swift fox	*Vulpes velox*

Seasonal waterfowl include those found in Table 2.6.

Table 2-6 Common Seasonal Waterfowl at Conchas Lake

Common Name	Scientific Name
American coot	*Fulica Americana*
American wigeon	*Anas Americana*
Blue-Winged Teal	*Anas discors*
Bufflehead	*Bucephala albeola*
Canada goose	*Branta canadensis*
Canvasback	*Aythya valisineria*
Common merganser	*Mergus merganser*
Common golden-eye	*Bucephala clangula*
Gadwall	*Anas strepera*
Hooded merganser	*Lophodytes cucullatus*
Lesser scaup	*Aythya affinis*
Mallard	*Anas platyrhynchos*
Northern pintail	*Anas acuta*
Northern shoveler	*Anas clypeata*
Redhead duck	*Aythya americana*
Ringed-neck duck	*Aythya collaris*
Ruddy duck	*Oxyura jamaicensis*
White-fronted goose	*Anser albifrons*

2.2.4 Threatened and Endangered Species

Threatened species are those which are likely to become endangered within the foreseeable future. Endangered species are in danger of extinction throughout all or a significant portion of their range. USFWS also identifies species that are candidates for listing as a result of identified threats to their continued existence. The Candidate designation includes those species for which USFWS has sufficient information to support proposals to list as endangered or threatened under the Endangered Species Act; however, proposed rules have not yet been issued because such actions are precluded at present by other listing activity. The USFWS Information for Planning and Consultation (IPaC) identified five species listed by the USFWS as Threatened, Endangered, or Candidate species that could potentially be found at Conchas Lake (Table 2.7 - See Appendix C for the IPaC report for Conchas Lake).

Table 2-7 Federal and State-Listed Threatened and Endangered Species with Potential to Occur at Conchas Lake

Common Name	Scientific Name	Listing Status
Federally Listed Species		
Holy ghost ipomopsis	*Ipomopsis sancti-spiritus*	Endangered
Mexican spotted owl	*Stirx occidentalis lucida*	Threatened
New Mexico meadow jumping mouse	*Zapus hudsonius luteus*	Endangered
Southwestern willow flycatcher	*Empidonax trallii extimus*	Endangered
Rio Grande Cutthroat Trout	*Oncorhynchus clarkia virginalis*	Candidate
State Listed Species		
American peregrine falcon	*Falco pergrinus anatum*	Threatened
Baird's sparrow	*Ammodramus bairdii*	Threatened
Bald eagle	*Haliaeetus leucocephalus*	Threatened

Source: USFWS, NMDGF, New Mexico Energy, Minerals and Natural Resources Department, 2020)

The Mexican spotted owl (*Strix occidentalis lucida*) is an ashy-chestnut brown color with white and brown spots on their abdomen, back, and head. They have dark eyes, brown tails marked with thin white bands. They lack ear tufts. Critical habitat for the species is scattered throughout New Mexico, Arizona, Utah, and Colorado. The main threat for this species is stand-replacing wildland fire practices. Due to this species dependence on trees, the likelihood of occurrence within USACE Conchas Lake federal fee-owned property is rare.

Photo 2-1 Mexican Spotted Owl (Courtesy of National Park Service)

The southern willow flycatcher (*Empidonax traillii extimus*) is a subspecies of the willow flycatcher family. It is light-colored bird usually a little less than 6 inches in length. It has a grayish-green back and wings, whitish throat, light gray-olive breast, and pale yellowish belly. Two wingbars are visible and the eye ring is faint or absent. The upper beak is darker than the lower beak. It is best identified by its vocalizations, which are a liquid, sharply whistled *whit*! Or a dry *sprrit*; a sneezy *whit-pew* or *fitz-bew*. The species breeds in relatively dense riparian tree and shrub communities while wintering in brushy savanna edges, second growth, shrubby clearings and pastures, and woodlands near water. The species is listed as endangered due to destruction and modification of riparian habitats. This species is unlikely to occur on federal fee-owned property at Conchas Lake.

Photo 2-2 Willow Flycatcher (Courtesy of USFWS, Davie Menke)

The New Mexico meadow jumping mouse (*Zapus hudsonius luteu*) is grayish-brown on the back, yellow-brown on the sides, and white underneath. The species is 7.5-10 inches long with elongated feet and an extremely long, bicolored tail. The species utilizes persistent emergent herbaceous wetlands and scrub-shrub wetlands. The species is generally nocturnal and active only during the growing season, hibernating for nine months out of the year. Due to the species highly specialized riparian habitat requirements, it is unlikely to occur within USACE Conchas Lake federal fee-owned property.

Photo 2-3 New Mexico Meadow Jumping Mouse
(Courtesy of USFWS)

The Holy Ghost Ipomopsis (*Ipomopsis sancti-spiritus*) is an herbaceous biennial or short-lived perennial that can remain as a low rosette of leaves for years before flowering. The flowers are pink, tubular, and terminate in five spreading lobes. This plant is known from a single population in the Sangre de Cristo Mountains of San Miguel County. Because of this, it is unlikely that the species will occur within federally fee-owned property at Conchas Lake.

The Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*), one of 14 subspecies of cutthroat trout, was originally described in 1856 and is native to the Rio Grande, Pecos River, and Canadian River basins in New Mexico and Colorado. While similar to other cutthroat trout species with the red to orange slashes in the gular folds beneath the lower jaw, the Rio Grande cutthroat trout are distinguished by irregular shaped spots that are concentrated behind the dorsal fin, smaller less numerous spots located primarily above the lateral line anterior to the dorsal fin, and basibranchial teeth that are minute or absent. Rio Grande cutthroat trout are light rose to red-orange on the sides and pink or yellow-orange on the belly. The Rio Grande cutthroat trout can be found in high elevation streams and lakes of the Rio Grande, Canadian, and Pecos River drainages in Colorado and New Mexico, giving it the southern-most distribution of any form of Cutthroat Trout. The historic range of Rio Grande cutthroat trout has been reduced over the last 150 years due to many changes on the landscape, including: drought, water infrastructure, habitat changes, hybridization with nonnative Rainbow and Cutthroat Trout, and competition with Brook and Brown Trout. As a result, pure populations of Rio Grande Cutthroat Trout are restricted primarily to headwater streams. Given the restricted distribution of this species, it is unlikely that any Rio Grande cutthroat trout will occur within federally fee-owned property at Conchas Lake.

Two State agencies have primary responsibility for the protection of animal and plant species in New Mexico. The New Mexico Department of Game and Fish (NMDGF), under the

authority of the New Mexico Wildlife Conservation Act, maintains a list of animal species whose prospects of survival or recruitment in New Mexico are in jeopardy. The New Mexico Energy, Minerals and Natural Resources Department maintains a list of State-endangered plant species protected under state law (See Section 75-6-1 NMSA 1978) and regulation NMFRCD Rule No. 91-1.

Within the Conchas Lake federal fee-owned property, there are three state-listed bird species with potential to occur: the bald eagle (*Haliaeetus leucocephalus),* American peregrine falcon (*Falco pergrinus anatum*), and the Baird's sparrow (*Ammodramus bairdii*).

The bald eagle was removed from the federal endangered species list in 2007 but was listed by New Mexico in 1976 and remains in need of conservation action in the state, primarily due to small breeding populations. In New Mexico, nests are placed in large cottonwoods or ponderosa pines in the vicinity of water. This species is unlikely to nest in the project area but may use this area for foraging.

The American peregrine falcon breeds in New Mexico as well as supports migrating pairs that breed outside the state. Breeding pairs breed locally in mountains and river canyons of western New Mexico east to the Sangre de Cristo, Sandia/Mazano and Sacramento mountains. The species is a rare winter visitor in lowlands statewide. Peregrine falcons pass through the state on migration from March-May and July-November. This species would be a rare site at Conchas lake.

The gray vireo, which is listed as threatened in the state of New Mexico, is strongly associated with pinon-juniper and scrub-oak habitat across its breeding range in the southwestern United States and northern Mexico. In New Mexico, gray vireo is locally distributed across the western two-thirds of the state. Gray vireos arrive in New Mexico from mid to late- April, and generally depart by mid-August. This species may travel through the Conchas Lake lands but is not expected to breed or nest in this area.

2.2.5 Invasive Species

Invasive species are any kind of living organism which, if uncontrolled, causes harm to the environment, economy, or human health. Invasive species generally grow and reproduce quickly and spread aggressively. Non-native, or exotic, species have been introduced, either intentionally or unintentionally, and can out-compete native species for resources or otherwise alter the ecosystem. Native invasive species are those species that spread aggressively due to an alteration in the ecosystem, such as lack of fire or the removal of a predator from the food chain. Table 2.8 lists invasive and exotic species that occur at Conchas Lake identified by NMDGF and USACE.

Table 2-8 Invasive Species Found at Conchas Lake

Common Name	Scientific Name	Prevalence
Tamarisk	*Tamarix spp.*	Significant/Major
Russian Olive	*Elaeagnus angustifolia*	Moderate
Russian Thistle	*Salsola spp.*	Minor
Canada Thistle	*Cirsium arvense*	Minor

Source: USACE

2.2.6 Visual and Scenic Resources and Interpretation

Conchas Lake includes many acres of scenic shorelines, lake views, and wildlife viewing areas providing high visual and scenic qualities. Some areas are admired for their scenic attractiveness (intrinsic scenic beauty that evokes a positive response), scenic integrity (wholeness of landscape character), and landscape visibility (how many people view the landscape and for what reasons and how long). Some areas have been designated as Wildlife Management or Environmentally Sensitive Areas to preserve specific animal, plant, or environmental features which also add to the scenic qualities at the lake. Nearby parks have been designed to access the lake, allow access to hiking trails, and take advantage of scenic qualities at the lake and surrounding areas. Adjacent landowners are informed that removing trees to obtain a view of the lake not only destroys wildlife habitat but also lowers the scenic quality of the shoreline when viewed by the general public from the water surface. Additionally, reasonable measures must be taken to ensure that damage to the natural landscape from invasive species and catastrophic wildfire are minimized.

Interpretive programming is a systematic approach to providing information and education services to Conchas Lake visitors. The primary objective is to tell the USACE story, inform visitors of the park rules, and to provide educational opportunities for visitors to develop intellectual and emotional connections to the resources found at Conchas Lake. A variety of interpretive techniques are used, including personal visitor contacts, public speaking engagements, and hosting primary, secondary, and college groups. In addition, the staff uses print and video media and various forms of social media to keep the visiting public informed. Interpretive programming also includes the management of public affairs, community relations, marketing, publications, special events, and cooperation with civic groups and resources partners. A variety of physical components are used to enhance the interpretive programming effectiveness.

Vegetative management, mowing permits, debris removal, and other shoreline issues are addressed through the Shoreline Management Policy. The Shoreline Management Policy has details concerning permits for vegetation manipulation. Adjacent landowners are advised to contact USACE lake staff prior to conducting any vegetation manipulation on USACE land.

2.2.7 Sedimentation and Shoreline Erosion

Erosion and sedimentation are naturally occurring events at water bodies. Sedimentation is the result of water carrying and depositing small particles from one place to another. Erosion is the process of wind and water eating away the shoreline, which becomes sediment. A sedimentation survey was completed in 2015 using Light Detection and Ranging (LiDAR) technology to produce a full volumetric digital terrain model for Conchas Lake (National Drought Resilience Improved Reservoir Sediment Surveys (NDRP), 2016), a map of which is shown in Figure 2.10. Prior to this, the reservoir had last been surveyed in 1986 using the transect method.

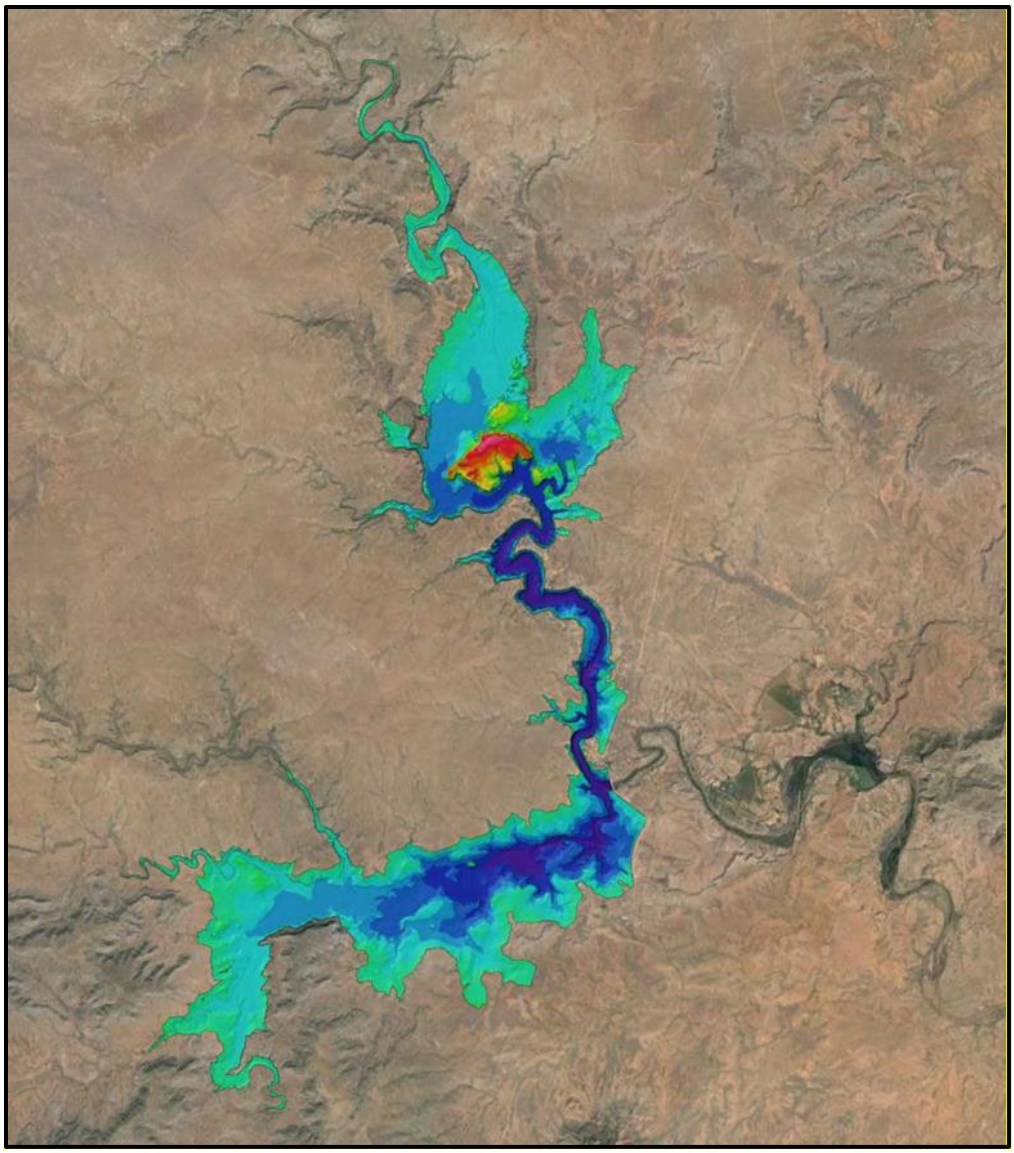


Figure 2-10 NDRP 2016 LiDAR Result for Conchas Lake

Erosion at Conchas Lake has occurred as a result of water and wind, as well as human activity. There are several areas at Conchas Lake that have erosion issues. A detailed summary of the erosion issues at Conchas Lake can be found in Section 6 of this Master Plan.

2.2.8 Water Resources

The Bureau of Reclamation and Arch Hurley Conservancy District own all rights to conservation storage between elevation 4,201 feet and 4,155 feet NGVD29 (about 254,422 acre-feet). Below 4,155 ft, it is a dead pool and when the lake elevation drops to 4,161 ft no water can be released except by pumping. Pumping water is currently not feasible. As can be seen in Figure 2.11, the water levels at Conchas Lake have been decreasing over the past years. This is primarily due to drought and water draw-down for irrigation.

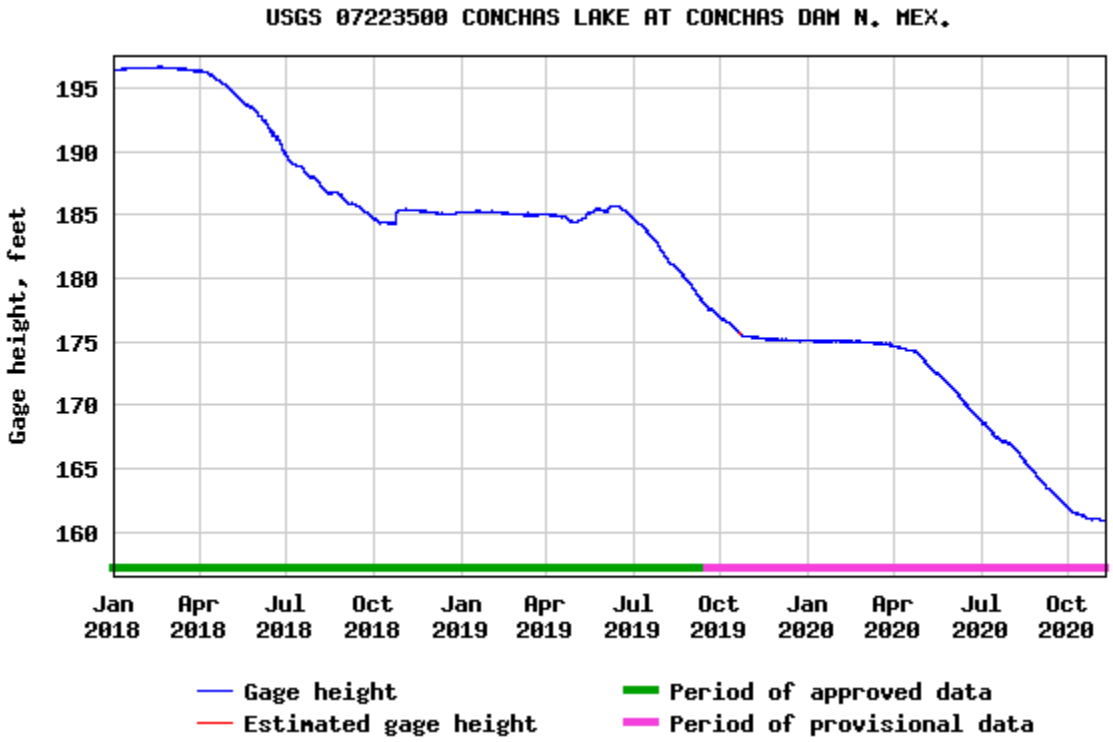


Figure 2-11 Water Levels at Conchas Lake from Jan 2018 – Oct 2020 (USGS 2020)

Surface Water Quality Bureau (SWQB) New Mexico Environment Department sets and implements standards for surface water quality to improve and maintain the quality of water in the state based on various beneficial use categories for the water body. The 2010 Water Quality Survey Summary for the Canadian River and Select Tributaries Report, pursuant to the Clean Water Act Sections 305(b) and 303(d), evaluates the quality of surface waters in New Mexico and identifies those that do not meet uses and criteria defined in the New Mexico Surface Water Quality Standards. Impaired waters are then identified, along with impairment descriptions, on the 303(d) list.

Water quality sampling in Chicorica Creek (Canadian River headwaters), Conchas River (Conchas Lake to headwaters), and Ute Creek (Ute Reservoir to headwaters) found no exceedance of applicable water quality criteria. For further information on water quality, please see Appendix E.

2.2.9 Air Quality

The Clean Air Act, as amended in 1990, requires the EPA to set National Ambient Air Quality Standards (NAAQS) (40 CFR Part 50) for pollutants considered harmful to public health and the environment. NAAQS standards specify maximum permissible short- and long-term concentrations of various air contaminants, including primary and secondary standards for six criteria pollutants: Ozone (O3), Carbon Monoxide (CO), Sulfur Dioxide (SO2), Nitrogen Oxide (NO), particulate matter (PM10 and PM2.5), and Lead (Pb).

Primary standards provide public health protection, including protecting the health of sensitive populations such as asthmatics, children, and the elderly. Secondary standards provide public welfare protection, including protection against decreased visibility and damage

to animals, crops, vegetation, and buildings. If the concentrations of one or more criteria pollutants in a geographic area is found to exceed the regulated "threshold" level for one or more of the NAAQS, the area may be classified as a non-attainment area. Areas with concentrations that are below the established NAAQS levels are considered either attainment or unclassifiable areas. Based on monitoring data, the EPA has determined that the Conchas Lake area is currently in attainment, meaning that it meets standards.

2.2.10 Health and Safety

The USACE, with some assistance from the New Mexico State Parks and USFWS, has established public outreach programs to educate the public on water safety and conservation of natural resources. In addition to the water safety outreach programs, USACE at Conchas Lake has established recreation management practices to protect the public. These include safe boating and swimming regulations, and speed limit and pedestrian signs for park roads. USACE also ensures compliance with rules and regulations governing solid waste, wastewater and potable water management in place for camping and day use areas, including those areas operated by lessees.

2.3 CULTURAL RESOURCES AND ANALYSIS

Cultural Resources at Conchas Lake

As with most USACE lakes, Conchas Lake contains many significant archaeological resources representing thousands of years of human occupation. In addition to archaeology, however, some of the most significant historic properties at Conchas include USACE facilities themselves. The Conchas Dam Historic District is listed on the National Register of Historic Places (NRHP), and other elements of the built environment (such as Conchas Lodge) are historically significant as well, presenting important implications and challenges for management. This section discusses the cultural resources setting for Conchas Lake in order to characterize the cultural context affecting the management of USACE lands and facilities. It also covers applicable laws and regulations regarding cultural resources.

Cultural Resources Laws and Processes

A large body of federal legislation, regulations, and executive directives outline the responsibilities and procedures of federal agencies for management of cultural resources on federally owned or controlled lands and properties. Among those of primary importance are the National Historic Preservation Act (NHPA), the National Environmental Policy Act (NEPA), the Archeological Resources Protection Act (ARPA), and the Native American Graves Protection and Repatriation Act (NAGPRA).

Section 106 of the NHPA requires that federal agencies consider the effects of undertakings on cultural resources eligible or listed in the NRHP at the planning stage. "Undertakings" are defined in the NHPA as any activity involving Federal action, funding, approval, or permission. The process is outlined in regulation 36 CFR Part 800 (Protection of Historic Properties), which provides for consultation with consulting parties such as State Historic Preservation Officers (SHPOs), Tribal Historic Preservation Officers (THPOs), Native American tribes, local governments, applicants for federal permits or licenses, and the public, including individuals and organizations with a demonstrated interest in the outcome of any undertaking.

Because Conchas Dam is itself a listed historic property as well as vital public safety infrastructure, every aspect of management and maintenance of these historic properties must also comply with Section 106 and Section 110 responsibilities. The 36 CFR Part 800 regulations define the consultation process, but this process may be modified by a programmatic agreement (PA). As of this writing, Section 106 compliance at Conchas Lake is governed by a PA executed on 12 December 2019, which streamlines and modifies the consultation process for routine operations and maintenance activities.

Section 110 of the NHPA requires federal agencies to identify, evaluate, and nominate to the NRHP the eligible cultural resources in their care. Each agency must ensure that no potentially eligible historic property is inadvertently transferred, sold, demolished, substantially altered, or allowed to significantly deteriorate. If an action will alter or destroy an eligible property, the property must be properly documented prior to the undertaking. It also directs agencies to make use of historic buildings to the maximum extent feasible. Section 110 requires that all historic properties under Federal control be managed with respect to its historic values and maintained to prevent deterioration.

Two internal USACE policy documents regarding Operations refer to cultural resources—ER-1130-2-540 and EP-1130-2-540. ER-1130-2-540 specifies that USACE policy applies to principals of good environmental stewardship for cultural resources on USACE administered and/or managed lands and provides guidance on curation and management of archaeological collections and cultural resources protection. EP-1130-2-540 contains guidance for collecting, preserving, and curating collections, and for establishing a Historic Preservation Program pursuant to the requirements of Section 110 of the NHPA. EP-1130-2-540 specifies that cultural resource location information should be protected, that historic properties are considered in all management and construction activities, and that historic, property inventories and site evaluations should be performed. The document also mandates preparation of a Historic Properties Management Plan (HPMP now Cultural Resources Management Plan CRMP) for each project under USACE jurisdiction.

As required by ER 1130-2-540 and EP 1130-2-540, the Albuquerque District is currently in the process of drafting an updated HPMP that will have a more detailed discussion of resources, laws, USACE stewardship obligations, and processes for ensuring that USACE undertakings at Conchas Lake comply with the NHPA and other laws, with specific reference to the resources and properties located at Conchas Lake.

2.3.1 Previous Investigations at Conchas Lake

All USACE fee land at Conchas Lake has been subjected to intensive archaeological survey in recent years, most recently a survey of the South Side Campground (Turnbow and Cribbin 2008), and a recent survey of 1,899 acres (Brown 2015). A total of 65 archaeological sites have been identified on USACE fee land. These include both prehistoric sites dating over the span of several thousand years, and post-contact and historic sites, including sites associated with the construction of Conchas Dam itself. In addition, numerous archaeological sites are located on USACE easement lands. All of these sites have the potential to be impacted by USACE actions, and those impacts must be considered in any USACE undertaking.

2.3.2 Culture History

Conchas Dam is located at the confluence of the Canadian and Conchas Rivers and prehistoric and historic peoples have used these easterly flowing rivers as routes between the Rio Grande and the Plains for thousands of years. In general, the archaeological chronology can be divided into four major time periods: Paleoindian, Archaic, Ceramic, and Historic. What follows is a brief outline of these periods represented in the vicinity of Conchas Lake.

2.3.3 Prehistoric

Paleoindian (c. 10,000 BC to 5500 BC)

The Paleoindian period (ca. 10,000–5500 BC) encompasses the earliest well-documented evidence for human populations in the Southwest. Paleoindian occupation is generally portrayed as small bands of highly mobile hunters preying primarily on large mammal species (e.g., mammoth, bison, sloth, camelid, and horse), many of which are now extinct. The period encompasses several Paleoindian complexes that are distinguished by distinctive projectile point styles. The Clovis complex (c. 10,000 to 9000 BC) is the oldest securely dated Paleoindian complex in the American Southwest. It is marked by the distinctive fluted eponymous spear points, which are sometimes found associated with the remains of extinct species of mammoth, camel, bison, or horse. The Folsom and Midland complexes postdate the Clovis Complex throughout much of the western United States (Frison 1991). Both complexes date from 9000 to 8000 BC, and the primary difference between them is that Folsom points are typically fluted, whereas Midland points are not fluted. The end of the Paleoindian period coincided with shifts in climate associated with the transition between Pleistocene (ice-age) conditions and the warmer Holocene.

Archaic (c. 5500 BC – AD 400)

The Archaic period is marked by an increased reliance on domesticated plants in the diet, as well as a decrease in overall mobility and less emphasis on large game hunting. Archaic peoples remained very mobile, had an increased reliance on collecting and gathering plant foods, and likely utilized a seasonal migratory pattern in their subsistence strategies. A wide variety of diagnostic Archaic projectile points also occur in the area (Baker et al. 1983:22-26; Kramer et al. 1988; Lang 1978:21-29; Stuart and Gauthier 1984:291-303).

Ceramic (c. AD 400-1450)

The Ceramic Period (AD 400–1450) is marked by the appearance of new technologies – pottery, the bow-and-arrow and, in some areas, agriculture and elaborated residential architecture. In general, these changes resulted as local hunter-gatherer populations in northeastern New Mexico interacted with and were influenced by groups to the north, west and south, and with the increasingly sedentary Pueblo groups of the Rio Grande. Individual archaeological phases and complexes during this period include Sopris and Apishapa, which show characteristics commonly associated with both Puebloan (Sopris in particular) and Plains groups (cf. Apishapa). Sopris phase sites date between approximately AD 1050 and the AD 1200s, while Apishapa persists until approximately AD 1450 (Zier and Kalasz 1999). In addition, Pueblo sites have also been documented throughout the area.

By the end of the Ceramic period, much of northeastern New Mexico appears to have been depopulated. Ancestral Puebloan settlements in the foothills of the Sangre de Cristos had been abandoned as the population withdrew to the Pecos area, and the Jornada Mogollon agriculturalists were concentrated in the Salinas and Chupadero Mesa areas along the eastern

flanks of the Manzano Mountains. In the Middle Pecos region, Jelinek (1967) found a few temporary camps with early glazewares suggesting that a remnant population of hunter-gatherers may have been present after AD 1300.

In the years immediately preceding the entry of Spanish explorers and colonists into the Southwest, Apachean groups entered the Southwest. Early Spanish reports indicate that hunter-gatherers occupied much of the hinterland surrounding the Pueblo region by the late sixteenth century, including this portion of northeast New Mexico. Although it is difficult to neatly equate the various names used by the Spanish for these groups with modern tribal groups, most can be assigned with varying degrees of certainty to Apachean speakers.

2.3.4 Historic

Historic (AD 1540-Present)

The Historic period is defined by the presence of written records to aid our understanding of the past, and as such coincides with the arrival of Europeans into the Southwest. The Historic Period in the Southwest is initiated with Francisco Vasquez de Coronado's 1540 entrada into what is now New Mexico, but the real impact to local populations began in 1598 when Don Juan de Oñate arrived in the Rio Grande Valley and established the colony of Nuevo Mexico (New Mexico). Coronado was the first European to explore eastern New Mexico's Great Plains and is thought to have crossed the South Canadian River somewhere near Conchas Dam on his expedition to Quivira in 1541. In the 1600s, Spanish settlement was primarily concentrated in the middle Rio Grande Valley between the communities of San Juan Pueblo on the north and Belen to the south (Nostrand 1992:31-48). After the 1680 Pueblo Revolt many of the Rio Grande Puebloans sought refuge in the northwestern part of the state (Cordell 1997:216-217). With the completion of de Vargas' reconquest in 1696, the Spaniards tried to redirect their colonization by issuing community land grants that were intended to be self-sufficient farming and herding communities (Simmons 1969; Wozniak 1987). As the Hispanic population increased and the amount of arable land diminished, the colonial government promoted - and many chose to settle in - outlying areas such as the Rio Chama and eventually the Pecos River Valleys.

Comanches were first reported in New Mexico accompanying Utes to the 1705 Taos trade fair. After the fall harvests, Mexican Comanche traders known as Comancheros and bison hunters known as ciboleros carried on extensive trade that served the local peoples. This system provided a variety of trade goods, was long-lived, and later, supplemented the American manufactured goods brought to New Mexico and the Southwest along the historic Santa Fe Trail.

European settlement of eastern New Mexico came late in the history of the Spanish Southwest. Throughout the Spanish Colonial (1540-1821) Period, eastern New Mexico acted as a buffer separating the Spanish colonists of the Rio Grande from the nomadic Plains tribes. It was, however, not until the signing of the Comanche Peace in 1786 that permanent European settlement along the Pecos River became practicable (Ward et al. 1987:43-46). Shortly thereafter, in 1794, the first Hispanic settlement east of Pecos Pueblo was established on the Spanish Colonial land grant of San Miguel del Vado (Bado). The provisions for the community grant were confirmed and the settlers were given possession in 1803 (Kessell

1979:415-419). Not until the Territorial Period (1846-1912) did significant settlement and occupation of eastern New Mexico begin.

U.S. military exploration of the West began with the 1803 Louisiana Purchase. Although Mexico opened trade with the United States subsequent to Mexican independence from Spain in 1821, Mexico remained wary of the U.S. and its citizens and continued to maintain the Spanish practice of letting land grants in an effort to protect its borders during the Mexican Period (1821-1846). The Conchas Dam Project occupies a portion of Pablo Montoya's 1824 Land Grant that measured 655,468 acres (GAO 2001:26; Kramer et al. 1988:188-190; Lang 1978:41-42). Montoya was the first of European descent to try to settle the area, bringing in sheep, cattle, horses and settlers. Later, Abert's 1845 and the Marcy-Simpson's 1849 military expeditions crossed the region cataloging plants, animals, and natural resources, and surveying for potential railroad routes. By the late 1800s, small settlements began to dot the region.

With the independence of Mexico from Spain in 1821 and the opening of American trade with the Southwest the next year, the region received an influx of Americans and was linked with the increasing trade along the famous Santa Fe Trail. The eastern half of New Mexico had always supplied sheep and cattle for Spanish and Mexican markets. After General Stephen Watts Kearny's expedition into and occupation of Nuevo Mexico in 1846, New Mexico was formally incorporated into the United States by the Treaty of Guadalupe Hidalgo in 1848 (Simmons 1988:121-131). The famous Atchison Topeka and Santa Fe Railway arrived at Las Vegas in June 1879, providing the vast sheep and cattle industries with an eastern market and permanently affected the economy and culture of the Indians and of the Hispanic and newly arrived Anglo settlers.

2.3.5 Recorded Cultural Resources

Built Environment and Historic Properties

In addition to the 65 archaeological sites on USACE fee land and numerous sites within easements, Conchas Lake contains and manages several significant historic properties, including some constructed by USACE itself: namely, the Conchas Dam Historic District (including the Dam itself, the administration area and the Adobe Belle housing units) and the Conchas Lodge. In addition, key historic properties located outside of fee land but within Corps easements include two historic cemeteries.

The Conchas Dam Historic District: Birthplace of the Albuquerque District

Conchas Dam was one of several Depression-era New Deal projects completed in New Mexico and was the birthplace of what became the Albuquerque District of the Army Corps of Engineers. Supported by Governor Clyde Tingley, the project started in 1935 under Roosevelt's Emergency Relief Appropriation Act of 1935. Captain Hans Kramer of USACE, relying on 90 percent of his employees coming from relief roles, most without construction skills, oversaw all facets of the project. Construction was completed in 1939.

The construction effort was logistically complex, requiring planning and support infrastructure at an impressive scale. Prior to dam construction, a road to the isolated construction site and an entire town had to be built to provide utilities, services and housing for project workers. Work provided for administrative facilities, repair shops, a church, hospital, school, movie theater, and stores. The 24-bed hospital was the most modern in the state.

Being remote, locally available materials such as adobe and quarried sandstone were used as much as possible. Workers made approximately 750,000 adobe bricks to construct the camp. A railhead was established at Newkirk for delivery of construction supplies. Construction of the camp employed 2,500 people, and a second peak in employment occurred during the construction of the south dike when 1,458 workers were employed simultaneously (Schelberg and Stone 2005; USACE 1941:236-242). These workers braved the harsh environment that included dust bowl storms, cold prairie winters and the blistering summer sun (Cabeza de Baca 1989).

In keeping with the goals of the New Deal proponents, the project's administration building and employee housing were designed in the Spanish-Pueblo Revival style in order to blend into the regional surroundings. These buildings, still in use as the Administration building and the Adobe Belle housing units, utilized some of the dismantled adobe bricks from the construction camp.

Together, the dam, including all associated earthworks and other components, and the administration area, including the administration building and the Adobe Belle housing units, form the Conchas Dam Historic District. This district was listed on the State Register of Cultural Properties on April 7, 2000 (HPD No. 1791) and on the National Register of Historic Places on May 22, 2005 (NMHPD 2006; Schelberg and Stone 2005; Schelberg and Everhart 2000). A preservation and maintenance plan for the Conchas Project Office/Administration Building and the associated residence housing was prepared for USACE by Van Citters (2001). The District is eligible for National Register listing based on its association with the numerous programs of the New Deal, as well as for its significant and distinctive engineering, construction methods, and architecture. In addition, the high artistic value of two paintings by Odon Hullenkremer, funded by the WPA Federal Art Project and housed in the administration building, contribute to the District's eligibility and significance.

The Conchas Lodge

As the construction of the dam was nearing completion and the reservoir was beginning to fill, state officials began to realize the recreation potential for the rapidly growing lake. While at the time USACE "…policy and restrictions prescribed that such development was wholly outside the province of the [War] Department's functions and activities," the USACE concurred that the reservoir lent itself to the development of recreational facilities. Through a series of negotiations and subsequent agreements, the USACE agreed to allow the Civilian Conservation Corps (CCC), as managed by the National Park Service (NPS), to construct recreational facilities including boat ramps and picnic facilities as well as a recreational center on Conchas Dam fee land. All recreational facilities, once constructed, would be turned over, through a 50-year lease agreement, to the New Mexico State Park Commission for operation and maintenance. The agreement also allowed the NPS and CCC to utilize all salvageable materials from the dam's construction camp as they saw fit for the construction of the recreation center.

The centerpiece of the new South Side Recreation Area thus became the "Conchas (or Main) Lodge," a rambling one-story design with a central foyer that doubled as a sitting and recreation lounge. This Main Lodge consisted of the central room flanked by two wings (east and west) that extended at 90-degree angles to the south and at 45-degree angles to the north. The west wing included rooms for rent in the portion extending to the northwest and a

residence for the manager in the portion extending to the south. The east wing housed the kitchen and restaurant in the portion extending to the northeast and a small shop in the portion extending to the south. Construction of the Main Lodge was completed in 1942. After the construction of this Main Lodge, the other three structures, the 1948/1950 Fisherman's Wharf, the 1959 East Wing, and the 1966 West Wing were added.

The Main Lodge is a historic property eligible for NHRP listing due to its associations with patterns of recreational development associated with Conchas Dam, as well as being an important architectural example of Depression-era Federal make-work programs blending vernacular architectural language with contemporary features. Melvin L. Faust, identified as the author of the lodge's design, imparted both Pueblo and Spanish territorial influences in his design; the lodge was executed with fine sandstone bearing walls and wood craftsmanship consistent with the nation's body of New Deal era buildings. In addition, the Lodge played an important role in the life of the local community.

In the years after 1966, State Parks and concessionaires had difficulty making a profit with the Lodge and other South Side recreation facilities. As such, State Parks relinquished management of these areas in 1991, and other later concessionaires also were unable to financially maintain the property. The Lodge has been unleased since 2003.

While the Lodge has not been in use for some time, USACE is actively pursuing potential opportunities to allow the repair and future continued use of this property. As a historic property, its management is subject to the requirements of Section 106 of the NHPA. Any future development will be conducted in compliance with these requirements.

Cemeteries

Two historically significant cemeteries, both eligible for NRHP listing, are located within easement lands at Conchas Lake, as well as the remains of a historic town site (Alamosa Plaza). Both cemeteries, given the archaeological site numbers LA 37925 and LA 173306, are eligible based on their potential to provide important information about early homesteading activities in the region, as well as association with important patterns of Hispanic settlement in the New Mexico Territory at the turn of the Twentieth Century. The Alamosa Plaza site (LA 29446) is eligible for its information potential, as well as its association with Territorial Period New Mexican settlement.

2.3.6 Long-term Cultural Resources Objectives

As funding allows, a Cultural Resources Management Plan (CRMP) shall be developed and incorporated into the Operational Management Plan in accordance with EP 1130-2-540. The purpose of the CRMP is to provide a comprehensive program to direct the historic preservation activities and objectives at Conchas Lake. Completion of a full inventory of cultural resources at Conchas Lake is a long-term objective that is needed for compliance with Section 110 of the NHPA. All currently known and newly recorded sites must be evaluated to determine their eligibility for the NRHP. In accordance with Section 106 of the NHPA, any proposed ground-disturbing activities or projects, such as those described in this master plan or as may be proposed in the future by others for right-of-way easements, will require cultural resource surveys to locate and evaluate historic and prehistoric resources. Resources determined eligible for the NRHP must be protected from proposed project impacts, or the impacts must be mitigated. All future cultural resource investigations at Conchas Lake must be

coordinated with the State Historic Preservation Officer and federally recognized Tribes to ensure compliance with the National Historic Preservation Act, the Archaeological Resources Protection Act, and the Native American Graves Protection and Repatriation Act.

2.4 DEMOGRAPHIC AND ECONOMIC ANALYSIS

The following information covers the current demographic and economic data for communities near Conchas Lake (Zone of Interest). This basic information gives a snapshot of the current population and looks at growth trends for the area.

2.4.1 Zone of Interest

Conchas Lake is in northeast New Mexico and lies entirely within San Miguel County. The zone of interest for the socioeconomic analysis of Conchas Lake is defined as San Miguel County plus four of the counties that surround it, which are Guadalupe, Harding, Mora, and Quay Counties in New Mexico.

2.4.2 Population

The total population for the zone of interest in 2018 was 45,811, as shown in Table 2.9. Approximately 61% of the zone of interest population resides in San Miguel County, 18% in Quay County, 10% in Quay County, another 10% in Guadalupe County, and 1% in Harding County.

The zone of interest's population makes up only 2% of the total population of New Mexico. From 2018 to 2040, the population in the zone of interest is expected to decrease from approximately 46,000 to 40,000, an annual growth rate of -0.6%. By comparison, the population of New Mexico is projected to increase at a rate of 0.6% per year during that same timeframe, and the national growth rate is expected to be 0.5% per year. All counties within the zone of interest are projected to have zero or negative growth, between 2018 and 2040.

Table 2-9 2000, 2018 Population Estimates and 2040 Projections

Geographical Area	2000 Population Estimate	2018 Population Estimate	2040 Population Projection
New Mexico	1,819,046	2,092,434	2,401,480
Guadalupe	4,680	4,382	4,251
Harding	810	459	462
Mora	5,180	4,563	3,774
Quay	10,155	8,373	7,323
San Miguel	30,126	28,034	24,123
Zone of Interest Total	50,951	45,811	39,933

Source: U.S. Census Bureau, Population Division (2000 Estimate); U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate); Source: University of New Mexico Geospatial and Population Studies (2040 Projections)

The distribution of the population among gender, as shown in Table 2.10, is approximately 50% male and 50% female in the zone of interest, similar to the overall gender distribution in New Mexico

Table 2-10 2018 Percent of Population Estimate by Gender

Geographical Area	Male	Female
New Mexico	1,035,850	1,056,584
Guadalupe	2,507	1,875
Harding	266	193
Mora	2,230	2,333
Quay	3,881	4,492
San Miguel	14,108	13,926
Zone of Interest Total	22,992	22,819

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate)

Figure 2.12 and Table 2.11 display the population by age group. When compared to the state of New Mexico, the percentage of population between 0 and 55 years is less in the zone of interest, while the population ages 55 and over is greater in the zone of interest. Figure 2.12 shows the zone of interest's population by age group in 2018 compared to the population projections by age group for 2040. The forecast shows that the population ages 0 to 44 and 55 to 84 will decrease slightly while the 35 to 54 and the 85 and over age groups will increase in population between 2018 and 2040.

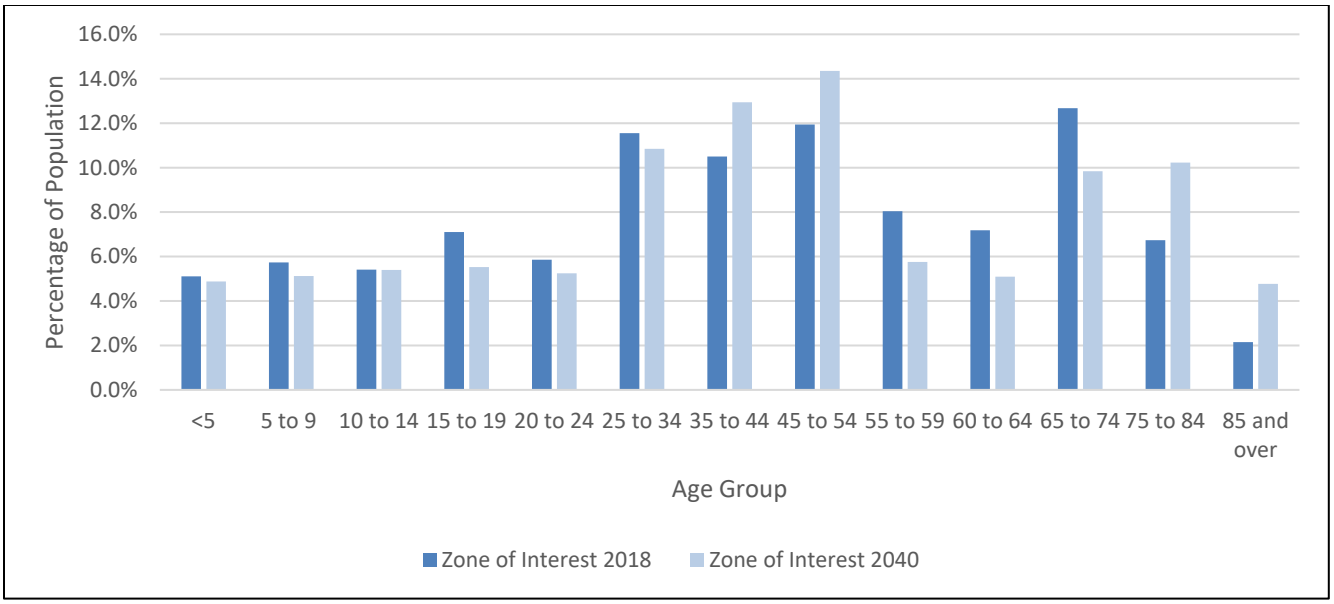


Figure 2-12 2018 Population Estimate and 2040 Projection by Age Group

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate); University of New Mexico Geospatial and Population Studies (2040 Projections)

Table 2-11 2018 Population Estimates by Age Group

Area	Age Group												
	<5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 34	35 to 44	45 to 54	55 to 59	60 to 64	65 to 74	75 to 84	85 and over
New Mexico	128,357	137,860	143,893	140,188	147,856	280,659	247,254	252,403	139,817	132,632	202,928	101,037	37,550
Guadalupe	220	185	245	174	197	728	528	530	384	201	489	404	97
Harding	21	30	13	8	4	41	28	37	46	55	99	59	18
Mora	254	303	167	319	241	482	301	600	386	359	703	363	85
Quay	508	756	401	405	369	919	933	791	697	568	1,184	629	213
San Miguel	1,337	1,352	1,654	2,349	1,871	3,122	3,022	3,511	2,171	2,109	3,333	1,630	573
Zone of Interest Total	2,340	2,626	2,480	3,255	2,682	5,292	4,812	5,469	3,684	3,292	5,808	3,085	986

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate)

Population by race and Hispanic Origin is displayed in Table 2.12. The population in the zone of interest is approximately 72% Hispanic or Latino, 24% White, 1% Black, 1% Asian, 1% two or more races. By comparison, the state's population is approximately 49% Hispanic or Latino, 38% White, 2% Black, 1% Asian, and 2% two or more races.

