Skiatook Lake Master Plan

Verdigris River Basin

Osage County, Oklahoma

December 2025

DRAFT REPORT

US Army Corps of Engineers®
Tulsa District

The Skiatook Lake Master Plan was produced by the U.S. Army Corps of Engineers Southwestern Division Regional Planning and Environmental Center (RPEC) for the Tulsa District (SWT).

EXECUTIVE SUMMARY

Skiatook Lake Master Plan
U.S. Army Corps of Engineers
Prepared by the Southwestern Division
Regional Planning and Environmental Center (RPEC)
October 2025

ES.1 PURPOSE

The Skiatook Lake Master Plan (hereafter Plan or Master Plan) is a complete revision of the 1976 *Skiatook Lake Master Plan* and its supplements. The revision is a framework built collaboratively to guide appropriate stewardship of U.S. Army Corps of Engineers (USACE) administered resources at Skiatook Lake over the next 25 years. The 1976 Master Plan has served well past its intended 25-year planning horizon and does not reflect the growing population around the lake, current regulations, and regional recreation needs.

Skiatook Dam and Lake were authorized for construction as a multipurpose project for flood control, water supply, water quality, recreation, and other beneficial uses, including fish and wildlife by the Flood Control Act approved October 23, 1962 (Public Law 87-874, 87th Congress, House Resolution 13273), in accordance with the plan outlined in House Document No. 563 (87th Congress, 2nd session). Skiatook Lake is located at River Mile 14.3 on Hominy Creek about 5 miles west of the town of Skiatook in Osage County, Oklahoma and about 18 miles northwest of Tulsa in Tulsa County, Oklahoma. (see general location map in Figure ES.1). The project was designed and is regulated to provide maximum benefits in conjunction with other reservoirs in the Bird Creek and Verdigris River systems. In addition to these primary missions, the USACE has an inherent mission for environmental stewardship of project lands as reflected in ER-1130-2-540, while working closely with stakeholders and partners to provide regionally important outdoor recreation opportunities.

The Master Plan and supporting documentation provide an inventory and analysis, goals, objectives, and recommendations for USACE lands and waters at Skiatook Lake, Oklahoma, with input from the public, stakeholders, and subject matter experts. The Master Plan is primarily a land use and outdoor recreation strategic plan that does not address the specific authorized purposes of flood risk management or water supply. Although the 2011 USACE Water Control Manual for Skiatook Lake addresses the *specifics* of water management, the Master Plan acknowledges that fluctuating water level for flood risk management and water supply can have a dramatic effect on outdoor recreation, especially at boat ramps, and swim beaches.