Table 2-12 2018 Population Estimate by Race/Hispanic Origin

Area	White	Black	American Indian and Alaska Native alone	Asian alone	Native Hawaiian and Other Pacific Islander alone	Some other race alone	Two or more races	Hispanic or Latino
New Mexico	788,308	38,016	183,408	29,571	1,046	4,056	32,278	1,015,751
Guadalupe	830	50	52	0	0	0	16	3,434
Harding	283	0	0	0	2	1	2	171
Mora	712	1	0	0	0	149	0	3,701
Quay	4,179	122	114	63	19	23	72	3,781
San Miguel	5,029	296	285	281	0	0	386	21,757
Zone of Interest Total	11,033	469	451	344	21	173	476	32,844

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate)

2.4.3 Education and Employment

Table 2.13 displays the highest level of education attained by the population ages 25 and over. In the zone of interest, 6% of the population has less than a 9th grade education, and another 11% has between a 9th and 12th grade education; 31% has a high school diploma or equivalent, and another 24% has some college and no degree; 8% has an Associate's degree; 11% has a Bachelor's degree, and 8% has a graduate or professional degree. In the state of New Mexico, 6% of the population has less than a 9th grade education; another 9% has between a 9th and 12th grade education; 26% has at least a high school diploma or equivalent; 23% has some college; 8% has an Associate's degree; 15% has a Bachelor's degree, and 12% has a graduate or professional degree.

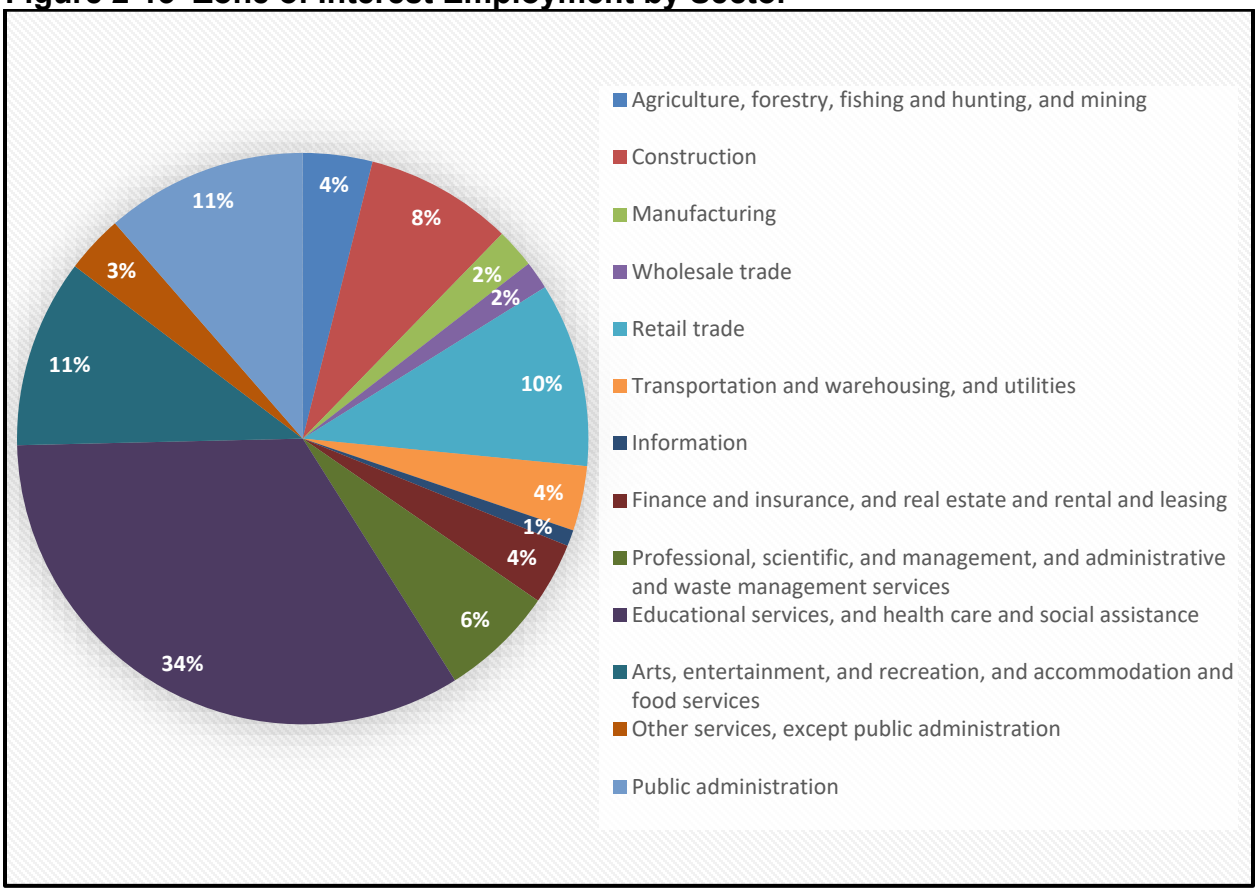
Table 2-13 2018 Population Estimate by Highest Level of Education Attainment, Population 25 Years of Age and Older

Area	Highest Level of Educational Attainment							
	Population 25 years and over	Less than 9th grade	9th to 12th grade, no diploma	High school graduate (includes equivalency)	Some college, no degree	Assoc degree	Bachelor's degree	Graduate or professional degree
New Mexico	1,394,280	86,723	118,835	368,487	327,375	114,664	213,129	165,067
Guadalupe	3,361	197	480	1,412	696	185	275	116
Harding	383	13	33	126	82	36	71	22
Mora	3,279	81	193	1,146	1,215	278	194	172
Quay	5,934	362	656	2,365	1,179	432	504	436
San Miguel	19,471	1,428	2,230	5,121	4,587	1,687	2,473	1,945
Zone of Interest Total	32,428	2,081	3,592	10,170	7,759	2,618	3,517	2,691

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate)

Employment by sector is presented in Figure 2.13 and Table 2.14 shows that the largest percentage of the zone of interest is employed in the Educational services, and health care and social assistance sector at 34%, followed by the Arts, entertainment, and recreation, and accommodation and food services sector and the Public administration sectors at 11% each. 10% of the zone of interest is employed in the Retail trade sector; approximately 8% is employed in the Construction sector, and 6% in the Professional, scientific, and management, and administrative and waste management services sector. The remainder of the employment sectors each comprise less than 5% of the zone of interest's labor force.

Figure 2-13 Zone of Interest Employment by Sector



Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate)

Table 2-14 Annual Average Employment by Sector

Employment Sector	Geographic Area						
	New Mexico	Guadalupe	Harding	Mora	Quay	San Miguel	Zone of Interest Total
Civilian employed population 16 years and over	882,735	1,311	154	1,399	2,846	9,714	15,424
Agriculture, forestry, fishing and hunting, and mining	36,314	30	52	93	127	305	607
Construction	61,448	58	16	110	190	914	1,288
Manufacturing	35,542	6	6	31	109	192	344
Wholesale trade	17,098	31	2	31	121	61	246
Retail trade	101,845	217	8	128	333	923	1,609
Transportation and warehousing, and utilities	37,313	120	6	93	123	223	565
Information	13,466	0	5	36	32	68	141
Finance and insurance, and real estate and rental and leasing	42,234	11	2	1	236	287	537
Professional, scientific, and management, and administrative and waste management services	102,517	27	0	46	173	749	995
Educational services, and health care and social assistance	222,973	377	23	531	637	3,611	5,179
Arts, entertainment, and recreation, and accommodation and food services	101,380	179	10	131	503	824	1,647
Other services, except public administration	45,051	43	2	64	106	291	506
Public administration	65,554	212	22	104	156	1266	1,760

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate)

The civilian labor force in the zone of interest accounts for only 2% of the civilian labor force in the State of New Mexico. As shown in Table 2.15, the zone of interest experienced an unemployment rate of 5.6% in 2018, higher than the State of New Mexico, which had an unemployment rate of 4.9% that same year. The unemployment rate in each of the counties in the zone of interest were higher than that of New Mexico, except for Quay County, which had an unemployment rate of 4.7%. Unemployment rates in the remaining counties in the zone of interest ranged from 5.1% in Harding County to 6% in Mora County.

Table 2-15 Labor Force, Employment and Unemployment Rates, 2018 Annual Averages

Geographic Area	Civilian Labor Force	Number Employed	Number Unemployed	Unemployment Rate
New Mexico	938,245	892,331	45,914	4.9%
Guadalupe	1,616	1,528	88	5.4%
Harding	277	263	14	5.1%
Mora	2,269	2,132	137	6.0%
Quay	3,201	3,049	152	4.7%
San Miguel	10,879	10,241	638	5.9%
Zone of Interest Total	18,242	17,213	1,029	5.6%

Source: Bureau of Labor Statistics, 2018 Annual Averages

2.4.4 Households, Income, Poverty

Table 2.16 displays the number of households and average household sizes in 2018. There were approximately 776,651 households in the State of New Mexico with an average household size of 2.64. The zone of interest contained approximately 17,502 of those homes and had an average household size of 2.62.

Table 2-16 2018 Households and Household Size

Area	Total Households	Average Household Size
New Mexico	775,651	2.64
Guadalupe	1,404	2.59
Harding	211	2.18
Mora	1,535	2.96
Quay	3,060	2.71
San Miguel	11,292	2.34
Zone of Interest Total	17,502	2.62

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate)

The median household income in New Mexico in 2018 was $48,059 while the median household income in the zone of interest ranged from $24,085 in Guadalupe County to $31,660 in San Miguel County, as displayed in Table 2.17. Per capita income in the zone of interest was $19,622 in 2018, lower than the State of New Mexico, which had a per capita income of $26,085.

Table 2-17 2018 Median and Per Capita Income

Geographic Area	Median Household Income	Per Capita Income
New Mexico	$48,059	$26,085
Guadalupe	$24,085	$17,930
Harding	$30,875	$32,424
Mora	$26,968	$17,689
Quay	$27,075	$18,637
San Miguel	$31,660	$20,285
Zone of Interest Total	N/A	$19,622

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate)

Table 2.18 displays the percentage of persons and families whose incomes fell below the poverty level in the past twelve months as of 2018. When compared to the state, the zone of interest as a whole had a larger percentage of people with incomes below the poverty level at 24.5%. In New Mexico, 20% of people had incomes below the poverty level during the same time period. San Miguel County had the most people with incomes below the poverty level at 27.7%, followed by Quay County at 22.1%, Mora County at 19.3%, Harding County at 18.3%, and Guadalupe County at 14.5%. In terms of family incomes, the State of New Mexico had 15.3% of families whose incomes fell below the poverty level in the past 12 months as of 2018. Quay and San Miguel counties had a greater percentage of families below the poverty level when compared to the state at 16.4% and 18.4% respectively. The percentage of families below the poverty level was equal to the state in Mora County and less than the state in Guadalupe and Harding counties in 2018.

Table 2-18 Percent of Families and People Whose Income in the Past 12 Months is Below the Poverty Level (2018)

Geographic Area	All Persons	All Families
New Mexico	20.00%	15.30%
Guadalupe	14.50%	11.90%
Harding	18.30%	10.30%
Mora	19.30%	15.30%
Quay	22.10%	16.40%
San Miguel	27.70%	18.40%
Zone of Interest Total	24.5%	N/A

Source: U.S. Census Bureau, 2014-2018 American Community Survey 5-Year Estimates (2018 Estimate)

2.4.5 Social, Environmental and Environmental Benefits

USACE recognized the importance of Conchas Lake and the activities on USACE lands and waters as being an important part of the local economy. Besides the obvious economic savings through flood risk management and development advantages through water supply, businesses can see investment opportunities, and people are drawn to the natural areas surrounding USACE lakes, as is evidenced by the growing number of residents adjacent to USACE properties. Nationally, USACE lakes attract about 335 million recreation visits every year, with direct economic benefits on local economies within a 30-mile radius.

Nationwide, the USACE Flood Risk Management infrastructure, which includes Conchas Lake, includes approximately 715 dams and 4,100 miles of levees, which help to reduce the risk of flood damage throughout the nation.. In 2019, the lakes in the Albuquerque District, which include Abiquiu Dam, Cochiti Lake, Conchas Lake, Galisteo Dam, Jemez Canyon Dam, John Martin Reservoir, Santa Rosa Dam and Lake, Trinidad Lake and Two Rivers Dam, added the following recreation-related value to our nation.

Table 2-19 Social Benefits 2019

Facilities in FY 2019	
• 32 recreation areas • 216 picnic sites • 805 camping sites • 9 playgrounds • 4 swimming areas	• 20 trails • 30 trail miles • 4 fishing docks and piers • 15 boat ramps • 0 marina slips
Visits (person-trips) in FY 2019	
• 1,049,134 in total • 102,771 picnickers • 558,042 campers/overnight visitors • 180,501 swimmers • 86,146 walkers/hikers/joggers	• 74,344 boaters • 126,274 sightseers • 65,178 anglers • 19,129 special event attendees • 26,241 others
Public Outreach in FY 2019	
49,638 public outreach contacts	
Benefits in Perspective	
By providing opportunities for active recreation, USACE lakes help combat one of the most significant of the nation's health problems: lack of physical activity. Recreational programs and activities at USACE lakes also help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self-esteem; and increase water safety.	

Table 2-20 Economic Benefit 2019

Economic Data in FY 2019
1,049,194 Visitation per year resulted in: • $ 37,939,017 in visitor spending within 30 miles of USACE lakes • $ 16,064,747 in sales within 30 miles of USACE lakes • 313 jobs within 30 miles of USACE lakes • $ 6,183,615 in labor income within 30 miles of USACE lakes • $ 8,221,373 in value added within 30 miles of USACE lakes • $ 7,933,391 in National Economic Development Benefits With multiplier effects, visitor trip spending resulted in: • $ 21,916,414 in total sales • 362 jobs • $ 7,599,573 in labor income • $ 11,025,616 in value added (wages & salaries, payroll benefits, profits, rents, and indirect business taxes)
Benefits in Perspective
The money spent by visitors to USACE lakes on trip expenses adds to the local and national economies by supporting jobs and generating income. Visitor spending represents a sizable component of the economy in many communities around USACE lakes.

Table 2-21 Environmental Benefit 2016

Resources Data in FY 2016
• 40,612 land acres • 18,654 water acres • 85 shoreline miles
Benefits in Perspective
Recreation experiences increase motivation to learn more about the environment; understanding and awareness of environmental issues; and sensitivity to the environment.

Source: https://usace.contentdm.oclc.org/utils/getfile/collection/p16021coll2/id/5651

2.5 RECREATION FACILITIES, ACTIVITIES, AND NEEDS

2.5.1 Zone of Influence and Visitation Statistics

Conchas Lake is the largest body of water in northeast New Mexico. Under normal rainfall conditions, Conchas Lake provides an average water surface of approximately 6,000 acres during the peak recreational boating season of June through September. However, as of the publication of this Plan, dry conditions have persisted since 1999 which was the last time the lake elevation exceeded 4,201 feet which is the top of the irrigation pool. Irrigation water is withdrawn from the lake until the lake elevation drops to 4,155 feet, the so-called Permanent Pool, at which further withdrawals for irrigation are not possible without pumping and the lake has a surface acreage of 2,750 acres. . The primary Zone of Influence for Conchas Lake encompasses the local San Miguel County and neighboring Quay, Guadalupe, Harding, and Mora Counties. Conchas Lake provides recreation primarily for the residents of New Mexico, including Torrance and Santa Fe Counties.Conchas Lake also receives visitation from states such as Texas, Oklahoma, Kansas, and Colorado.

2.5.2 Visitation Profile

Most visitors to Conchas Lake travel from within a 200-mile radius, which includes all or part of 33 counties in West Texas, 25 counties in New Mexico, 11 counties in Colorado, 2 counties in Oklahoma, and 3 counties in Kansas. These visitors are a diverse group of people with a wide range of interests: campers who utilize the campgrounds around the lake (which is operated by both the USACE and the New Mexico State Parks (NMSP)); anglers who participate in fishing tournaments; and day users who use the facilities for picnics, hikes, nature and bird watching, and bicycling. Conchas Lake is also a significant resource for water recreation activities such as boating, sailing, canoeing, kayaking, water skiing, wake boarding, tubing, and swimming.

On average from 2010 through 2019, Conchas Lake has hosted 261,517 visits from the public per year, with the peak visitation months running from May through September, which is considered the recreation season. Table 2.22 depicts yearly visitation from 2010 through 2019, which includes visitation numbers from both the USACE and NMSP.

Table 2-22 Conchas Lake Yearly Visitation

Year	U.S. Army Corps	State Parks	Total
2010	83,885	155,156	239,041
2011	72,558	125,215	197,773
2012	58,712	117,125	175,837
2013	106,828	87,058	193,886
2014	154,944	94,145	249,089
2015	180,444	115,372	295,816
2016	147,356	171,160	318,516
2017	251,482	151,621	403,103
2018	128,208	141,382	269,590
2019	155,147	117,370	272,517
Total	1,339,564	1,275,604	2,615,168

Source: USACE and NMSP

Although the surface area of the lake fluctuates significantly from year to year due to varying precipitation and irrigation water releases, the water level does not appear to have a significant impact on the number of visitors to Conchas Lake. For example, in 2017, Conchas saw more than 400,000 visitors – almost 130,000 more than the following year in 2018 - yet the water level was on average ten feet more in 2018 than in 2017. Table 2.23 shows the monthly and average water level by elevation at Conchas Lake and the level below the elevation of the service spillway of 4,201 feet NGVD29.

Table 2-23 Conchas Lake Level by Elevation

Month/Year	2020		2019		2018		2017		2016	
January	4175.06	25.94	4185.21	15.79	4196.47	4.53	4174.69	26.31	4186.47	14.53
February	4175.00	26.00	4185.13	15.87	4196.57	4.43	4174.95	26.05	4186.62	14.38
March	4174.80	26.20	4185.02	15.98	4196.44	4.56	4174.83	26.17	4186.51	14.49
April	4174.22	26.78	4184.71	16.29	4195.70	5.30	4174.30	26.70	4185.89	15.11
May	4172.54	28.46	4184.88	16.12	4194.16	6.84	4175.02	25.98	4184.58	16.42
June	4170.10	30.90	4185.06	15.94	4192.07	8.93	4175.52	25.48	4183.42	17.58
July	4167.86	33.14	4183.48	17.52	4187.85	13.15	4173.52	27.48	4181.15	19.85
August	4165.61	35.39	4180.76	20.24	4187.07	13.93	4176.81	24.19	4178.36	22.64
September	4163.06	37.94	4178.14	22.86	4185.47	15.53	4182.29	18.71	4177.05	23.95
October	4161.49	39.51	4176.13	24.87	4185.06	15.94	4190.35	10.65	4175.62	25.38
November	No Data	No Data	4175.30	25.70	4185.33	15.67	4195.79	5.21	4174.62	26.38
December	No Data	No Data	4175.12	25.88	4185.19	15.81	4196.21	4.79	4174.52	26.48
Average	4169.97	31.03	4181.58	19.42	4190.62	10.38	4180.35	20.65	4181.23	19.77

Source: USACE morning reports 2016-2020

Conchas Lake provides opportunity for active recreation, and by doing so, helps increase quality of life and promotes a healthy lifestyle. Recreational programs and activities at Conchas Lake, as across all USACE lakes, help strengthen family ties and friendships; provide opportunities for children to develop personal skills, social values, and self-esteem; and increase awareness of water safety. Conchas Lake had an average of 261,517 annual visitors engaged in outdoor recreation activities in the past

ten years (from 2010 to 2019). Table 2.24 shows a breakdown of the social benefits tracked by USACE in 2016 and 2019.

Table 2-24 Conchas Lake Visitor Activities

Social Benefits	2016	2019
Picnickers	10,527	13,102
Campers/overnight Visitors	15,222	78,810
Swimmers	26,490	23,542
Walkers, hikers, joggers	Not identified	8,273
Boaters	25,891	25,492
Sightseers	67,449	18,692
Anglers	29,108	14,532
Special Event Attendees	Not identified	1,700
Others	38,710	4,295

Source: USACE Value to the Nation Fast Facts; https://www.iwr.usace.army.mil/Missions/Value-to-the-Nation/

Photo 2-4 Snow at Conchas Lake (USACE Photo)

2.5.3 Recreation Areas and Facilities

Conchas Lake offers many recreational activities such as swimming, boating, water skiing, wake boarding, tubing, fishing, picnicking, camping, hiking, bird watching, golfing, and sight-seeing. Of great importance to the Project's Zone of Influence are the existing and future recreational opportunities at Conchas Lake. Table 2.25 lists the

various recreational facilities collectively provided by USACE and NMSP at Conchas Lake. Each recreational area is more specifically described in Chapter 5.

Table 2-25 Recreational Facilities at Conchas Lake Project

Park Name/Facilities Provided	Restrooms	Parking	Courtesy Dock(s)	Picnic Areas	Camping	Boat Ramps	Trash Receptacles	Drinking Water
South Boat Ramp	*	*	*	*		*	*	*
South Campground	*	*		*	*		*	
Juniper Day Use Area	*	*		*			*	
Central Recreation Area	*	*		*	*		*	
Bell Point Campground	*	*		*	*		*	*
North Campground	*	*		*	*		*	*
North Boat Launch Area	*	*				*	*	
Cove Campground	*	*	*	*	*	*	*	
Captain Kramer Park	*	*		*			*	
Indian Shelter/Overlook and Overlook Trail	*	*					*	
USACE Visitor Center	*	*					*	*
New Mexico State Parks Visitor Center	*	*					*	*

2.5.4 Recreational Analysis - Trends

Recreation at Conchas Lake remains strong and continues to evolve. There is demand for recreational opportunities that are currently not offered. The 2015 Viva New Mexico, A Statewide Plan for Outdoor Adventure, Strategic Plan 2016-2020, is a comprehensive recreational study completed and published by State Parks Division of the New Mexico Energy, Minerals, and Natural Resources Department (EMNRD). For the study, New Mexico was divided into six planning regions, which were previously established by the New Mexico True Tourism campaign. Figure 2.14 illustrates the planning regions.

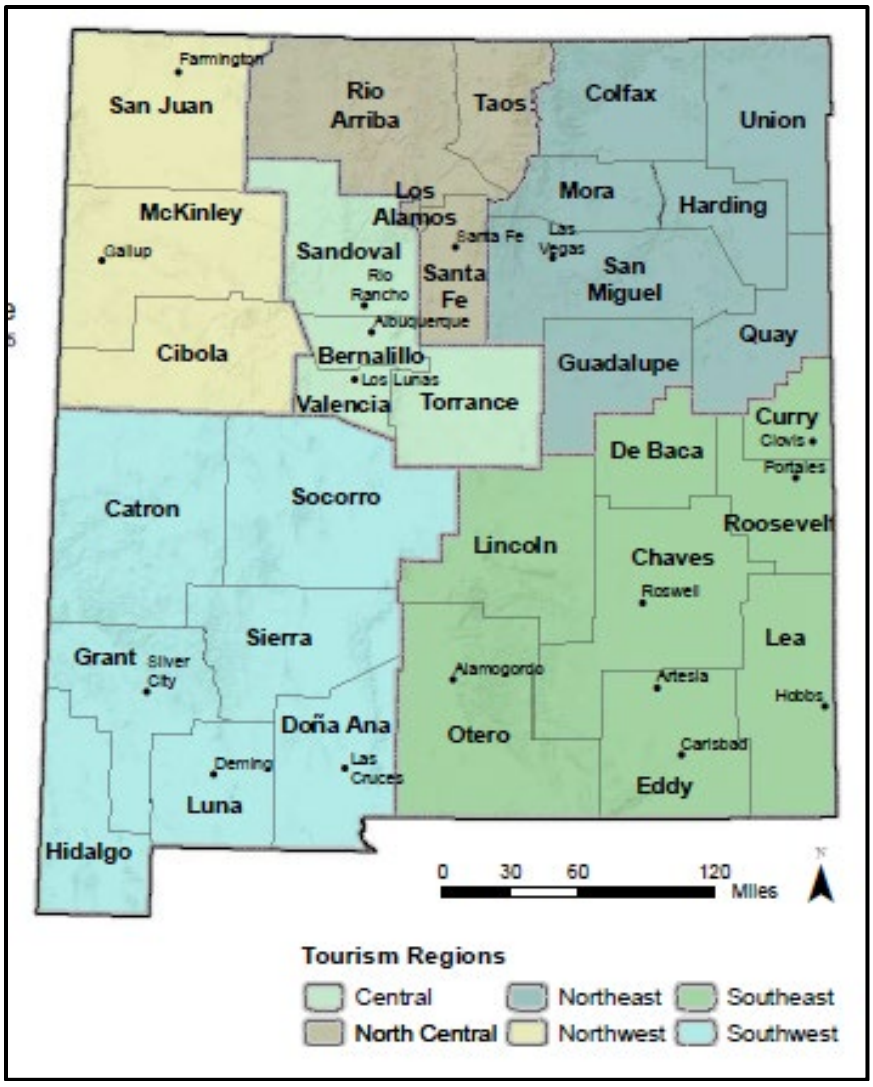


Figure 2-14 New Mexico Tourism Regions

Outdoor recreation is popular across New Mexico with 93 percent of adult residents participating in at least one outdoor recreation activity. The three activities ranking highest for favorite activity and most common activity, respectively, are traveling trails on foot (*i.e.,* walking, hiking, and running), wildlife related activities (*i.e.,* hunting, fishing, shooting, and wildlife watching), and camping. According to the information gathered in the study, New Mexicans would like to hunt, fish, watch wildlife, swim, and boat more than they do currently.

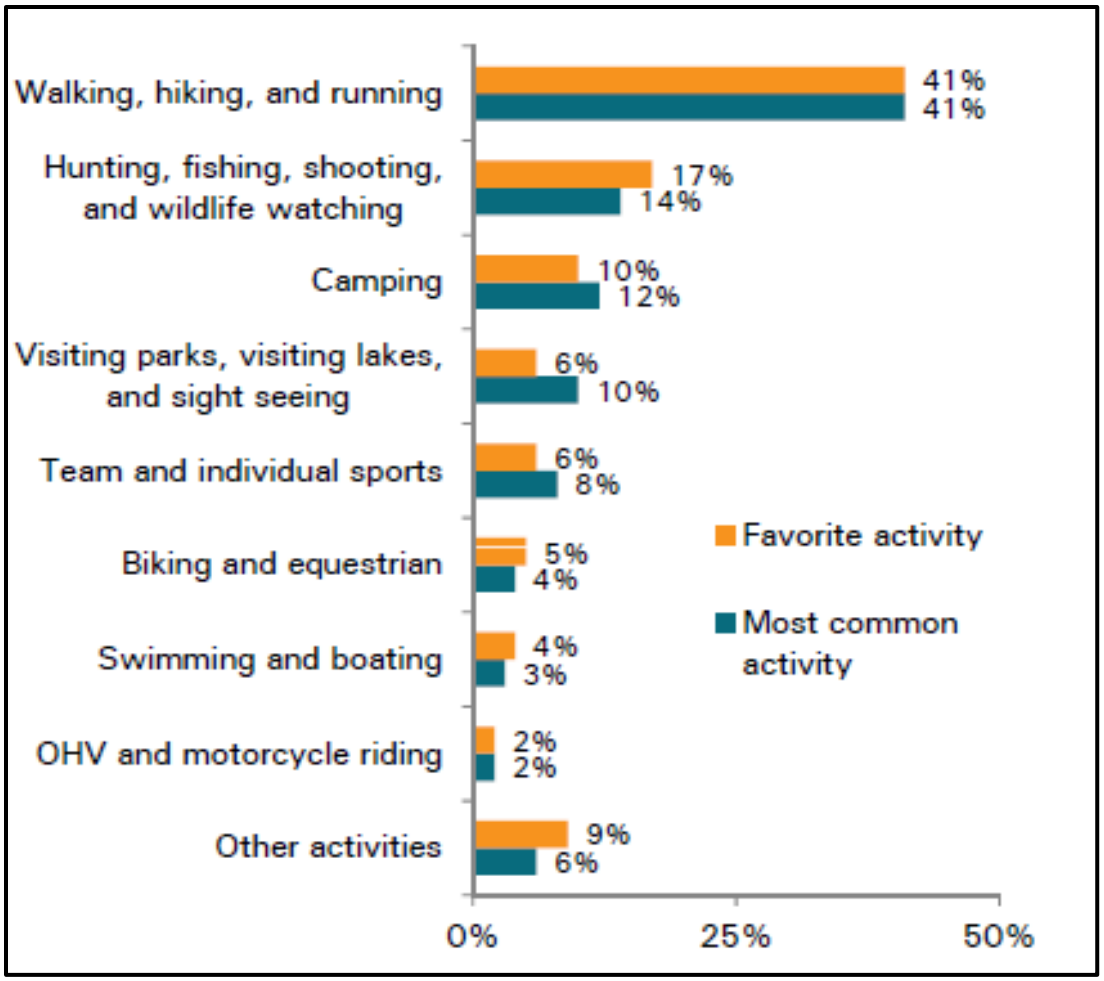


Figure 2-15 Favorite and Most Common Outdoor Recreation Activities Among New Mexico Residents

(Source: 2015 Viva New Mexico, A Statewide Plan for Outdoor Adventure, Strategic Plan 2016-2020)

While these three activities are clearly the most common statewide, it is not accurate for every region of the state (see Figure 2.16). Hunting, fishing, shooting and wildlife watching are just as common as walking, hiking and running in the northeast region, which is the primary Zone of Influence for Conchas Lake. Other notable interests include camping, walking, hiking, and running in the northwest region; and camping, hunting, fishing, shooting, and wildlife watching in the central region. In addition, swimming and boating are more common in the northeast than any other region.

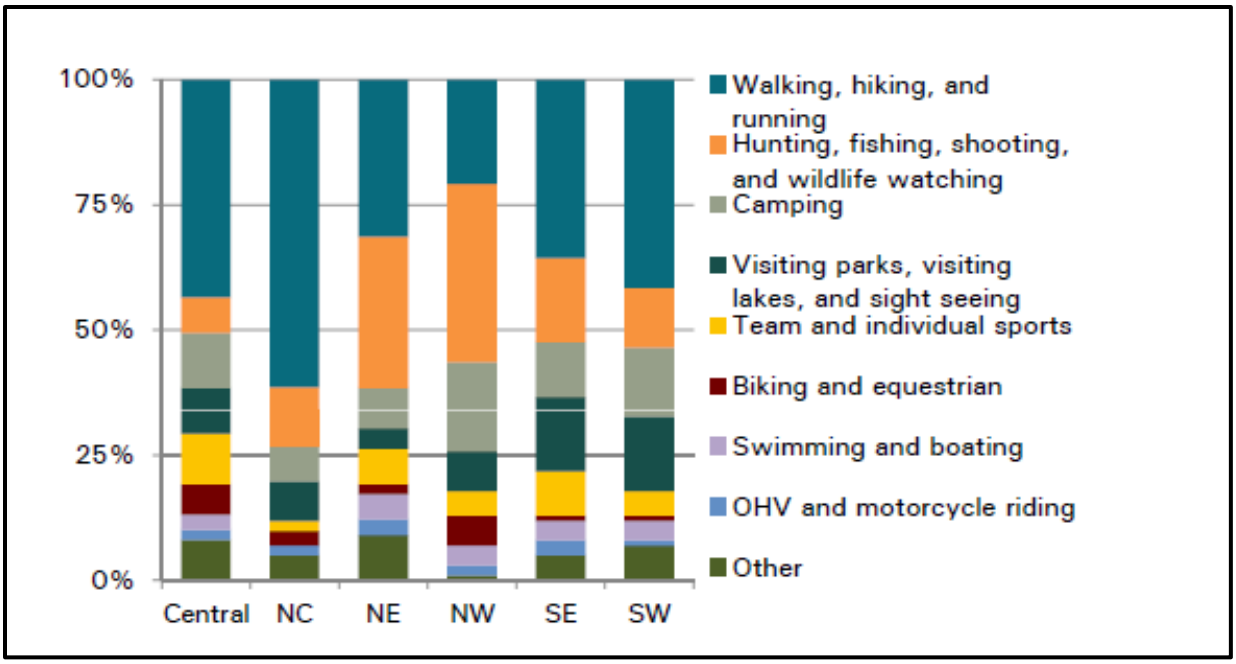


Figure 2-16 Most Common Activities Among New Mexico Residents by Region
Source: 2015 Viva New Mexico, A Statewide Plan for Outdoor Adventure, Strategic Plan 2016-2020

The study also indicated that none of the regions of New Mexico had the right number of facilities or currently met all recreation needs. The northeast region had the lowest ranking on the right number of facilities, which met "some needs."

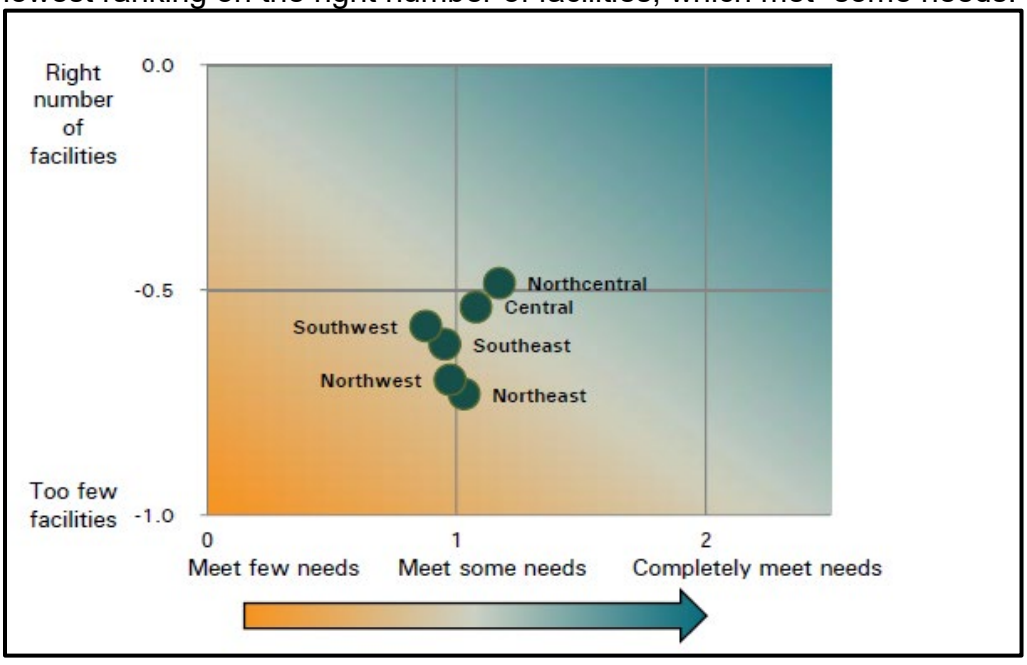


Figure 2-17 Local Facilities Meeting Needs, by Amount of Facilities (2015 Viva New Mexico, A Statewide Plan for Outdoor Adventure, Strategic Plan 2016-2020)

Some of the information in the following tables were extracted directly from the National Survey on Recreation and the Environment (NSRE) generated by the USFS and reports generated by the USFWS.

Table 2-26 Percent of Population Participating in Outdoor Recreation Activities in the U.S., 1982-2009

Recreation Activities	1982-1983	1994-1995	1999-2001	2005-2009	2010-2011
Walk for Pleasure	53.0%	68.8%	82.4%	84.1%	84.7%
View/Photograph Birds	12.0%	27.0%	31.8%	34.9%	41.4%
Day Hiking	14.0%	26.6%	32.4%	32.6%	
Swimming in lakes/streams	32.0%	43.4%	41.4%	40.7%	
Sightseeing	46.0%	58.4%	50.8%	50.5%	60.8%
Bicycling	32.0%	38.7%	39.6%	39.2%	35.6%
Running or Jogging	26.0%	28.2%	32.9%	34.5%	
Picnicking	48.0%	55.7%	54.9%	50.9%	47.5%
Boating	28.0%	37.8%	36.3%	35.6%	
Developed Camping	17.0%	23.1%	26.4%	24.1%	21.7%
Motor Boating	19.0%	29.6%	24.3%	23.3%	
Fishing	34.0%	35.0%	34.2%	33.8%	35.0%
Primitive Camping	10.0%	15.6%	15.9%	14.2%	12.4%
Canoeing or Kayaking	8.0%	9.5%	11.5%	12.4%	
Golf	13.0%	17.3%	16.7%	14.3%	

Source: USFS, Dr. Ken Cordell, Gary Green and Carter Betz. May 2009. Long-term National Trends in Outdoor Recreation Activity Participation – 1980 to Now. NSRE IRIS – Recent Outdoor Recreation Trends. 2012.

Photo 2-5 Wildlife at Conchas Lake

Table 2-27 Participation in Fishing and Wildlife Watching in U.S.

U.S. National Survey	Fishing	Wildlife Watching
1996 Survey	35.2 million	62.9 million
2001 Survey	34.1 million	66.1 million
2006 Survey	30.0 million	71.1 million
2011 Survey	33.1 million	71.8 million
2016 Survey	35.8 million	86.0 million

Source: 1996, 2001, 2006, 2011, and 2016 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation for US, USFWS

According to the study by USFWS in 2016, the U.S. reported 35.8 million anglers, of which 30.1 million were freshwater. These anglers spent a total of 459 million days with 383 million trips fishing. From 2006 to 2016, there was a 19 percent increase in the number of anglers across the U.S. Table 2.28 shows the anglers by age.

Table 2-28 Anglers by Age

Anglers by Age	35.8 Million Total
16 and 17	1.1 million
18 to 24	2.2 million
25 to 34	5.0 million
35 to 44	6.6 million
45 to 54	7.1 million
55 to 64	6.7 million
65 and older	7.1 million

Source: 2016 National Survey of Fishing, Hunting, and Wildlife Association Recreation by U.S. Fish and Wildlife Service and U.S. Census Bureau

USFWS conducted two studies regarding wildlife viewing: at-home and away-from-home. Because Conchas Lake is remote and would require travel for visitors, the numbers shown in Table 2.29 reflect the away-from-home results only. From the 23.7 million participating, 72 percent (17.0 million) are interested in birds, 59% (14.0 million) in land mammals, 18 percent (4.3 million) in fish, 10 percent (2.5 million) in marine mammals, and 37 percent (8.7 million) in other (including turtles, butterflies, etc.). In 2016, these participants averaged 4.49 days of away-from-home wildlife watching for a total of over 386,000,000 days, an increase of 15 percent from 2011. From 2011 to 2016, there was a 5 percent increase in the number of wildlife-watching participants away-from-home.

Table 2-29 Wildlife Watches by Age

Away-From-Home Wildlife Watchers by Age	23.7 Million Total
16 and 17	1.0 million
18 to 24	2.6 million
25 to 34	3.3 million
35 to 44	4.3 million
45 to 54	3.0 million
55 to 64	5.4 million
65 and older	4.0 million

Source: 2016 National Survey of Fishing, Hunting, and Wildlife Association Recreation by U.S. Fish and Wildlife Service and U.S. Census Bureau

Studies have also been conducted regarding the national trends in outdoor recreation activity participation, which is projected to increase over the next forty years between 2020 and 2060.

Table 2-30 Projected Growth of Participants in Outdoor Activities

Activity	Range of Percentage of Growth
Day Hiking	50.1-87.9
Swimming Activities	47.2-84.7
Visiting Interpretive Sites (nature centers, prehistoric sites, historic sites, etc.)	47.7-84.0
Birding (viewing or photographing)	46.0-81.4
Motorized Water Use (motorboating, waterskiing, or using personal watercraft)	40.8-81.4
Developed Site Use (family gatherings, picnicking, or developed camping)	41.9-76.7
Viewing Nature (viewing or photographing birds, other wildlife, natural scenery, flowers, etc. or gathering mushrooms, berries, etc.)	41.7-76.2
Visiting Primitive Areas (visiting a wilderness, primitive camping, or backpacking)	33.5-65.3
Floating Activities (canoeing, kayaking, or rafting)	30.0-62.1
Fishing (coldwater fishing, warmwater fishing, saltwater fishing, or anadromous fishing)	27.7-56.4

Source: USFS, Dr. Ken Cordell, Gary Green and Carter Betz. May 2009. Long-term National Trends in Outdoor Recreation Activity Participation – 1980 to Now.

Photo 2-6 Flowers at Conchas Lake

Table 2-31 Travel for Outdoor Recreation

Age Group of Travelers	Between 25-50 Miles	Greater Than 50 Miles
6-12 Years	5.9%	5.4%
13-17 Years	9.8%	8.3%
18-24 Years	12.2%	6.3%
25-34 Years	9.6%	7.5%
35-44 Years	11.4%	10.8%
45-54 Years	10.2%	14.4%
65+	5.7%	14.4%

The Outdoor Foundation's Outdoor Participation Report in 2019 examined travel demographics and confirmed that although most participants (63.3 percent) would travel ten miles or less to their outdoor activities, it also concluded that 18.9 percent of participants would travel 25 miles or more to their destinations. Table 2.31 summarizes distances traveled for outdoor recreation by age groups

The top recreational activities in pursued by New Mexicans include walking, hiking, and running; hunting, fishing, shooting, and wildlife watching; camping, visiting parks, lakes, and sightseeing; team and individual sports; biking and equestrian; swimming and boating; and Off-Highway-Vehicle (OHV) and motorcycle riding. Of the State's favorite and most common activities, Conchas Lake supports numerous outdoor recreational activities such as walking, hiking, running, fishing, bird and wildlife watching, camping, sightseeing, biking, swimming, and boating. In addition, Conchas Lake provides golfing.

Photo 2-7 Shoreline at Conchas Lake

Written comments were collected from visitors in USACE parks from 2013 through 2018 via the USACE administered Comment Card Program. The customer satisfaction comment card summary for Conchas Lake is provided in Tables 2.32 and 2.33. The summary from Conchas Lake visitor comment cards shows that visitors are relatively satisfied with the current facilities and identifies areas in which Conchas Lake needs to concentrate efforts for improvement.

Table 2-32 Camping Survey

Customer Satisfaction Item	No. of Visitor Responses	Response Distribution (Percent)						Mean Response (1-5 Scale)
		Very Good (5)	Good (4)	Neither Good Nor Poor (3)	Poor (2)	Very Poor (1)	Total	
Facilities:								
Suitability of park facilities for my recreational equipment and activities	22	50%	41%	5%	5%	0%	100%	4.4
Restroom cleanliness and availability of conveniences	20	65%	20%	15%	0%	0%	100%	4.5
Appearance of park grounds	24	67%	33%	0%	0%	0%	100%	4.7
Adequacy of signs providing	24	63%	29%	8%	0%	0%	100%	4.5

Customer Satisfaction Item	No. of Visitor Responses	Response Distribution (Percent)						Mean Response (1-5 Scale)
		Very Good (5)	Good (4)	Neither Good Nor Poor (3)	Poor (2)	Very Poor (1)	Total	
directions and information								
Parking space availability during my visit	24	79%	21%	0%	0%	0%	100%	4.8
Condition of roads and parking areas in the park	24	46%	42%	8%	4%	0%	100%	4.3
Employees:								
Availability of park rangers and staff	24	83%	17%	0%	0%	0%	100%	4.8
Helpfulness of park rangers and staff	24	88%	8%	4%	0%	0%	100%	4.8
Environmental Setting:								
Attractiveness of surrounding scenery and landscape	23	52%	39%	9%	0%	0%	100%	4.4
Quality of land and water resources for my activities	21	57%	29%	10%	0%	5%	100%	4.3
Overall:								
Waiting times needed to access park facilities and services	22	86%	9%	0%	0%	5%	100%	4.7
Feeling of safety and security in the park	23	78%	13%	9%	0%	0%	100%	4.7
Value received for any visitor fees paid	23	70%	26%	0%	0%	4%	100%	4.6
Overall satisfaction with my visit to this area	24	75%	21%	4%	0%	0%	100%	4.7

Key:
Survey report of “Poor”
Survey report of “Very Poor”
Response scale below 4.5

Table 2-33 Day Use Survey

Customer Satisfaction Item	No. of Visitor Responses	Response Distribution (Percent)						Mean Response (1-5 Scale)
		Very Good (5)	Good (4)	Neither Good Nor Poor (3)	Poor (2)	Very Poor (1)	Total	
Facilities:								
Suitability of park facilities for my recreational equipment and activities	42	52%	36%	2%	7%	2%	100%	4.3
Restroom cleanliness and availability of conveniences	37	62%	30%	8%	0%	0%	100%	4.5
Appearance of park grounds	42	57%	33%	7%	2%	0%	100%	4.5
Adequacy of Signs providing direction and information	42	60%	36%	5%	0%	0%	100%	4.5
Parking space availability during my visit	43	63%	35%	2%	0%	0%	100%	4.6
Condition of roads and parking areas in the park	41	54%	37%	7%	2%	0%	100%	4.4
Employees:								
Availability of park rangers and staff	43	60%	40%	0%	0%	0%	100%	4.6
Helpfulness of park rangers and staff	42	74%	26%	0%	0%	0%	100%	4.7
Environmental Setting:								

Customer Satisfaction Item	No. of Visitor Responses	Response Distribution (Percent)						Mean Response (1-5 Scale)
		Very Good (5)	Good (4)	Neither Good Nor Poor (3)	Poor (2)	Very Poor (1)	Total	
Attractiveness of surrounding scenery and landscape	42	43%	45%	7%	2%	2%	100%	4.2
Quality of land and water resources for my activities	40	40%	45%	15%	0%	0%	100%	4.3
Overall:								
Waiting times needed to access park facilities and services	40	53%	40%	8%	0%	0%	100%	4.5
Feeling of safety and security in the park	42	55%	40%	5%	0%	0%	100%	4.5
Value received for any visitor fees paid	39	54%	41%	5%	0%	0%	100%	4.5
Overall satisfaction with my visit to this area	43	65%	30%	5%	0%	0%	100%	4.6

Key:

Survey report of "Poor"

Survey report of "Very Poor"

Response scale below 4.5

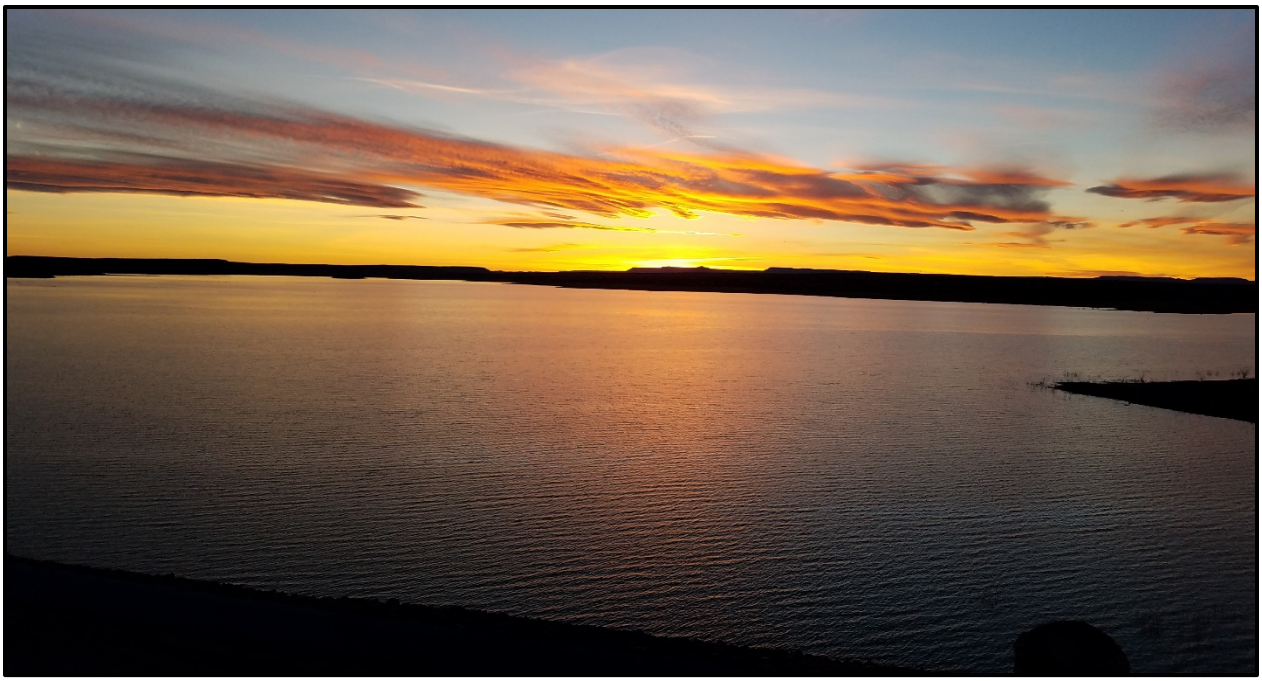


Photo 2-8 Sunset over Conchas Lake

2.5.5 Recreation Analysis – Needs

Conchas Lake offers an array of recreational opportunities which are balanced with the primary missions of the Lake: namely flood risk management, irrigation water supply, and the inherent mission of environmental stewardship. The Comment Card summary indicates that the most frequent complaints include four areas: the suitability of park facilities for recreational equipment and activities, conditions of the roads and parking areas in the park, attractiveness of surrounding scenery and landscape, and the quality of land and water resources for activities. USACE relies on partnerships for recreational amenities and as time, partnerships, and budgets allow, will integrate more facilities to accommodate the public.

2.5.6 Recreational Carrying Capacity

USACE considers recreational carrying capacity to ensure that natural resources are not irreparably damaged and that visitors have a high quality and safe recreational experience. The carrying capability of the land is determined by distinct characteristics of the site (both natural and man-made) and constraints are developed that often determine the type of facilities that are or should be provided. Based upon the carrying capacity of the land, the plan formulated below provides a variety of activities that optimize use of present and future public areas, where possible.

USACE uses historic visitation data combined with best professional judgment to manage recreation areas to determine if they are well-balanced, overcrowded, overused, or underused. In order for USACE to have facilities that provide for diverse demographics (age and recreation interests, for example) USACE will continue to identify possible causes and effects of overcrowding, overuse, or underuse and apply

appropriate best management practices (including site management, regulating visitor behavior, and modifying visitor behavior).

CHAPTER 3: RESOURCE GOALS AND OBJECTIVES

3.1 INTRODUCTION

This chapter sets forth goals and objectives necessary to achieve the USACE vision for the future of Conchas Lake. In the context of this Master Plan, "goals" express the overall desired end state of the Master Plan whereas resource "objectives" are specific task-oriented actions necessary to achieve the overall Master Plan goals. The Master Plan resource objectives will be used as the basis for the OMP, which is the Master Plan strategic implementation plan.

3.2 RESOURCE GOALS

The following statements, paraphrased from *EP 1130-2-550*, Chapter 3, express the goals for the Conchas Lake Master Plan:

GOAL A. Provide the best management practices to respond to regional needs, resource capabilities and capacities, and expressed public interests consistent with authorized project purposes.

GOAL B. Protect and manage project natural and cultural resources through sustainable environmental stewardship programs.

GOAL C. Provide public outdoor recreation opportunities that support project purposes and public interests while sustaining project natural resources.

GOAL D. Recognize the unique qualities, characteristics, and potentials of the project.

GOAL E. Provide consistency and compatibility with national objectives and other State and regional goals and programs.

In addition to the above goals, USACE management activities are guided by USACE-wide Environmental Operating Principles (EOPs) as follows:

- Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse, and sustainable condition is necessary to support life.

- Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of USACE programs and act accordingly in all appropriate circumstances.

- Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.

- Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.

- Seek ways and means to assess and mitigate cumulative impacts to the environment; bring systems approaches to the full life cycle of our processes and work.

- Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.

- Respect the views of individuals and groups interested in USACE activities; listen to them actively and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment.

3.3 RESOURCE OBJECTIVES

Resource objectives are clearly written statements that respond to identified issues and that specify measurable and attainable activities for resource development and/or management of the lands and waters under the jurisdiction of the Albuquerque District, Conchas Lake Project Office. The objectives stated in this Master Plan support the goals of the Master Plan, USACE EOPs, and applicable national performance measures. They are consistent with authorized project purposes, Federal laws and directives, regional needs, resource capabilities, and they consider public input. Recreational and natural resources carrying capacities are also accounted for during development of the objectives found in this Master Plan. The Regional and State planning documents, including the New Mexico Statewide Comprehensive Outdoor Recreation Plan (SCORP), were also reviewed and used in the development of recreational resources.

The objectives in this Master Plan provide project benefits, meet public needs, and foster environmental sustainability for Conchas Lake to the greatest extent possible. They include recreational objectives; natural resource management objectives; visitor information; education and outreach objectives; general management objectives; and cultural resource management objectives. Tables 3.1 through 3.5 list the objectives along with the associated goal(s) each objective addresses.

Table 3-1 Recreational Objectives

Recreational Objectives	Goals				
	A	B	C	D	E
Evaluate the demand for improved recreation facilities and increased public access on USACE-managed public lands and water for recreational activities (i.e. camping, walking, hiking, biking, boating, fishing, wildlife viewing, etc.) and facilities (i.e. campsites, picnic facilities, overlooks, all types of trails, boat ramps, courtesy docks, interpretive signs/exhibits, and parking lots).	*		*	*	
Improve, modernize, and implement sustainability measures into day use and campground facilities through addition and repair of amenities, including, but not limited to, road improvements, sewer hookups, increased electrical service, concrete or asphalt recreational vehicle (RV) pads, tent pads, restrooms, trails, pavilions, and improved park entrances.	*		*	*	
Monitor public use levels (with a special focus on boating congestion) and evaluate potential impacts from overuse and crowding. Take action to prevent/remediate overuse, conflict, and public safety concerns.	*		*	*	*
Evaluate recreational use zoning and regulations for designated quiet water or no-wake areas with emphasis on natural resource protection, quality recreational opportunities, and public safety concerns.	*		*	*	*
Follow the Environmental Operating Principles associated with recreational use of waterways for all water-based management activities and plans.		*	*		*
Increase universally accessible facilities on Conchas Lake lands.	*		*	*	*
Evaluate established permits/outgrants to determine impacts on public lands and waters. Sustain the Shoreline Management Policy in order to balance private shoreline uses (such as mowing or vegetation removal requests along the Federal property boundary, or paths to the shoreline) with habitat management and impacts to the general public.	*	*	*		
Consider flood/conservation pool fluctuations to address potential impact to recreational facilities (i.e. campsites, boat ramps, courtesy docks, etc.).	*	*	*	*	
Consider long-term sustainable operational and maintenance costs when planning future new recreational facilities or upgrading and expanding existing facilities.	*	*		*	
Ensure consistency with USACE 2021 Natural Resources Management Strategic Plan.					*

Monitor the SCORP and adjacent municipality plans to ensure that USACE is responsive to outdoor recreation trends, public needs and resource protection within a regional framework. All plans by others will be evaluated considering USACE policy and operational aspects of Conchas Lake.	*	*	*	*	*

*Denotes that the objective helps to meet the specified goal.

Table 3-2 Natural Resource Management Objectives

Natural Resource Management Objectives	Goals:				
	A	B	C	D	E
Consider flood/conservation pool levels to ensure that natural resources are managed in ways that are compatible with primary project purposes of flood risk management and water supply.	*	*		*	
Ensure project lands are managed with preservation and conservation of natural habitat and open space as a primary objective in order to maintain the public open space.	*	*		*	
Actively manage and conserve fish and wildlife resources, especially habitat for the golden-cheeked warbler and other federally listed species, and special status species, by implementing ecosystem management principles. Key among these principles is the use of native species adapted to the ecological region in restoration and mitigation plans.	*	*		*	*
Consider watershed approach during decision-making process.					*
Optimize resources, labor, funds, and partnerships for protection and restoration of fish and wildlife habitats.		*			*
Minimize activities that disturb the scenic beauty and aesthetics of the lake.	*	*	*	*	
Continually evaluate erosion control and sedimentation issues at Conchas Lake and develop alternatives to resolve the issues.	*	*			*
Address unauthorized uses of public lands such as off-road vehicle use, trash dumping, unauthorized fires, fireworks, poaching, clearing of vegetation, unauthorized trails and paths, and placement of advertising signs that create negative environmental impacts.	*	*	*	*	*
Monitor lands and waters for non-native invasive species, and aggressively spreading native species, and take action to prevent and/or reduce the spread of these species. One potential invasive species of great concern is the zebra mussel, and USACE will continue to work with federal and state agencies to prevent its spread.	*	*		*	*

Protect and/or restore important native habitats such as riparian zones, grasslands, and wetlands, where they occur, or historically occurred on project lands. Special emphasis should be taken to protect and/or restore special or rare plant communities, to include actions that promote butterfly and/or pollinator habitat, migratory bird habitat, and habitat for birds listed by USFWS as Birds of Conservation Concern.	*	*	*	*	*
Ensure consistency with USACE 2021 Natural Resources Management Strategic Plan.	*	*	*	*	*

*Denotes that the objective helps to meet the specified goal.

Table 3-3 Visitor Information, Education and Outreach Objectives

Visitor Information, Education and Outreach Objectives	Goals				
	A	B	C	D	E
Provide more opportunities for communication with agencies, special interest groups, and the general public (i.e. comment cards, updates to City Managers, web page).	*			*	*
Implement more educational, interpretive, and outreach programs at the lake office and around the lake. Topics to include history, lake operations (flood risk management and water supply), water safety, recreation, nature, cultural resources, ecology, and USACE missions.	*	*	*	*	*
Enhance network among local, state, and federal agencies in order to exchange lake-related information for public education and management purposes.	*			*	*
Increase public awareness of special use permits or other authorizations required for special activities, organized special events, and commercial activities on public lands and waters of the lake.	*	*	*		*
Capture trends concerning boating accidents and other incidents on public lands and waters and coordinate data collection with other public safety officials.	*		*	*	*
Promote USACE Water Safety message.	*		*	*	*
Educate adjacent landowners on Shoreline Management Statement of Policy and permit processes in order to reduce encroachment actions.	*	*	*	*	*

*Denotes that the objective helps to meet the specified goal.

Table 3-4 General Management Objectives

General Management Objectives	Goals				
	A	B	C	D	E
Resurvey and maintain the public lands boundary line to ensure it is clearly marked and recognizable in all areas to reduce habitat degradation and encroachment actions.	*	*		*	
Secure sustainable funding for the shoreline management program.	*	*	*	*	*
Ensure consistency with USACE Campaign Plan (national level), IPlan (regional level), OPlan (District level).					*
Ensure green design, construction, procurement, and operation practices, such as the Leadership in Energy and Environmental Design (LEED) criteria for government facilities, are considered as well as applicable Executive Orders (EO).					*
Carefully manage non-recreation outgrants such as utility and road easements in accordance with national guidance set forth in ER-1130-2-550 and applicable chapters in ER 405-1-12.	*	*			*
Manage project lands and recreational programs to "meet such statutory requirements in a manner that increases efficiency, optimizes performance, eliminates unnecessary use of resources, and protects the environment", as set forth in Executive Order 13834 and related USACE policy.					*

*Denotes that the objective helps to meet the specified goal.

Table 3-5 Cultural Resources Management Objectives

Cultural Resources Management Objectives	Goals				
	A	B	C	D	E
Monitor and coordinate lake development and the protection of cultural resources with appropriate entities.	*	*		*	*
Complete an inventory of cultural resources.	*	*		*	*
Update Historical Properties Management Plan (HPMP)	*	*		*	*
Increase public awareness and education of regional history.		*		*	*
The project office will ensure any current or future historical preservation is fully integrated into the Conchas Lake Master Plan and planning decision making process (Section 106 and 110 of the NHPA; the Archeological Resources Protection Act; and the Native American Graves Protection and Repatriation Act) on public lands surrounding the lake.		*		*	*
Develop partnerships that promote and protect cultural resources at Conchas Lake.		*	*	*	*

Stop unauthorized use of public lands as it pertains to the illegal excavation and removal of cultural resources.		*		*	*

*Denotes that the objective helps to meet the specified goal.

CHAPTER 4: LAND ALLOCATION, LAND CLASSIFICATION, WATER SURFACE, AND PROJECT EASEMENT LANDS

4.1 LAND ALLOCATION

All lands at USACE water resource development projects are allocated by USACE into one of four categories in accordance with the congressionally authorized purpose for which the project lands were acquired. There are four possible categories of allocation identified in USACE regulations, including Operations, Recreation, Fish and Wildlife, and Mitigation. At Conchas Lake, the only land allocation category that applies is Operations. Operations is defined as those lands that are required to operate the project for the primary authorized purposes of flood risk management and water conservation. The remaining allocations of Recreation, Fish and Wildlife, and Mitigation would apply only if lands had been acquired specifically for these purposes. The entire fee simple federal estate at Conchas Lake (2,773 acres) plus the 640 acres of lands that BLM removed from public domain is allocated to Operations.

4.2 LAND CLASSIFICATION

Previous versions of the Conchas Lake Master Plan included land classification criteria that were similar to the current criteria. These prior land classifications were based more on projected need than on actual experience, which resulted in some areas being classified for a type of use that has not or is not likely to occur. Additionally, in the 40-plus years since the previous Master Plan was published, wildlife habitat values, surrounding land use, and regional recreation trends have changed, giving rise to the need for revised classifications. Refer to Table 8.1 in Chapter 8 for a summary of land classification changes from the prior classifications to the current classifications.

4.2.1 Current Land and Water Surface Classifications

USACE regulations require project lands and waters to be classified in accordance with the primary use for which project lands are managed. There are six categories of classification identified in USACE regulations, including:

- Project Operations
- High Density Recreation
- Mitigation
- Environmentally Sensitive Areas
- Multiple Resource Management Lands
- Water Surface

The land and water surface classifications for Conchas Lake were established after considering public comments and input from key stakeholders, including elected officials, city and county governments, and lessees operating on USACE land. Additionally, public comment, wildlife habitat values, and the trends analysis provided in

the SCORP were also used in decision making. Maps showing the various land classifications can be found in Appendix A. Each of the land classifications, including the acreage and description of allowable uses is described in the following paragraphs.

4.2.2 Project Operations (PO)

This classification includes the lands managed for operation of the dam, project office, and maintenance yards, all of which must be maintained to carry out the authorized purpose of flood risk management. In addition to the operational activities taking place on these lands, limited recreational use may be allowed for activities such as public access to the fishing piers. Regardless of any limited recreation use allowed on these lands, the primary classification of Project Operations will take precedent over other uses. There are 840 acres of Project Operations land specifically managed for this purpose.

4.2.3 High Density Recreation (HDR)

These are lands developed for intensive recreational activities for the visiting public, including day use areas, campgrounds, marinas, and related concession areas. Recreation development by lessees operating on USACE lands must follow policy guidance contained in USACE regulations at ER 1130-2-550, Chapter 16. That policy includes the following statement:

> "*The primary rationale for any future recreation development must be dependent on the project's natural or other resources. This dependency is typically reflected in facilities that accommodate or support water-based activities, overnight use, and day use such as marinas, campgrounds, picnic areas, trails, swimming beaches, boat launching ramps, and comprehensive resort facilities. Examples that do not rely on the project's natural or other resources include theme parks or ride-type attractions, sports or concert stadiums, and standalone facilities such as restaurants, bars, motels, hotels, non-transient trailers, and golf courses. Normally, the recreation facilities that are dependent on the project's natural or other resources, and accommodate or support water-based activities, overnight use, and day use, are approved first as primary facilities followed by those facilities that support them. Any support facilities (e.g., playgrounds, multipurpose sports fields, overnight facilities, restaurants, camp stores, bait shops, comfort stations, and boat repair facilities) must also enhance the recreation experience, be dependent on the resource-based facilities, and be secondary to the original intent of the recreation development…*"

Lands classified for High Density Recreation are suitable for the development of comprehensive resorts. The regulation cited above defines Comprehensive Resort as follows:

> "*Typically, multi-faceted developments with facilities such as marinas, lodging, conference centers, golf courses, tennis courts, restaurants, and other similar facilities.*"

At Conchas Lake, prior land classifications included a number of areas under the High Density Recreation classification. Several of these areas were never developed and/or were determined by the study team to be unsuitable for development resulting in a change to another, more suitable land classification. At Conchas Lake, there are 683 acres classified as High Density Recreation land. Each of the High Density Recreation areas is described briefly in Chapter 5 of this Plan.

4.2.4 Mitigation

This classification is used only for lands allocated for mitigation for the purpose of offsetting losses associated with the development of the project. There are no lands at Conchas Lake with this classification.

4.2.5 Environmentally Sensitive Areas (ESA)

These are areas where scientific, ecological, cultural, and aesthetic features have been identified. At Conchas Lake, several distinct areas have been classified as Environmentally Sensitive Areas (ESA), primarily for the protection of sensitive habitats or cultural resources. Each of these areas is discussed in Chapter 5 of this Plan and illustrated on the maps in Appendix A. There are 204 acres classified as ESA at Conchas Lake.

4.2.6 Multiple Resource Management Lands (MRML)

This classification is divided into four sub-classifications identified as: Low Density Recreation, Wildlife Management, Vegetative Management, and Future/Inactive Recreation Areas. A given tract of land may be classified using one or more of these sub-classifications, but the primary sub-classification should reflect the dominant use of the land. Typically, Multiple Resource Management Lands support only passive, non-intrusive uses with very limited facilities or infrastructure. Where needed, some areas may require basic facilities that include, but are not limited to, minimal parking spaces, a small boat ramp, and/or primitive sanitary facilities. There are 864 acres of land under this classification at Conchas Lake. The following paragraphs list each of the sub-classifications, and the number of acres and primary uses of each.

4.2.6.1 Low Density Recreation (LDR)

These are lands that may support passive public recreational use (e.g., fishing, hunting, wildlife viewing, natural surface trails, hiking, etc.). Under prior land classifications, several relatively large tracts were classified for Low Density Recreation, but during the study process to develop this Plan, these larger tracts were reclassified under the sub-classification of Wildlife Management. Low Density Recreation lands are typically narrow strips of land lying between the shoreline at the conservation pool elevation and the USACE property boundary line and are often located adjacent to private residential areas. The narrow configuration and location next to residential areas make these areas unsuitable for other uses such as High Density Recreation, Vegetation Management or Wildlife Management. There are 359 acres under this land classification at Conchas Lake.

4.2.6.2 Wildlife Management (WM)

This land classification applies to those lands managed primarily for the conservation of fish and wildlife habitat. These lands generally include comparatively large contiguous parcels, most of which are located within the flood pool of the lake. Passive recreation uses such as natural surface trails, fishing, hunting, and wildlife observation are compatible with this classification unless restrictions are necessary to protect sensitive species or to promote public safety. There are 505 acres of land included in this classification at Conchas Lake.

4.2.6.3 Vegetative Management (VM)

These are lands designated for stewardship of forest, prairie, and other native vegetative cover. Passive recreation activities previously described may be allowed in these areas. There are no acres of land included in this classification at Conchas Lake.

4.2.6.4 Future or Inactive Recreation

These are lands with site characteristics compatible with High Density Recreation development. These are areas where High Density Recreation development was anticipated in prior land classifications, but the development either never took place or was minimal. These areas are typically closed to vehicular traffic and will be managed as multiple resource management lands until development takes place. There are no acres of land included in this classification at Conchas Lake.

4.2.7 Water Surface

USACE regulations specify four possible sub-categories of water surface classification. These classifications are intended to promote public safety, protect resources, or protect project operational features such as the dam and spillway. These areas are typically marked by USACE or lessees with navigational or informational buoys or signs or are denoted on public maps and brochures. The Water Surface Classification map can be found in Appendix A of this Plan. The four sub-categories of water surface classification include:

4.2.7.1 Restricted

Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations, safety, and security purposes. The areas include the water surface near the Conchas Dam. There are 7 acres of restricted water surface at Conchas Lake.

4.2.7.2 Designated No-Wake

Designated No-Wake areas are intended to protect environmentally sensitive shorelines and improve boating safety near key recreational water access areas such as boat ramps. There are 8 boat ramps at Conchas Lake where no-wake

restrictions are in place for reasons of public safety and protection of property. There are 4 acres of designated no-wake water surface at Conchas Lake.

4.2.7.3 Fish and Wildlife Sanctuary

This water surface classification applies to areas with annual or seasonal restrictions to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning. Conchas Lake has no water surface areas designated as a Fish and Wildlife Sanctuary.

4.2.7.4 Open Recreation

Open Recreation includes all water surface areas available for year-round or seasonal water-based recreational use. This classification encompasses the majority of the lake water surface and is open to general recreational boating. Boaters are advised through maps and brochures, or signs at boat ramps that navigational hazards may be present at any time and at any location in these areas. Operation of a boat in these areas is at the owner's risk. Specific navigational hazards may or may not be marked with a buoy. The water surface available for Open Recreation varies considerably depending on the water surface elevation of Conchas Lake. When the water surface reaches elevation 4,201.0 (top of irrigation pool) there are 9,727 acres of water surface. As water is withdrawn for irrigation purposes, the water surface acreage is reduced until the water surface elevation reaches 4,155.0 feet (Permanent Pool at which water cannot be withdrawn for irrigation). At elevation 4,155.0 feet the water surface of Conchas Lake is 2,750 acres. Because the water surface is slowly reduced over a typical summer as irrigation water is withdrawn, the 1976 Master Plan stated that the "average" water surface acreage available for public recreation is approximately 6,000 acres. This "average" pool exists during periods when the water surface elevation reaches elevation 4,201 feet. It is notable that the last time the water surface reached elevation 4,201.0 feet was in 1999. Table 2.23 provides the monthly water surface elevation for the years 2016 through 2020. During this period, the lowest average water surface elevation was 4,170.0 feet in 2020 and the highest average elevation was 4,181.0 feet in 2016. In summary, it is reasonable to assume a 6,000-acre average water surface available for Open Recreation. Even though most of this water surface is located on lands where USACE has only a flowage easement, the water surface is still available for public recreation.

Future management of the water surface includes the maintenance of warning, information, and regulatory buoys as well as routine water safety patrols during peak use periods.

Table 4.1 provides a summary of land and water surface classifications at Conchas Lake. Acreages were calculated by historical and GIS data. A map representing these areas can be found in Appendix A.

Table 4-1 Proposed Land Classification Acres at Conchas Lake[1]

CLASSIFICATION	ACRES
Project Operations	840
High Density Recreation	683
Environmental Sensitive Areas	204
Multiple Resource Managed Lands - Low Density Recreation	359
Multiple Resource Managed Lands - Wildlife Management	505
Multiple Resource Managed Lands - Vegetative Management	-
Multiple Resource Managed Lands - Future/Inactive Recreation Areas	-
Water Surface: Restricted	7
Water Surface: Designated No-Wake	4
Water Surface: Fish and Wildlife Sanctuary	-
Water Surface: Open Recreation	6,000[2]

Note: [1]Acreages were measured using GIS technology and may vary from the official land acquisition records. Acreage varies depending on changes in lake levels, sedimentation and shoreline erosion. [2] The 6000 acre figure is an average water surface as described in paragraph 4.2.7.4 above.

4.3 PROJECT EASEMENT LANDS

Project Easement Lands are primarily lands on which easement interests were acquired. Fee title was not acquired on these lands, but the easement interests convey to the Federal government certain rights to use and/or restrict the use of the land for specific purposes. Easement lands are typically classified as Operations Easement, Flowage Easement, and/or Conservation Easement. At Conchas Lake, Flowage Easement lands exist for one primary purpose. A flowage easement, in general, grants to the government the perpetual right to temporarily flood/inundate private land during flood risk management operations and to prohibit activities on the flowage easement that would interfere with flood risk management operations such as placement of fill material or construction of habitable structures. The flowage easements at Conchas Lake were acquired by a metes and bounds description with the intent to encompass the 4,230.0 feet contour. The flowage easements also granted to USACE the right to clear the area of potential navigation hazards such as fences, powerlines, buildings, trees and other obstructions and to obtain construction material from the area if needed. There are 20,079 acres of Flowage Easement lands at Conchas Lake.

4.4 RECREATIONAL SEAPLANE OPERATIONS

Seaplane restrictions are part of Title 36 Code of Federal Regulations. At Conchas Lake and other USACE lakes across the nation, areas where recreational seaplane operations are prohibited were established through public meetings and environmental assessments circa 1980.

Conchas Lake provides the only water surface available for seaplane landings and takeoffs in New Mexico, one of its many unique features, which began in January 1979 and is open to the public. Pilots need to be aware of boat traffic, which may be heavy from May through October. Due to fluctuation in the lake level, typically between 4,153 feet NGVD to 4,201 feet NGVD, the water surface where seaplane landings and takeoffs are not prohibited, may become hazardous as the result of exposed land

masses, brush, and rocks below 4,175 feet NGVD. Seaplane operations are prohibited on any portion of the lake north of the dam. All seaplanes landing at Conchas Lake must have an Aquatic Invasive Species (AIS) inspection and/or decontamination prior to landing, pursuant to NMAC 19.30.14.12 (A and B). Once on the water, seaplanes are considered watercraft and must follow applicable rules. For more information, contact the Conchas Lake USACE project office.

CHAPTER 5: RESOURCE PLAN

5.1 MANAGEMENT BY CLASSIFICATION

This chapter describes the management plans for each land use classification within the Master Plan. The classifications that exist at Conchas Lake are Project Operations, High Density Recreation, Environmentally Sensitive Areas, and Multiple Resource Management Lands, which consist of Low Density Recreation and Wildlife Management. The Water Surface is divided into classifications of Restricted, No-Wake, and Open Recreation. The management plans describe how these project lands and water surface will be managed in broad terms. A more descriptive plan for managing these lands can be found in the Conchas Lake OMP.

5.2 PROJECT OPERATIONS

Project Operations is land associated with the dam, spillway, levees, lake office, maintenance facilities, and other areas solely for the operation of the project. There are 840 acres of lands under this classification, all of which are managed by the USACE. The management plan for the Project Operations area is to continue providing physical security necessary to ensure sustained operations of the dam and related facilities, including restricting public access in hazardous locations near the dam and spillway. Limited and passive recreation use such as bank fishing and hiking is currently allowed within some areas classified as Project Operations, but USACE considers this use to be incidental and may prohibit such use without notice for project operational or security needs. Public vehicular traffic is currently allowed on the road traversing the crest of the earthen embankments. USACE maintains the road.

Recommended future actions for these areas include facility upgrades to meet USACE sustainability objectives as funding and personnel allow. Opportunities to incorporate environmental stewardship objectives for land management such as invasive species control and wildlife management through use of food or pollinator plots will be implemented as appropriate.

5.3 HIGH DENSITY RECREATION

Conchas Lake has 683 acres developed for intensive recreational activities for the visiting public, including day use and campgrounds. National USACE policy set forth in ER 1130-2-550, Chapter 16, adopted March 30, 2009, limits new recreation development within outgranted (leased) areas on USACE lands to those activities that are dependent on a project's natural resources and typically include water-based activities, overnight use, and day use (such as campgrounds, picnic areas, and boat launching ramps). Examples of activities that are not dependent on a Lake's natural resources include stand-alone theme parks, sport or concert stadiums, restaurants, and hotels. Stand-alone golf courses are considered an example of these activities that cannot be developed following adoption of Chapter 16 of ER 1130-2-550. The golf course at Conchas lake is operated by a concessionaire and was developed many

years prior to the adoption of Chapter 16 of ER 1130-2-550 and therefore enjoys grandfather privileges. Some facilities, such as a restaurant, that are associated with a comprehensive resort, may be acceptable under the Recreation Outgrant Development Policy.

Based upon outdoor recreation trends documented in Viva New Mexico, a Statewide Plan for Outdoor Adventure, Strategic Plan 2016-2020, published in December 2015, activities such as fishing, camping, visiting lakes, swimming, and boating remain New Mexicans favorite and most common activities. The facilities provided at Conchas Lake are insufficient in some areas, especially when the number of visitors exceeds available resources during the peak season. USACE intends to continue to operate the campground and day use areas by maintaining and improving existing facilities. Long range plans include additional campsites and integrating electricity into the South Campground as time, resources, and budget permits. In response to comment cards and public comments, USACE will consider the possibility of swim beaches; establishing additional hiking, jogging, and biking trails; and additional launch lanes at the boat ramps. Due to the significant variation of water level at Conchas Lake, both swim beaches and additional boat launch lanes present significant issues, which must be thoroughly considered. USACE encourages partnerships with agencies who lease and manage parks to respond to increasing demands and to build on the current quality of USACE parks for present and future visitors.

Boating is the most popular way to enjoy the clear waters of the lake and the only way to access a large part of Conchas Lake due to privately owned land surrounding most of the lake. Fishing is excellent in the area and the lake contains white bass, largemouth bass (black bass), smallmouth bass, crappie, walleye, bluegill (sunfish), buffalo carp, and catfish (channel catfish, blue catfish, and yellow catfish), but it is best known for walleye, crappie, and bass. Conchas Lake averages fifteen fishing tournaments per year. Due to the lake's remoteness and minimal traffic, many visitors utilize the paved roads and unpaved roads for biking, walking, or jogging.

USACE operates and manages several areas designed as High-Density Recreation at Conchas Lake. The following is a description of each park or area operated by USACE, along with a conceptual management plan for the area by classification group. Groups include Class A (highly developed), Class B (medium developed), and Class C (minimal developed or primitive). Maps showing existing parks and facilities managed by USACE can be found in Appendix A. In addition to the USACE operated and managed High-Density Recreation Areas, USACE leases several High-Density Recreation Areas that are operated and managed by NMSP. The following is a brief description of these areas and notes the recreational partners (i.e., outgrants) who manage them.

USACE intends to continue to operate the following parks, campsites, and boat ramps by maintaining and improving existing facilities but has no long-range plans to add additional facilities. In response to trends documented in the 2019 SCORP, USACE will endeavor to improve access to some areas and develop hiking and biking trails in or

adjacent to some park areas as funding permits. USACE encourages partnerships with agencies who lease and manage parks to respond to increasing demands and build on the current quality of USACE parks for present and future visitors.

5.3.1 USACE Class A Parks

USACE does not currently operate any Class A parks or areas at Conchas Lake. The only Class A parks or areas are operated and managed by NMSP. Class A parks are generally defined within USACE regulations as full service parks with water and electrical hook-ups at campsites and restrooms with flush toilets.

5.3.2 USACE Class B Parks

South Boat Ramp is located on the south side of the dam and includes the following:

- Three 2-lane concrete boat ramps (high, medium, and low water level ramps)
- One courtesy dock
- Paved parking area with seventy drive-thru parking spaces
- Three covered picnic tables and benches
- Two unisex ADA compliant vault toilets
- Minimal day use fee required
- First come, first serve with no reservations
- No camping permitted in this area

5.3.3 USACE Class C Parks

South Campground is located on the south side of the dam near the south boat ramp. The campground includes the following:

- One camp host reserved spot with a concrete parking pad, covered picnic table and benches, electricity, and water
- Twenty drive-thru camping spots with water, grills, firepits, and hanger poles (the 20 campsites include eight adobe shelters with picnic tables and benches; five covered shelters with picnic tables and benches; and seven primitive sites with picnic tables and benches)
- Unpaved road through the campground
- Two unisex vault toilets
- Hiking permitted directly to the shoreline
- Open seasonally each year
- Minimal overnight fee required
- First come, first serve with no reservations

5.3.4 USACE Day Use Areas

Juniper Day Use Area is located on the south side of the dam near the south boat ramp. The day use area includes:

- Four covered picnic tables and benches
- Two picnic tables and benches
- One unisex ADA compliant vault toilet

- Paved parking area and drive-thru loop
- Hiking, walking, jogging permitted around the paved drive and parking area
- Hiking permitted directly to the shoreline
- No fee required
- First come, first serve with no reservations
- Open year around each year

Indian Shelter Area is located just north of the dam on the east side across from the USACE Administration and Maintenance buildings adjacent to Captain Kramer Park. The shelter is so named because it houses a large petroglyph boulder. The shelter is a locked building with large windows for viewing the petroglyph. This Area includes:

- Paved parking lot with thirteen parking spaces, including two handicap parking spaces
- Indian shelter
- Two one-person flushing toilet/sink ADA compliant restrooms
- Cement walkway
- Overlook covered shelter
- Overlook Trail
- Hiking, walking, and jogging permitted throughout the Indian Shelter Area and Overlook area
- Open year around each year
- No fee required
- No camping in Indian Shelter Area

Captain Kramer Park is located just north of the dam on the east side across from the USACE Administration and Maintenance buildings adjacent to the Indian Shelter Area. The Park includes:

- Trees and grass
- Paved parking lot with eighteen parking spaces, including two handicap parking spaces
- Covered group pavilion with one large grill, fourteen picnic tables and benches, three tables, and seven benches, which can be reserved through the USACE office
- Sand volleyball court
- Two horseshoe pits
- Disk golf course
- One covered ADA compliant area with two picnic tables with benches
- Seventeen picnic table and benches
- Fourteen grills
- One unisex vault toilet
- One playground area
- Paved one-way road
- Hiking, walking, biking, and jogging permitted throughout the park area
- Open year around each year
- No fee required

- No camping in Captain Kramer Park

Visitor Center is located just north of the dam on the west side inside the USACE Administration building. The Visitor Center includes:

- Photographs, history, and natural resources in the area
- Public restroom
- Paved driveway and parking
- No fee required

5.3.5 USACE Non-Operational Areas

There are three areas on the south side of the dam currently managed and operated by USACE that are non-operational and/or not in use at the present time. USACE is interested in partnering with other entities to improve recreational and environmental opportunities at Conchas Lake for present and future generations of visitors while fulfilling its primary missions of flood mitigation and irrigation. These include:

Conchas Lake Lodge

- Forty-six rooms in three buildings
- Three kitchenette rooms
- Restaurant
- Lounge
- Paved drive and parking lot

The Sewage Disposal Lagoons

- Two sewage disposal lagoons in fenced area

Water Towers

- Two water towers in fenced area

5.3.6 Leased Parks and Areas

There are three leased areas at Conchas Lake: The New Mexico State Parks holds a 360-acre lease, and two areas, the golf course and Adobe Belle, are operated by concessionaires. There are no other recreational outgrants issued in the form of permits or leases to recreational partners, referred to as grantees, at Conchas Lake. In the future, as new leases are developed, each grantee would be responsible for the operation and maintenance of their leased area. Although USACE does not provide direct maintenance within any of the leased locations, it may occasionally lend support where and when appropriate. The USACE reviews requests and ensures compliance with applicable laws and regulations for proposed activities in all leased and USACE-operated HDR areas. USACE works with partners to ensure that recreation areas are managed and operated in accordance with the objectives prescribed in Chapter 3.

NMSP Managed and Operated Areas

NMSP currently holds the lease for 360 acres.

Bell Point Campground is located on the north side of the dam, and it is managed by NMSP. The campground includes:

- One camp host reserved spot with a covered shelter containing picnic table and benches, grill, firepit, electricity, and water
- Thirty-two camping spots with a covered shelter containing picnic table and benches, grill, firepit, electricity, and water
- Restroom with hot showers, flushing toilets, and sinks
- Unpaved road through the campground
- Hiking, walking, biking, and jogging permitted throughout the campground area
- Open year around each year
- Minimal overnight fee required
- Reservations available online through New Mexico State Parks website

North Recreation Area Campground is located on the north side of the dam, and it is managed by NMSP. The campground includes:

- Twenty-nine camping spots with a covered shelter containing picnic table and benches, grill, firepit, electricity, and water
- Unpaved road throughout the campground
- Dumping station
- Hiking, walking, biking, and jogging are permitted throughout the campground and surrounding areas
- Open year around each year
- Minimal overnight fee required
- Reservations available online through New Mexico State Parks website

Cove Campground is located on the north side of the dam, and it is managed by NMSP. The campground includes:

- Three two-lane concrete boat launch ramps, two only accessible with lake levels between 4155 and 4180; and the other only accessible with lake levels between 4165 and 4182
- Fifteen camping spots with a covered shelter containing picnic table and benches, grill, firepit, and water
- One restroom with hot showers, flushing toilets, and sinks
- One 2-person vault toilet
- Primitive camping sites are available
- Unpaved road throughout the campground
- Hiking, walking, biking, and jogging are permitted throughout the campground and surrounding area
- Open year around each year
- Minimal day use or overnight fee required
- First come, first serve with no reservations for primitive sites; reservations available online through New Mexico State Parks website for developed sites

Central Recreation Area Campground is located on the south side of the dam, and it is managed by NMSP. The campground includes:

- Thirty camping spots with a covered picnic table and benches, grill, and firepit
- Primitive camping sites are available
- Six 2-person vault toilets
- Unpaved road throughout campground
- Hiking, walking, biking, and jogging are permitted throughout the campground and surrounding area
- Open seasonally each year
- Minimal day use or overnight fee required
- First come, first serve with no reservations

North Boat Launch Area is located on the north side of the dam, and it is managed and operated by NMSP. This area includes:

- Two two-lane concrete boat launch ramps, both ramps only accessible with lake levels between 4185 and 4201
- Paved roads
- Two parking areas containing 93 parking spaces
- Two one-person vault toilets
- Open year around each year
- Minimal day use fee required
- First come, first serve with no reservations

NMSP Visitor Center is located on the north side of the dam. The Visitor Center includes:

- History and natural resources of the area
- Paved parking and roads
- Public restroom
- Minimal day use fee required

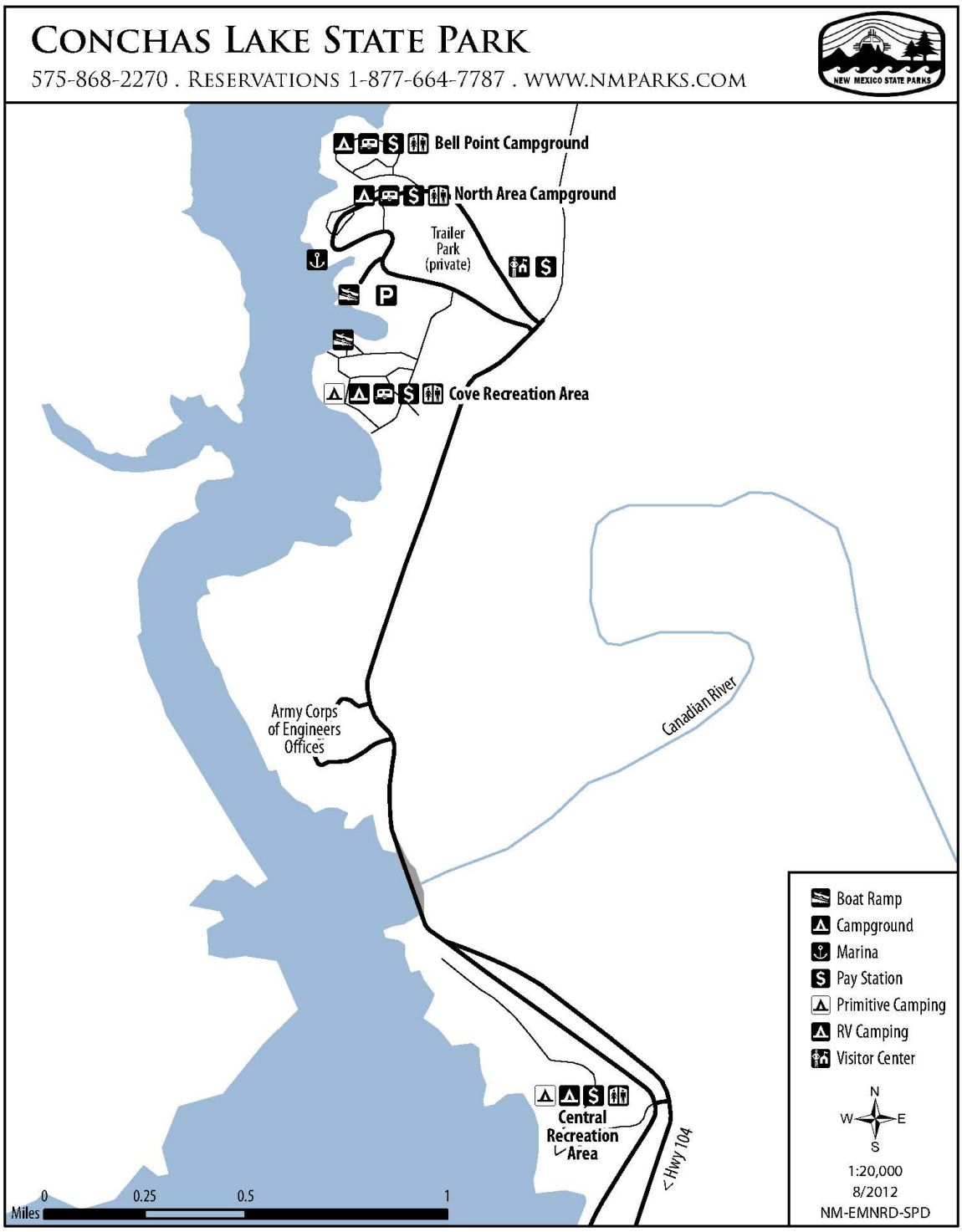


Figure 5-1 New Mexico State Park at Conchas Lake

There are two areas on the north side of the dam, which are currently managed and operated by NMSP, that are non-operational and/or not in use at the present time. These include:

Boy Scout Recreation Area

- One metal framed building containing large open room with fireplace
- Kitchen
- Restrooms
- Covered porch
- Four covered shelters
- Unpaved roads and parking area

North Marina Area

- One metal building used for boat repair shop
- Building containing store area, restaurant area, and lounge/bar area
- Restrooms
- Paved roads and parking area

5.3.7 Leased Areas Managed by Concessionaires

Adobe Belle is located on the north side of the dam behind the USACE administration and maintenance buildings, and it is currently being operated and managed by a concessionaire. Adobe Belle includes:

- One main house/office with three bedrooms, two bathrooms, living room, dining room, kitchen, sun porch, garage, carport, and basement
- Eight units with two bedrooms, one bathroom, living room, dining room, kitchen, sun porch, garage, carport, and basement
- Trees and grass
- Paved driveway
- Hiking, walking, biking, and jogging are permitted throughout the Adobe Belle area
- Reservations required and fees paid through concessionaire

Golf Course is located on the south side of the dam, and it is currently being operated and managed by a concessionaire. The Golf Course includes:

- Nine-hole golf course
- One clubhouse
- Public restrooms
- Trees and grass
- One parking area
- One retention pond for water for irrigation for the golf course
- One pumphouse for use of water for irrigation for the golf course
- Unpaved roads
- Golf carts only permitted on course
- Fees required to be paid at golf course

Photo 5-1 Conchas Lake Historic Dam

5.3.7 Boat Ramps and Marinas

There are three boat ramps operated by USACE and five boat ramps operated by NMSP at Conchas Lake that provide recreational access to the lake. These have varying hours of operation and have a fee associated with use. The ramps may be closed from time to time due to water level or other damage. The maps in Appendix A of this Plan indicate the location of these ramps. Currently, there are no plans to expand or add additional boat ramps or launch lanes at Conchas Lake. Future management includes maintaining and improving facilities as time and funding permits.

5.3.8 Trails

Conchas Lake features one trail, which is approximately a half mile rugged trail winding through the natural terrain from the parking area located at the south end of Captain Kramer Park to the overlook area and then looping back around to the parking area. The parking area is paved and ADA accessible, and restrooms are available at the beginning of the trail. With a growing demand for trails of all kinds, Conchas Lake is interested in establishing additional trails throughout the project lands, including ADA trails; making better use of the established trail; and encouraging support of volunteer and youth crews to maintain and build trails.

5.4 MITIGATION

This classification is used for lands that were acquired specifically for the purpose of offsetting losses associated with development of the project. There are no acres at Conchas Lake under this classification.

5.5 ENVIRONMENTALLY SENSITIVE AREAS

Environmentally Sensitive Areas are areas where scientific, ecological, cultural or aesthetic features have been identified. Designation of these lands is not limited to just lands that are otherwise protected by laws such as the Endangered Species Act, the National Historic Preservation Act or applicable state statues. These areas must be managed to ensure they are not adversely impacted. Typically, limited or no development of public use is allowed on these lands. No agricultural or grazing uses are permitted on these lands unless necessary for a specific resource management benefit, such as habitat restoration and management. These areas are typically distinct parcels located within another, and perhaps larger, land classification area.

Future management of ESA areas at Conchas Lake will be designed to protect and improve the resources that qualify these areas for ESA classification. All of these areas are suitable for development of natural surface pedestrian trails unless the areas are critically important as habitat for sensitive species. Specific management measures may include, but are not limited to, the following:

- Cultural Resource Sites: Known sites will be protected from vandalism and/or erosion. Additional reconnaissance surveys will be conducted as needed to determine the extent of cultural resource sites. Tribal coordination will continue to insure proper management and/or protection of known sites.
- Sites supporting Species of Conservation Concern: The site characteristics that cause these areas to be favored by individual species will be protected and improved. Perch and/or nesting sites for the southern bald eagle are examples of site characteristics that need protection.
- Steep Slope Sites: These areas will be monitored to protect their scenic value, wildlife habitat value, and to reduce shoreline erosion.

There are three distinct areas on fee-owned Federal land at Conchas Lake that qualify as Environmentally Sensitive Areas. These three areas total approximately 204 acres.

Photo 5-2 Sunshine on Conchas Lake

5.6 MULTIPLE RESOURCE MANAGEMENT LANDS

Multiple Resource Management Lands are organized into four sub-classifications. These sub-classifications are Low Density Recreation, Wildlife Management, Vegetative Management, and Future/Inactive Recreation Areas. The following is a description of each sub-classification's resource objectives, acreages, and description of use.

5.6.1 Low Density Recreation

These lands are generally narrow parcels of land that are adjacent to private residential developments. Future management of these lands calls for maintaining a healthy, ecologically adapted vegetative cover to reduce erosion and improve aesthetics. Prevention of unauthorized use such as trespass or encroachments is an important management objective for all USACE lands but is especially important for those lands in close proximity to private development. These lands are typically open to the public, including adjacent landowners, for pedestrian traffic and are frequently used by adjacent landowners for access to the shoreline near their homes. The general public may use these lands for bank fishing, hiking, and for access to the shoreline. Future uses may include additional designated natural surface hike/bike/equestrian trails. There are 359 acres classified as Low Density Recreation.

5.6.2 Wildlife Management

These are lands designated for the stewardship of fish and wildlife resources and are managed by USACE. There are currently 505 acres of land under this classification at Conchas Lake; however, areas of Low Density recreation, ESAs and vegetative management all support wildlife. Management efforts focus on producing native wildlife food and habitat.

The broad objective of fish and wildlife management is to conserve, maintain and improve the fish and wildlife habitat to produce the greatest dividend for the benefit of the general public. Implementation of a fish and wildlife management plan is the first step toward achieving the goals of the Fish and Wildlife Coordination Act (Public Law

85-624). The USFWS and the NMDGF share responsibility with USACE for managing fish and wildlife, primarily through enforcement of laws and regulations and establishing seasons and bag limits for game species. Future management plans for wildlife areas include continued cooperation with partners and managing and improving wildlife management areas under this land classification.

There are four known federally-listed endangered species and three known federally-listed threatened species that could utilize habitat within the Conchas Lake area. Therefore, any work conducted on this project will be in accordance to the Endangered Species Act and will be appropriately coordinated with the USFWS. These species (Table 2.7) will continue to receive attention to ensure they are managed in accordance with their habitat needs.

Non-game wildlife is also managed by USACE. The following list of non-game programs will be pursued as funds become available.

- Early detection and prevention of introduction and spread of aquatic invasive species such as Quagga and Zebra mussels
- Raptor perches
- Osprey nesting platforms
- Invasive plant species management: Eradicate/control salt cedar and replace with native willows or other native vegetation
- Native vegetation restoration where needed using native species
- Floating vegetation islands on the lake for bird habitat – not sure the target species for this, requires more research
- Fish spawning and habitat structures
- Food/habitat plots for various native wildlife
- Pollinator garden
- Wildlife friendly fencing
- Baseline inventory of wildlife species and associated habitat
- Survey/detection for reptile pathogens

5.6.3 Vegetative Management.

These are lands that have vegetative types considered to be sensitive and needing special classification to ensure success. A good example of these types of vegetation would be forested wetlands and Southwestern Tablelands grasslands. There are no acres currently identified at Conchas Lake for vegetative management purposes.

5.6.4 Future/Inactive Recreation Areas.

These are areas with site characteristics compatible with potential future recreational development or recreation that are closed. Until there is an opportunity to develop or reopen these areas, they will be managed for multiple resources. There are no acres classified under this sub-classification at Conchas Lake.

5.7 WATER SURFACE

At the permanent pool (sometimes referred to as the conservation, or normal pool elevation of 4,155.0 feet NGVD29, there are 2,750 acres of surface water, of which 320 acres is within USACE fee boundary. The remaining 2,430 acres is located on flowage easement. Buoys are managed by USACE and help mark hazards, swim beaches (should one be established), boats keep-out and no-wake areas.

5.7.1 Restricted

Restricted areas are around the dam where boats are prohibited for project operations, safety, and security purposes. Water surface zoned as restricted totals approximately 7 acres. If a swimming beach is constructed, a portion of water surface fronting the beach will be classified as Restricted.

5.7.2 Designated No-wake

No-wake areas are located near boat launch areas for the safety of launching and loading boat or personal watercraft. Currently, approximately 4 total acres at Conchas Lake are designated for no-wake.

5.7.3 Fish and Wildlife Sanctuary

These areas are managed with annual or seasonal restrictions to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning. There are no water surface acres under this classification at Conchas Lake.

5.7.4 Open Recreation

The remaining lake area not in the above classifications is open to recreational use. No specific zoning exists for these areas, but there is a buoy system in place to help aid in public safety. Future management of the water surface includes the maintenance of warning, information, and regulatory buoys as well as routine water safety patrols during peak use periods. As explained in Section 4.2.7.4 of this Master Plan, the entire water surface of Conchas Lake, minus Restricted and Designated No-Wake areas is classified as Open Recreation. Available water surface varies significantly with the fluctuating elevation of the lake, but it is reasonable to assume an average water surface of approximately 6,000 acres during the peak recreational boating season.

5.8 SUSTAINABILITY

Sustainability is a multi-pronged aspect of responsible stewardship of USACE lands. The outcome of sustainability initiatives is to have a program that is able to adapt to fiscal challenges, safeguards the environment, and continues to provide high quality recreational opportunities for the public. As the nation's largest provider of outdoor recreation, managing 12 million acres of lands and waters across the county, USACE is committed to implementing initiatives that link people to water.

The recreational mission of USACE is to manage and conserve natural resources, while providing quality public outdoor recreation opportunities to serve the needs of the present and future generations. This is in line, and indeed the

underpinning, of all the goals and objectives for Conchas Lake resources and management. The national USACE 2021 Natural Resources Management Strategic Plan identifies a number of goals and related objectives designed to build a more robust environmental and recreational program on USACE managed lands. The four primary goals are Workforce Development; Improved Communication; Resourcing; and Program Delivery. Under the umbrella goal of Program Delivery, several objectives center specifically on promoting environmental sustainability in all aspects of natural resources management. This includes integrating environmental operating principles and other environmental regulations and initiatives into day-to-day decision making and long-range planning. Other objectives include using Leadership in Energy and Environmental Design (LEED) certified personnel and projects in facility design and maintenance, adopting Sustainable Sites Initiative criteria where applicable on land-based recreation areas, and updating project Master Plans to include environmental sustainability elements.

Meeting the public's needs and continuing to provide a full range of outdoor recreation opportunities will require collaboration. In support of that, USACE will maintain and enhance existing rapports while seeking new and innovative types of relationships with federal, state, and local agencies, volunteers, non-government organizations, cooperators and others to provide certain recreation services and opportunities to the public. Besides pursuing and maintaining partnerships, it is important to continue to identify, analyze, and evaluate authorities and policies such as fee collection and retention, and increased partnership capabilities. Areas identified for changes to meet the goals and objectives of this strategy include authorities for fee collection and retention without budgetary offset, and policies that pertain to funding schedules for partnership projects.

Through creativity, innovation, strong partnerships, and environmentally sustainable stewardship, quality recreational opportunities will continue to be available to the public. This will be done while simultaneously protecting the water, environment, and cultural resources for current and future generations.

CHAPTER 6: SPECIAL TOPICS/ISSUES/CONSIDERATIONS

6.1 ARCH HURLEY CONSERVANCY WATER DISTRICT

One of the main purposes of Conchas Lake is the storage and conservation of irrigation water. Nearly all of the water stored between elevation 4,155 feet and 4,201 feet NGVD is owned by the Bureau of Reclamation and managed by the Arch Hurley Conservation District (Conservancy). When requested by the Conservancy, irrigation water is released through the Conchas Canal at the south end of the earthen embankment portion of the dam. Water is further distributed through a second canal, the Hudson Canal. This water is sold to farmers and ranchers by the Conservancy and can irrigate up to 41,300 acres of land in the Tucumcari area. The irrigation outlet works and canals are sometimes referred to as the Tucumcari Project and were constructed primarily by the U.S. Bureau of Reclamation. During irrigation season, daily communication between the Conservancy and USACE is necessary in order to make accurate water releases through the irrigation canal and informing the Conservancy as to the irrigation storage availabilities. The USACE Conchas Lake staff operates and releases water for irrigation purposes until: 1) the water level drops below 4,162 feet NGVD mean sea level (msl) within the reservoir, (2) water shut off date of 31 October occurs, or 3) water shut off is requested through the Conservancy.

The irrigation outlet works are in the south abutment of the South Dike and consist of a circular tunnel 11 feet in diameter from inlet to centerline of the South Dike. The tunnel length is 338 feet with a horseshoe tunnel 22 feet wide by 15.5 feet high from centerline to outlet gatehouse, containing two 90-inch diameter steel conduits. The two conduits contain 6 by 7-foot slide gates on each, in the outlet gatehouse. The irrigation outlet works release water into the Conchas Canal that runs for approximately 84 miles to the east. The canal, constructed by the U.S. Bureau of Reclamation and operated by the Conservancy, has an initial capacity of 700 cubic feet per second. The secondary Hudson Canal is 26 miles long.

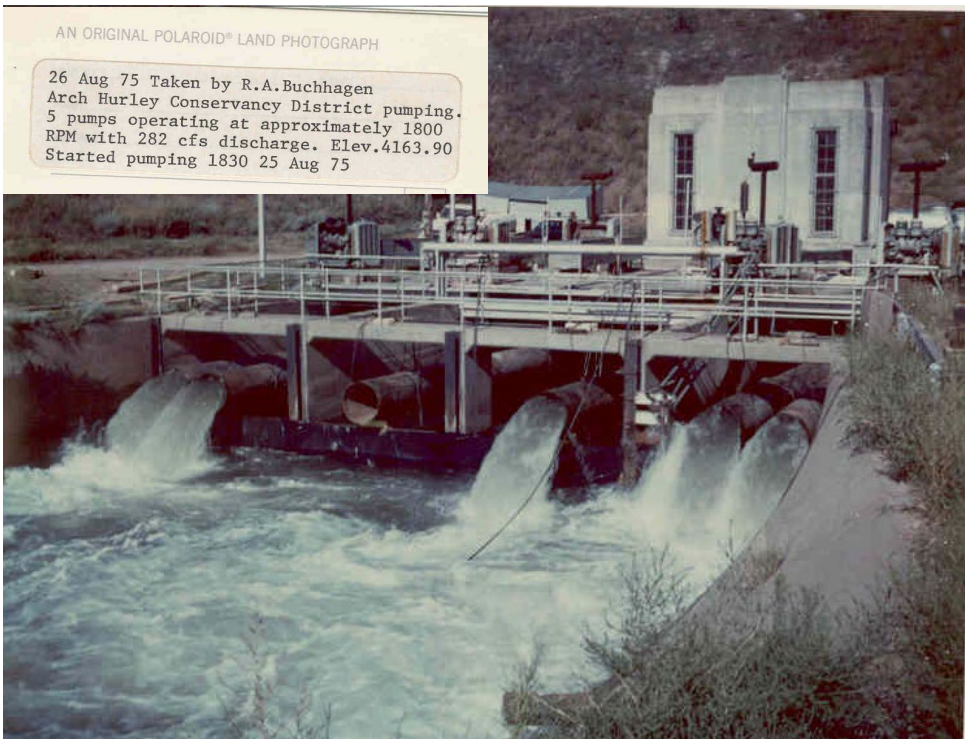


Photo 6-1 Conchas Dam Irrigation Outlet Works (note: pumping water is no longer feasible at Conchas Lake. Water is made available through gravity flow).

6.2 BLUE-FOOTED BOOBY

Many mammals can be seen and are common in the area of Conchas Lake, including, but not limited to Barbary sheep, mule deer, pronghorn antelope, beaver, badger, mountain lion, bobcat, porcupine, coyote, muskrat, raccoon, red fox, swift fox, black-tailed jackrabbit, and desert cottontail. The lake also provides habitat for seasonal waterfowl, including the Canada goose, white-fronted goose, mallard, gadwall, pintail, teal, American widgeon, shoveler, redhead, ringed-neck duck, canvasback, lesser scaup, common golden-eye, bufflehead, ruddy duck, hooded merganser, common merganser, and the American coot.

Photo 6-2 Blue Footed Booby

On August 15, 2009, the first confirmed sighting of a blue-footed booby in New Mexico occurred at Conchas Lake. Over 1,000 bird enthusiasts and curious visitors traveled to Conchas Lake from Oklahoma, Texas, Colorado, Arizona, Illinois, Washington, California, and across New Mexico to see the rare sighting. The blue-footed booby is commonly found 1,000 miles away in the Gulf of California between mainland Mexico and Baja California. According to the American Birding Association, this is the first on record to be seen in New Mexico. The photo is courtesy of Cole Wolf, aba.org/sighted-recently-blue-footed-booby/.

6.3 CANNON AIR FORCE BASE

Currently, USACE is exploring the possibility of developing a future partnership with Cannon Air Force Base (CAFB) for the management of several recreational facilities at Conchas Lake. These facilities include the Historic Conchas Lodge and Adobe Belle Cabins, the Conchas Lake Golf Course (currently under separate lease), and the Conchas Lake Marina (managed by New Mexico State Parks).

In the fall of 2019, as a part of the Conchas Lodge NEPA scoping public meeting (USACE was conducting environmental and cultural resources compliance work needed to demolish the historic Conchas Lodge), CAFB approached USACE with a desire to expand recreational opportunities for their airmen and military community, including the potential rehabilitation and use of the Conchas Lodge.

A potential partnership with CAFB to rehabilitate and enhance the recreational facilities and opportunities at Conchas Lake would likely be of benefit to USACE, CAFB airmen & families, and the surrounding community, and would likely provide economic stimulus within the region.

6.4 EROSION PROJECTS

There are two significant types of erosion that are factors at Conchas Lake. First, rainfall and the associated runoff removes the soil from the land surface in water erosion. Second, soil is detached, transported, and deposited elsewhere through wind erosion. There are several areas at Conchas Lake that have erosion issues. The following is a discussion of these issues, along with plans for remediation.

There are minor erosion issues at the South Ramp area. In addition to water and wind erosion, the significant drought and visitor use experienced at Conchas Lake have contributed to the erosion issues at this location. There are erosion issues along the Lodge Road, including the road and ditches. This road is used by USACE employees, visitors, and members of the community. There are also minor erosion issues on the road below the dam, which is used only by USACE employees and contractors. The USACE is expected to begin landscape repairs to help mitigate erosion beginning in the Spring of 2021.

Photo 6-3 Erosion Mitigation at Conchas Lake

Conchas Lake currently has major erosion issues located on both the north and south sides of the headworks irrigation canal. USACE contractors are currently performing significant landscape repair, compacting the subgrade, spreading sand and geotextile, and will complete the project with riprap to reduce erosion issues in the future. The project is expected to be completed in 2021.

Photo 6-4 Erosion Control Work at Conchas Lake

6.5 SOUTH CONCHAS LODGE

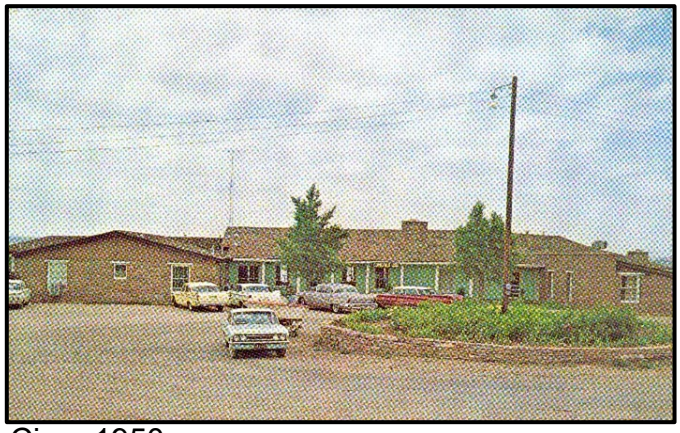
Civilian Conservation Corps (CCC) Company 833 moved from Santa Fe to Conchas Dam, began operations on June 22, 1941, and ended their tenure in May 1942. Their mission was to demolish the construction camp left by USACE and, under the supervision of the National Park Service (NPS), construct recreational facilities for NMSP. Under Project Number SP-8, the CCC Company lived in one area of the construction camp as they demolished the remainder. The adobe bricks were salvaged and brought to the north end of the dam to construct the permanent facilities for the USACE, and it is believed that other salvaged materials may have been used to construct the lodge, as well.

Photo 6-5 CCC workers South Conchas Lake, 1941 (Provided by the NACCCA)

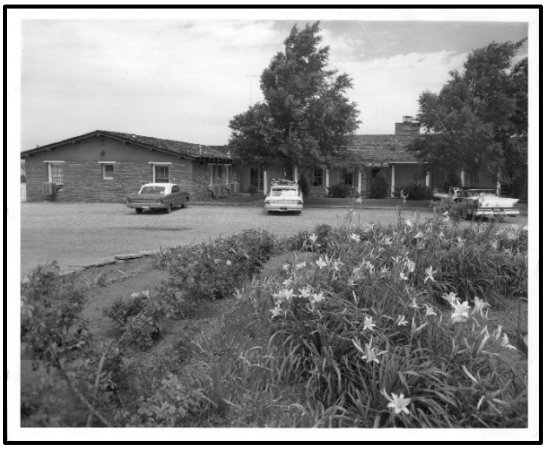
Completion of the lodge is estimated to have occurred in May 1942 when the CCC Company left. Due to World War II, the federal government shut down the CCC and other New Deal agencies by June 1942. Records indicate that the USACE acquired the 8,312

square foot lodge in 1942. Management was initially under the NMDGF and was later transferred to NMSP in 1955. NMSP made additions and improvements to the lodge and south recreation area during their management, including the park manager's residence constructed in 1948, picnic shelter and comfort station constructed in 1951, east wing additions to the lodge in 1959, west wing additions to the lodge in 1966, and sewer system upgrades in 1973. The NMSP managed the facility until the termination of their lease with USACE in 1990.

Circa 1940s



Circa 1950s



Circa 1960s

Circa 1970s

1990

2004

Photo 6-6 Conchas Lake Lodge, 1940-2004

The lodge, with the additional east and west wings, has a total of forty-six rooms, three kitchenette rooms, a restaurant, a lounge, and a paved drive and parking lot. The lodge has not been in operation since 2005. It has, unfortunately, been vandalized and has weathered. USACE is currently actively seeking opportunities or partnerships to renovate and manage the property to improve recreational opportunities at Conchas Lake.

CHAPTER 7: PUBLIC AND AGENCY COORDINATION

7.1 PUBLIC AND AGENCY COORDINATION OVERVIEW

The USACE is dedicated to serving the public interests in support of the overall development of land uses related to land management for cultural, natural, and recreational resources of Conchas Lake. An integral part of this effort is gathering public comment and engaging stakeholders in the process of planning. USACE policy guidance in ER and EP 1130-2-550 requires thorough public involvement and agency coordination throughout the Master Plan revision process, including any associated NEPA process. Public involvement is especially important at Conchas Lake to ensure that future management actions are both environmentally sustainable and responsive to public outdoor recreation needs in a region which is experiencing rapid population growth. The following milestones provide a brief look at the overall process of revising the Conchas Lake Master Plan.

The USACE began planning to revise the Conchas Lake Master Plan in October 2019. The objectives for the Master Plan revision were to (1) update land classifications to reflect changes in USACE land management policies since 1976 and (2) update the Master Plan to reflect new agency requirements for Master Plan documents in accordance with ER 1130-2-550, Change 7, January 30, 2013, and EP 1130-2-550, Change 5, January 30, 2013.

7.2 INITIAL STAKEHOLDER AND PUBLIC SCOPING

In the interest of public health and well-being due to the Covid-19 pandemic, the public input process was changed from a face-to-face public meeting to a virtual presentation detailing the specifics of the Master Plan revision. The presentation and public input process remained open for 45 days. The public comment period began May 07, 2020, and ran through June 22, 2020.

The presentation included a description and definition of a master plan, descriptions of the new land use classification options, and instructions for commenting on the Master Plan.

- Public involvement process
- Project overview
- Overview of the NEPA process
- Master Plan and current land classifications
- Instructions for submitting comments

For Conchas Lake, USACE received 22 comments from four (4) individuals. While issues raised are important, many of the comments received do not pertain to land use issues of the Master Plan. Issues addressed in the comments included hike and bike trails; improved facilities, roads, and more recreation opportunities; and water

quality and supply. All the public comments received were noted and will be addressed as future funds and development are considered.

Conchas Lake is a federally-owned and managed public property, and it is USACE's goal to be a good neighbor, as well as steward for public interest as it concerns Conchas Lake. As such, USACE is bound to the equal enforcement of policies and fees for this publicly held national asset. Table 7.1 provides a summary list of the comments received during the initial scoping comment period for the Master Plan, followed by the USACE response.

Table 7-1 Public Comments from May 07, 2020 through June 22, 2020

Comment	Response
The Master Plan document begins with a 1990 memo. Was there any work done in response to that memo? Is it publicly available?	The 1990 Memo was a request to update the Master Plans. No work was done on a master plan in response to that memo and funding was not available until now to do a revision. The most current version of the master plan is available on the Albuquerque District website.
I have the map showing land use - is there also a map showing water use? I am wondering whether there are places designated for swimming vs. boating, for example, and if areas around intakes are treated differently from other parts of the reservoir.	At the time of the current master plan, the water surface was not classified. However, The New Mexico State Parks Division and USACE enforce restricted (boats prohibited) areas around water intakes and in front of the dam and no wake areas around boat ramps. There are no designated swim beaches at this time. The revised master plan will classify the water surface into one of the following categories: Restricted, No Wake, Fish and Wildlife Sanctuary, or Open Recreation.

Comment	Response
I understand from the video presentation that water quality is not part of the Master Plan. However, will the plan address that Conchas Lake is the source of drinking water for at least 2 public water systems (Big Mesa MDWCA and Conchas Dam State Park). Am I correct in thinking that the ACOE also has an intake at Conchas Dam for the main office and visitor center's drinking water? Where do the private residences in the fee area get their drinking water from? I assume this is the area surrounded in red on the Master Plan Land Use Map and referenced in the 1976 Master Plan on page 72.	The subject of water quality is only addressed informationally in the master plan. USACE has a small potable water intake and uses water for operations functions, such as water for the visitor center, office, landscape irrigation and Adobe Belle. Water for residents is supplied by Big Mesa MDWD.
Based on my reading of the founding legislation for the dam, drinking water might have been a part of its intent (though not at the level of priority as flood control or irrigation). Anecdotally, this appears to have changed, but has it legally? Or does it apply only to domestic water used in the fee area? This might be the same question - Were there limits to where drinking water was to be provided (e.g., during phases of construction, or for ACOE and/or State recreational facilities)?	Water supply is not a primary mission at Conchas Lake and there are no plans to add it as a primary mission at this time.
Will the Plan take into account climate change? Will the Plan include contingencies for drought and extreme temperatures? (Drought was only mentioned once in the 1976 Master Plan.) From the ACOE and USGS, it appears water levels are dropping fairly steadily - is that right?	The subject of water supply is not part of the master plan. USACE addresses issues of climate change in accordance with national USACE policy. Droughts and floods are addressed in terms of environmental and cultural resource impacts at Conchas Lake. For more information on historic water levels you can contact our water manager for the Canadian Basin.

Comment	Response
Is comparative information about the lake available for the public? E.g., the 1976 Master Plan states that the mean depth of light penetration is 7.3 feet. Has this changed? How frequently is this measurement taken?	Water management is not part of the master plan. Water level will be discussed in terms of its environmental impact and its effect on land use. Note that monthly water sampling is done by USACE and the State during recreation season to evaluate water quality and aquatic invasive species. General information on depth of light penetration can be found in the water quality section of the revised Master Plan.
It appears that, to date, Conchas Lake hasn't experience water quality issues due to plant growth or algal blooms – is that correct? Even at the Lake's lowest levels during extreme drought?	Conchas Lake has not experienced algae blooms to date.
What proportions of the Master Plan address recreation vs. conservation or environmental considerations of dam and reservoir health? Does one drive the other?	The master plan balances land use to support current users as well as protect the cultural and environmental resources for future generations while fulfilling its primary missions of flood mitigation and irrigation.
I understand that there used to be a fueling station close to the lake's edge, and that houseboats were, but no longer, allowed on the Lake. Can you give me a little more information about these matters?	A fueling station was permitted by USACE in accordance with a now expired marina concession lease. At the closing of the marina, fueling stations were removed from the lake. The fueling station on the north dock was removed due to poor upkeep by the owner. The houseboats were under an easement agreement with 4V Ranch

Comment	Response
	beginning in 1999 to 2000 for a period of 18 years, with the last expiring on 31-Oct-2018. At the end of the easement agreement period, 4V Ranch did not renew or pursue further agreements and all of the houseboats moored to their property were required to be moved.
Is there a glossary of terms I can look at? For example, I can guess at what a "fee boundary" is, but the formal definition publicly available somewhere? Again, I probably have a rough, common sense idea of what it means to refer to a "pool" but would like to know more about this term and how it is used in the context of a lake or reservoir.	A glossary of terms will be included in the revised master plan. "Fee boundary" "fee property" is legal terminology indicating the property owned by USACE. The conservation pool is the designed regular or normal lake level.
Swim Area: listed on page 49 Section 6:18 and page 70 section 8:16 is a great idea. I believe this would be very well received. It was a great idea 44 years ago. Who knows if lifeguards are required now? could be a deal breaker.	USACE supports expanded recreational opportunities at Conchas Lake. There are plans to clear out some of the dead salt cedar, and work has been started to create a swimming area.
Roads: listed on page 72 Section 9:02. Lodge road from Bell ranch to the South parking lot road needs to be paved again. The "Fugitive Dust" this road creates is a health hazard, depending on wind direction. There are five dwellings withing 700' of this dust generator. My property is right at 700' and the amount of dust is unacceptable. My family has Asthma and Lodge road is a health concern. I have recently reached out to the New Mexico Air Quality Bureau so they could measure the fugitive dust and help provide clean air to our neighborhood.	Roads and dust are a concern for USACE. As funding becomes available and future development plans become a reality, USACE will pave roads to support as needed. Currently, USACE has posted new speed limit signs in the area in an attempt to slow traffic, as well as, working on the road in attempt to reduce the dust.

Comment	Response
Hiking/Bike trails around the Dam area would be nice.	Concur: USACE supports the increase in hike and cycle trails at Conchas lake. Currently there are plans to develop trails pending funding or other unforeseen challenges.
I believe we will see wonderful changes with Cannon Air Force Base coming into our community.	Noted: USACE is interested in partnering with other entities to improve recreational and environmental opportunities at Conchas.
As the golf course superintendent, I'm excited for any help Cannon can provide.	Noted: The specifics of golf course management are not a component of the Master Plan. Leases are a real estate activity and all management responsibilities are addressed in those instruments. “USACE is interested in partnering with other entities to improve recreational and environmental opportunities at Conchas.”.
The golf course, clubhouse and parking area, and the Boy Scout’s 33 acres should be transferred to Cannon AFB. They should become the management entity of the AMVRC. The local American Legion Conchas Post 19 should be part of the committee representing Veterans and should manage / run the new Conchas Lodge, possibly moving the American Legion to this location. Local residents will have the option of joining the golf clubhouse with yearly membership. NEEDS – Many Upgrades	Noted: The specifics of golf course management are not a component of the Master Plan. Leases are a real estate activity and all management responsibilities are addressed in those instruments. “USACE is interested in partnering with other entities to improve recreational and environmental opportunities at Conchas.”.

Comment	Response
Conchas Lake Lodge – This historical area should be restored as a facility for active military returning from overseas deployment to have time with their family. Managed and run by Cannon AFB and the local American Legion Conchas Post 19. NEEDS – To be restored to casitas. Swimming pool restored.	Noted: The specifics of golf course management are not a component of the Master Plan. Leases are a real estate activity and all management responsibilities are addressed in those instruments. “USACE is interested in partnering with other entities to improve recreational and environmental opportunities at Conchas.”.
South Area. Currently - restrooms, parking, ramps, boat dock. NEEDS - Walk on fishing doc for families, updated camping sites and picnic areas for daytime use, second boat dock, beach and swimming area	USACE is committed to providing quality recreational opportunities to the public and will do so as time and money allows.
Central Area. Currently - camping and picnicking facilities exist. NEEDS – updating all areas beach and swim area	The Central Area is part of the State Park lease, who is responsible for its upkeep and improvements. Due to water fluctuation, there are currently no designated swim beaches. The water is released for irrigation generally from April through October, and the depth and structure of the lake does not permit swim beaches consistently in the same area. However, there are many beach areas available that visitors use as swim beaches throughout the recreation season.

Comment	Response
North Area. Currently - boat launching ramps, camping and picnic areas. NEEDS - events campground w/ covered area (maybe use old mobile home park / cottage rental area), food truck area, walk on fishing dock for families (maybe restore old marina building), beach and swim area. Possible Events - NM Bass Nation Tournament - NM Wind and Water sports Assoc. - NM Walleye Assoc. Tournament - Golf Tournaments – Pecos Valley Bass Masters – etc., there are other fishing organizations.	The North Area is part of the State Park lease, who is responsible for its upkeep and improvements. Conchas does not have any designated swim beaches at this time; however, there are many beach areas available that visitors use as swim beaches. “USACE is interested in partnering with other entities to improve recreational and environmental opportunities at Conchas.”.
Create Jobs – restaurants, bait shop, liquor store, pizza delivery, boat rental, boat repair, fishing tours, jet ski rental, tire change, gas / fuel, general store, café. coffee shop, tap room, cabin rentals, fishing and boat supplies, food truck areas, ice locations vending machines, bait locations, commercial fishing, construction, plumbing, electrical, ice cream vendor, detailing shop,	The missions of USACE at Conchas Lake does not include economic development. Any economic benefit is considered ancillary to approved missions.
Thank you for providing this access to participate in the master plan revision. I own a home and also land at Conchas Dam. I would love to see a new positive environment for my children and grandchildren in the near future.	Thank you for commenting on the Conchas Lake Master Plan revision. It helps USACE improve land uses for everyone.
It saddens me to read through this and see so many things that are not at the lake anymore. I guess I don't understand the purpose of the master plan…At this point with all that is not existent ANY forward movement at Conchas would be a VERY positive thing.	Noted: USACE supports expanded recreational opportunities at Conchas Lake and welcomes partnering with other entities to make such expansion possible.

Comment	Response
I applied and was awarded a grant through the NM Main Street Project to help with the revitalization of the Lodge. The Corps would not cooperate, so nothing ever became of the project. I received an email from Francisco Salazar which sounded like there were federal funds that could help with the project. The Corps requested input from the community but haven't heard any more about it. The last I heard it was turned over to Andrew Wastell. It was frustrating and embarrassing that we couldn't work together to get something done with that property. My fear is the Adobe Bell will be in the same boat now that it's not open.	The process for these types of projects is very long and complicated. Currently, an Environmental Assessment is in process and USACE is interested in partnering with other entities to improve recreational and environmental opportunities at Conchas.

7.3 PUBLIC AND AGENCY REVIEW OF DRAFT MASTER PLAN, EA, AND FONSI

This section will be completed following the draft release public meeting and 30-day comment period.

CHAPTER 8: SUMMARY OF RECOMMENDATIONS

8.1 SUMMARY OVERVIEW

The preparation of the Conchas Lake Master Plan followed the USACE Master Planning guidance in ER 1130-2-550 and EP 1130-2-550, both dated 30 January 2013. Three major requirements set forth in the new guidance include (1) preparation of contemporary Resource Objectives, (2) Classification of project lands using the newly approved classification standards, and (3) preparation of a Resource Plan describing in broad terms how the land in each of the land classifications will be managed into the foreseeable future. Additional important requirements include rigorous public involvement throughout the process, and consideration of regional recreation and natural resource management priorities identified by other federal, state, and municipal authorities. The study team endeavored to follow this guidance to prepare a Master Plan that will provide for enhanced recreational opportunities for the public, improve environmental quality, and foster a management philosophy conducive to existing and projected USACE staff levels at Conchas Lake. Factors considered in the Plan were identified through public involvement and review of statewide planning documents, including the New Mexico SCORP (The 2015 Viva New Mexico, A Statewide Plan for Outdoor Adventure, Strategic Plan 2016-2020). This Master Plan will ensure the long-term sustainability of the USACE managed recreation program and natural resources associated with Conchas Lake.

8.2 LAND CLASSIFICATION PROPOSALS

A key component in preparing this Master Plan was examining prior land classifications and addressing the needed transition to the new land classification standards. During the public involvement process, USACE sought public input into whether, besides the simple change in nomenclature, a shift in land classification was desired (for example, should lands with a recreation classification be reclassified to a wildlife classification or vice versa.). Chapter 7 of the Plan describes the public input process.

Of the 22 public comments received as a result of the initial public scoping meeting, most concerned an interest in hike and bike trails, improved facilities and roads, more recreational opportunities, and water quality. The land classifications presented in the Plan were formulated based on these comments, first-hand experience and professional training of USACE Conchas Lake Project staff, Operations Division Staff and Regional Planning and Environmental Center (RPEC) staff assigned to the Master Plan PDT, as well as proven best management practices. There were 600 acres reclassified or updated to the new land classifications. All changes reflect historic and projected public use and new USACE guidance from ER 1130-2-550 and EP 1130-2-550. A summary of acreage changes from prior land classifications to the current classifications is provided in Table 8.1, and key decision points in the reclassification of project lands are presented in Table 8.2.

Table 8-1 Change from Prior Land Classification to New Land Classification

1976 Land Class	1976 Acres	2021 Land Class	2021 Acres*
Project Operation	869	Project Operations	840
Recreation - Intensive Use**	1,243	High Density Recreation	683
		Environmentally Sensitive Areas	204
		Multiple-Resource Management Lands	
Low Density Recreation	105	Low Density Recreation	359
Natural Areas	532	Wildlife Management	505
Total Land Acres	**2,749**	**Total Land Acres**	**2,591**
		Utility Corridors	.17
		Water Surface	
		Open Recreation	6,000 (average)
		Restricted	7
		No Wake	4
Total Water Surface Acres* **	**6,000(average)**	**Total Water Surface Acres*** **	**6,000(average)**
Total Fee** **	**3,530**	**Total Fee**** **	**3,413**
Flowage Easement	20,112	Flowage Easement	20,079

*Acreage of land areas is based on measurements using GIS technology and may vary slightly from official real estate records.

**Original Operations: Recreation – Intensive Use includes 45 acres occupied by vacation home developments. These summer homes, which are under interim lease agreements between private individuals and the State of New Mexico Park and Recreation Commission (South Area) as well as cabins and trailers which are rented to individuals (North Area by the concessionaire) (Source: 1976 Master Plan).

*** Total water surface of 6,000 acres is the average pool available for recreation during a normal rainfall year

**** Taking into account that approximately 116 acres of land were disposed in 1986, well after the 1976 Master Plan, the 2021 fee acreage figure is virtually unchanged from the 1976 figure. Note that the 640 acres of BLM land that were withdrawn from the public domain by BLM in 1966 (by Public Land Order #4088), is treated by USACE in both the 1976 and 2021 Master Plans as if the 640 acres is equivalent to fee ownership.

Table 8-2 Reclassification Proposals

Proposal	Description	Justification
Project Operations (PO)	PO was expanded to take in the saddle dam, office and historic Adobe Belle area.	The PO land classification was expanded to take in the saddle dam, office, and Adobe Belle. The expansion totaled 29.4 acres, but overall PO acres between 1976 and 2021 were reduced by 29 acres due to improved

Proposal	Description	Justification
		measurement systems. The conversion of these lands will have no effect on current or projected public use.
High Density Recreation (HDR)	Lands under the prior classification of USACE Recreation – Intensive Use (1243 acres) were reduced by 561 acres. The resulting 683 acres were changed in name only to the updated HDR classification. The lands removed from a Recreation-Intensive use were reclassified and included ESA (59 acres) and LDR (265 acres). The remaining acreage was reclassified to PO or were disposed through land sales. .	Changing the 683 acres to HDR was simply a change in nomenclature required by updated USACE regulations. Changing former Recreation-Intensive Use lands to ESA, LDR, and PO was done to better reflect current and projected public use, and to recognize the unique value of the ESA acreage. The conversion of these lands will have no effect on current or projected public use.
Environmentally Sensitive Areas (ESA)	The classification of 204 acres as Environmentally Sensitive Areas resulted from reclassifying acres in the prior classifications of Recreation Intensive use (59 acres), Low Density Recreation (42 acres), Natural Area (63 acres) and previous Unmeasured (40 acres).	These classification changes were necessary to recognize those areas at Conchas Lake having the highest ecological value and to protect unique views and cultural and archeological sites. The conversion of lands will have no effect on current or projected public use. Lands classified as ESA are given the highest order of protection among possible land classifications.
MRML – Low Density Recreation (LDR)	Approximately 359 acres were classified as MRML-LDR as follows: 42 acres under the previous classification of Low Density Recreation was changed in name only to MRML-LDR. Approximately 224 acres of former Recreation-	The land in the former classification of Operations: Recreation Low Density were converted to other land uses due to the areas having historic land use patterns supporting the change. The conversion of these lands will have no effect on current or projected public use.

Proposal	Description	Justification
	Intensive Use was reclassified as MRML-LDR. Previously unmeasured land lands (156 acres) were classified as MRML-LDR. Some acres of previous LDR lands were reclassified to ESA (62 acres and PO (1 acre).-The addition of 253 acres to MRML-LDR resulted from converting lands under the previous classification of Recreation Intensive use (267 acres), previously unmeasured (156), and changing some acres previously classified as LDR to ESA (-62) and PO (-1)	
MRML – Wildlife Management (WM)	The creation of 505 acres of MRML-WM resulted from the reclassification of lands previously classified as Natural Areas (474), and previously unmeasured areas (31) to WM.	The land in the former classification Natural Areas were converted to MRML-WM and ESA to more appropriately align with historic land use patterns supporting the change, as well as lands converted to ESA to protect important cultural and habitat areas. The conversion of these lands will have no effect on current or projected public use.
Water Surface	The classification of water surface acreage resulted in the following: • 7 acres of Restricted water surface at Conchas Lake include the water surface in front of the Dam and the	The previous Master Plan for Conchas Lake did not specify different classifications on the water surface, though these classifications were recognized in practice. This Master Plan revision recognizes and specifies

Proposal	Description	Justification
	irrigation headworks. Buoys mark the line in front of the dam and headworks. • 4 acres of Designated No-Wake areas are in place near the boat ramps at Conchas Lake. • All remaining water surface is classified as Open Recreation.	these uses. The classification of water surfaces will have no effect on current or projected public use

Note: The land classification changes described in this table are the result of changes to parcels of land ranging from a few acres to over 100 acres.. Acreages were measured using GIS technology. The acreage numbers provided are approximate and may differ from the official real estate acres.

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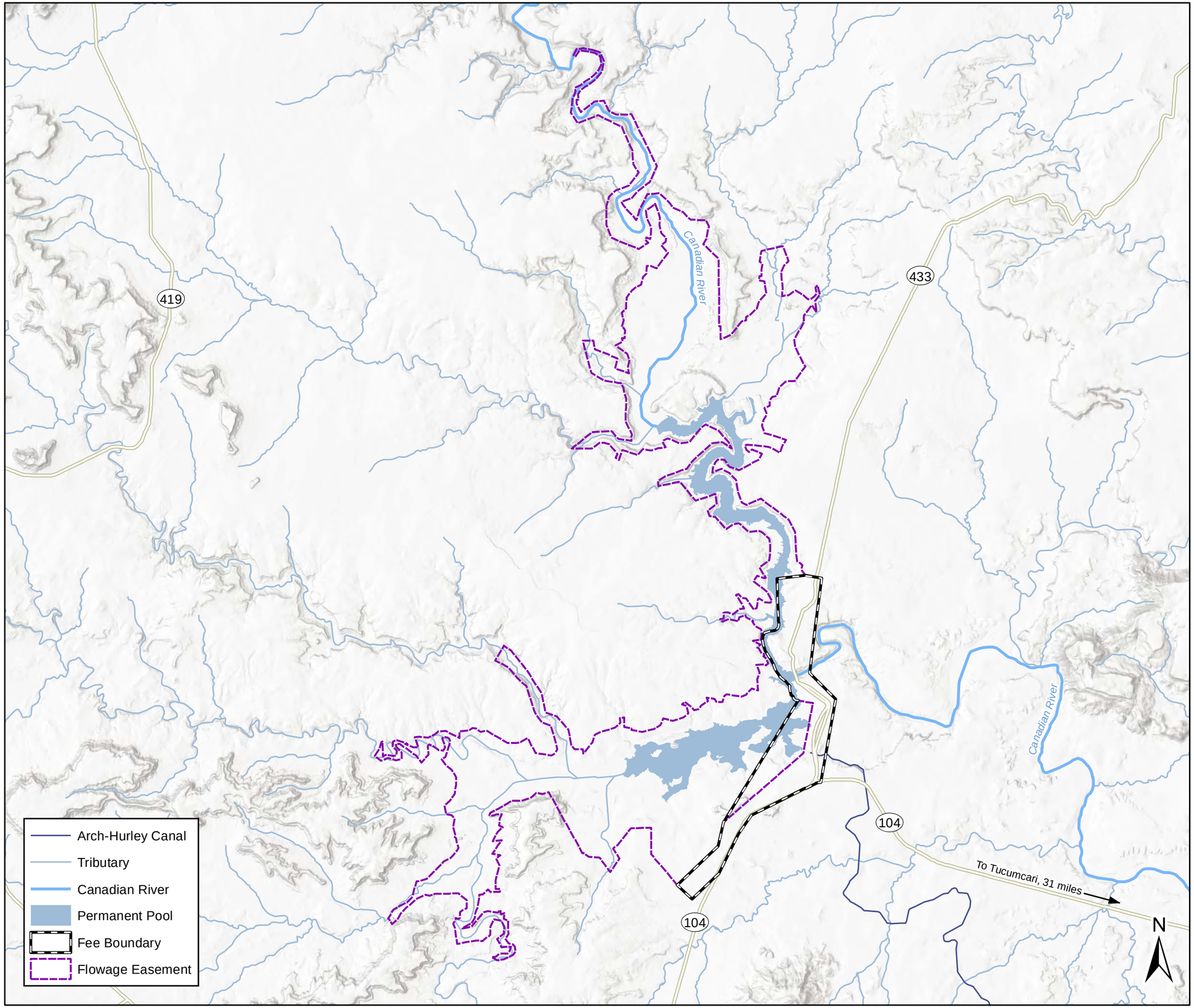
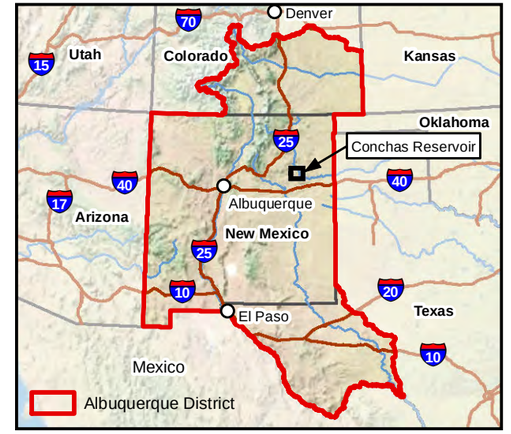
APPENDIX A - LAND CLASSIFICATION, MANAGING AGENCIES, AND RECREATION MAPS





INDEX TO MASTER PLAN MAPS

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CN21MP-01-00	PROJECT LOCATION AND INDEX
CN21MP-01-01	AGENCY LAND MANAGEMENT MAP

LAND CLASSIFICATION

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CN21MP-OC-02	LAND CLASSIFICATION (PLATE 2)
CN21MP-OC-03	LAND CLASSIFICATION (PLATE 3)
CN21MP-OC-04	LAND CLASSIFICATION (PLATE 4)
CN21MP-OC-05	LAND CLASSIFICATION (PLATE 5)
CN21MP-OC-06	WATER CLASSIFICATION INDEX

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CN21MP-OR-0A	RECREATIONAL DEVELOPMENT MAP
CN21MP-OR-01	DAY USE AREA PLATE
CN21MP-OR-02	SOUTHSIDE RECREATION AREA PLATE

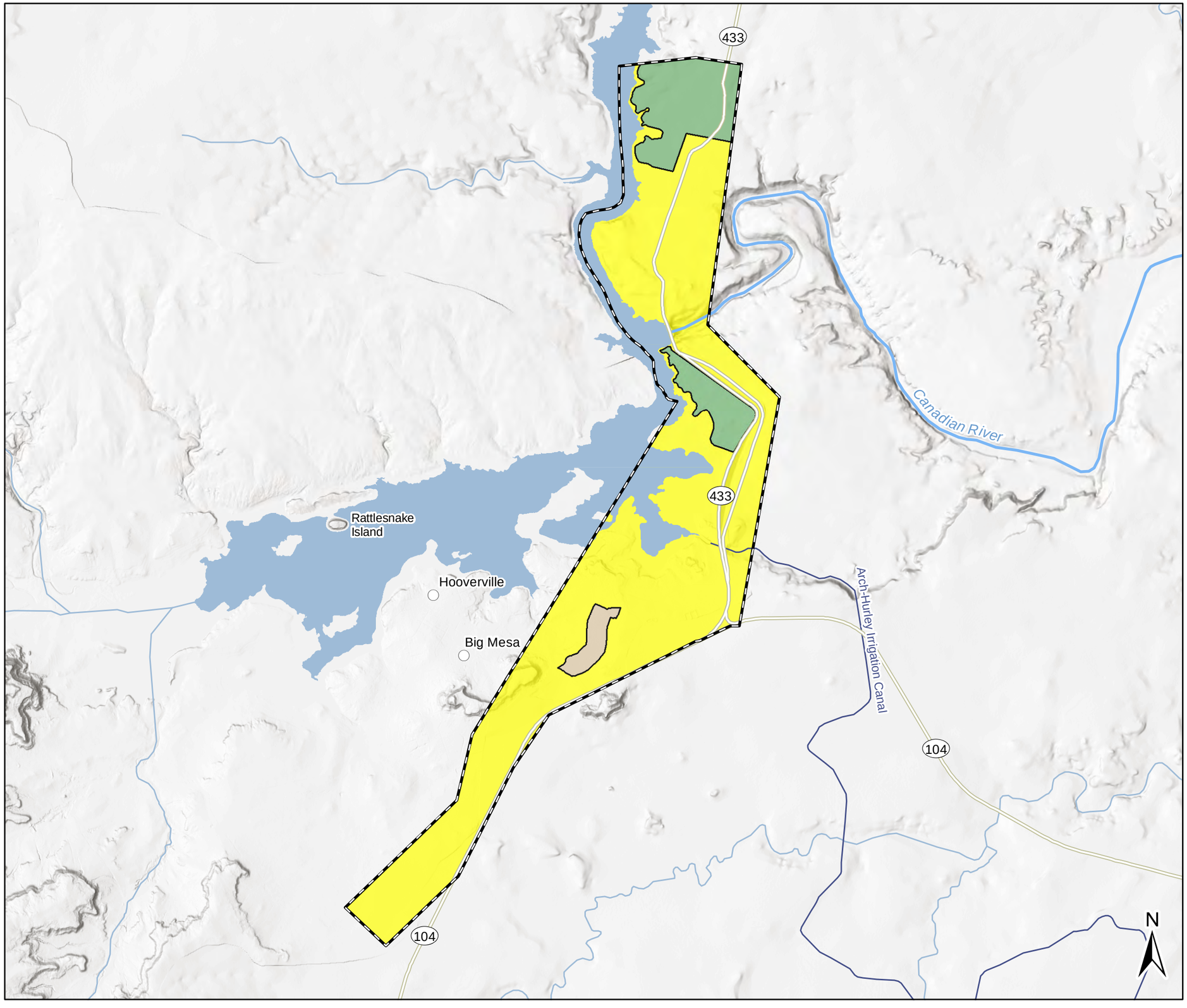
U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT

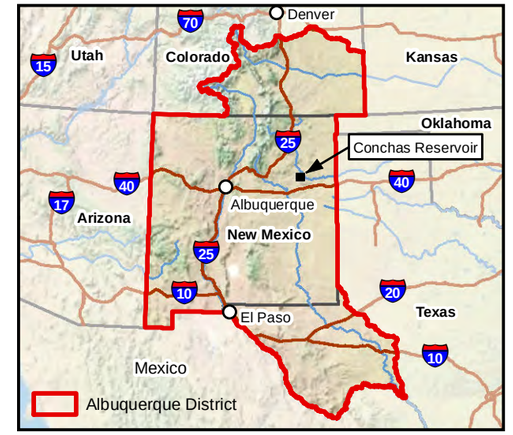
CONCHAS LAKE — NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
PROJECT LOCATION AND INDEX

0 1 2 3 4
Miles

DATE:	MAP NO.
11 August 2021	CN21MP-01-00





- Community
- Major Roads
- Arch-Hurley Canal
- Tributary
- Canadian River
- Permanent Pool
- Fee Boundary

Managing Agency

- U.S. Army Corps of Engineers
- New Mexico State Parks
- Private Land

U.S. ARMY CORPS OF ENGINEERS
ALBUQUERQUE DISTRICT

CONCHAS LAKE — NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
AGENCY LAND MANAGEMENT MAP

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Miles

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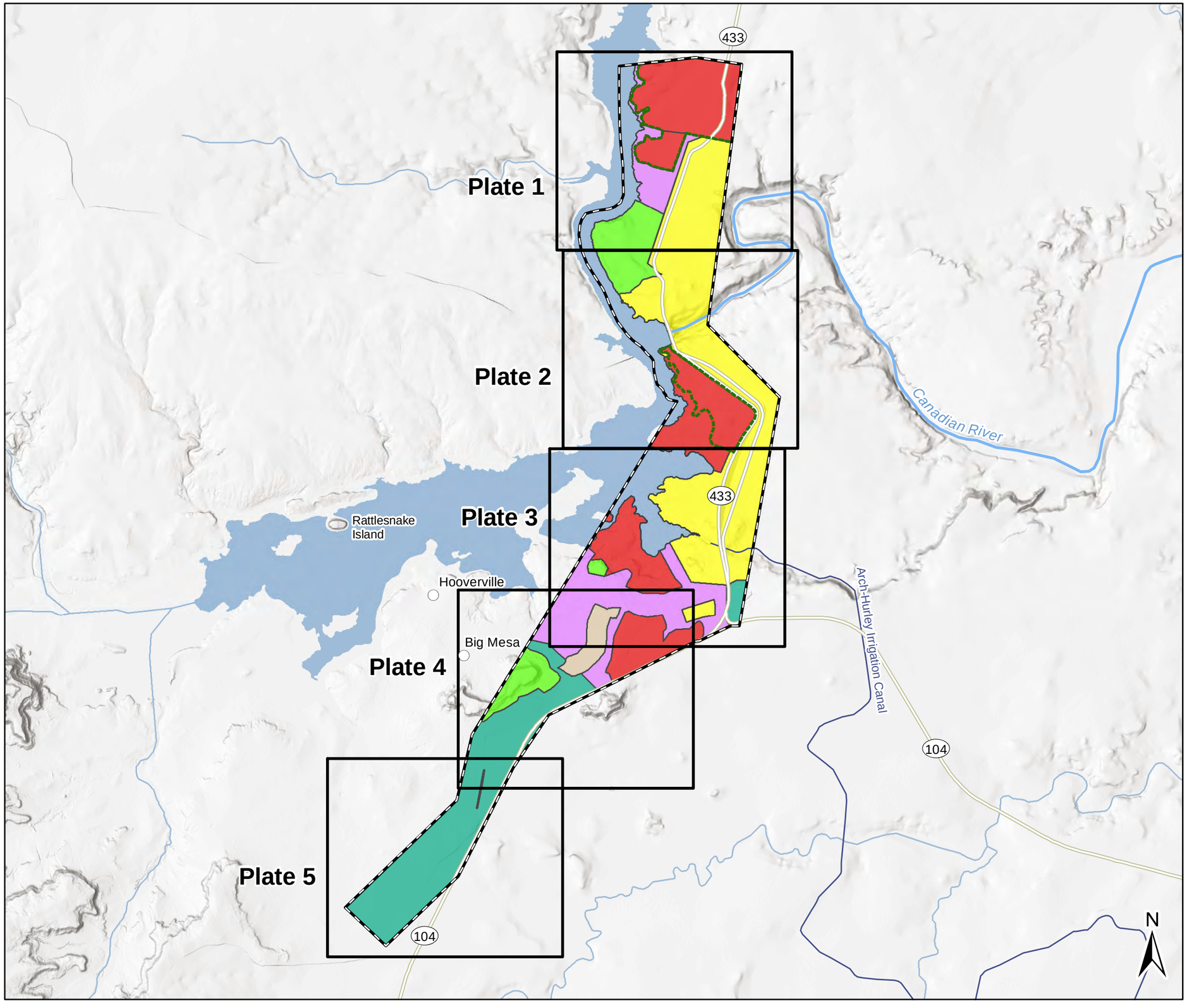
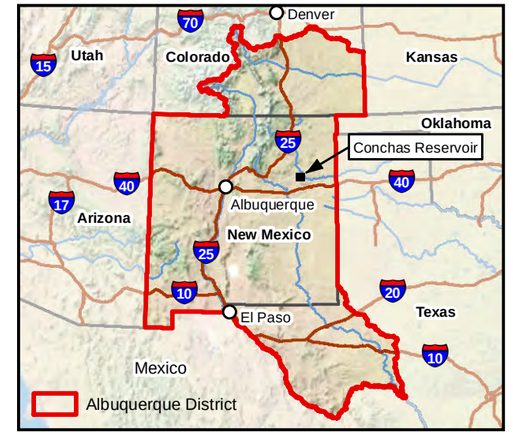
11 August 2021	CN21MP-01-01





- Community
- Major Roads
- Arch-Hurley Canal
- Tributary
- Canadian River
- Permanent Pool
- Fee Boundary
- Map Book Index
- New Mexico State Parks Boundary

Land Classification

- High Density Recreation
- Low Density Recreation
- Project Operations
- Environmentally Sensitive Area
- Wildlife Management Areal
- Private Land

U.S. ARMY CORPS OF ENGINEERS
ALBUQUERQUE DISTRICT

CONCHAS LAKE — NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
LAND CLASSIFICATION INDEX

0 0.5 1 1.5
Miles

DATE:	MAP NO.
11 August 2021	CN21MP-OC-I

Note: the water surface acreage of the Open Recreation pool varies significantly during the summer and early fall months as water is withdrawn for irrigation. During this period, the average water surface acreage of the Open Recreation pool is approximately 6,000 acres.

NM State Parks North Recreation Area and Bell Point Campgrounds

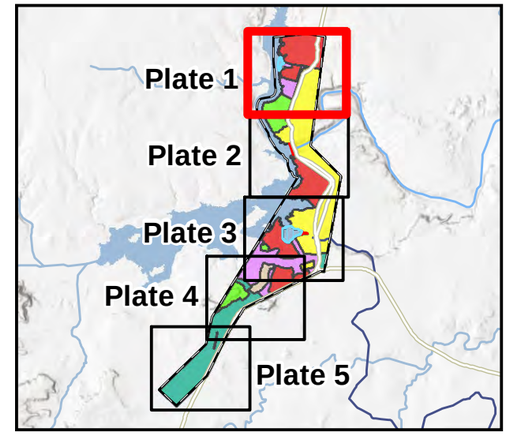
NM State Parks North Boat Launch No-Wake Area

NM State Parks Cove Campground

433

Canadian River

N



Major Roads
Arch-Hurley Canal
Tributary
Canadian River
Fee Boundary
New Mexico State Parks Boundary

Land Classification
High Density Recreation
Low Density Recreation
Project Operations
Environmentally Sensitive Area
Wildlife Management Areal
Private Land

Water Surface
Designated No-Wake
Restricted Water Surface
Permanent Pool - Open Recreation

U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT

CONCHAS LAKE NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
LAND CLASSIFICATION (PLATE 1)

0 700 1,400
Feet

DATE:	MAP NO.
11 August 2021	CN21MP-OC-01

Corps of Engineers Project Office

Canadian River

Conchas Dam Restricted Water Surface

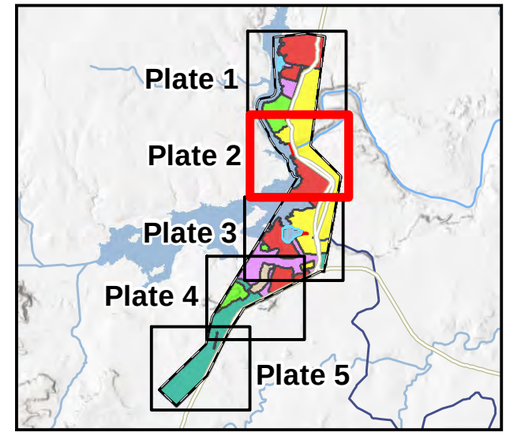
433

NM State Parks
Central Recreation
Area Campground

433

Note: the water surface acreage of the Open Recreation pool varies significantly during the summer and early fall months as water is withdrawn for irrigation. During this period, the average water surface acreage of the Open Recreation pool is approximately 6,000 acres.

N



Major Roads
Arch-Hurley Canal
Tributary
Canadian River
Fee Boundary
New Mexico State Parks Boundary

Land Classification

High Density Recreation
Low Density Recreation
Project Operations
Environmentally Sensitive Area
Wildlife Management Areal
Private Land

Water Surface

Designated No-Wake
Restricted Water Surface
Permanent Pool - Open Recreation

U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT

CONCHAS LAKE NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
LAND CLASSIFICATION (PLATE 2)

0 700 1,400
Feet

DATE:	MAP NO.
11 August 2021	CN21MP-OC-02

Note: the water surface acreage of the Open Recreation pool varies significantly during the summer and early fall months as water is withdrawn for irrigation. During this period, the average water surface acreage of the Open Recreation pool is approximately 6,000 acres.

USACE Boat Launch No-Wake Area

Arch Hurley Irrigation Headworks Restricted Water Surface

433

433

Arch-Hurley Irrigation Canal

The Conchas Lodge

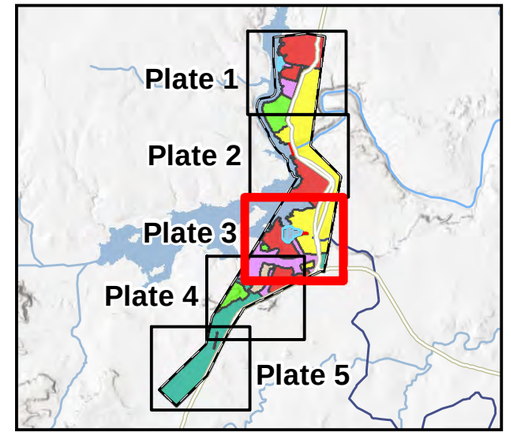
Corps of Engineers South Recreation Area

Private Land

Conchas Golf Course

104

N



Major Roads
Arch-Hurley Canal
Tributary
Canadian River
Fee Boundary
New Mexico State Parks Boundary

Land Classification
High Density Recreation
Low Density Recreation
Project Operations
Environmentally Sensitive Area
Wildlife Management Areal
Private Land

Water Surface
Designated No-Wake
Restricted Water Surface
Permanent Pool - Open Recreation

U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT

CONCHAS LAKE NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
LAND CLASSIFICATION (PLATE 3)

0 700 1,400
Feet

DATE:	MAP NO.
11 August 2021	CN21MP-OC-03

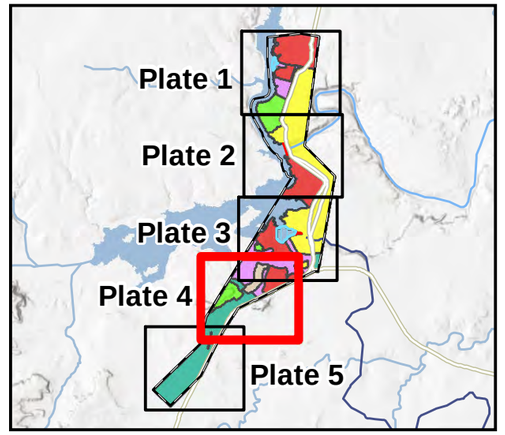
Note: the water surface acreage of the Open Recreation pool varies significantly during the summer and early fall months as water is withdrawn for irrigation. During this period, the average water surface acreage of the Open Recreation pool is approximately 6,000 acres.

Private Land

Conchas Golf Course

Saddle Dam

N



Major Roads
Arch-Hurley Canal
Tributary
Canadian River
Fee Boundary
New Mexico State Parks Boundary

Land Classification
- High Density Recreation
- Low Density Recreation
- Project Operations
- Environmentally Sensitive Area
- Wildlife Management Areal
- Private Land

Water Surface
- Designated No-Wake
- Restricted Water Surface
- Permanent Pool - Open Recreation

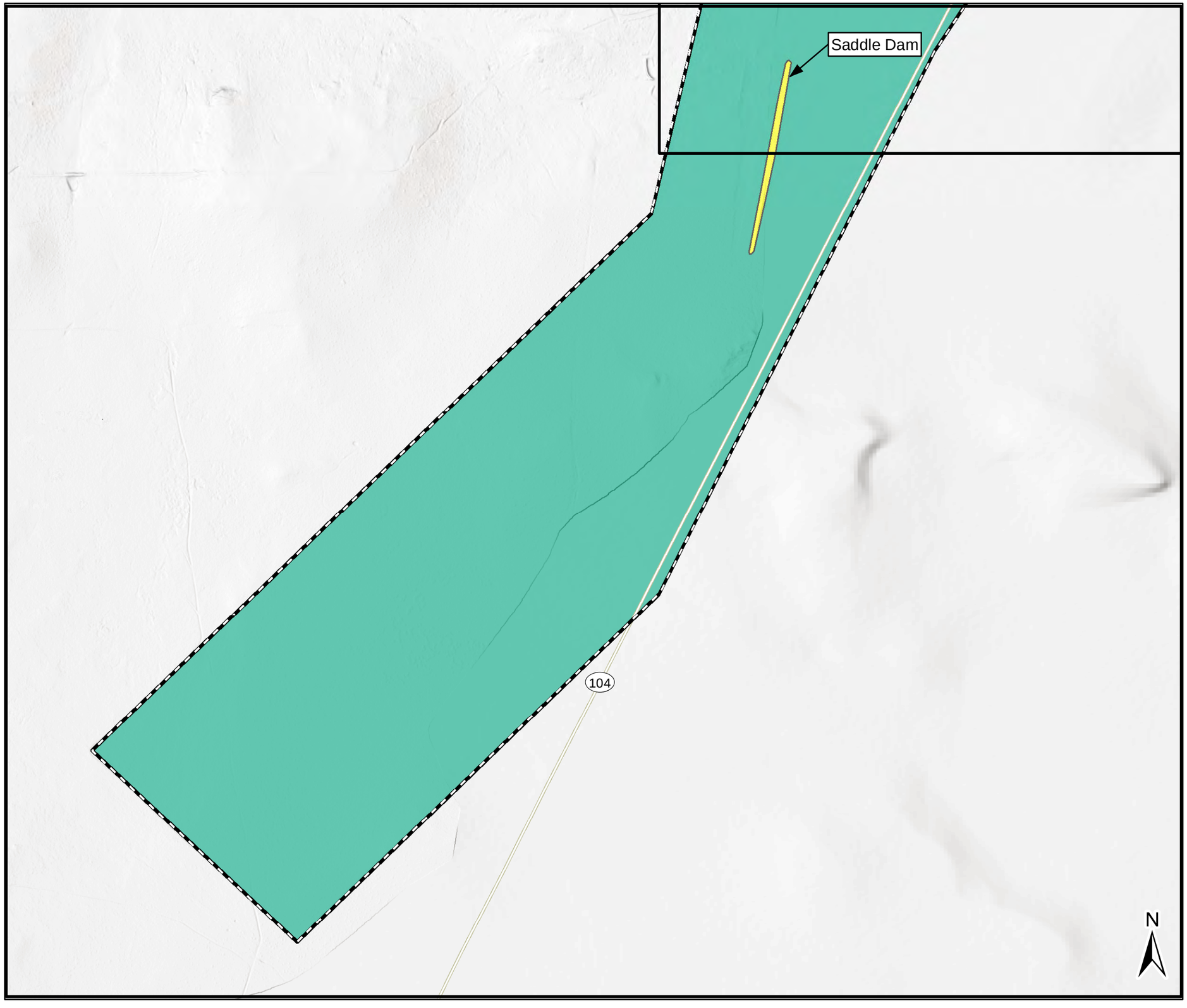
U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT

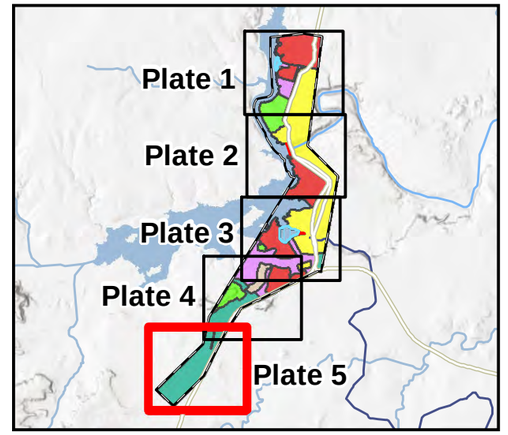
CONCHAS LAKE NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
LAND CLASSIFICATION (PLATE 4)

0 700 1,400
Feet

DATE:	MAP NO.
11 August 2021	CN21MP-OC-04





Major Roads
Arch-Hurley Canal
Tributary
Canadian River
Fee Boundary
New Mexico State Parks Boundary

Land Classification

High Density Recreation
Low Density Recreation
Project Operations
Environmentally Sensitive Area
Wildlife Management Areal
Private Land

U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT

CONCHAS LAKE NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
LAND CLASSIFICATION (PLATE 5)

0 700 1,400
Feet

DATE:	MAP NO.
11 August 2021	CN21MP-OC-05

NMSP Boat Launch No-Wake Area

Note: the water surface acreage of the Open Recreation pool varies significantly during the summer and early fall months as water is withdrawn for irrigation. During this period, the average water surface acreage of the Open Recreation pool is approximately 6,000 acres.

433

Canadian River

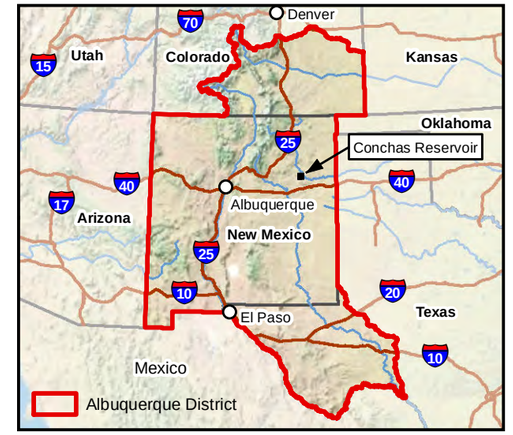
Conchas Dam Restricted Area

USACE Boat Launch No-Wake Area

Arch Hurley Irrigation Headworks Restricted Area

Arch-Hurley Irrigation Canal

N



- Major Roads
- Arch-Hurley Canal
- Tributary
- Canadian River
- Fee Boundary
- New Mexico State Parks Boundary

Water Surface

- Designated No-Wake
- Restricted Water Surface
- Permanent Pool - Open Recreation

U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT

CONCHAS LAKE NEW MEXICO

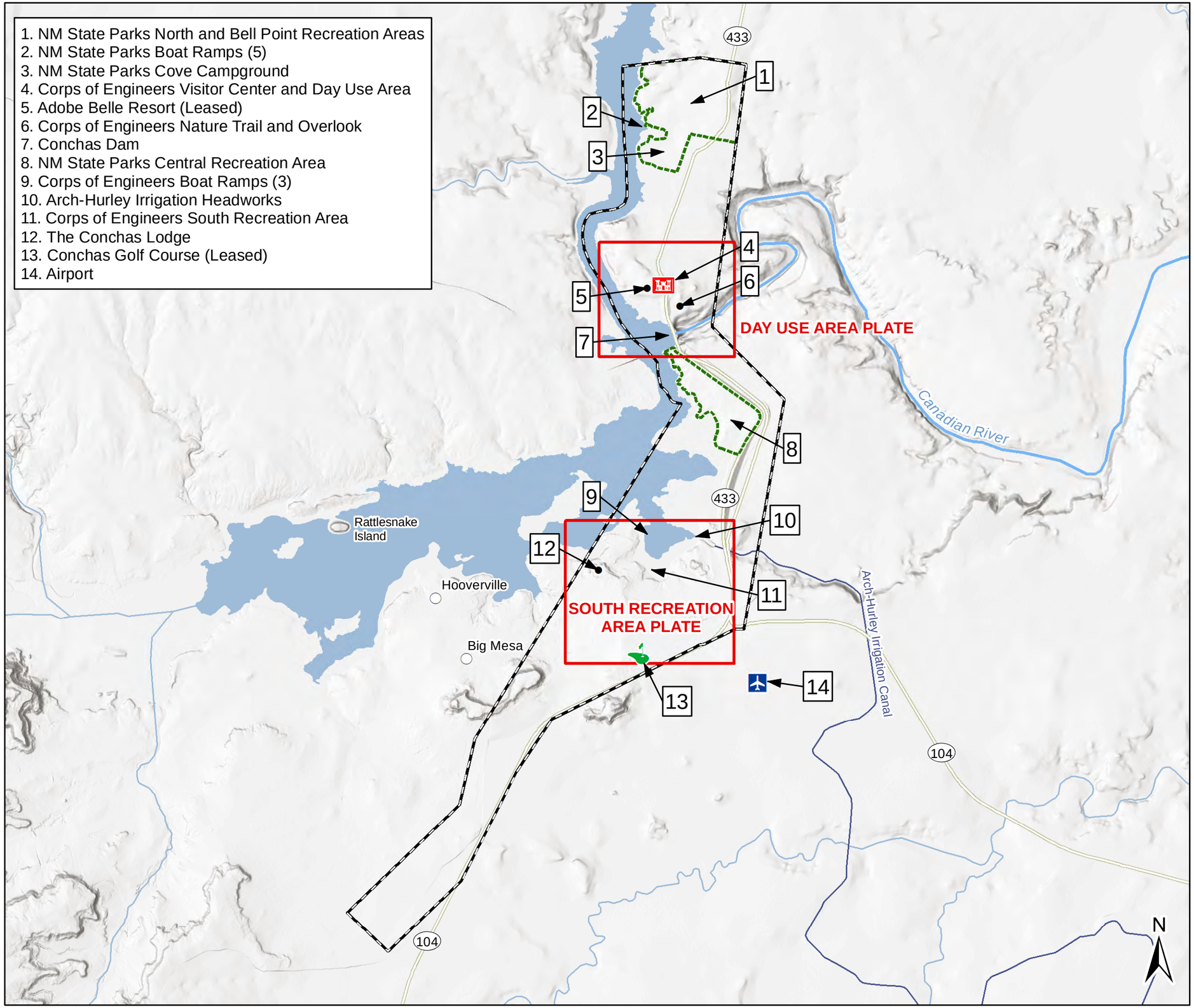
CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
WATER CLASSIFICATION

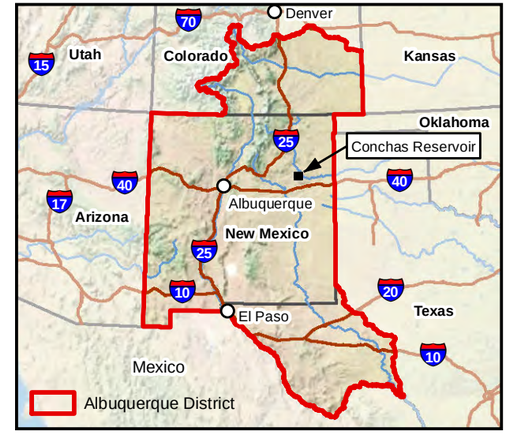
0 2,000 4,000
Feet

DATE: 11 August 2021

MAP NO. CN21MP-OC-06

1. NM State Parks North and Bell Point Recreation Areas
2. NM State Parks Boat Ramps (5)
3. NM State Parks Cove Campground
4. Corps of Engineers Visitor Center and Day Use Area
5. Adobe Belle Resort (Leased)
6. Corps of Engineers Nature Trail and Overlook
7. Conchas Dam
8. NM State Parks Central Recreation Area
9. Corps of Engineers Boat Ramps (3)
10. Arch-Hurley Irrigation Headworks
11. Corps of Engineers South Recreation Area
12. The Conchas Lodge
13. Conchas Golf Course (Leased)
14. Airport





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- Fee Boundary
- New Mexico State Parks Boundary
- Recreation Plate Index

U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT

CONCHAS LAKE — NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
RECREATIONAL DEVELOPMENT MAP

0 0.5 1 1.5
Miles

DATE:	MAP NO.
11 August 2021	CN21MP-OR-0A

Note: the water surface acreage of the Open Recreation pool varies significantly during the summer and early fall months as water is withdrawn for irrigation. During this period, the average water surface acreage of the Open Recreation pool is approximately 6,000 acres.

Corps of Engineers Administration Building and Visitor Center

Captain Kramer Park

Pavilion

Indian Shelter

Nature Trail

Adobe Belle Resort

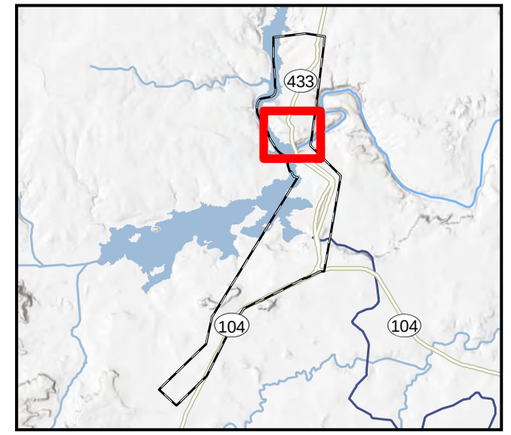
Captain Kramer Ln

433

Bell Ranch Road

Canadian River

N



- Lodging
- Parking
- Restroom
- Scenic Overlook
- Visitor Center Nature Trail
- Arch-Hurley Canal
- Tributary
- Canadian River
- Fee Boundary
- Permanent Pool - Open Recreation

U.S. ARMY CORPS OF ENGINEERS ALBUQUERQUE DISTRICT

CONCHAS LAKE — NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
DAY USE AREA PLATE

0 — 400 — 800

Feet

DATE:	MAP NO.
11 August 2021	CN21MP-OR-01

Note: the water surface acreage of the Open Recreation pool varies significantly during the summer and early fall months as water is withdrawn for irrigation. During this period, the average water surface acreage of the Open Recreation pool is approximately 6,000 acres.

Boat Launch No-Wake Area

Juniper Day Use Area

The Conchas Lodge

Arch-Hurley Headworks
Restricted Water Surface

Arch-Hurley Irrigation Canal

433

Ranger Station

Pavilion Group Shelter

Campground Road

Cannon Cove Drive

Lodge Road

Bell Ranch Road

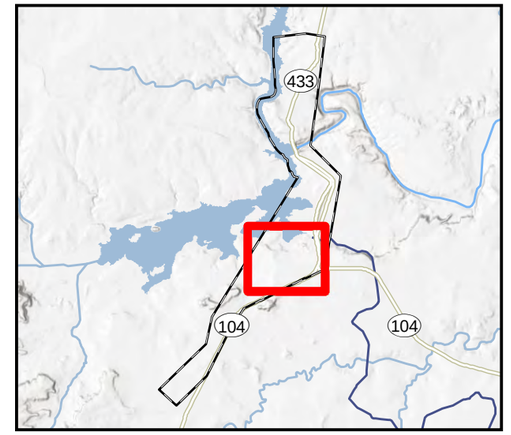
Sewage
Disposal
Lagoons

Old Conchas Golf Association
Golf Course

104

Water Towers

N



- Boat Ramp
- Campsite
- Golf Course
- Host Site
- Parking
- Picnic Site
- Restrooms
- Arch-Hurley Canal
- Canadian River
- Fee Boundary
- Private Land

Water Surface

- Designated No-Wake
- Restricted Water Surface
- Permanent Pool - Open Recreation

U.S. ARMY CORPS OF ENGINEERS
ALBUQUERQUE DISTRICT

CONCHAS LAKE — NEW MEXICO

CONCHAS LAKE
CONCHAS LAKE MASTER PLAN
SOUTH RECREATION AREA PLATE

0 — 550 — 1,100
Feet

DATE:	MAP NO.
11 August 2021	CN21MP-OR-02

APPENDIX B - NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENTATION

Draft
Environmental Assessment for the Conchas Lake 2021 Master Plan

Canadian River Basin
San Miguel County, NM

August 2021

US Army Corps of Engineers.
Albuquerque District

FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT FOR THE
2021 CONCHAS LAKE MASTER PLAN
CANADIAN RIVER BASIN
SAM MIGUEL COUNTY, NM

In accordance with the National Environmental Policy Act of 1969, as amended, and implementing regulations in 40 Code of Federal Regulations (CFR) Parts 1500 – 1508, including guidelines in 33 CFR Part 230, the Albuquerque District and the Regional Planning and Environmental Center (RPEC) of the U.S. Army Corps of Engineers (USACE) have assessed the potential environmental impacts of the 2021 Conchas Lake Master Plan (MP) revision.

Engineering Regulation (ER) 1130-2-550 Change 07, dated January 2013 and Engineering Pamphlet (EP) 1130-2-550 Change 05, dated 30 January 2013, require Master Plans for most USACE water resources development projects having a federally owned land base. The revision of the 1976 Conchas Lake Master Plan was conducted pursuant to this ER and EP, and is necessary to bring it up to date to reflect current ecological, socio-demographic, and outdoor recreation trends that are affecting the lake, as well as those anticipated to occur within the planning period of 2021 to 2046. The final recommendation will be contained in the 2021 Conchas Lake Master Plan for release later in 2021.

This draft Environmental Assessment (EA) for the 2021 Conchas Lake Master Plan evaluated various alternatives that would revise the 1976 Conchas Lake Master Plan to meet current policy.

The revision of the *Conchas Lake Master Plan* (hereafter Plan or Master Plan) is a framework built collaboratively to serve as a guide toward appropriate stewardship of USACE administered resources at Conchas Lake over the next 25 years.

The proposed action is incorporated here in reference and can be found in the draft 2021 Conchas Lake Master Plan Tables 8.1 and 8.2.

In addition to a “no action” plan, one alternative that fully met the project purpose was evaluated (recommended plan). Section 2.0 of the 2021 Conchas Lake Master Plan EA discusses alternative formulation and selection. The recommended plan includes coordination with the public, updates to comply with the USACE regulations and guidance, and reflects changes in land management and land uses that have occurred since 1976. Land classifications were refined to meet authorized project purposes and current resource objectives that address a mix of natural resources and recreation management objectives that are compatible with regional goals, recognize outdoor recreation trends, and are responsive to public comments.

Table 1: Summary of Potential Effects of the Recommended Plan

Resource	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Aesthetics	☐	☐	☒
Air quality	☐	☐	☒
Aquatic resources/wetlands	☐	☐	☒
Invasive species	☐	☐	☒
Fish and wildlife habitat	☒	☐	☐
Threatened/Endangered species/critical habitat	☒	☐	☐
Historic properties	☐	☐	☒
Other cultural resources	☒	☐	☐
Floodplains	☐	☐	☒
Hazardous, toxic & radioactive waste	☐	☐	☒
Hydrology	☐	☐	☒
Land use	☐	☐	☒
Socioeconomics	☐	☐	☒
Environmental justice	☐	☐	☒
Soils	☐	☐	☒
Water quality	☒	☐	☐
Climate change	☐	☐	☒

All practicable and appropriate means to avoid or minimize adverse environmental effects were analyzed and incorporated into the recommended plan. The recommended plan does not entail ground-disturbing activities. Future ground-disturbing activities on USACE property would be subject to all necessary environmental evaluations and compliance regulations.

No compensatory mitigation is required as part of the recommended plan.

Public review of the draft Master Plan, Environmental Assessment, and FONSI will be completed on September 30, 2021. All comments submitted during the public review period will be responded to in the final Master Plan and Environmental Assessment.

Pursuant to Section 7 of the Endangered Species Act of 1973, as amended, the Corps determined that the recommended plan will have no effect on federally listed species or their designated critical habitat.

Pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, the Corps determined that the recommended plan has no effect on historic properties.

All applicable environmental laws have been considered and coordination with appropriate agencies and officials has been completed.

All applicable laws, executive orders, regulations, and local government plans were considered in evaluation of alternatives. Based on this report, the reviews by other Federal, State, and local agencies, Tribes, input of the public, and the review by my staff, it is my determination that the recommended plan would not cause significant adverse impacts on the quality of the human environment, therefore, preparation of an Environmental Impact Statement is not required.

Date

Patrick M. Stevens V
Colonel, U.S. Army
District Commander

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ENVIRONMENTAL ASSESSMENT ORGANIZATION

This Environmental Assessment (EA) evaluates the potential environmental and socioeconomic impacts of the Master Plan of Conchas Lake. This EA will facilitate the decision process regarding the Proposed Action and alternatives.

SECTION 1 *INTRODUCTION* of the Proposed Action summarizes the purpose of and need for the Proposed Action, provides relevant background information, and describes the scope of the EA.

SECTION 2 *PROPOSED ACTION AND ALTERNATIVES* examines alternatives for implementing the Proposed Action and describes the recommended alternative.

SECTION 3 *AFFECTED ENVIRONMENT* describes the existing environmental and socioeconomic setting.

ENVIRONMENTAL CONSEQUENCES identifies the potential environmental and socioeconomic effects of implementing the Proposed Action and alternatives.

SECTION 4 *CUMULATIVE IMPACTS* describes the impact on the environment that may result from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions.

SECTION 5 *COMPLIANCE WITH ENVIRONMENTAL LAWS* provides a listing of environmental protection statutes and other environmental requirements.

SECTION 6 *IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES* identifies any irreversible and irretrievable commitments of resources that would be involved in the Proposed Action should it be implemented.

SECTION 7 *PUBLIC AND AGENCY COORDINATION* provides a listing of individuals and agencies consulted during preparation of the EA.

SECTION 8 *REFERENCES* provides bibliographical information for cited sources.

SECTION 9 *ACRONYMS/ABBREVIATIONS*

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Draft ENVIRONMENTAL ASSESSMENT

2021 Conchas Lake Master Plan Revision

SAN MIGUEL COUNTY, NEW MEXICO

SECTION 1: INTRODUCTION

The United States Army Corps of Engineers (USACE) is proposing to adopt and implement the 2021 Conchas Lake Master Plan (Master Plan) as a revision of the 1976 Master Plan. The 2021 Master Plan is the strategic land use management document that guides the efficient, cost-effective, comprehensive management, development, and use of recreation, natural resources, and cultural resources throughout the life of the Conchas Lake project. It is a vital tool for responsible stewardship and sustainability of the project's natural and cultural resources, as well as the provision of outdoor recreation facilities and opportunities on federal land associated with Conchas Lake for the benefit of present and future generations.

Adoption and implementation of the 2021 Master Plan (Proposed Action) would create potential impacts on the natural and human environments, and as such, this Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, (Public Law 91-190), and 33 Code of Federal Regulations (CFR) Part 230.

1.1 PROJECT LOCATION AND SETTING

The Conchas Dam and Lake Project (Project) is located within the Albuquerque District (SPA) in northeastern New Mexico on the Canadian River, just below its confluence with the Conchas River in San Miguel County, New Mexico. The project is 30 miles northwest of Tucumcari, New Mexico, and 160 miles east of Albuquerque, New Mexico. Access to Conchas Dam from Tucumcari is via State Highway 104, and from Albuquerque, via Interstate 40 east, then north on State Highway 129 and continue north on State Highway 104. Conchas Lake (Reservoir) extends in two directions: to the southwest, up the valley of the Conchas River for approximately 11 miles, and to the northwest, along the Canadian River for approximately 14 miles. Project lands include a total area of 23,492 acres; 3,413 acres held in fee and 20,079 acres held in flowage easement.

The Canadian River and tributaries rise on the eastern slopes of the Rocky Mountains in the southern part of the Sangre de Cristo Range. The major tributaries flow easterly from the mountains across a high plateau into deep canyon sections where they unite with the Canadian River, which has a southerly flow for about 150 miles to the vicinity of Conchas Dam. All tributaries of the Canadian River are perennial. Mountain elevations range from 7,200 feet to 13,000 feet, with the plateau ranging in elevation from 6,400 feet to 8,000 feet. The area from the plateau to the dam is comprised of ridges, low hills, sandstone-capped high mesas in the northern portion,

and rolling hills throughout the southern portion. The Conchas River is the only major stream in the Canadian River watershed that does not originate in the mountains.

The Conchas Project was authorized under provisions of the Emergency Relief Appropriation Act of 1935 and adopted by Congress in the Flood Control Act of 1936. Plans for the Conchas Project are detailed in House Document 308, 74th Congress, 1st Session. Construction of the Project was initiated in December 1935 and completed in September 1939. Operation and maintenance of the Project was assigned to the Corps of Engineers under provisions of the River and Harbor Act of 1938.

The dam provides 529,000 acre-feet of storage capacity and controls runoff from a 7,409 square mile drainage area. The reservoir and project lands are authorized for flood risk management, water supply, and recreation. Environmental stewardship, though not listed as a primary project purpose, is a major responsibility and inherent mission in the administration of federally owned lands. Table 1.3 in the 2021 Master Plan outlines information regarding existing reservoir storage capacity at Conchas Lake.

1.2 PURPOSE OF AND NEED FOR THE ACTION

The purpose of the Proposed Action is to ensure that the conservation and sustainability of the land, water, and recreational resources on Conchas Lake are in compliance with applicable environmental laws and regulations and to maintain quality lands for future public use. The 2021 Master Plan is intended to serve as a comprehensive land and recreation management plan with an effective life of approximately 25 years.

The need for the Proposed Action is to bring the 1976 Master Plan up to date and to reflect ecological, socio-political, and socio-demographic changes that are currently impacting Conchas Lake, as well as those changes anticipated to occur through 2046. In particular, changes in outdoor recreation trends, regional land use, population, current legislative requirements, and USACE management policy have all indicated the need to revise the plan. Additionally, increasing fragmentation of wildlife habitat, national policies related to climate change, growing demand for recreational access, and protection of natural resources are all factors affecting Conchas Lake. In response to these continually evolving trends, the USACE determined that a full revision of the 1976 plan would be required.

The following factors may influence reevaluation of management practices and land uses:

- Changes in national policies or public law mandates
- Operations and maintenance budget allocations
- Recreation area closures
- Facility and infrastructure improvements
- Cooperative agreements with stakeholder agencies (such as New Mexico Department of Game and Fish [NMDGF], New Mexico State Parks (NMSP), and the U.S. Fish and Wildlife Service [USFWS]) to operate and maintain public lands

- Evolving public concerns

As part of the master planning process, the project delivery team evaluated public comments and current land uses, determined any necessary changes to land classifications, and formulated proposed alternatives. As a result of public coordination and a public information meeting, alternatives were developed, and this EA was initiated.

1.3 SCOPE OF THE ACTION

This EA was prepared to evaluate existing conditions and potential impacts of proposed alternatives associated with the implementation of the 2021 Master Plan. The alternative considerations were formulated with special attention given to revised land classifications, new resource management objectives, and a conceptual resource plan for each land classification category. This EA was prepared pursuant to NEPA, Council on Environmental Quality (CEQ) regulations (40 CFR 1500–1517), and the USACE implementing regulations, Procedures for Implementing NEPA, ER 200-2-2 (USACE, 1988).

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SECTION 2: PROPOSED ACTION AND ALTERNATIVES

The project need is to revise the 1976 Master Plan so that it is compliant with current USACE regulations and guidance, incorporates public needs, and recognizes surrounding land use and recreational trends. As part of this process, which includes public outreach and comment, two alternatives were developed for evaluation, including a No Action Alternative. The alternatives were developed using land classifications that indicate the primary use for which project lands would be managed. The USACE regulations specify five possible categories of land classification: Project Operations (PO), High Density Recreation (HDR), Environmentally Sensitive Areas (ESA), and Multiple Resource Managed Lands (MRML). The MRML classification is divided into four subcategories: Low Density Recreation (MRML-LDR), Wildlife Management (MRML-WM), Vegetative Management (MRML-VM), and Future/Inactive Recreation (MRML-IFR) Areas.

The USACE guidance recommends the establishment of resource goals and objectives for purposes of development, conservation, and management of natural, cultural, and man-made resources at a project. Goals describe the desired end state of overall management efforts, whereas resource objectives are specific task-oriented actions necessary to achieve the overall 2021 Master Plan goals. Goals and objectives are guidelines for obtaining maximum public benefits while minimizing adverse impacts on the environment and are developed in accordance with 1) authorized project purposes, 2) applicable laws and regulations, 3) resource capabilities and suitabilities, 4) regional needs, 5) other governmental plans and programs, and 6) expressed public desires. The five project-wide management goals established for Conchas Lake that were used in determining the Proposed Action, as well as the nationwide USACE Environmental Operating Principles, are discussed in detail in “Chapter 3: Resource Goals and Objectives” of the 2021 Master Plan, and are incorporated herein by reference (USACE, 2021).

The goals for Conchas Lake Master Plan include the following:

- Goal A: Provide the best management practices (BMPs) to respond to regional needs, resource capabilities and capacities, and expressed public interests consistent with authorized project purposes.
- Goal B: Protect and manage project natural and cultural resources through sustainable environmental stewardship programs.
- Goal C: Provide public outdoor recreation opportunities that support project purposes and public interests while sustaining project natural resources.
- Goal D: Recognize the unique qualities, characteristics, and potentials of the project.
- Goal E: Provide consistency and compatibility with natural objectives and other state and regional goals and programs.

In addition to the above goals, USACE management activities are also guided by USACE-wide Environmental Operating Principles as follows:

- Strive to achieve environmental sustainability. An environment maintained in a healthy, diverse and sustainable condition is necessary to support life.
- Recognize the interdependence of life and the physical environment. Proactively consider environmental consequences of USACE programs and act accordingly in all appropriate circumstances.
- Seek balance and synergy among human development activities and natural systems by designing economic and environmental solutions that support and reinforce one another.
- Continue to accept corporate responsibility and accountability under the law for activities and decisions under our control that impact human health and welfare and the continued viability of natural systems.
- Seek ways and means to assess and mitigate cumulative impacts on the environment; bring systems approaches to the full life cycle of our processes and work.
- Build and share an integrated scientific, economic, and social knowledge base that supports a greater understanding of the environment and impacts of our work.
- Respect the views of individuals and groups interested in USACE activities; listen to them actively, and learn from their perspective in the search to find innovative win-win solutions to the nation's problems that also protect and enhance the environment.

Specific resource objectives to accomplish these goals can be found in Chapter 3.3 of the 2021 Master Plan.

2.1 ALTERNATIVE 1: NO ACTION ALTERNATIVE

The No Action Alternative serves as a basis for comparison to the anticipated effects of the other action alternatives, and its inclusion in this EA is required by NEPA and CEQ regulations (40 CFR § 1502.14(c)). Under the No Action Alternative, the USACE would not approve the adoption or implementation of the 2021 Master Plan. Instead, the USACE would continue to manage Conchas Lake's natural resources as set forth in the 1976 Master Plan. The 1976 Master Plan would continue to provide the only source of comprehensive management guidelines and philosophy. However, the 1976 Master Plan is out of date and does not reflect the current ecological, socio-political, or socio-demographic conditions of Conchas Lake. The No Action Alternative, while it does not meet the purpose of, or need for, the Proposed Action, serves as a benchmark of existing conditions against which federal actions can be evaluated, and as such, the No Action Alternative is included in this EA, as prescribed by CEQ regulations.

2.2 ALTERNATIVE 2: PROPOSED ACTION

Under the Proposed Action, the 2021 Master Plan would be reviewed, coordinated with the public, revised to comply with USACE regulations and guidance, and revised to reflect changes in the land management and land uses that have occurred over time or are desired in the near future. The keys to this alternative would be the revision of land classifications to USACE standards and the preparation of the resource objectives that would reflect current and projected needs and would be compatible with regional goals while sustaining Conchas Lake's natural resources and providing recreational experiences for the next 25 years.

The proposed land classification categories are defined as follows:

- Project Operations (PO): Lands required for the dam, project office, and maintenance yards, and other areas used solely for the operation of Conchas Lake.
- High Density Recreation (HDR): Lands developed for the intensive recreational activities for the visiting public, including day use and campgrounds. These areas could also be for commercial concessions and quasi-public development.
- Environmentally Sensitive Areas (ESA): Areas where scientific, ecological, cultural, or aesthetic features have been identified.
- Multiple Resource Management Lands (MRML): Allows for the designation of a predominate use with the understanding that other compatible uses may also occur on these lands.
    - MRML Low Density Recreation (MRML-LDR): Lands with minimal development or infrastructure that support passive recreational use (primitive camping, fishing, hunting, trails, wildlife viewing, etc.).
    - MRML Wildlife Management (MRML-WM): Lands designated for stewardship of fish and wildlife resources.
    - Future/Inactive Recreation (MRML-IFR): Lands that are set aside for future High Density Recreation development and use.
    - Vegetative Management (MRML-VM): Lands designated for stewardship of forest, prairie, and other native Vegetative cover.
- Water Surface: Allows for surface water zones.
    - Restricted: Water areas restricted for Conchas Lake operations, safety, and security.
    - Designated No-Wake: Water areas to protect environmentally sensitive shoreline areas, recreational water access areas from disturbance, and areas to protect public safety.
    - Open Recreation: Water areas available for year-round or seasonal water-based recreational use.
    - Fish and Wildlife Sanctuary: Water areas that have either annual or seasonal restrictions to protect fish and wildlife within a designated area.

Table 2.2.1 shows the proposed classifications and acres contained in each classification, and Table 2.2.3 provides the justification for the proposed reclassification.

Table 2.2.1 Proposed Conchas Lake Land and Water Surface Classifications

1976 Land Class	1976 Acres	2021 Land Class	2021 Acres*
Project Operation	869	Project Operations	840
Recreation - Intensive Use**	1,243	High Density Recreation	683
		Environmentally Sensitive Areas	204
		Multiple-Resource Management Lands	
Low Density Recreation	105	Low Density Recreation	359
Natural Areas	532	Wildlife Management	505
Total Land Acres	2,749	Total Land Acres	2,591
		Utility Corridors	.17
		Water Surface	
		Open Recreation	6,000 (average)
		Restricted	7
		No Wake	4
Total Water Surface Acres* **	6,000	Total Water Surface Acres***	6,000
Total Fee** **	3,530	Total Fee****	3,413
Flowage Easement	20,112	Flowage Easement	20,079

*Acreage of land areas is based on measurements using GIS technology and may vary slightly from official real estate records.

**Original Operations: Recreation – Intensive Use included 45 acres occupied by vacation home developments. There were summer homes which were under interim lease agreements between private individuals and the State of New Mexico Park and Recreation Commission (South Area) as well as cabins and trailers which were rented to individuals (North Area by the concessionaire) (Source: 1976 Master Plan).

*** Total water surface of 6,000 acres is the average pool available for recreation during a normal rainfall year

**** Taking into account that approximately 116 acres of land were disposed in 1986, well after the 1976 Master Plan, the 2021 fee acreage figure is virtually unchanged from the 1976 figure. Note that the 640 acres of BLM land that were withdrawn from the public domain by BLM in 1966 (by Public Land Order #4088), is treated by USACE in both the 1976 and 2021 Master Plans as if the 640 acres is equivalent to fee ownership.

Table 2.2.3 Justification for the Proposed Reclassification

Proposal	Description	Justification
Project Operations (PO)	PO was expanded to take in the saddle dam, office	The PO land classification was expanded to take in the

	and historic Adobe Belle area.	saddle dam, office, and Adobe Belle. The expansion totaled 29 acres, but overall PO acres between 1976 and 2021 were reduced by 29 acres due to improved measurement systems. The conversion of these lands will have no effect on current or projected public use.
High Density Recreation (HDR)	Lands under the prior classification of USACE Recreation – Intensive Use (1243 acres) were reduced by 561 acres. The resulting 683 acres were changed in name only to the updated HDR classification. The lands removed from a Recreation-Intensive use were reclassified and included ESA (59 acres) and LDR (265 acres). The remaining acreage was reclassified to PO or were disposed through land sales.	Changing the 683 acres to HDR was simply a change in nomenclature required by updated USACE regulations. Changing former Recreation-Intensive Use lands to ESA, LDR, and PO was done to better reflect current and projected public use, and to recognize the unique value of the ESA acreage. The conversion of these lands will have no effect on current or projected public use.
Environmentally Sensitive Areas (ESA)	The classification of 204 acres as Environmentally Sensitive Areas resulted from reclassifying acres in the prior classifications of Recreation Intensive use (59 acres), Low Density Recreation (42 acres), Natural Area (63 acres) and previous unmeasured lands (40 acres).	These classification changes were necessary to recognize those areas at Conchas Lake having the highest ecological value and to protect unique views and cultural and archeological sites. The conversion of lands will have no effect on current or projected public use. Lands classified as ESA are given the highest order of protection among possible land classifications.
MRML – Low Density Recreation (LDR)	Approximately 359 acres were classified as MRML-LDR as follows: 42 acres under the previous classification of Low Density Recreation was changed in name only to	The land in the former classification of Operations: Recreation Low Density were converted to other land uses due to the areas having historic land use patterns supporting the change. The

	MRML-LDR. Approximately 224 acres of former Recreation-Intensive Use was reclassified as MRML-LDR. Previously unmeasured land lands (156 acres) were classified as MRML-LDR. Some acres of previous LDR lands were reclassified to ESA (62 acres) and PO (1 acre). The addition of 253 acres to MRML-LDR resulted from converting lands under the previous classification of Recreation Intensive use (267 acres), previously unmeasured (156), and changing some acres previously classified as LDR to ESA (-62.0) and PO (-1.0)	conversion of these lands will have no effect on current or projected public use.
MRML – Wildlife Management (WM)	The creation of 505 acres of MRML-WM resulted from the reclassification of lands previously classified as Natural Areas (474), and previously unmeasured areas (31) to WM.	The land in the former classification Natural Areas were converted to MRML-WM and ESA to more appropriately align with historic land use patterns supporting the change, as well as lands converted to ESA to protect important cultural and habitat areas. The conversion of these lands will have no effect on current or projected public use.
Water Surface	The classification of water surface acreage resulted in the following: 7.0 acres of Restricted water surface at Conchas Lake include the water surface in front of the Dam and the irrigation	The previous Master Plan for Conchas Lake did not specify different classifications on the water surface, though these classifications were recognized in practice. This Master Plan revision recognizes and specifies

	headworks. Buoys mark the line in front of the dam and headworks. 4.0 acres of Designated No-Wake areas are in place near the boat ramps at Conchas Lake. All remaining water surface is classified as Open Recreation.	these uses. The classification of water surfaces will have no effect on current or projected public use

Note: The land classification changes described in this table are the result of changes to parcels of land ranging from a few acres to over 100 acres.. Acreages were measured using GIS technology. The acreage numbers provided are approximate and may differ from the official real estate acres.

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

Other alternatives to the Proposed Action were initially considered as part of the scoping process for this EA. However, none met the purpose of, and need for, the Proposed Action or the current USACE regulations and guidance. Furthermore, no other alternatives addressed public concerns. Therefore, no other alternatives are being carried forward for analysis in this EA.

SECTION 3: AFFECTED ENVIRONMENT AND CONSEQUENCES

This section of the EA describes the natural and human environments that exist at the project and the potential impacts of the No Action Alternative (Alternative 1) and Proposed Action (Alternative 2) outlined in Section 2.0 of this document. Only those issues that have the potential to be affected by these alternatives are described, per CEQ guidance (40 CFR § 1501.5). Some topics are limited in scope due to the lack of direct effect from the Proposed Action on the resource, or because that particular resource is not located within the project area. For example, no body of water in the Conchas Lake watershed is designated as a Federal Wild or Scenic River, so this resource will not be discussed.

The Master Plan Update for Conchas Lake began in early 2020. At this time NEPA regulations were outlined by 40 CFR § 1508.8. Since that time new regulations have been put into place. Because this document and the associated Master Plan were already drafted and scoping had taken place this document will align under the old reglations. As such the following defenitions are no longer included in the new NEPA Regulations, but will be included here to define impacts associated with this Master Plan EA. Impacts (consequence or effect) can be either beneficial or adverse and can be either directly related to the action or indirectly caused by the action. Direct effects are caused by the action and occur at the same time and place (40 CFR § 1508.8 [a]). Indirect effects are caused by the action and are later in time or further removed in distance but are still reasonably foreseeable (40 CFR § 1508.8 [b]). As discussed in this section, the alternatives may create temporary (less than one year), short-term (up

to three years), long-term (three to ten years), or permanent effects, following implementation of the master plan revision.

Under the old CEQ Guidelines which are used in this EA, whether an impact is significant depends on the context in which the impact occurs and the intensity of the impact. The context refers to the setting in which the impact occurs and may include society as a whole, the affected region, the affected interests, and the locality. Impacts on each resource can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis, the intensity of impacts would be classified as negligible, minor, moderate, or major. The intensity thresholds are defined as follows:

- Negligible: A resource would not be affected or the effects would be at or below the level of detection, and changes would not be of any measurable or perceptible consequence.
- Minor: Effects on a resource would be detectable, although the effects would be localized, small, and of little consequence to the sustainability of the resource. Mitigation measures, if needed to offset adverse effects, would be simple and achievable.
- Moderate: Effects on a resource would be readily detectable, long-term, localized, and measurable. Mitigation measures, if needed to offset adverse effects, would be extensive and likely achievable.
- Major: Effects on a resource would be obvious and long-term, and would have substantial consequences on a regional scale. Mitigation measures to offset the adverse effects would be required and extensive, and success of the mitigation measures would not be guaranteed.

3.1 LAND USE

Conchas Dam was constructed for the purpose of flood risk management, irrigation, and water supply. Congressional authority for the construction of Conchas Lake is contained in Emergency Relief Appropriation Act of 1935 and adopted by Congress in the Flood Control Act of 1936. Plans are detailed in House Document 308, 74th Congress, 1st Session.

The USACE lands presently associated with Conchas Lake are listed in the 1976 Master Plan as follows:

- 869.4 acres of Project Operations
- 1,243.0 acres of Recreation Intensive Use
- 105.3 acres of Recreation Low-Density Use
- 532.4 acres of Natural Areas
- 20,112 acres Flowage Easement

Section 5.3 of the 2021 Master Plan further describes recreation areas at Conchas Lake.

3.1.1 Alternative 1: No Action Alternative

The No Action Alternative for Conchas Lake is defined as the USACE taking no action, which means the operation and maintenance of USACE lands at Conchas Lake would continue as outlined in the existing 1976 Master Plan. No new resource analysis, resources management objectives, or land-use classifications would occur. Although this alternative does not result in a Master Plan that meets current regulations and guidance, there would be no significant negative long-term impacts on land uses on Conchas Lake lands.

3.1.2 Alternative 2: Proposed Action

The objectives for revising the Conchas Lake 2021 Master Plan were to describe current and foreseeable land uses, taking into account expressed public opinion and USACE policies that have evolved to meet day-to-day operational needs.

The USACE intends to continue to operate the campgrounds, day use areas, and access points, by maintaining and improving existing facilities with no plans for expansion. Emphasis will be placed on improvements such as upgrading aging water and electrical infrastructure, improving energy efficiency and sustainability of facilities, and repairing or replacing outdated restrooms.

The changes required for the Proposed Action were developed to help fulfill regional goals associated with good stewardship of land and water resources that would allow for continued use and development of project lands. Therefore, implementation of the Proposed Action would not result in significant negative long-term adverse impacts on land uses on project lands. For example, 203.5 acres would be reclassified as ESA compared to the No Action Alternative which contains 0 acres (see Table 2.2.1). The ESA reclassifications would afford protection to and potentially benefit wildlife, wildlife habitats, sensitive species habitat, and cultural resources. The protection and appropriate management of these areas aligns with Resource Goals B, C, D, and E as described in Section 3.3 of the revised Master Plan, as well as numerous natural resource objectives listed in Table 3.2 of the revised Master Plan. The reduction of HDR by 560.6 acres occurs in areas of parks with little to no recreational development. No decrease in recreational opportunities are expected as low impact recreation activities like hiking, fishing, and wildlife viewing can still occur within ESA classified lands. Maintaining the HDR and MRML-LDR areas allows for continued outdoor recreation opportunities at Conchas Lake. New resource goals A, C, and E and several recreational objectives are supported by these reclassifications as described in Section 3.3 and Table 3.1 of the revised Master Plan. The new resources objectives will provide a level of consistency in beneficial management practices that would not occur with the No Action Alternative. ESA classification would allow for appropriate active management and protection for these sites.

No changes in land use are expected with 2021 Master Plan as recreation and project maintenance areas and operation areas will largely remain the same. As such, no short or long-term adverse impacts are expected to occur as a result of the 2021 Master Plan.

3.2 WATER RESOURCES

Surface Water

Conchas Lake is located on the Canadian River, just below its confluence with the Conchas River. Its capacity drains approximately 7,409 square miles and is located in San Miguel County in northeastern New Mexico. The top of conservation pool capacity is 529,000 acre-ft., and covers the area of 119,259,794 square feet. Fluctuation within the conservation pool depends upon the rate of withdrawals for water supply and irrigation by the water district, as well as inflows and evaporation.

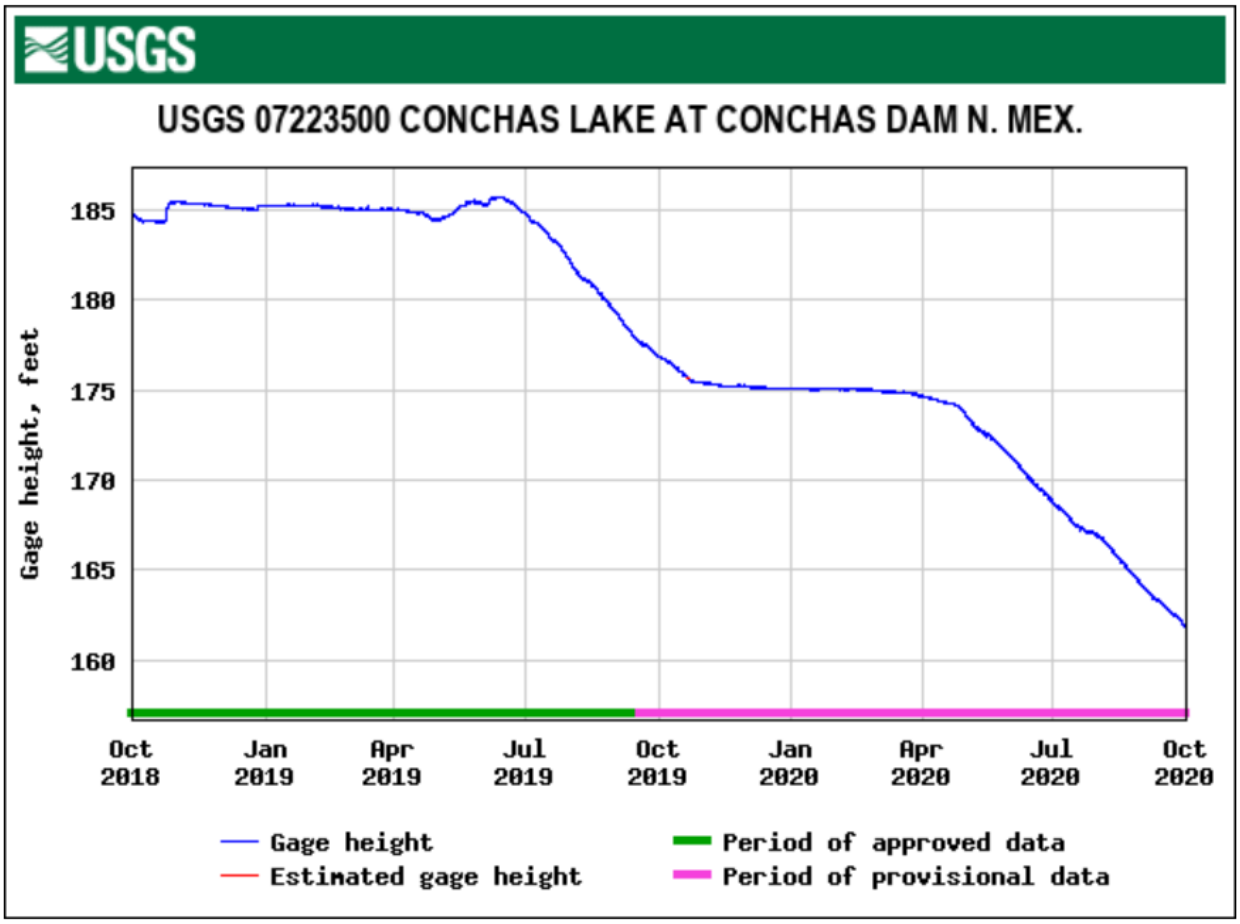
Hydrology

An additional benefit from Conchas Lake is the utilization of water impounded to provide municipal and industrial water supplies to the community of Conchas Lake. The Bureau of Reclamation and Arch Hurly Conservancy Districts own all rights to conservation storage between 4201 ft and 4155 ft NGVD29.

The dam has an emergency spillway on the north side of the dam that is 3,000 feet long. The dam has nine intake structures. The dam has six discharge gates/conduits that are 4 ft. by 5 ft.

The recent water levels of Conchas Lake are displayed in Figure 3.2.1.

Figure 3.2.1 Recent Water Level Data for Conchas Lake



*Source: (USGS, 2020).

Conchas Lake is supplied mainly by runoff that flows in from the Canadian River and snow melt off of the mountain.

Water Quality

Surface Water Quality Bureau (SWQB) New Mexico Environment Department sets and implements standards for surface water quality to improve and maintain the quality of water in the state based on various beneficial use categories for the water body. The 2010 Water Quality Survey Summary for the Canadian River and Select Tributaries Report, pursuant to the Clean Water Act Sections 305(b) and 303(d), evaluates the quality of surface waters in New Mexico and identifies those that do not meet uses and criteria defined in the New Mexico Surface Water Quality Standards. Impaired waters are then identified, along with impairment descriptions, on the 303(d) list.

Water quality sampling in Chicorica Creek (Canadian River headwaters), Conchas River (Conchas Lake to headwaters), and Ute Creek (Ute Reservoir to headwaters) found no exceedance of applicable water quality criteria.

For more information regarding water quality at Conchas Lake, please refer to Section 2.2.8 and Appendix E of the 2021 Master Plan.

Wetlands:

Waters of the United States are defined within the Clean Water Act (CWA), and jurisdiction is addressed by the USACE and United States Environmental Protection Agency (USEPA). Wetlands are a subset of the waters of the United States that may be subject to regulation under Section 404 of the CWA (40 CFR 120.2). Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

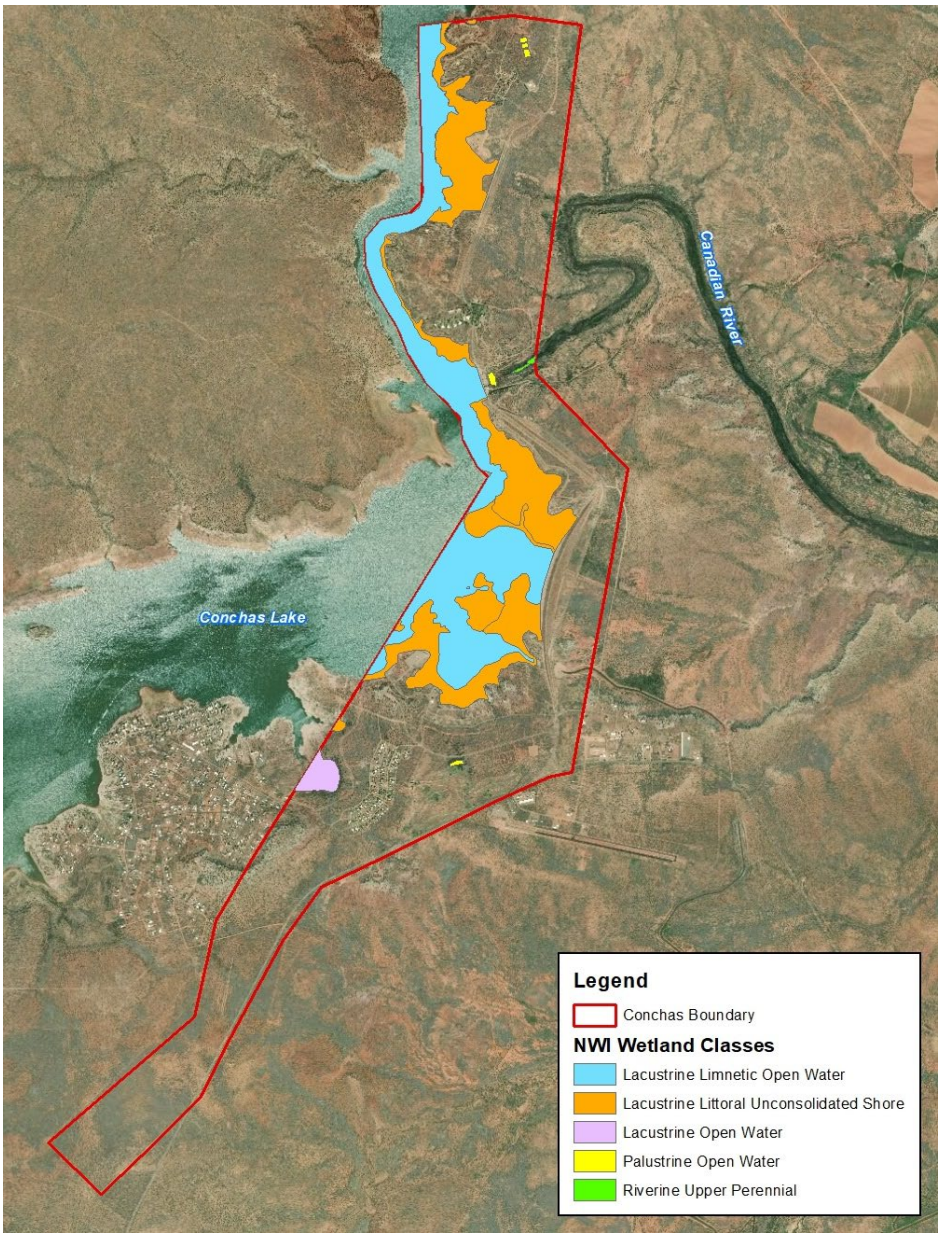
As a result of the topography of the region for Conchas Lake, wetlands generally occur near the rivers and within areas with low topographic relief. Table 3.2.2 lists the acreages of various types of wetlands present at Conchas Lake. Wetland classifications presented are derived from the USFWS Trust Resource List generated using the Information, Planning, and Conservation System decision support system (USFWS, 2020D).

Table 3.2.1 Wetland Resources

Wetland Types	Total Acres
Lacustrine Limmetic Open Water	606.67
Lacustrine Littoral Open Water	559.28
Lacustrine Open Water	29.47
Palustrine Open Water	3.42
Riverine	1.98

Note: Acreages from the USFWS website do not match exactly with the USACE digitized acreages.

Figure 3.2.2. Map of Wetlands within USACE Conchas Lake Federal Fee-Owned Property.



3.2.1 Alternative 1: No Action Alternative

There would be no negative significant permanent impacts on water resources as a result of implementing the No Action Alternative, since there would be no change to the existing Master Plan.

3.2.2 Alternative 2: Proposed Action

The reclassifications included in the Proposed Action would allow land management and land uses to be compatible with the goals of good stewardship of water resources. Land reclassifications and new resource objectives proposed as part of the Proposed Action would have a potential for minor long-term beneficial impacts on water quality. For example, 203.5 acres would be reclassified as ESA compared to the

No Action Alternative which allocates 0 acres to strictly ESA (see Table 2.2.1). This directly supports resource goals B, D, and E and several natural resource management objectives, including the resource goals that minimize activities that disturb the aesthetic value and protect natural habitat, all of which are further described in Chapter 3 of the revised Master Plan. The net reduction of HDR lands from 1,243.0 acres to 682.6 acres will limit future intensive development, thus reducing the potential for erosion and sedimentation. Natural vegetation communities act as buffers to trap runoff, thus potentially reducing sedimentation.

3.3 CLIMATE

Conchas Lake lies in a semiarid region of the southwest United States. Summer temperatures are generally hot during the day and warm at night, while winter temperatures are generally cold, including freezing temperatures and some nights below 0 degrees. Sub-zero temperatures are very rare. While the mean annual temperature is about 59 degrees Fahrenheit (°F), the maximum recorded temperature was 114 °F in June 1998, and the minimum recorded temperature was -20 °F in January 1963. The growing season between killing frosts is normally from mid-April to late-October. For more detailed information, see Section 2.1.2 of the 2021 Master Plan.

3.3.1 Alternative 1: No Action Alternative

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions. There would be no impacts on climate as a result of implementing the No Action Alternative.

3.3.2 Alternative 2: Proposed Action

Revision of the Conchas Lake Master Plan would have no impact on the climate of the study area. There would be no impacts on climate as a result of implementing the Proposed Action Alternative.

3.4 CLIMATE CHANGE AND GREEN HOUSE GAS (GHG)

CEQ drafted guidelines for determining meaningful GHG decision-making analyses. The CEQ guidance states that if a project would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of carbon dioxide (CO_2)-equivalent (CO_2e) GHG emissions per year, the project should be considered in a qualitative and quantitative manner in NEPA reporting (CEQ, 2015). CEQ proposes this as an indicator of a minimum level of GHG emissions that may warrant some description in the appropriate NEPA analysis for agency actions involving direct emissions of GHG (CEQ, 2015).

EPA records show that there are no GHG contributors within the area of Conchas Lake. The general operations and recreation facilities associated with Conchas Lake does not approach the proposed reportable limits. Conchas Lake Project Office does have management plans in place such as vegetation management plans, natural resources management plans, and public education and outreach programs, to protect regional natural resources. In addition, the Conchas Lake Project

Office will continue monitoring programs as required to meet applicable laws and policies.

The USACE has prepared an Adaptation Plan in response to the various EOs addressing climate change. The Adaptation Plan includes the following USACE policy statement:

> *It is the policy of USACE to integrate climate change preparedness and resilience planning and actions in all activities for the purpose of enhancing the resilience of our built and natural water-resource infrastructure and the effectiveness of our military support mission, and to reduce the potential vulnerabilities of that infrastructure and those missions to the effects of climate change and variability*.

The USACE manages project lands and recreational programs to advance broad national climate change mitigation goals, including, but not limited to, climate change resilience and carbon sequestration, and related USACE policy.

3.4.1 Alternative 1: No Action Alternative

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions. There would be no impacts on climate change or contributions to GHG emissions and climate change as a result of implementing the No Action Alternative.

3.4.2 Alternative 2: Proposed Action

Under the Proposed Action, current Conchas Lake project management plans and monitoring programs would not be changed. There would be no impacts on climate change or contributions to GHG emissions as a result of implementing the 2021 Master Plan. In the event that GHG emission issues become significant enough to impact the current operations at Conchas Lake, the 2021 Master Plan and all associated documents would be reviewed and revised as necessary.

3.5 AIR QUALITY

The overall air quality condition for Conchas Lake is generally of good quality. For further information, please refer to Section 2.2.9 of the 2021 Master Plan.

In conducting routine operations and maintenance activities at Conchas Lake, the USACE will comply with all Federal, state, and local laws governing air quality and will implement best management practices to protect air quality.

3.5.1 Alternative 1: No Action Alternative

There would be no impacts on air quality as a result of implementing the No Action Alternative, since there would be no change to the existing 1976 Master Plan.

3.5.2 Alternative 2: Proposed Action

Existing operation and management of Conchas Lake is compliant with the Clean Air Act and would not change with implementation of the 2021 Master Plan. Land reclassifications and new resource objectives proposed as part of the Proposed Action would have a potential for negligible long-term beneficial impact on air quality. The new resources goals, primarily B and C, along with several recreational and natural resource management objectives regarding sustainability and the conservation of natural areas are supported by the proposed land classifications and are further described in Chapter 3 of the revised Master Plan. The new resources objectives will provide a level of consistency in beneficial management practices that would not occur with the No Action Alternative. Because the proposed Master Plan revision does not entail ground disturbance or greenhouse gas emissions, and the project area does not take place in an air quality designated nonattainment or maintenance areas, a General Air Conformity Analysis and Determination is not required.

3.6 TOPOGRAPHY, GEOLOGY, AND SOILS

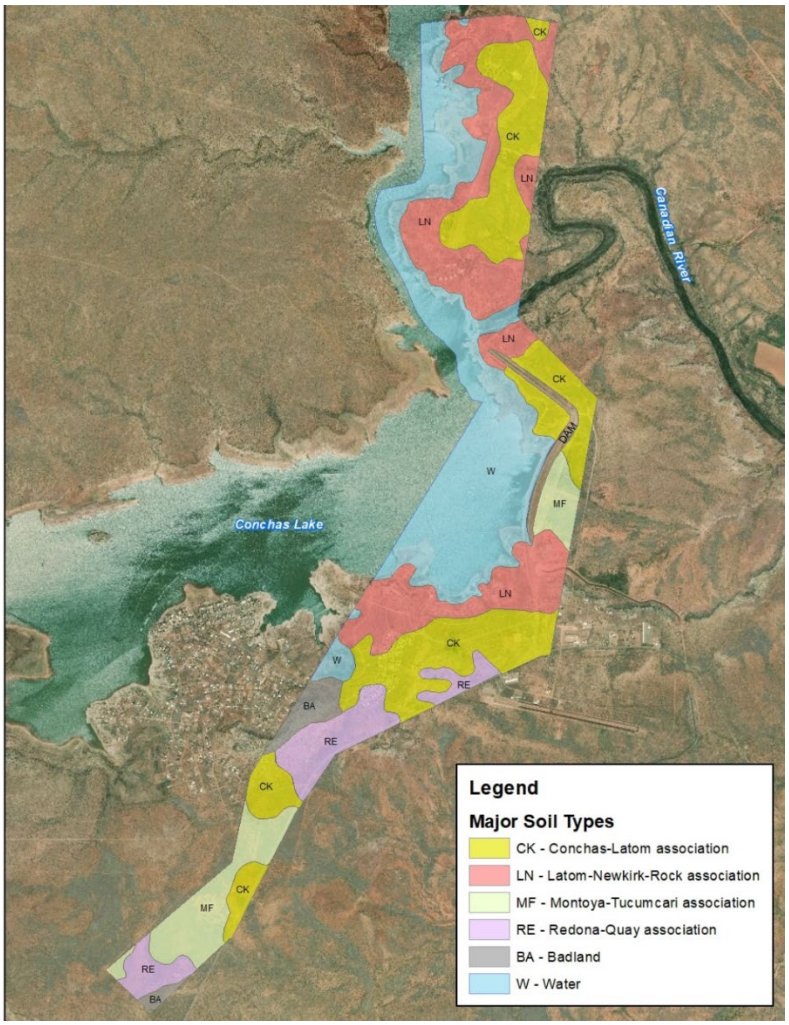
Topography and Geology

Most of the rocks surrounding Conchas Lake belong to the Upper Triassic Chinle Group. The Chinle Group consist of alternating layers of red-brown to marron to gray mudstone, siltstone, and sandstone that were deposited in continental fluvial and lacustrine environments about 220 million years ago. Rocks of the Chinle Group were deposited by a river system that flowed from central Texas to central Nevada. Channel deposits of gravel and sand derived from the glaciated terrains in the Sangre de Cristo Mountains during the Pleistocene are found along the Canadian River above and below the dam (Spiegel, 1972a, b, c).

Soils

There are five major soil types occurring within the operations and management easement of the Conchas Lake, excluding areas inundated by water and the dam footprint. The most abundant soil types in the Project easement are Conchas-Latom association and Latom-Newkirk-Rock outcrop association. These two soil types combined encompass 2,191.84 acres (72%) of Project lands. For a visual representation of where these soils can be found, please see the below Figure 3.6, and for a more detailed discussion, see Section 2.1.5 in the 2021 Master Plan.

Figure 3.6.1 Map of Soils within USACE Conchas Lake O&M Easement



3.6.1 Alternative 1: No Action Alternative

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions, so there would be no impacts on topography, geology, soils, sedimentation, or shoreline erosion as a result of implementing the No Action Alternative.

3.6.2 Alternative 2: Proposed Action

Topography, geology, and soils were considered during the refining process of land reclassifications for the 2021 Master Plan. Total acreage for HDR was reduced from 1,243.0 acres to 682.6 acres. This net reduction is based on the realization that the amount of acreage originally planned for intensive recreation use per the 1976 Master Plan significantly exceeded the amount necessary to meet public needs and therefore were not being fully utilized. Areas currently developed as park would continue to operate as parks and no change would occur. However, some of the lands designated as Recreation – Intensive Use would be reclassified to various other land use classifications to better reflect historic use patterns and current land management

efforts. As such, no additional intensive use facilities would be constructed outside of existing intensive use areas.

Land reclassifications and new resource objectives proposed as part of the Proposed Action would have a potential long-term beneficial impact on soil conservation at Conchas Lake. The reduction of Recreation Areas will limit future intensive development, thus reducing the potential impacts of soil erosion. The new resources objectives will provide a level of consistency in beneficial management practices that would not occur with the No Action Alternative. As described in Chapter 3 of the revised Master Plan, resource goals B, C, D, and E and several natural resource management objectives, particularly those that concern addressing unauthorized uses of public land and evaluating erosion control and addressing sedimentation issues, are supported by the proposed land classifications. Therefore, under the Proposed Action, there would be no long-term, major adverse impacts on topography, geology, soils or Prime Farmland as a result of implementing the 2021 Master Plan.

3.7 NATURAL RESOURCES

Operational civil works projects administered by USACE are required, with few exceptions, to prepare an inventory of natural resources. The basic inventory required is referred to within USACE regulations (ER and EP 1130-2-540) as a Level One Inventory. This inventory includes the following: vegetation in accordance with the National Vegetation Classification System through the sub-class level; assessment of the potential presence of special status species, including, but not limited to, federal and state listed endangered and threatened species, migratory species, and birds of conservation concern listed by the USFWS; land (soils) capability classes in accordance with Natural Resources Conservation Service (NRCS) soil surveys; and wetlands in accordance with the USFWS Classification of Wetlands and Deepwater Habitats of the United States, which are previously discussed in Section 3.2.

Fisheries and Wildlife Resources

Conchas Lake provides habitat for an abundance of fish and wildlife species. The lake provides a quality fishery, as well as quality wildlife habitat on public land associated with the project. Common sport fish species present in Conchas Lake include largemouth bass *(Micropterus salmoides)*, smallmouth bass *(Micropterus dolomieu)*, white crappie *(Pomoxis annularis)*, channel catfish *(Ictalurus punctatus)*, and walleye *(Sander viterus)*.

Terrestrial Wildlife Resources

Conchas Lake provides habitat for an abundance of wildlife species, including game and non-game species, migratory waterfowl, resident and migratory song birds, wading birds, reptiles, amphibians, and insects. The area offers a mixture of geologic features, riparian forest, grasslands, springs, and river habitats, which support elk (*Cervus canadensis*), mule deer (*Odocileus hemionus*), bobcat (*Lynx rufus*), and foxes (*Canidae*). Please refer to Section 2.2.3 of the 2021 Master Plan for more detailed information.

3.7.1 Alternative 1: No Action Alternative

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions; therefore, no major long-term adverse impacts on natural resources would be anticipated as a result of implementing the No Action Alternative.

3.7.2 Alternative 2: Proposed Action

The proposed net increase of ESA by 203.5 acres would cause major long-term beneficial impacts to natural resources within these areas. The ESA classification provides the highest form of protection for natural resources. This proposed change would then protect natural resources from various types of adverse impacts such as habitat fragmentation.

The reclassifications, resource management objectives, and resource plan required for the Proposed Action would allow land management and land uses to be compatible with the goals of good stewardship of natural resources. The Proposed Action would allow project lands to continue supporting the USFWS missions associated with wildlife conservation and implementation of operational practices that would protect and enhance wildlife and fishery populations and habitat. In addition, the Proposed Action would be compatible with conservation principles and measures to protect migratory birds as mandated by EO 13186.

3.8 THREATENED AND ENDANGERED SPECIES

The Endangered Species Act was enacted to provide a program for the preservation of endangered and threatened species and to provide protection for the ecosystems upon which these species depend for their survival. All federal agencies are required to implement protective measures for designated species and to use their authorities to further the purposes of the Endangered Species Act. The Secretary of the Interior and the Secretary of Commerce (marine species) are responsible for the identification of threatened or endangered species and development of any potential recovery plan.

USFWS is the primary agency responsible for implementing the Endangered Species Act, and is responsible for birds and other terrestrial and freshwater species. USFWS responsibilities under the Endangered Species Act include (1) the identification of threatened and endangered species; (2) the identification of critical habitats for listed species; (3) implementation of research on, and recovery efforts for, these species; and (4) consultation with other federal agencies concerning measures to avoid harm to listed species.

An endangered species is a species officially recognized by USFWS as being in danger of extinction throughout all or a significant portion of its range. A threatened species is a species likely to become endangered within the foreseeable future throughout all or a significant portion of its range. USFWS also identifies species that are candidates for listing as a result of identified threats to their continued existence. The Candidate designation includes those species for which USFWS has sufficient information to support proposals to list as endangered or threatened under the Endangered Species Act; however, proposed rules have not yet been issued because

such actions are precluded at present by other listing activity. Proposed species are those candidate species that are found to warrant listing as either threatened or endangered, after completion of a scientific review, including biology, ecology, abundance and population trends, and threats. Official listing occurs after considering public comments and any new data that may become available, and publication of a Final Rule in the Federal Register. Although not afforded protection by the Endangered Species Act, candidate and proposed species may be protected under other federal or state laws. Species may be considered eligible for listing as endangered or threatened when any of the five following criteria occur: (1) current/imminent destruction, modification, or curtailment of their habitat or range; (2) overuse of the species for commercial, recreational, scientific, or educational purposes; (3) disease or predation; (4) inadequacy of existing regulatory mechanisms; and (5) other natural or human-induced factors affecting their continued existence.

There are four federally listed species and one candidate species that could be found within USACE Conchas Lake federal fee-owned property as identified in the U.S Fish and Wildlife (USFWS) Information, Planning, and Conservation (IPaC) Report Official Species List (USFWS, 2021). A list of these species is presented in Table 3.8 and in Appendix C of the 2021 Master Plan. No Critical Habitat has yet to be designated within or near Conchas Lake. Species identified as state-threatened or endangered by the New Mexico Department of Game and Fish (NMDGF) that are not federally listed are included in Appendix D of the 2021 Master Plan.

Table 3.8. Federally Listed Endangered, Threatened, and Candidate Species with Potential to Occur at Conchas Lake

Common Name	Scientific Name	Federal Status
Southwestern Willow Flycatcher	*Empidonax trallii extimus*	Endangered
Mexican Spotted Owl	*Stirx occidentalis lucida*	Threatened
New Mexico Meadow Jumping Mouse	*Zapus hudsonius luteus*	Endangered
Holy Ghost Ipomopsis	*Ipomopsis sancti-spiritus*	Endangered
Rio Grande Cutthroat Trout	*Oncorhynchus clarki virginalis*	Candidate

Source: USFWS 2021

The Mexican Spotted Owl (*Strix occidentalis lucida)* is an ashy-chestnut brown color with white and brown spots on their abdomen, back and head. They have dark eyes, brown tails marked with thin white bands. They lack ear tufts. Critical habitat for the species is scattered throughout New Mexico, Arizona, Utah, and Colorado. The main threat for this species is stand-replacing wildland fire practices. Due to this species dependence on trees, the likelihood of occurrence within USACE Conchas Lake federal fee-owned property is unlikely.

The Southwestern Willow Flycatcher (*Empidonax traillii extimus*) is a light-colored bird usually a little less than 6 inches in length. Its body is brownish-olive to light gray-green. Its throat is whitish, breat pale olive, and belly yellowish. It lacks the light-colored wingbars that many flycatchers have. It is best identified by its vocalizations. Call a liquid, sharply whistled whit! Or a dry sprrit; song a sneezy whit-pew or fitz-bew. The

species breeds in relatively dense riparian tree and shrub communities while wintering in brushy savanna edges, second growth, shrubby clearings and pastures, and woodlands near water. The species is listed as endangered due to destruction and modification of riparian habitats. This species is unlikely to occur on federally fee-owned property at Conchas Lake.

The New Mexico Meadow Jumping Mouse (*Zapus hudsonius luteus)* is grayish-brown on the back, yellow-brown on the sides, and white underneath. The species is 7.5-10 inches long with elongated feet and an extremely long, bicolored tail. The species utilizes persistent emergent herbaceous wetlands and scrub-shrub wetlands. The species is generally nocturnal and active only during the growing season, hibernating for nine months out of the year. Due to the species highly specialized habitat requirements it is unlikely to occur within USACE Conchas Lake federal fee-owned property.

The Holy Ghost Ipomopsis (*Ipomopsis sancti-spiritus*) is a herbaceous biennial or short-lived perennial that can remain as a low rosette of leaves for years before flowering. The flowers are pink, tubular, and terminate in five spreading lobes. This plant is known from a single population in the Sangre de Cristo Mountains of San Miguel County. Because of this it is unlikely that any species will occur within federally fee-owned property at Conchas Lake.

The Rio Grande cutthroat trout (*Oncorhynchus clarkii virginalis*) can be found in high elevation streams and lakes of the Rio Grande, Canadian, and Pecos River drainages in Colorado and New Mexico, giving it the southern-most distribution of any form of Cutthroat Trout. The historic range of Rio Grande cutthroat trout has been reduced over the last 150 years due to many changes on the landscape, including: drought, water infrastructure, habitat changes, hybridization with nonnative Rainbow and Cutthroat Trout, and competition with Brook and Brown Trout. As a result, pure populations of Rio Grande Cutthroat Trout are restricted primarily to headwater streams. Given the restricted distribution of this species, it is unlikely that any Rio Grande cutthroat trout will occur within federally fee-owned property at Conchas Lake. 3.8.1 State-Listed Plant and Animal Species

Two State agencies have primary responsibility for the protection of animal and plant species in New Mexico. The New Mexico Department of Game and Fish (NMDGF), under the authority of the New Mexico Wildlife Conservation Act, maintains a list of animal species whose prospects of survival or recruitment in New Mexico are in jeopardy. The New Mexico Energy, Minerals, and Natural Resources Department maintains a list of State-endangered plant species (See Section 75-6-1 NMSA 1978) and regulation NMFRCD Rulte No. 91-1.

Within the Conchas Lake federal fee-owned property, there are three bird species listed that might occur: the Bald Eagle (*Haliaeetus leucocephalus),* American Peregrine Falcon (*Falco pergrinus anatum*), and the Gray vireo (*Vireo vicinior*).

The Bald Eagle was removed from the federal endangered species list in 2007, but was listed by New Mexico in 1976 and remains in need of conservation action in the state, primarily due to small breeding populations. In New Mexico, nests are placed in

large cottonwoods or ponderosa pines in the vicinity of water. This species is unlikely to nest in the project area, but may use this area for foraging.

The American Peregrine Falcon breeds in New Mexico as well as supports migrating pairs that breed outside the state. Breeding pairs breed locally in mountains and river canyons of western New Mexico east to the Sangre de Cristo, Sandia/Manzano and Sacramento mountains. The species is a rare winter visitor in lowlands statewide. Peregrine Falcons pass through the state on migration from March-May and July-November. This species would be a rare site at Conchas lake.

The Gray Viero is strongly associated with pinon-juniper and scrub-oak habitat across its breeding range in the southwestern United States and northern Mexico. In New Mexico, Gray Vieros are locally distributed across the western two-thirds of the state. Gray Vieros arrive in New Mexico from mid to late- April, and generally depart by mid-August. This species may travel through the Conchas Lake lands but is not expected to breed or nest in this area.

3.8.2 Alternative 1: No Action Alternative

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions; therefore, no major, long-term adverse impacts on threatened and endangered species would be anticipated as a result of implementing the No Action Alternative.

3.8.3 Alternative 2: Proposed Action

Under the Proposed Action, the USACE would continue cooperative management plans with the USFWS, New Mexico Forestry Resource Convervation Division (NMFRCD) and NMDGF to preserve, enhance, and protect wildlife habitat resources. To further management opportunities and beneficially impact habitat diversity, the reclassifications proposed in the 2021 Master Plan include 203.5 acres as ESA.

The ESA reclassification recognizes those areas having the highest ecological value and ensures they are given the highest order of protection among possible land classifications. The high degree of protection for ESA means that any threatened or endangered species, and state-listed plant and animal species found in these areas, will benefit from higher quality habitats and less disturbances. Because the Master Plan revision does not entail ground disturbing activities, classifies 203.5 acres to ESA, and establishes natural resource management objectives that aim to preserve, conserve and enhance natural resources at Conchas Lake, USACE has determined that the Draft 2021 Conchas Lake Master Plan revision will have no effect on federally listed threatened and endangered species.

3.9 INVASIVE SPECIES

Invasive species are any kind of living organism which, if uncontrolled, causes harm to the environment, economy, or human health. Invasive species generally grow

and reproduce quickly and spread aggressively. Non-native, or exotic, species have been introduced, either intentionally or unintentionally, and can out-compete native species for resources or otherwise alter the ecosystem. Native invasive species are those species that spread aggressively due to an alteration in the ecosystem, such as lack of fire or the removal of a predator from the food chain.

Both USACE and NMDGF monitor and enforce aquatic nuisance species regulations in an effort to prevent the expansion/colonization of invasive species at Conchas Lake. Section 2.2.5 of the 2021 Master Plan further describe invasive species at Conchas Lake.

3.9.1 Alternative 1: No Action Alternative

The No Action Alternative does not involve any activities that would contribute to changes in existing conditions, so Conchas Lake would continue to be managed according to the existing invasive species management practices. There would be no long-term major adverse impacts from invasive species as a result of implementing the No Action Alternative.

3.9.2 Alternative 2: Proposed Action

The land reclassifications, resource objectives, and resource plan required to revise the Conchas Lake Master Plan are compatible with the lake's invasive species management practices. The addition of 203.5 acres classified as ESA may provide long-term benefits as these areas may receive additional invasive species management. The objectives developed under the proposed action as explained in detail in Chapter 3 of the revised Master Plan will result in minor, long-term beneficial impacts by reducing and preventing the spread of invasive species. In summary, these objectives are: monitoring for invasive species presence; addressing unauthorized uses of public lands which may spread invasive species; and evaluating erosion control as eroding lands provide colonization opportunities for invasive plant species. All of these would include a public outreach and education emphasis.

3.10 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

Cultural Resources at Conchas Lake

As with most Corps lakes, Conchas Lake contains a large number of significant archaeological resources representing thousands of years of human occupation. In addition to archaeology, however, some of the most significant historic properties at Conchas include Corps facilities themselves. The Conchas Dam Historic District is listed on the National Register of Historic Places (NRHP), and other elements of the built environment (such as Conchas Lodge) are historically significant as well. As a Federal agency, numerous laws, regulations, and policies govern Corps management of cultural resources and historic properties. Compliance with Section 106 of the National Historic Preservation Act (NHPA) in conducting routine operations and maintenance undertakings at Conchas Lake (as well as other facilities in New Mexico and Colorado) is currently governed by a programmatic agreement (PA) between the Albuquerque District, the State Historic Preservation Officers (SHPOs) of New Mexico and Colorado, and the Tribal Historic Preservation Officer (THPO) of Santa Ana Pueblo.

Archaeological Background

All Corps fee land at Conchas Lake has been subjected to intensive archaeological survey in recent years, most recently a survey of the South Side Campground (Turnbow and Cribbin 2008), and a recent survey of 1,899 acres (Brown 2015). A total of 65 archaeological sites have been identified on Corps fee land. These include both prehistoric sites dating over the span of several thousand years, and post-contact and historic sites including sites associated with the construction of Conchas Dam itself. In addition, numerous archaeological sites are located on Corps easement lands. All of these sites have the potential to be impacted by Corps actions, and those impacts must be considered in any Corps undertaking.

Culture History

Conchas Dam is located at the confluence of the Canadian and Conchas Rivers and prehistoric and historic peoples have used these easterly flowing rivers as routes between the Rio Grande and the Plains for thousands of years. In general, the archaeological chronology can be divided into four major time periods: Paleoindian, Archaic, Ceramic, and Historic. A summary of the archaeological and cultural history of the area may be found in the draft Master Plan.

Built Environment and Historic Properties

In addition to the 65 archaeological sites on Corps fee land and numerous sites within easements, Conchas Lake contains and manages a number of significant historic properties, including some constructed by the Corps itself: namely, the Conchas Dam Historic District (including the Dam itself, as well as the administration area and Adobe Belle housing units) and the Conchas Lodge. In addition, key historic properties located outside of fee land but within Corps easements include two historic cemeteries.

The Conchas Dam Historic District: Birthplace of the Albuquerque District

Conchas Dam was one of a number of Depression-era New Deal projects completed in New Mexico and was the birthplace of what became the Albuquerque District of the Army Corps of Engineers. Supported by Governor Clyde Tingley, the project started in 1935 under Roosevelt's Emergency Relief Appropriation Act of 1935. Captain Hans Kramer of the Corps, relying on 90% of his employees coming from relief roles, most without construction skills, was in charge of all facets of the project. Construction was completed in 1939.

Together, the dam, including all associated earthworks and other components, and the administration area, including the administration building and the Adobe Belle housing units, form the Conchas Dam Historic District. This district was listed on the State Register of Cultural Properties on April 7, 2000 (HPD No. 1791) and on the National Register of Historic Places on May 22, 2005 (NMHPD 2006; Schelberg and Stone 2005; Schelberg and Everhart 2000). A preservation and maintenance plan for the Conchas Project Office/Administration Building and the associated residence housing was prepared for the Corps by Van Citters (2001). The District is eligible for National Register listing based on its association with the numerous programs of the New Deal, as well as for its significant and distinctive engineering, construction

methods, and architecture. In addition, the high artistic value of two paintings by Odon Hullenkremer, funded by the WPA Federal Art Project and housed in the administration building, contribute to the District's eligibility and significance.

The Conchas Lodge

The Conchas Lodge, constructed by the Civilian Conservation Corps (CCC) in 1942, is a historic property eligible for NRHP listing due to its associations with patterns of recreational development associated with Conchas Dam, as well as being an important architectural example of Depression-era Federal make-work programs blending vernacular architectural language with contemporary features. Melvin L. Faust, who designed the Lodge, imparted both Pueblo and Spanish territorial influences in his design; the lodge was executed with fine sandstone bearing walls and wood craftsmanship consistent with the nation's body of New Deal era buildings. In addition, the Lodge played an important role in the life of the local community.

After many years of operation, profitable operation of the Lodge on the part of multiple concessionaires was difficult, and the Lodge has not been under lease since 2003. While the Lodge has not been in use for some time, the Corps is actively pursuing potential opportunities to allow the repair and future continued use of this property. As a historic property, its management is subject to the requirements of Section 106 of the NHPA. Any future development will be conducted in compliance with these requirements.

Cemeteries

Two historically significant cemeteries, both eligible for NRHP listing, are located within easement lands at Conchas Lake, as well as the remains of a historic town site (Alamosa Plaza). Both cemeteries, given the archaeological site numbers LA 37925 and LA 173306, are eligible based on their potential to provide important information about early homesteading activities in the region, as well as association with important patterns of Hispanic settlement in the New Mexico Territory at the turn of the Twentieth Century. The Alamosa Plaza site (LA 29446) is eligible for its information potential, as well as its association with Territorial Period New Mexican settlement.

3.10.1 Alternative 1: No Action Alternative

There would be no major adverse impacts on cultural resources as a result of implementing the No Action Alternative, as there would be no changes to the existing 1976 Master Plan. However, maintaining existing land classifications would not recognize the presence or importance of cultural resources, which could lead to long-term negative moderate or major impacts as a result of implementing the No Action Alternative.

3.10.2 Alternative 2: Proposed Action

Impacts on cultural, historical, and archaeological resources were considered during the refinement processes of land reclassifications. Based on previous surveys at Conchas Lake, the required reclassifications, resource management objectives, and resource plan would not change current cultural resource management plans or alter

areas where these resources exist. The Proposed Action would potentially result in long-term and moderate beneficial impacts with the reclassification of additional 203.5 acres to ESA as those lands afford more protection against development and ground disturbing activities. Therefore, no significant adverse impacts on cultural, historical, and archaeological resources would occur as a result of implementing revisions to Conchas Lake Master Plan. All individual Corps undertakings at Conchas Lake are subject to compliance with Section 106 of the NHPA; Section 106 compliance for routine undertakings at Conchas is currently governed by a PA as noted above. In addition, stewardship priorities and goals as noted in the revised Master Plan (and required under Section 110 of the NHPA as well as other laws and regulations) will continue to be developed as the Corps completes and updates a Historic Properties Management Plan (HPMP) for Conchas Lake as required by Corps regulation ER-1130-2-540.

3.11 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

The zone of interest for this socioeconomic analysis includes San Miguel County with additional economic influence extending up to a 30 mile radius of Conchas Lake. This northeastern New Mexico-county region, where the most impacts would be expected, has been utilized as the basis in summarizing the population characteristics of Conchas Lake. The population, education level, employment rates, income, and household characteristics of the area are discussed in detail in Section 2.4 of the 2021 Master Plan.

Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued by President Clinton on February 11, 1994. It was intended to ensure that proposed federal actions do not have disproportionately high and adverse human health and environmental effects on minority and low-income populations and to ensure greater public participation by minority and low-income populations. It required each agency to develop an agency-wide environmental justice strategy. A Presidential Transmittal Memorandum issued with the EO states that “each federal agency shall analyze the environmental effects, including human health, economic and social effects, of federal actions, including effects on minority communities and low-income communities, when such analysis is required by the NEPA 42 U.S.C. section 4321, et seq.”

EO 12898 does not provide guidelines as to how to determine concentrations of minority or low-income populations. However, analysis of demographic data on race and ethnicity and poverty provides information on minority and low-income populations that could be affected by the Proposed Action. The U.S. Census American Community Survey provides the most recent estimates available for race, ethnicity, and poverty. Minority populations are those persons who identify themselves as Black, Hispanic, Asian American, American Indian/Alaskan Native, Pacific Islander, or Other (Section 2.4.2 of the 2021 Master Plan). Poverty status is used to define low-income. Poverty is defined as the number of people with income below poverty level, which was $24,588 for a family of four in 2017 with two children under 18 (US Census Bureau, 2020). A potential disproportionate impact may occur when the minority in the study area

exceeds 50 percent or when the percent minority and/or low-income in the study area are meaningfully greater than those in the region.

Protection of Children

EO 13045 requires each federal agency “to identify and assess environmental health risks and safety risks that may disproportionately affect children” and “ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health risks or safety risks.” This EO was prompted by the recognition that children, still undergoing physiological growth and development, are more sensitive to adverse environmental health and safety risks than adults. The potential for impacts on the health and safety of children is greater where projects are located near residential areas. Please refer to Figure 2.12 in Section 2.4.2 of the 2021 Master Plan for a graphical representation for the percentage of total population that are children in the study area.

3.11.1 Alternative 1: No Action Alternative

Under the No Action Alternative, there would be no changes to the existing Master Plan, with the USACE continuing to manage Conchas Lake natural resources as set forth in the 1976 Master Plan. There would be no major adverse long-term impacts on socioeconomic resources. Beneficial socioeconomic impacts existing as a result of the implementation of the 1976 Master Plan would continue, as visitors would continue to come to the lake from surrounding areas. In addition to camping in campgrounds, many visitors purchase goods such as groceries, fuel, and camping supplies semi-locally, eat in semi-local restaurants, stay in semi-local hotels and resorts, and shop in local retail establishments. These activities would continue to bring revenues to local companies, provide jobs for semi-local residents, and generate local and state tax revenues. There would be no disproportionately high or adverse impacts on minority or low-income populations or children with the implementation of the No Action Alternative.

3.11.2 Alternative 2: Proposed Action

Conchas Lake is beneficial to the semi-local economy through indirect job creation and local spending by visitors, and also offers a variety of recreation opportunities and uses innovative maintenance and planning programs to minimize usage fees. The 682.6 acres of HDR and 358.6 acres of MRML-LDR will continue to provide recreation opportunities. The 203.5 acres of ESA land will also allow minimally invasive recreation activities such as wildlife viewing and hiking.

Since recreational opportunities remain abundant, and the revised Master Plan recognizes and reinforces projected recreational trends, there would be negligible, long-term beneficial impacts on area economic stability and environmental justice populations resulting from the revision of the 1976 Master Plan.

3.12 RECREATION

The majority of visitors to Conchas Lake come from a 200-mile radius of the reservoir. These visitors are a diverse group of people with a wide variety of interests. Examples of visitors include campers who utilize the federally operated campgrounds

around the reservoir; adjacent residents; hunters and anglers who utilize public hunting areas and participate in recreational fishing as well as tournaments; and day users who picnic, hike, and bird watch. Recreational facilities, activities, and needs are discussed in detail in Section 2.5 of the 2021 Master Plan.

3.12.1 Alternative 1: No Action Alternative

Under the No Action Alternative, there would be no major adverse long-term impacts on recreational resources, as there would be no changes to the existing Master Plan.

3.12.2 Alternative 2: Proposed Action

The primary objective for revising the Conchas Lake 1976 Master Plan is to capture current land use and management that has evolved to meet day-to-day operational needs. Under the Proposed Action, the required revisions to the Conchas Lake Master Plan would be compatible with current recreation management plans and recognize regional and national outdoor recreation trends. The reclassification changes required for the Proposed Action were developed to enhance regional goals associated with good stewardship of land and water resources that would allow for continued recreational use and development of project lands. The 682.6 acres of HDR and 358.6 acres of MRML-LDR will continue to provide recreation opportunities. The 203.5 acres of ESA land will also allow minimally invasive recreation activities such as wildlife viewing and hiking. Since recreational opportunities remain abundant, and the revised Master Plan recognizes and reinforces projected recreational trends, there would be negligible, long-term beneficial impacts on recreation resulting from the revision of the Master Plan from the Proposed Action.

3.13 AESTHETIC RESOURCES

Conchas Lake is known for its geological history at the dam and its secluded coves and sandy beaches, as well as the excellent fishing, boating, biking, and camping opportunities. Conchas Lake proper and surrounding federal lands also offer public, open space value and scenic water vistas that are unique in the region.

3.13.1 Alternative 1: No Action Alternative

There would be no major adverse impacts on visual resources as a result of implementing the No Action Alternative, as there would be no changes to the existing 1976 Master Plan.

3.13.2 Alternative 2: Proposed Action

Conchas Lake currently plays a pivotal role in availability of parks in San Miguel County. Even though the amount of acreage available for HDR reduces from 1,243.0 acres to 682.6 acres in the 2021 Master Plan, this land reclassification reflect changes in land management and land uses that have occurred since 1976 at Conchas Lake. The conversion of these lands would have no effect on current or projected public use or visual aesthetics.

Furthermore, the addition of 203.5 acres of land classified as ESAs would protect lands that are aesthetically pleasing at Conchas Lake and limit future development. Natural Resources Management Objectives for the lake will continue to minimize activities which will disturb the scenic beauty and aesthetics of the lake.

Therefore, the Proposed Action would result in minor, long-term beneficial impacts to the aesthetic resources of Conchas Lake.

3.14 HAZARDOUS MATERIALS AND SOLID WASTE

This section describes existing conditions within the Project area with regard to potential environmental contamination and the sources of releases to the environment. Contaminants could enter the lake environment via air or water pathways or through illegal trash dumping. While no marinas occur at Conchas Lake, there are numerous public campgrounds and recreational areas that could contribute small amounts of hazardous materials and waste to the watershed. USACE and area law enforcement officials work cooperatively to apprehend those responsible for illegal trash dumping.

3.14.1 Alternative 1: No Action Alternative

There would be no major adverse long-term impacts on hazardous, toxic, radioactive, or solid wastes as a result of implementing the No Action Alternative, as there would be no changes to the existing Master Plan.

3.14.2 Alternative 2: Proposed Action

The land reclassifications required to revise the Master Plan would be compatible with Conchas Lake hazardous and toxic waste and solid waste management practices. Therefore, no major, adverse, long-term impacts due to hazardous, toxic, radioactive, or solid wastes would occur as a result of implementing the 2021 Master Plan.

3.15 HEALTH AND SAFETY

As mentioned earlier in this document, Conchas Lake authorized purposes include flood risk management, water supply, and recreation. Compatible uses incorporated in project operation management plans include programs that establish recreation management practices to protect the public, such as water safety education, safe boating and swimming regulations, safe hunting regulations, and speed limit and pedestrian signs for park roads. The staff of Conchas Lake are in place to enforce these policies, rules, and regulations during normal park hours.

3.15.1 Alternative 1: No Action Alternative

Under the No Action Alternative, the 1976 Master Plan would not be revised. No major, adverse, long-term impacts on human health or safety would be anticipated.

3.15.2 Alternative 2: Proposed Action

Under the Proposed Action, the required revisions to the Conchas Lake 1976 Master Plan would be compatible with project safety management plans. The project would continue to have reporting guidelines in place should water quality become a threat to public health. Existing regulations and safety programs throughout the

Conchas Lake area would continue to be enforced to ensure public safety. Therefore, there would be no major, adverse, long-term impacts on public health and safety as a result of implementing the Proposed Action.

3.16 SUMMARY OF CONSEQUENCES AND BENEFITS

Table 3.16 provides a tabular summary of the consequences and benefits for the No Action and Proposed Action alternatives for each of the 15 assessed resource categories.

Table 3.16. Summary of Consequences and Benefits

Resource	Change Resulting from Revised Master Plan	Environmental Consequences		Benefits Summary
		No Action Alternative	Proposed Action	
Land Use	No effect on private lands. Minor to moderate benefit from placing emphasis on protection of wildlife and environmental values on USACE land and maintaining current level of developed recreation facilities.	Fails to recognize recreation trends and regional natural resource priorities.	Recognizes recreation trends and regional natural resource priorities.	Land classification changes and new resource objectives fully recognize passive use recreation trends and regional environmental values.
Water Resources Including Groundwater, Wetlands, and Water Quality	Minor change with benefits to recognize value of wetlands.	Fails to recognize the water quality benefits of good land stewardship and need to protect wetlands.	Promotes restoration and protection of wetlands and good land stewardship.	Specific resource objective promotes restoration and protection of wetlands.
Climate	Minor change to recognize need for sustainable, energy efficient design.	Fails to promote sustainable, energy efficient design.	Promotes land management practices and design standards that promote sustainability.	Specific resource objectives promote national climate change mitigation goal. Leadership in Energy and Environmental Design (LEED) standards for green design, construction, and operation activities will be employed to the extent practicable.
Climate Change and Greenhouse Gases	Same as for Climate.	Same as for Climate.	Same as for Climate.	Same as for Climate.
Air Quality	Negligible change to help reduce air emissions.	No effect.	Promotes activities and goals that will help to reduce emissions.	Reduces HDR, which in turn reduces the motor vehicle exhaust that is produced. New resource objectives also help to reduce emissions.

Resource	Change Resulting from Revised Master Plan	Environmental Consequences		Benefits Summary
		No Action Alternative	Proposed Action	
Topography, Geology and Soils	Beneficial change to place emphasis on good stewardship of land and water resources.	Fails to specifically recognize known and potential soil erosion problems.	Encourages good stewardship that would reduce existing and potential erosion.	Specific resource objectives call for stopping erosion from overuse and land disturbing activities.
Natural Resources	Major benefits through land reclassification and resource objectives.	Fails to recognize ESAs, and regional priorities calling for protection of wildlife habitat.	Gives full recognition of sensitive resources and regional trends and priorities related to natural resources.	Reclassification of lands included 203.5 acres of ESA and a net increase in lands emphasizing wildlife management.
Threatened & Endangered Species and State-Listed Plant and Animal Species	Moderate benefits from land reclassifications for recognizing both federal and state-listed species.	Fails to recognize current federal and state-listed species.	Fully recognizes federal and state-listed species.	The master plan sets forth the most recent listing of federal and state-listed species.
Invasive Species	Minor change to recognize several recent and potentially aggressive invasive species.	Fails to recognize current invasive species and associated problems.	Fully recognizes current species and the need to be vigilant as new species may occur.	Specific resource objectives specify that invasive species shall be monitored and controlled as needed.
Cultural, Historical and Archaeological Resources	Minor change to recognize current status of cultural resource.	Included cursory information about cultural resources that is inadequate for future management and protection.	Recognizes the presence of cultural resources and places emphasis on protection and management.	Reclassification of lands and specific resource objectives were included for protection of cultural resources.
Socioeconomics and Environmental Justice	No change.	No effect.	No effect.	No added benefit.
Recreation	Negligible benefits to outdoor recreation programs.	Fails to recognize current outdoor recreation trends.	Fully recognizes current outdoor recreation trends and places special emphasis on trails.	Specific management objectives focused on outdoor recreation opportunities and trends are included.

Resource	Change Resulting from Revised Master Plan	Environmental Consequences		Benefits Summary
		No Action Alternative	Proposed Action	
Aesthetic Resources	Minor benefits through land reclassification and resource objectives.	Fails to minimize activities that disturb the scenic beauty and aesthetics of the lake.	Promotes activities that limit disturbance to the scenic beauty and aesthetics of the lake.	Specific management objectives to minimize activities that disturb the scenic beauty and aesthetics of the lake.
Hazardous Materials and Solid Waste	No change.	No effect.	No effect.	No added benefit.
Health and Safety	Minor change to promote public safety awareness.	Fails to emphasize public safety programs.	Recognizes the need for public safety programs.	Includes specific management objectives to increase water safety outreach efforts. Also, classifies 10.6 acres of water surface as restricted and designated no-wake for public safety purposes.

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SECTION 4: CUMULATIVE IMPACTS

The most severe environmental degradation may not result from the direct effects of any particular action, but from the combination of effects of multiple, independent actions over time. As defined in the prior 40 CFR 1508.7 (CEQ Regulations). Although these regulatios have been updated the date of starting this effort aligns this document with prior regulations. A cumulative effect is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions.

By Memorandum dated June 24, 2005, from the Chairman of the CEQ to the Heads of Federal Agencies, entitled "Guidance on the Consideration of Past Actions in Cumulative Effects Analysis", CEQ made clear its interpretation that "…generally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions…" and that the "…CEQ regulations do not require agencies to catalogue or exhaustively list and analyze all individual past actions." This cumulative impacts analysis as outlined in prior CEQ regulations summarizes expected environmental impacts from the combined impacts of past, current, and reasonably foreseeable future activities affecting any part of the human or natural environments impacted by the Proposed Action.

4.1 Past Impacts within the zone of interest.

The Conchas Dam project was approved by congress and signed by the President of the United States on April 8, 1935, under the Emergency Relief Appropriation Act of 1935 and by Congress in the Flood Control Act of 1936 and amended by the River and Harbors Act of 1938. Public Law 738, 74th Congress, dated June 22, 1936, authorized the execution of the project to be located near the South Canadian River in New Mexico for the purpose of flood control, irrigation, and water supply. Legislation relating to the development of the reservoir and land areas under the jurisdiction of the Department of the Army is contained in Public Law 504, 76th Congress (H.R. 8500) approved May 01, 1940, Section 4 of the Flood Control Act of 1944 approved December 22, 1944 (Public Law 534, 78th Congress 2nd Session) as amended by Section 207 of the Flood Control Act of 1962 (Public Law 874, 87th U.S. Congress), as further amended by the Federal Water Project Recreation Act of 1965 (Public Law 89-72). Construction of Conchas Lake Dam was completed in 1939

4.2 Current and Reasonably Foreseeable Projects Within and Near the Zone Of Interest

Future management of the 20,078.5 acres of Flowage Easement Lands at Conchas Lake includes routine inspection of these areas to ensure that the Government's rights specified in the easement deeds are protected. In almost all cases, the Government acquired the right to prevent placement of fill material or habitable structures on the easement area. Placement of any structure that may

interfere with the USACE flood risk management and water conservation missions may also be prohibited.

Regional and county mobility plans call for general roadway improvements of some existing roadways within the surrounding vicinity of USACE lands. No local road expansion or construction projects are planned or anticipated to take place within the zone of interest during the planning horizon of the 2021 Master Plan.

The Resource Plan in Chapter 5 of the 2021 Master Plan does not list any specific actions that may occur in the future.

4.3 Analysis Of Cumulative Impacts

Impacts on each resource were analyzed according to how other actions and projects within the zone of interest might be affected by the No Action Alternative and Proposed Action. Impacts can vary in degree or magnitude from a slightly noticeable change to a total change in the environment. For the purpose of this analysis, the intensity of impacts will be classified as negligible, minor, moderate, or major. These intensity thresholds were previously defined in Section 3.0. Moderate growth and development are expected to continue in the vicinity of Conchas Lake and cumulative adverse impacts on resources would not be expected when added to the impacts of activities associated with the Proposed Action or No Action Alternative. A summary of the anticipated cumulative impacts on each resource is presented below.

4.3.1 Land Use

A major impact would occur if any action is inconsistent with adopted land use plans or if an action would substantially alter those resources required for, supporting, or benefiting the current use. Under the No Action Alternative, land use would not change. Although the Proposed Action would result in the reclassification of project lands, the reclassifications were developed to enhance regional goals associated with good stewardship of land and water resources that would allow for continued use and development of project lands. Therefore, cumulative impacts on land use within the area surrounding Conchas Lake, when combined with past and proposed actions in the region, are anticipated to be minimal.

4.3.2 Water Resources

Conchas Lake was developed for flood risk management, water supply, and. A major impact would occur if any action is inconsistent with adopted surface water classifications or water use plans, or if an action would substantially alter those resources required for, supporting, or benefiting the current use. The reclassifications required for the Proposed Action would allow land management and land uses to be compatible with the goals of good stewardship of water resources.

Other activities surrounding Conchas Lake, such as the addition of future utility lines in corridors, which would require boring beneath streams in most cases to avoid impacts, have been identified as having the potential to contribute directly to the

cumulative impacts on water quality; however, water quality monitoring will continue to be used to assess any changes in these conditions. The cumulative impacts on water quality from the Proposed Action at Conchas Lake are anticipated to be negligible when combined with past and proposed actions in the area.

4.3.3 Climate

The implementation of the revised land use classifications in the 2021 Master Plan, when combined with other existing and proposed projects in the region, would not result in major cumulative impacts on the climate.

4.3.4 Climate Change and GHG

Under the Proposed Action, current Conchas Lake project management plans and monitoring programs would not be changed. In the event that GHG emission issues become significant enough to impact the current operations at Conchas Lake, the 2021 Master Plan and all associated documents would be reviewed and revised as necessary. Therefore, implementation of the 2021 Master Plan, when combined with other existing and proposed projects in the region, would not result in major cumulative impacts on climate change and GHG emissions.

4.3.5 Air Quality

For the area surrounding Conchas Lake, activities that could add to air emissions are likely few and minor in nature. Vehicle traffic along park and area roadways and routine daily activities in nearby communities contribute to current and future emission sources. Minor improvements to the communities in the Conchas Lake area, such as construction of new business buildings, could also contribute to minor future emissions. Implementation of the 2021 Master Plan will not contribute to major cumulative impacts in the region.

4.3.6 Topography, Geology, and Soils

A major impact would occur if the action exacerbates or promotes long-term erosion, if the soils are inappropriate for the proposed construction and would create a risk to life or property, or if there would be a substantial reduction in agricultural production or loss of Prime Farmland soils. Cumulative adverse impacts on topography, geology, and soils within the area surrounding Conchas Lake, when combined with past and proposed actions in the region, are anticipated to be negligible on the long-term basis.

4.3.7 Natural Resources

The significance threshold for natural resources would include a substantial reduction in ecological processes, communities, or populations that would threaten the long-term viability of a species or result in the substantial loss of a sensitive community that could not be offset or otherwise compensated. Past, present, and future projects are not anticipated to impact the viability of any plant species or community, rare or sensitive habitats, or wildlife. The establishment of ESA and MRML-WM areas, as well

as resource objectives that favor protection and restoration of valuable natural resources, will have beneficial cumulative impacts. No identified projects would threaten the viability of natural resources. Therefore, there would be long-term beneficial impacts to natural resources resulting from the revision of the 2021 Conchas Lake Master Plan, when combined with past and proposed actions in the area.

4.3.8 Threatened and Endangered Species

The Proposed Action and No Action Alternative would not adversely impact threatened, endangered and special status species within the area, as they will be coordinated with the appropriate resource agencies. Should federally listed species change in the future (e.g., delisting of the Mexican Spotted Owl or other species or listing of new species), associated requirements will be reflected in revised land management practices in coordination with the USFWS. The USACE would continue cooperative management plans with the USFWS and the state to preserve, enhance, and protect critical wildlife habitat resources.

The land reclassifications explained in detail in section 3.8.3 will allow for further protection of state and federal listed threatened, endangered species. The reclassifications will also allow future land management practices that would maintain and enhance habitats for these species. Therefore, there would be minor long-term beneficial impacts on threatened and endangered species resulting from the revision of the Conchas Lake 1976 Master Plan when combined with past and proposed actions in the area.

4.3.9 Invasive Species

Invasive species control has and will continue to be conducted on various areas across the project lands. Implementing Best Management Practices (BMP) will help reduce the introduction and distribution of invasive species, ensuring that proposed actions in the region will not contribute to the overall cumulative impacts related to invasive species. The land reclassifications required to revise the 1976 Master Plan are compatible with Conchas Lake invasive species management practices. Therefore, there would be minor long-term beneficial impacts on reducing and preventing invasive species within the area surrounding Conchas Lake.

4.3.10 Cultural, Historical, and Archaeological Resources

The Proposed Action would not affect cultural resources or historic properties. Therefore, this action, when combined with other existing and proposed projects in the region, would not result in major cumulative impacts on cultural resources or historic properties.

4.3.11 Socioeconomics and Environmental Justice

The Proposed Action would not result in the displacement of persons (minority, low-income, children, or otherwise) or decrease numbers of people recreating at Conchas Lake as a result of implementing the revised land classifications. The creation of jobs, increase of visitor spending, and relative decrease of usage fees results in a

positive impact to the local economy. Therefore, the effects of the Proposed Action on environmental justice and the protection of children, when combined with other ongoing and proposed projects in the Conchas Lake area, are anticipated to have negligible long-term beneficial impacts.

4.3.12 Recreation

Conchas Lake is beneficial to the local visitors and also offers a variety of free recreation opportunities. Some of the popular recreation activities at Conchas Lake are, on a national basis, either static or declining in participation. For example, developed camping activity, power boating, hunting, and fishing have experienced small to moderate declines in recent years. In contrast to these declines, significant increases in hiking, walking, sightseeing, wildlife viewing and canoeing/kayaking have occurred in recent years. Even though the amount of acreage available for HDR would decrease with implementation of the 2021 Master Plan, these land reclassifications reflect changes in land management and land uses that have occurred since 1976 at Conchas Lake. The lands that remain in the HDR classification include undeveloped acreage that could be used for future outdoor recreation development. The conversion of these lands would have no adverse effect on current or projected public use. Therefore, the effects of the Proposed Action, when combined with other existing and proposed projects in the region, would result in negligible long-term beneficial impacts on the area recreation.

4.3.13 Aesthetic Resources

Conchas Lake proper and surrounding federal lands offer public, open space values and scenic water vistas. Natural Resources Management Objectives for the lake will continue to minimize activities which disturb the scenic beauty and aesthetics of the lake. Therefore, the Proposed Action would result in minor long-term beneficial impacts to the aesthetic resources of Conchas Lake.

4.3.14 Hazardous Materials and Solid Waste

No hazardous material or solid waste concerns would be expected with implementation of the 2021 Master Plan; therefore, when combined with other ongoing and proposed projects in Conchas Lake, there would be no major long-term adverse impacts on hazardous materials and solid waste.

4.3.15 Health and Safety

No health or safety risks would be created by the Proposed Action. The effects of implementing the 2021 Master Plan, when combined with other ongoing and proposed projects in the Conchas Lake area, would result in no major long-term adverse impacts on health and safety for the area.

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SECTION 5: COMPLIANCE WITH ENVIRONMENTAL LAWS

This EA has been prepared to satisfy the requirements of all applicable environmental laws and regulations, and has been prepared in accordance with the CEQ's implementing regulations for NEPA, 40 CFR Parts 1500 – 1517, and the USACE ER 200-2-2, *Environmental Quality: Procedures for Implementing NEPA*. The revision of the 2021 Master Plan is consistent with the USACE's Environmental Operating Principles. The following is a list of applicable environmental laws and regulations that were considered in the planning of this project and the status of compliance with each:

Fish and Wildlife Coordination Act, as amended – The USACE initiated public involvement and agency scoping activities to solicit input on the 2021 Master Plan revision process, as well as identify reclassification proposals, and identify significant issues related to the Proposed Action. Information provided by USFWS and state organizations on fish and wildlife resources has been utilized in the development of the 2021 Master Plan.

Endangered Species Act of 1973, as amended – Current lists of threatened and endangered species were compiled for the revision of the 2021 Master Plan. There would be no adverse long-term impacts on threatened or endangered species resulting from the revision of the 2021 Master Plan. However, minor long-term beneficial impacts, such as habitat protection, could occur as a result of the revision of the 2021 Master Plan.

Executive Order 13186 (Migratory Bird Habitat Protection) – Sections 3a and 3e of EO 13186 directs federal agencies to evaluate the impacts of their actions on migratory birds, with emphasis on species of concern, and inform the USFWS of potential negative impacts on migratory birds. The 2021 Master Plan revision will not result in adverse impacts on migratory birds or their habitat. Beneficial impacts could occur through protection of habitat as a result of the 2021 Master Plan revision.

Migratory Bird Treaty Act – The Migratory Bird Treaty Act of 1918 extends federal protection to migratory bird species. The nonregulated "take" of migratory birds is prohibited under this Act in a manner similar to the prohibition of "take" of threatened and endangered species under the Endangered Species Act. The timing of resource management activities would be coordinated to avoid impacts on migratory and nesting birds.

Clean Water Act (CWA), as ammended– The Proposed Action is in compliance with all state and federal CWA regulations and requirements, and water quality is regularly monitored by the USACE and New Mexico Environment Department Water Quality Control. A state water quality certification pursuant to Section 401 of the CWA is not required for the 2021 Master Plan revision. There will be no change in management of the reservoir that would impact water quality.

National Historic Preservation Act (NHPA) of 1966, as amended – Compliance with the NHPA of 1966, as amended, requires identification of all properties in the

project area listed in, or eligible for listing in, the NRHP. All previous surveys and site salvages were coordinated with the New Mexico State Historic Preservation Officer. Known sites are mapped and avoided by maintenance activities. Areas that have not undergone cultural resources surveys or evaluations will need surveys prior to any earthmoving or other potentially impacting activities.

Clean Air Act as ammended – The US EPA established nationwide air quality standards to protect public health and welfare. Existing operation and management of the reservoir is compliant with the Clean Air Act and will not change with the 2021 Master Plan revision.

Farmland Protection Policy Act (FPPA) – The FPPA's purpose is to minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to non-agricultural uses. Prime Farmland is present within and adjacent to Conchas Lake. The 2021 Master Plan would not impact Prime Farmland present on Conchas Lake.

Executive Order 11990, Protection of Wetlands – EO 11990 requires federal agencies to minimize the destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in executing federal projects. The 2021 Master Plan complies with EO 11990.

Executive Order 11988, Floodplain Management – This EO directs federal agencies to evaluate the potential impacts of proposed actions in floodplains. The operation and management of the existing project complies with EO 11988.

CEQ Memorandum dated August 11, 1980, Prime or Unique Farmlands – Prime Farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops, and is also available for these uses. The Proposed Action would not impact Prime Farmland present on Conchas Lake project lands.

Executive Order 12898 (Environmental Justice) – This EO directs federal agencies to achieve environmental justice to the greatest extent practicable and permitted by law, and consistent with the principles set forth in the report on the National Performance Review. Agencies are required to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations. The revision of the 2021 Master Plan will not result in a disproportionate adverse impact on minority or low-income population groups.

SECTION 6: IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES

NEPA requires that federal agencies identify "any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented" (42 U.S.C. § 4332). An irreversible commitment of resources occurs

when the primary or secondary impacts of an action result in the loss of future options for a resource. Usually, this is when the action affects the use of a nonrenewable resource or it affects a renewable resource that takes a long time to renew. The impacts of reclassification of land would not be considered an irreversible commitment because subsequent Master Plan revisions could result in some lands being reclassified to a prior, similar land classification. An irretrievable commitment of resources is typically associated with the loss of productivity or use of a natural resource (e.g., loss of production or harvest). No irreversible or irretrievable impacts on federally protected species or their habitat is anticipated from implementing revisions to the Conchas Lake 2021 Master Plan.

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SECTION 7: PUBLIC AND AGENCY COORDINATION

In accordance with 40 CFR §§ 1501.7, 1503, and 1506.6, the USACE initiated public involvement and agency scoping activities to solicit input on the 2021 Master Plan revision process, as well as identify reclassification proposals, and identify significant issues related to the Proposed Action. The USACE began its public involvement process with an online public involvement process to provide an avenue for public and agency stakeholders to ask questions and provide comments. The process was held online in lieu of face-to-face workshops because of the COVID-19 virus pandemic. The public involvement process was held online on 07 May 2020. The information provided introduced the public to the 1976 Master Plan and began a 45-day public comment period. A second online public involvement opportunity will be provided on 27 August 2021. This opportunity will introduce the public to the Draft Master Plan and EA and begin the 30-day public review period of the Draft Master Plan and EA. The USACE, Albuquerque District, placed advertisements on the USACE webpage, social media, and print publications prior to these meetings. The EA was coordinated with agencies having legislative and administrative responsibilities for environmental protection. Please refer to Section 7 of the 2021 Master Plan for a summary of comments received at the public meetings.

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SECTION 8: REFERENCES

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SECTION 9: ACRONYMS/ABBREVIATIONS

%	Percent
°	Degrees
BMP	Best Management Practice
CAP	Climate Action Plan
CCC	Civilian Conservation Corps
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO2e	CO2-equivalent
CWA	Clean Water Act
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EP	Engineer Pamphlet
ER	Engineer Regulation
ESA	Environmentally Sensitive Area
F	Fahrenheit
FONSI	Finding of No Significant Impact
GHG	Greenhouse Gas
HDR	High Density Recreation
HPMP	Historic Properties Management Plan
IFR	Inactive/Future Recreation
IPaC	Information Planning and Consultation
LEED	Leadership in Energy & Environmental Design
MRML-IFR	Future/Inactive Recreation
MRML	Multiple Resource Management Lands
MRML-LDR	Low Density Recreation
MRML-WM	Wildlife Management
MRML-VM	Vegetative Management
msl	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMDGF	New Mexico Department of Game and Fish
NMHPD	New Mexico Historic Preservation Division
NMSP	New Mexico State Parks
NO	Nitrogen Oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O_3	Ozone
PA	Programmatic Agreement
PO	Project Operations
REC	Recreational Areas

ROD	Record of Decision
RPEC	Regional Planning and Environmental Center
SGCN	Species of Greatest Conservation Need
SO_2	Sulfur Dioxide
SWQB	Surface Water Quality Board
THPO	Tribal Historic Preservation Officer
U.S.	United States
U.S.C.	U.S. Code
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
WM	Wildlife Management
VM	Vegetative Management

SECTION 10: LIST OF PREPARERS

Shelby Scego – Biologist, Regional Planning and Environmental Center, 3 years of USACE experience.

APPENDIX C - TRUST RESOURCES REPORT - USFWS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
Phone: (505) 346-2525 Fax: (505) 346-2542
http://www.fws.gov/southwest/es/NewMexico/
http://www.fws.gov/southwest/es/ES_Lists_Main2.html

In Reply Refer To: August 18, 2021
Consultation Code: 02ENNM00-2021-SLI-1530
Event Code: 02ENNM00-2021-E-03668
Project Name: Conchas Lake Master Plan

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

To Whom It May Concern:

Thank you for your recent request for information on federally listed species and important wildlife habitats that may occur in your project area. The U.S. Fish and Wildlife Service (Service) has responsibility for certain species of New Mexico wildlife under the Endangered Species Act (ESA) of 1973 as amended (16 USC 1531 et seq.), the Migratory Bird Treaty Act (MBTA) as amended (16 USC 701-715), and the Bald and Golden Eagle Protection Act (BGEPA) as amended (16 USC 668-668c). We are providing the following guidance to assist you in determining which federally imperiled species may or may not occur within your project area and to recommend some conservation measures that can be included in your project design.

FEDERALLY-LISTED SPECIES AND DESIGNATED CRITICAL HABITAT

Attached is a list of endangered, threatened, and proposed species that may occur in your project area. Your project area may not necessarily include all or any of these species. Under the ESA, it is the responsibility of the Federal action agency or its designated representative to determine if a proposed action "may affect" endangered, threatened, or proposed species, or designated critical habitat, and if so, to consult with the Service further. Similarly, it is the responsibility of the Federal action agency or project proponent, not the Service, to make "no effect" determinations. If you determine that your proposed action will have "no effect" on threatened or endangered species or their respective critical habitat, you do not need to seek concurrence with the Service. Nevertheless, it is a violation of Federal law to harm or harass any federally-listed threatened or endangered fish or wildlife species without the appropriate permit.

If you determine that your proposed action may affect federally-listed species, consultation with the Service will be necessary. Through the consultation process, we will analyze information contained in a biological assessment that you provide. If your proposed action is associated with

Federal funding or permitting, consultation will occur with the Federal agency under section 7(a)(2) of the ESA. Otherwise, an incidental take permit pursuant to section 10(a)(1)(B) of the ESA (also known as a habitat conservation plan) is necessary to harm or harass federally listed threatened or endangered fish or wildlife species. In either case, there is no mechanism for authorizing incidental take "after-the-fact." For more information regarding formal consultation and HCPs, please see the Service's Consultation Handbook and Habitat Conservation Plans at www.fws.gov/endangered/esa-library/index.html#consultations.

The scope of federally listed species compliance not only includes direct effects, but also any interrelated or interdependent project activities (e.g., equipment staging areas, offsite borrow material areas, or utility relocations) and any indirect or cumulative effects that may occur in the action area. The action area includes all areas to be affected, not merely the immediate area involved in the action. Large projects may have effects outside the immediate area to species not listed here that should be addressed. If your action area has suitable habitat for any of the attached species, we recommend that species-specific surveys be conducted during the flowering season for plants and at the appropriate time for wildlife to evaluate any possible project-related impacts.

Candidate Species and Other Sensitive Species

A list of candidate and other sensitive species in your area is also attached. Candidate species and other sensitive species are species that have no legal protection under the ESA, although we recommend that candidate and other sensitive species be included in your surveys and considered for planning purposes. The Service monitors the status of these species. If significant declines occur, these species could potentially be listed. Therefore, actions that may contribute to their decline should be avoided.

Lists of sensitive species including State-listed endangered and threatened species are compiled by New Mexico state agencies. These lists, along with species information, can be found at the following websites:

Biota Information System of New Mexico (BISON-M): www.bison-m.org

New Mexico State Forestry. The New Mexico Endangered Plant Program: www.emnrd.state.nm.us/SFD/ForestMgt/Endangered.html

New Mexico Rare Plant Technical Council, New Mexico Rare Plants: nmrareplants.unm.edu

Natural Heritage New Mexico, online species database: nhnm.unm.edu

WETLANDS AND FLOODPLAINS

Under Executive Orders 11988 and 11990, Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and floodplains, and preserve and enhance their natural and beneficial values. These habitats should be conserved through avoidance, or mitigated to ensure that there would be no net loss of wetlands function and value.

We encourage you to use the National Wetland Inventory (NWI) maps in conjunction with ground-truthing to identify wetlands occurring in your project area. The Service's NWI program website, www.fws.gov/wetlands/Data/Mapper.html integrates digital map data with other resource information. We also recommend you contact the U.S. Army Corps of Engineers for permitting requirements under section 404 of the Clean Water Act if your proposed action could impact floodplains or wetlands.

MIGRATORY BIRDS

The MBTA prohibits the taking of migratory birds, nests, and eggs, except as permitted by the Service's Migratory Bird Office. To minimize the likelihood of adverse impacts to migratory birds, we recommend construction activities occur outside the general bird nesting season from March through August, or that areas proposed for construction during the nesting season be surveyed, and when occupied, avoided until the young have fledged.

We recommend review of Birds of Conservation Concern at website www.fws.gov/migratorybirds/CurrentBirdIssues/Management/BCC.html to fully evaluate the effects to the birds at your site. This list identifies birds that are potentially threatened by disturbance and construction.

BALD AND GOLDEN EAGLES

The bald eagle (*Haliaeetus leucocephalus*) was delisted under the ESA on August 9, 2007. Both the bald eagle and golden eagle (*Aquila chrysaetos*) are still protected under the MBTA and BGEPA. The BGEPA affords both eagles protection in addition to that provided by the MBTA, in particular, by making it unlawful to "disturb" eagles. Under the BGEPA, the Service may issue limited permits to incidentally "take" eagles (e.g., injury, interfering with normal breeding, feeding, or sheltering behavior nest abandonment). For information on bald and golden eagle management guidelines, we recommend you review information provided at www.fws.gov/midwest/eagle/guidelines/bgepa.html.

On our web site www.fws.gov/southwest/es/NewMexico/SBC_intro.cfm, we have included conservation measures that can minimize impacts to federally listed and other sensitive species. These include measures for communication towers, power line safety for raptors, road and highway improvements, spring developments and livestock watering facilities, wastewater facilities, and trenching operations.

We also suggest you contact the New Mexico Department of Game and Fish, and the New Mexico Energy, Minerals, and Natural Resources Department, Forestry Division for information regarding State fish, wildlife, and plants.

Thank you for your concern for endangered and threatened species and New Mexico's wildlife habitats. We appreciate your efforts to identify and avoid impacts to listed and sensitive species in your project area. For further consultation on your proposed activity, please call 505-346-2525 or email nmesfo@fws.gov and reference your Service Consultation Tracking Number.

Attachment(s):

- Official Species List
- Migratory Birds

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:

New Mexico Ecological Services Field Office
2105 Osuna Road Ne
Albuquerque, NM 87113-1001
(505) 346-2525

Project Summary

Consultation Code: 02ENNM00-2021-SLI-1530
Event Code: 02ENNM00-2021-E-03668
Project Name: Conchas Lake Master Plan
Project Type: LAND - MANAGEMENT PLANS
Project Description: Updating Lakes Land Classification Document
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.3877092,-104.18869543167594,14z

Counties: San Miguel County, New Mexico

Endangered Species Act Species

There is a total of 5 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.

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.

Mammals

NAME	STATUS
New Mexico Meadow Jumping Mouse *Zapus hudsonius luteus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7965	Endangered

Birds

NAME	STATUS
Mexican Spotted Owl *Strix occidentalis lucida* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8196	Threatened
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Fishes

NAME	STATUS
Rio Grande Cutthroat Trout *Oncorhynchus clarkii virginalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/920	Candidate

Flowering Plants

NAME	STATUS
Holy Ghost Ipomopsis *Ipomopsis sancti-spiritus*	Endangered

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/8231

Critical habitats

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

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Oct 15 to Jul 31
Chestnut-collared Longspur *Calcarius ornatus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Aug 10

NAME	BREEDING SEASON
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31
Ferruginous Hawk *Buteo regalis* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/6038	Breeds Mar 15 to Aug 15
Long-billed Curlew *Numenius americanus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/5511	Breeds Apr 1 to Jul 31
Sprague's Pipit *Anthus spragueii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8964	Breeds elsewhere

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12

(0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

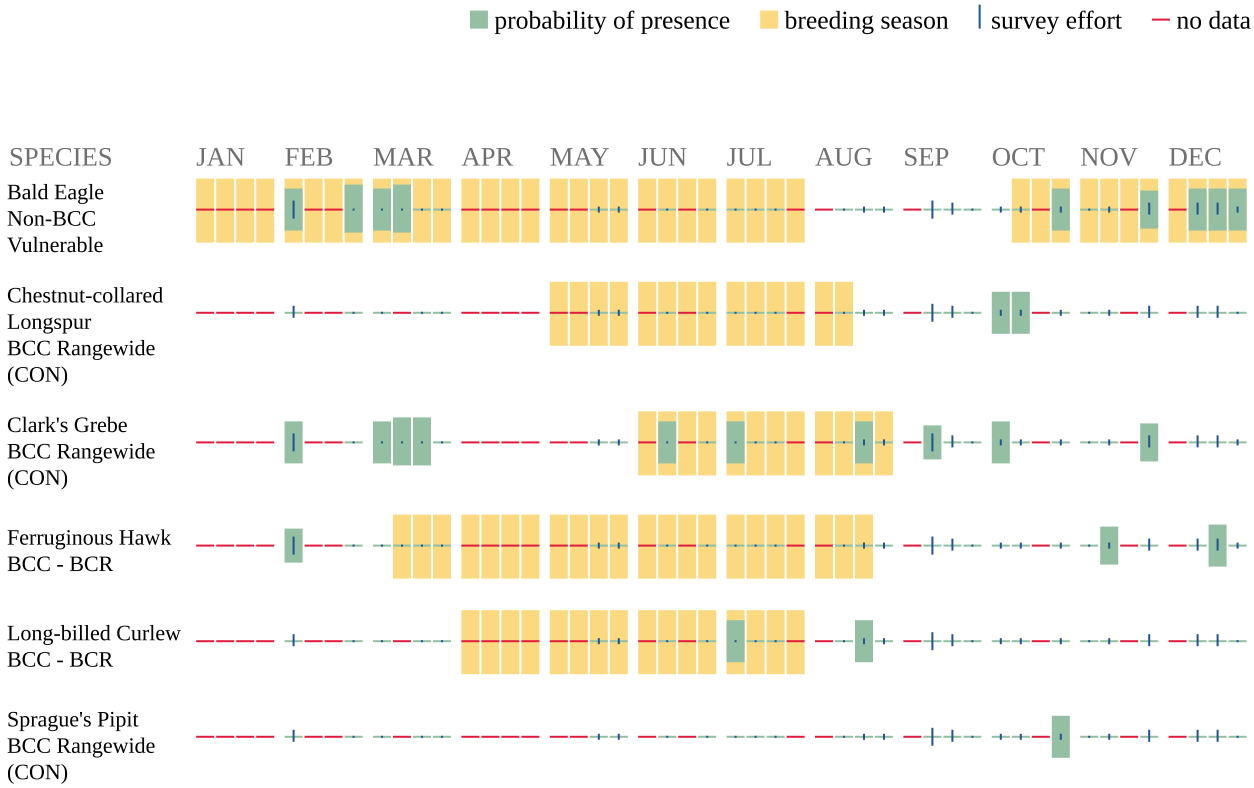
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

APPENDIX D - OFFICIAL T&E SPECIES LIST - USFWS & STATE LISTED SPECIES

Species of Greatest Conservation Need and Federal or State Threatened/Endangered

San Miguel

Taxonomic Group	# Species	Taxonomic Group	# Species
Birds	12	Fish	2
Mammals	1	Molluscs	3

TOTAL SPECIES: 18

Common Name	Scientific Name	NMGF	US FWS	Critical Habitat	SGCN	Photo
Pacific Marten	Martes caurina	T			Y	View
White-tailed Ptarmigan	Lagopus leucura	E			Y	View
Yellow-billed Cuckoo (western pop)	Coccyzus americanus occidentalis		T	Y	Y	View
Broad-billed Hummingbird	Cynanthus latirostris	T			Y	View
Least Tern	Sternula antillarum	E			Y	View
Bald Eagle	Haliaeetus leucocephalus	T			Y	View
Common Black Hawk	Buteogallus anthracinus	T			Y	View
Mexican Spotted Owl	Strix occidentalis lucida		T	Y	Y	View
Boreal Owl	Aegolius funereus	T			Y	View
Peregrine Falcon	Falco peregrinus	T			Y	View
Southwestern Willow Flycatcher	Empidonax traillii extimus	E	E	Y	Y	View
Gray Vireo	Vireo vicinior	T			Y	View
Baird's Sparrow	Centronyx bairdii	T			Y	View
Arkansas River Shiner (Native pop.)	Notropis girardi	E	T	Y	Y	No Photo
Suckermouth Minnow	Phenacobius mirabilis	T			Y	View
Paper Pondshell	Utterbackia imbecillis	E			Y	View
Lake Fingernailclam	Musculium lacustre	T			Y	View
Long Fingernailclam	Musculium transversum	T			Y	View

APPENDIX E - WATER QUALITY

Water quality control is not a congressionally authorized project purpose at Conchas Lake; however, the federal Clean Water Act of 1977 (Public Law 92-217) and the New Mexico Water Quality Act (NMSA 1978, §§ 74-6-1 to 74-6-17) require federal and state facilities be managed, operated, and maintained to protect and enhance the quality of water through conformance with applicable federal, state, interstate, and local substantive standards to restore and maintain chemical, physical, and biological integrity. The New Mexico Environment Department (NMED) Surface Water Quality Bureau (SWQB) is tasked with monitoring water quality of the State's water bodies using standard operating procedures; developing water quality standards for the surface waters promulgated through New Mexico Administrative Code 20.6.4 (New Mexico Water Quality Control Commission (NMWQCC 2017)); and assessments to determine whether the state's waterbodies are attaining water quality standards and supporting designated uses through the 303(d)/305(b) Integrated List and the development of total maximum daily load (TMDL) documents for each waterbody not meeting standards. Watersheds are monitored for a two-year period with an established return frequency of approximately eight years (NMED 2019). Data from other sources (USGS, USBOR, USACE, universities, etc.) that meet SWQB's QA/QC requirements are used to supplement the records between study periods.

The NMWQCC lists the designated uses for the water stored in Conchas reservoir as irrigation storage, livestock watering, wildlife habitat, public water supply, primary contact and warmwater aquatic life (NMWQCC 2017). The use-specific numeric criteria set forth in 20.6.4.900 NMAC are applicable to the designated uses, except for a lake-specific criterion for E. coli bacteria. To evaluate against these standards, the SWQB monitors at a shallow (near Rattlesnake Island) and deep (near the Dam) station seasonally during the two-year study periods. Physical measurements collected included temperature, specific conductance, dissolved oxygen, pH, and turbidity. Lake chemistry sampling consists of total, dissolved and calculated nutrients, anions and cations, total and dissolved heavy metals, synthetic organics, radionuclides, bacteria, and cyanide, which cover all water quality criteria pertinent to the protection of all designated or existing uses.
A detailed summary of the 2002 and 2006 surveys is publicly available (NMED 2006). A similar analysis from the 2015-2016 survey (NMED 2016) has not been drafted, but the data are publicly available via the U.S. EPA's Water Quality Portal (https://www.epa.gov/waterdata/water-quality-data-wqx). However, the 2015-2016 data have incorporated the finding into the 2020-2022 Integrated List (NMED 2020). Based on 2015-2016 survey, the SWQB has determined that Conchas reservoir fully supports irrigation storage, livestock watering, public contact, and wildlife habitat, while public water supply was not assessed (NMED 2020). The warmwater aquatic life criteria was not supported, due to fish consumption advisories based on the concentration of mercury and polychlorinated biphenyls (PCB) in game fish species (i.e., bluegill, channel catfish, largemouth bass, smallmouth bass, and walleye) within the reservoir (NMED et al. 2020).

In addition to the periodic water quality surveys conducted by NMED, USACE also conducts monthly monitoring. Specifically, surface measurements of turbidity, pH,

specific conductance, secchi depth, and vertical dissolved oxygen and temperature profiles are collected by Corps reservoir staff at NMED's shallow and deep monitoring stations following a standard operating procedure (Reale and Segura 2019).

Water quality data collected by the Corps is used to support and improve water control manuals, , evaluate spatial and temporal trends, and document the effects of disturbances within and upstream of the reservoir. Data collected under this program are also provided to the SWQB to address the temporal gap between surveys.

To characterize recent water quality conditions within the reservoir, data from calendar year 2018 and 2019 from the shallow and deep stations was compiled and separated by season (i.e., Spring (March-May), Summer (June-September), and Fall (October-November)) and compared to the 2002 and 2006 water quality survey summary (NMED 2006). Despite the differences in storage volume between 2018 and 2019 (Table 1) the water quality conditions were similar. During the spring and fall, the reservoir was well mixed at both the shallow and deep stations (Figure 1). During the summer, both the shallow station, and to a greater extent the deep station, were thermally stratified (Figure 1, Table 1) and included an anoxic hypolimnion (Figure 1, Table 2). Stratification and an anoxic hypolimnion at the deep station was observed during pervious summer and fall surveys, but not at the shallow station (NMED, 2006)".

However, stratification observed in 2002 and 2006 did not result in an anoxic hypolimnion (NMED 2006). Secchi depth and the euphotic zone were greatest and most consistent during the spring, with, in general, lower values and greater variability in the summer and fall (Table 1). In contrast, the previous investigation did not identify a seasonal trend in secchi depth and the euphotic zone. However, both studies documented a greater secchi depth and the euphotic zone at the deep station. As expected, specific conductance increased as storage volume decreased ($r^2 = 0.62$; Table 1 & 2). The mean pH ranged from 7.7 to 8.9, with no apparent seasonal, interannual or spatial trends, but within the previous range observed (NMED 2006).

Dreissena (Zebra and Quagga Mussel) monitoring

SPA maintains a sampling program for early detection of *Dreissena* species (zebra and quagga mussels) at Conchas reservoir, to inform federal, state, and tribal agencies of new populations and prevent the further spread to additional reservoirs. Water samples are collected by Conchas staff monthly from June through September at each of the long-term and predetermined water quality monitoring locations with the reservoir. Samples collection follow SPA's Standard operating Procedures for *Dreissena* monitoring (Reale and Segura 2019). The samples are analyzed using a three-phase identification process (microscopy, polymerase chain reaction (PCR) and gene sequencing- ocular and molecular) by the USBOR's Technical Services Center. To date, the presence of *Dreissena* species have not been detected at Conchas.

Harmful Algal Blooms

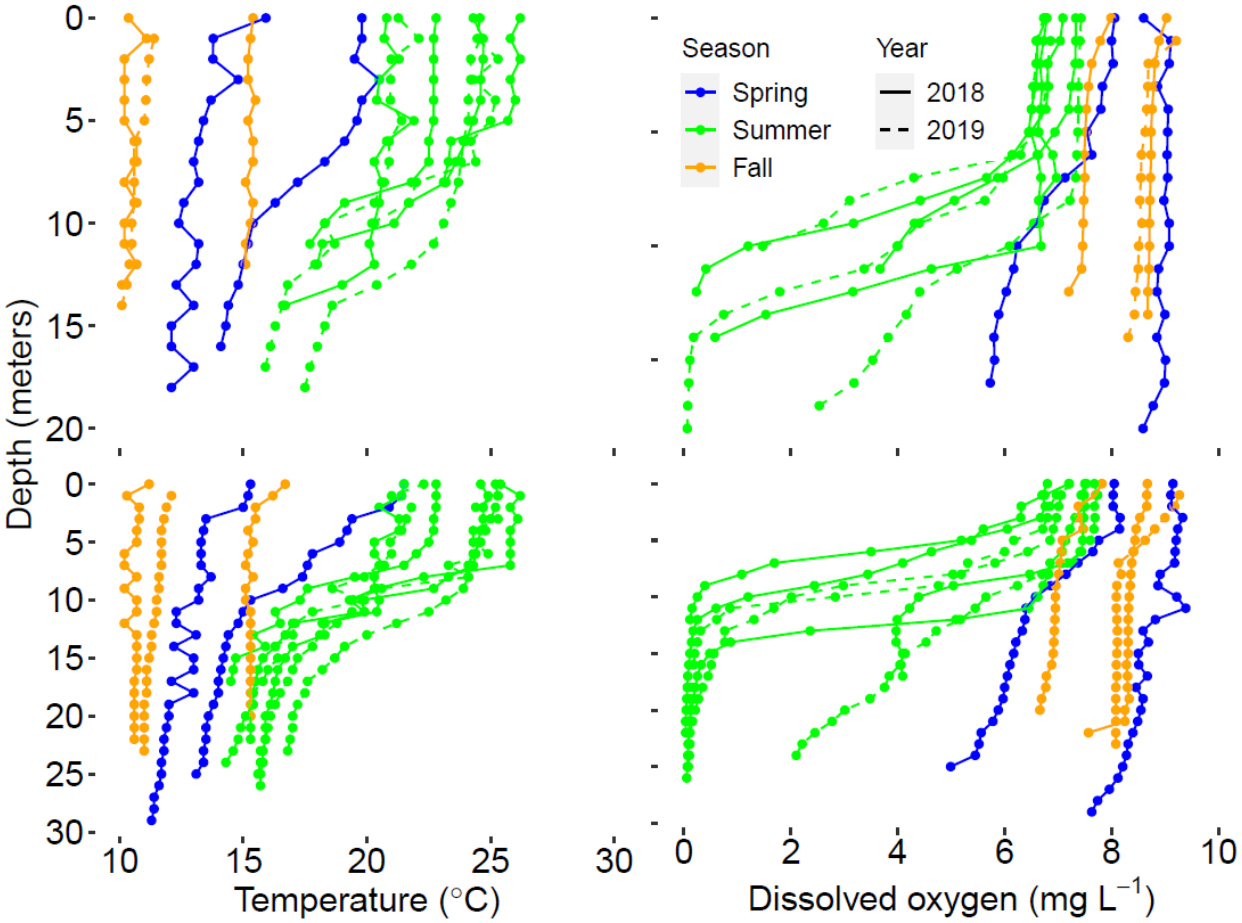
A major concern of water quality impairment is the magnitude, frequency, and duration of harmful algal blooms (HABs). There is little documentation across spatial and

temporal scales of HAB site-specific degradation, the drivers of blooms and water quality criteria for aquatic and human health for algal toxins produced by HABs across ownership boundaries (Brooks et al. 2016). Identifying factors related to HABs is of increased interest to the federal government, states, and water utilities as documented in the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2014 (PL 113–121). All 700 water bodies managed by USACE are susceptible to degradation from HABs (Semonite 2020). Impairment of these systems by HABs negatively impacts project purposes, public health, ecological health, and regional economics. Thus, the Chief of Engineers (Semonite 2020) has requested that the Environmental Advisory Board (EAB) provide recommendations on how USACE can best meet its mission, authorized responsibilities, and stakeholder coordination during HAB events.

New Mexico has documented relatively few HABs; however, in 2019 and 2020, the formation and persistence of HABs were documented, including two SPA-managed reservoirs, Cochiti Lake and Abiquiu Reservoir (Reale 2019). The HABs resulted in the closure of recreational areas and designated swim beaches. To date, the formation or persistence of HABs has not been documented at Conchas reservoir (USACE 1965; NMED 2006). However, blue-green algae *Microcystis* comprised twenty-three percent of the phytoplankton community during previous surveys at Conchas (NMED 2006), suggesting that HABs are possible. In general, HABs are anticipated to occur with greater frequency and be more difficult to control as result of anthropogenic climate change (Paerl et al. 2011, Wells et al. 2020), including large reservoirs in the western U.S. (Beaver et al. 2018).

To date, SPA does not regularly monitor algal community, HABS, or algal toxins as part of the reservoir water quality monitoring and assessment program. The current South Pacific Division guidance (USACE 2019) emphasizes visual monitoring and management actions (i.e., signage and closures). The State of NM also lacks a HAB emergency response plan and state regulatory criteria for blue-green algae and cyanotoxins (USEPA 2020). However, recommendations for recreational water quality and swimming advisories for cyanotoxins (USEPA 2019) and blue green algae (World Health Organization 2003) have been developed. Subject to appropriate guidance and authority, discrete HAB and cyanotoxin data could be collected at Conchas, with a focus on designated recreation areas and swim beaches and compared to these established public health advisories.

Vertical water temperature (left) and dissolved oxygen (right) profiles collected at the shallow (top) and deep (bottom) station at Conchas Reservoir during the spring (March-May), summer (June-September), and fall (October and November) periods, 2018 and 2019.



The seasonal mean (and standard deviation) physical characteristics for the shallow and deep stations at Conchas Reservoir during the spring (March-May), summer (June-September), and fall (October and November) periods, 2018 and 2019.

Year	Station	Season	Number of Surveys	Total Depth (m)	Secchi depth (m)	Euphotic zone (m)	Stratified (yes/no)	Storage Elevation (meters AMSL)	Storage volume (Acre-feet)
2018	Deep	Spring	2	29 (8.2)	13.5 (2.1)	37.8 (6.0)	No	4194.53	256673
2018	Shallow	Spring	2	18 (5.3)	10.8 (1.8)	30.1 (5.0)	Yes (1 of 2)	4194.53	256673
2018	Deep	Summer	3	26 (6.9)	8.4 (1.3)	23.5 (3.5)	Yes	4188.61	212984
2019	Deep	Summer	3	25 (7.2)	2.5 (0.4)	7.0 (1.2)	Yes	4182.61	174527
2018	Shallow	Summer	3	14 (3.9)	6.3 (0.3)	17.7 (0.8)	Yes	4188.74	214082
2019	Shallow	Summer	3	18 (5.2)	1.9 (0.09)	5.4 (0.3)	Yes	4182.61	174527
2018	Deep	Fall	2	22 (5.1)	9 (0)	25.2 (0)	No	4185.28	190296.5
2019	Deep	Fall	1	23 (7.0)	1.1	3.0	No	4176.33	140534
2018	Shallow	Fall	2	13 (4.0)	6.5	18.2	No	4185.26	190201
2019	Shallow	Fall	1	14 (4.5)	0.9	2.6	No	4176.33	140534

The seasonal mean (and standard deviation) water quality characteristics for the shallow and deep stations at Conchas Reservoir during the spring (March-May), summer (June-September), and fall (October and November) periods, 2018 and 2019.

Year	Station	Season	Mean dissolved oxygen (mg L^{-1})	Surface dissolved oxygen (mg L^{-1})	Anoxic Hypolimnion (< 2 mg L^{-1}; yes/no)	Mean temperature (ºC)	Surface temperature (ºC)	pH (SU)	Specific conductance (µS cm^{-1})
2018	Deep	Spring	7.7 (1.3)	8.6 (0.8)	no	14.2 (2.6)	18.4 (4.4)	8.1 (0.1)	651.5 (50.2)
2018	Shallow	Spring	8.0 (1.2)	8.3 (0.4)	no	15.1 (2.7)	17.9 (2.7)	8.3 (0.1)	654 (56.6)
2018	Deep	Summer	3.7 (3.0)	7.2 (0.3)	yes	19.7 (3.7)	23.6 (1.8)	7.7 (0.1)	654.5 (11.1)
2019	Deep	Summer	3.7 (3.2)	7.5 (0.3)	yes	19.6 (3.5)	23.8 (2.1)	8.6 (0.5)	739 (2.6)
2018	Shallow	Summer	5.7 (2.0)	7.0 (0.3)	yes	23.0 (2.5)	23.5 (2.3)	7.9 (0.4)	649.7 (10.5)
2019	Shallow	Summer	4.9 (2.5)	7.1 (0.5)	yes	21.3 (2.9)	23.0 (2.3)	8.5(0.4)	740.7 (1.5)
2018	Deep	Fall	7.7 (0.7)	8.3 (0.6)	no	13.0 (2.4)	14 (3.9)	8.4 (0.2)	678 (4.2)
2019	Deep	Fall	8.1 (0.4)	9.3	no	11.4 (0.3)	12.1	8.9	742
2018	Shallow	Fall	7.3 (0.6)	8.5 (0.7)	no	15.4 (4.2)	12.9 (3.6)	8.4	677
2019	Shallow	Fall	8.6 (0.2)	9.2	no	10.7 (0.4)	11.4	8.8	748

APPENDIX F - REFERENCES

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APPENDIX G - PERTINENT LAWS

- Public Law 59-209, 34 Stat. 225, 54 U.S.C. Section 320301-320303, Antiquities Act of 1906. The first Federal law established to protect what are now known as "cultural resources" on public lands. It provides a permit procedure for investigating "antiquities" and consists of two parts: An act for the Preservation of American Antiquities, and Uniform Rules and Regulations.
- Public Law 74-292, 49 Stat. 666, 16 U.S.C. Section 461-467, Historic Sites Act of 1935. Declares it to be a national policy to preserve for (in contrast to protecting from) the public historic (including prehistoric) sites, buildings, and objects of national significance. This act provides both authorization and a directive for the Secretary of the Interior, through the National Park Service, to assume a position of national leadership in the area of protecting, recovering, and interpreting national archeological historic resources. It also establishes an "Advisory Board on National Parks; Historic Sites, Buildings, and Monuments, a committee of eleven experts appointed by the Secretary to recommend policies to the Department of the Interior".
- Public Law 75-761, Flood Control Act of 1938. This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.
- Bald and Golden Eagle Protection Act of 1940, as amended, Title 16 U.S.C. §§ 668-668d, 54 Stat. 250,. This Act prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald eagles, including their parts, nests, or eggs. The Act provides criminal penalties for persons who take, possess, sell, purchase, barter, offer to sell, transport, export or import, at any time or any manner, any bald eagle [or any golden eagle], alive or dead, or any part, nest, or egg thereof. The Act defines “take” as pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.
- Public Law 78-534, Flood Control Act of 1944. - Section 4 of the act as last amended in 1962 by Section 207 of Public Law 87-874 authorizes USACE to construct, maintain, and operate public parks and recreational facilities in reservoir areas and to grant leases and licenses for lands, including facilities, preferably to Federal, State or local governmental agencies.
- Public Law 79-525, River and Harbor Act of 1946. This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.
- Public Law 83-780, Flood Control Act of 1954. This act authorizes the construction, maintenance, and operation of public parks and recreational facilities in reservoir areas under the control of the Department of the Army and authorizes the Secretary of the Army to grant leases of lands in reservoir areas deemed to be in the public interest.
- Public Law 85-624, Fish and Wildlife Coordination Act. - This act, as amended, sets down the general policy that fish and wildlife conservation shall receive equal consideration with other project purposes and be coordinated with other features of water resource development programs. Opportunities for improving

fish and wildlife resources and adverse effects on these resources shall be examined along with other purposes which might be served by water resources development.

- Public Law 86-717, - This act provides for the protection of forest and other vegetative cover for reservoir areas under this jurisdiction of the Secretary of the Army and the Chief of Engineers.
- Public Law 87-874, River and Harbor Act of 1962. This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.
- Public Law 88-578, Land and Water Conservation Fund Act of 1965. This act established a fund from which U.S. Congress can make appropriations for outdoor recreation. This law makes entrance and user fees at reservoirs possible by deleting the words "without charge" from Section 4 of the 1944 Flood Control Act, as amended.
- Public Law 88-29, 28 May 1963, authorized the Secretary of the Interior to inventory and classify outdoor recreation needs and resources and to prepare a comprehensive outdoor recreation plan taking into consideration the plans of the various Federal agencies, State, and other political subdivisions. It also states that the federal agencies undertaking recreational activities shall consult with the Secretary of the Interior concerning these activities and shall carry out such responsibilities in general conformance with the nationwide plan.
- Public Law 89-72, Federal Water Project Recreation Act of 1965. - This act requires that not less than one-half the separable costs of developing recreational facilities and all operation and maintenance costs at Federal reservoir projects shall be borne by a non-Federal public body. A HQUSACE/OMB implementation policy made these provisions applicable to projects completed prior to 1965.
- Public Law 89-90, Water Resources Planning Act (1965). This act established the Water Resources Council and gives it the responsibility to encourage the development, conservation, and use of the Nation's water and related land resources on a coordinated and comprehensive basis.
- Public Law 89-272, Solid Waste Disposal Act, as amended by PL 94-580, 42 U.S.C. 6901 et seq., dated October 21, 1976. This act authorized a research and development program with respect to solid-waste disposal. It proposes (1) to initiate and accelerate a national research and development program for new and improved methods of proper and economic solid-waste disposal, including studies directed toward the conservation of natural resources by reducing the amount of waste and unsalvageable materials and by recovery and utilization of potential resources in solid waste; and (2) to provide technical and financial assistance to State and local governments and interstate agencies in the planning, development, and conduct of solid-waste disposal programs.

- Public Law 89-665, 54 U.S.C. 300101 et seq., National Historic Preservation Act of one. - This act provides for: (1) an expanded National Register of significant sites and objects; (2) matching grants to states undertaking historic and archeological resource inventories; and (3) a program of grants-in aid to the National Trust for Historic Preservation; and (4) the establishment of an Advisory Council on Historic Preservation. Section 106 requires that the President's Advisory Council on Historic Preservation have an opportunity to comment on any undertaking which adversely affects properties listed, nominated, or considered important enough to be included on the National Register of Historic Places.
- Public Law 90-483, Flood Control Act of 1968, Section 210, restricted collection of entrance fee at USACE lakes and reservoirs to users of highly developed facilities requiring continuous presence of personnel.
- Public Law 91-190, National Environmental Policy Act of 1969 (NEPA) . 42 U.S.C. 4321 et seq. NEPA declared it a national policy to encourage productive and enjoyable harmony between man and his environment, and for other purposes. Specifically, it declared a "continuing policy of the Federal Government... to use all practicable means and measures...to foster and promote the general welfare, to create conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans." Section 102 authorized and directed that, to the fullest extent possible, the policies, regulations and public law of the United States shall be interpreted and administered in accordance with the policies of the Act. It is Section 102 that requires consideration of environmental impacts associated with Federal actions. Section 101 of NEPA requires the federal government to use all practicable means to create and maintain conditions under which man and nature can exist in productive harmony.

  Specifically, Section 101 of the National Environmental Policy Act declares:
  - Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations
  - Assure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings
  - Attain the widest range of beneficial uses of the environment without degradation risk to health or safety or other undesirable and unintended consequences
  - Preserve important historic, cultural, and natural aspects of our national heritage and maintain wherever possible an environment which supports diversity and variety of individual choice
  - Achieve a balance between population and resource use which will permit high standards of living and a wide sharing of life's amenities
  - Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources

- Public Law 91-611, River and Harbor Act of 1970 and Flood Control Act of 1970. . Establishes the requirement for evaluating the economic, social, and environmental impacts of projects.
- Public Law 92-347, This act revises Public Law 88-578, the Land and Water Conservation Fund Act of 1965, to require Federal agencies to collect special recreation user fees for the use of specialized sites developed at Federal expense and to prohibit the USACE from collecting entrance fees to projects.
- Public Law 92-500, Federal Water Pollution Control Act Amendments of 1972. The Federal Water Pollution Control Act of 1948 (PL 845, 80th U.S. Congress), as amended in 1961, 1966, 1970, 1972, 1977, and 1987, established the basic tenet of uniform State standards for water quality. Public Law 92-500 strongly affirms the Federal interest in this area. "The objective of this act is to restore and maintain the chemical, physical and biological integrity of the Nation's waters."
- Public Law 92-516, Federal Environmental Pesticide Control Act of 1972, (86 Stat. 973) and U.S. Code (7 U.S.C. 136-136y). This act completely revises the Federal Insecticide, Fungicide and Rodenticide Act. It provides for complete regulation of pesticides to include regulation, restrictions on use, actions within a single State, and strengthened enforcement.
- Public Law 93-81,. This act amends Section 4 of the Land and Water Conservation Fund Act of 1965, as amended, to require each Federal agency to collect special recreation use fees for the use of sites, facilities, equipment, or services furnished at Federal expense.
- Public Law 93-205, Endangered Species Act of 1973, 16 U.S.C. 1531 et seq. This law repeals the Endangered Species Conservation Act of 1969. It also directs all Federal departments/agencies to carry out programs to conserve endangered and threatened species of fish, wildlife, and plants and to preserve the habitat of these species in consultation with the Secretary of the Interior. This Act establishes a procedure for coordination, assessment, and consultation.
- Public Law 93-251, Water Resources Development Act of 1974. Section 107 of this law establishes a broad Federal policy which makes it possible to participate with local governmental entities in the costs of sewage treatment plan installations.
- Public Law 93-291, Archeological and Historic Preservation Act of 1974. The Secretary of the Interior shall coordinate all Federal survey and recovery activities authorized under this expansion of the 1960 act. The Federal Construction agency may transfer up to one percent of project funds to the Secretary with such transferred funds considered non-reimbursable project costs.
- Public Law 93-303. This act amends Section 4 of the Land and Water Conservation Fund Act of 1965, as amended, to establish less restricted criteria under which Federal agencies may charge fees for the use of campgrounds developed and operated at Federal areas under their control.

- Public Law 93-523, Safe Drinking Water Act. The act assures that water supply systems serving the public meet minimum national standards for protection of public health. The act (1) authorizes the Environmental Protection Agency to establish Federal standards for protection from all harmful contaminants, which standards would be applicable to all public water systems, and (2) establishes a joint Federal-State system for assuring compliance with these standards and for protecting underground sources of drinking water.
- Public Law 94-422,. Expands the role of the Advisory Council on Historic Preservation. Section 201 amends Section 106 of the National Historical Preservation Act of 1966 to say that the Council can comment on activities which will have an adverse effect on sites either included in or eligible for inclusion in the National Register of Historic Places.
- Public Law 95-217, Clean Water Act of 1977, as amended. This Act amends the Federal Water Pollution Control Act of 1972and extends the appropriations authorization. The Clean Water Act is a comprehensive Federal water pollution control program that has as its primary goal the reduction and control of the discharge of pollutants into the nation's navigable waters. The Clean Water Act of 1977 has been amended by the Water Quality Act of 1987, Public Law 100-4.
- Public Law 95-341, American Indian Religious Freedom Act of 1978. The Act protects the rights of Native Americans to exercise their traditional religions by ensuring access to sites, use and possession of sacred objections, and the freedom to worship through ceremonials and traditional rites.
- Public Law 95-632, Endangered Species Act Amendments of 1978. This law amends the Endangered Species Act of 1973. Section 7 directs agencies to conduct a biological assessment to identify threatened or endangered species that may be present in the area of any proposed project. This assessment is conducted as part of a Federal agency's compliance with the requirements of Section 102 of NEPA.
- Public Law 96-95, Archeological Resources Protection Act of 1979. This Act protects archeological resources and sites that are on public and tribal lands and that fosters increased cooperation and exchange of information between governmental authorities, the professional archeological community, and private individuals. It also establishes requirements for issuance of permits by the Federal land managers to excavate or remove any archeological resource located on public or Indian lands.
- Public Law 98-63, Supplemental Appropriations Act of 1983. This Act authorized the USACE Volunteer Program. The United States Army Chief of Engineers may accept the services of volunteers and provide for their incidental expenses to carry out any activity of the USACE, except policymaking or law or regulatory enforcement.
- Public Law 99-662, The Water Resources Development Act 1986. Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.

- Public Law 101-601, Native American Graves Protection and Repatriation Act (16 November 1990), requires Federal agencies to return Native American human remains and cultural items, including funerary objects and sacred objects, to their respective peoples.

APPENDIX H - ACRONYMS

ac-ft	Acre Feet
ARPA	Archeological Resources Protection Act
BLM	U.S. Bureau of Land Management
CCC	Civilian Conservation Corps
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
DC	District Commander
DM	Design Memorandum
DoD	Department of Defense
EA	Environmental Assessment
EO	Executive Order
EOP	Environmental Operating Principles
EP	Engineering Pamphlet
EPA	United States Environmental Protection Agency
ER	Engineering Regulation
ESA	Environmentally Sensitive Areas
F	Fahrenheit
FONSI	Finding of No Significant Impact
FS	Fully Supported

GAM	Groundwater Availability Models
GCD	Groundwater Conservation District
GIS	Geographical Information Systems
GMA	Groundwater Management Area
HDR	High Density Recreation
IPaC	USFWS Information for Planning and Conservation
LDR	Low Density Recreation
LEED	Leadership in Energy and Environmental Design
MP	Master Plan or Master Planning
MRML	Multiple Resource Management Lands
NAAQS	National Ambient Air Quality Standard
NEPA	National Environmental Policy Act
NAGPRA	Native American Graves Protection and Repatriation Act
NGVD29/88	National Geodetic Vertical Datum (1929 or 1988)
NHPA	National Historic Preservation Act
NMDGF	New Mexico Department of Game and Fish
NMED	New Mexico Environmental Department
NMEMNRD	New Mexico Energy, Minerals, and Natural Resources Department
NMSP	New Mexico State Parks
NMWQCC	New Mexico Water Quality Conservation Commission
NOA	Notice of Availability
NPS	National Park Service

NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NRRS	National Recreation Reservation System
NSRE	National Survey on Recreation and the Environment
NVCS	National Vegetation Classification System
NWI	National Wetland Inventory
O&M	Operations and Maintenance
OHV	Off-Highway-Vehicle
OMB	Office of Management and Budget
OMBIL	Operations and Maintenance Business Information Link
OMP	Operations Management Plan for a specific lake Project
OPM	Operations Project Manager
PDT	Project Delivery Team
PL	Public Law
PM	Project Management or Project Manager
PMBP	Project Management Business Processes
PO	Project Operations
RPEC	Regional Planning and Environmental Center
RV	Recreational Vehicle
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SH	State Highway
SHPO	State Historical Preservation Office

SMPS	Shoreline Management Policy Statement
SPA	U.S. Army Corps of Engineers Albuquerque District Office
SPA-OD	Operations Division, U.S. Army Corps of Engineers, Albuquerque
SWQB	Surface Water Quality Board
VM	Vegetative Management
USACE	United States Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
WDA	Workforce Development Area
WHAP	Wildlife Habitat Appraisal Procedure
WMA	Wildlife Management Area