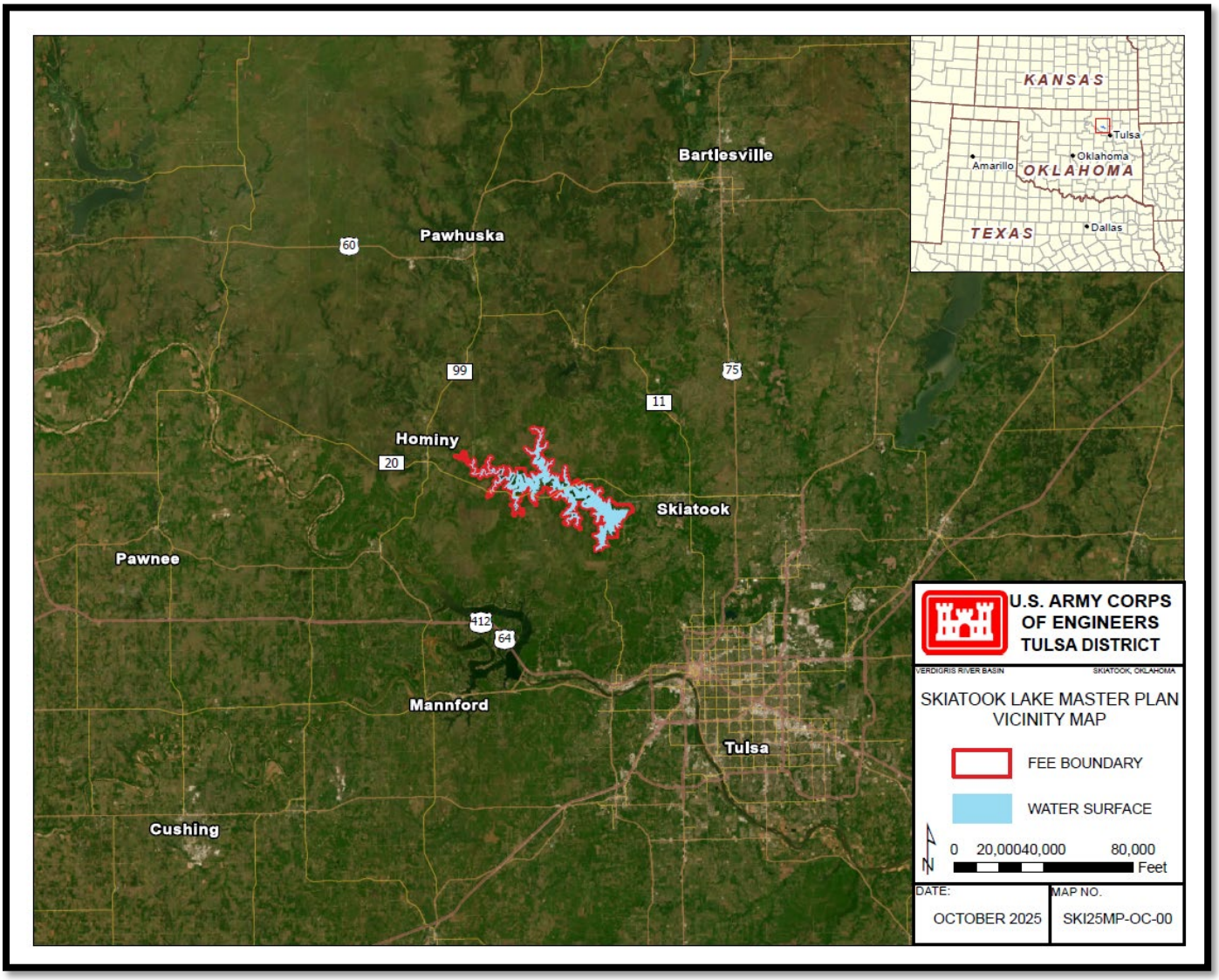

Figure ES.0.1 Vicinity Map of Skiatook Lake

The mapping used for this Master Plan revision uses modern satellite imagery and Geographic Information System (GIS) mapping, resulting in different acreage calculations than that of the 1976 Master Plan. Using 2024 GIS measurements, Skiatook Lake has a water surface of 10,348 acres at the conservation pool of 714.0 feet NGVD29 and approximately 8,736 acres of federal land lie above the conservation pool with a shoreline of approximately 164.39 miles at the top of the conservation pool.

ES.2 PUBLIC INPUT

To ensure a balance between operational, environmental, and recreational outcomes, USACE obtained both public and agency input toward the Master Plan. An Environmental Assessment (EA) was completed in conjunction with the Master Plan to evaluate the impacts of alternatives and can be found in Appendix B.

On 25 July 2024,a public information open house was held at Skiatook Public Library to inform the public of the intent to revise the Master Plan. The public input period remained open for 30 days from 25 July 2024 to 24 August 2024. An extension of the comment period for Skiatook remained open from August 24, 2024 to August 30, 2024. At the public information open house, a presentation was given that included the following topics:

- What is a Master Plan?
- What a Master Plan is Not
- Why Revise a Master Plan?
- Overview of the National Environmental Policy Act (NEPA) process
- Master Planning Process
- Instructions for submitting comments

During the Skiatook Lake Master Plan comment period, USACE received three (3) comments.

ES.3 RECOMMENDATIONS

The following land and water classification revisions (detailed in Chapter 8) are the result of the inventory, analysis, synthesis of data, documents, and public and agency input. In general, all USACE land at Skiatook Lake was reclassified either by a change in nomenclature required by regulation or changes needed to identify actual and projected use. Table ES.1 illustrates the prior and current land and water classifications, which includes a decrease in Project Operations and Recreation Areas, an increase in Wildlife Management, new lands classified under the Environmentally Sensitive Area classification for environmental, cultural, and/or aesthetic preservation, and improvements to the maps.

Table ES.1 Change from 1976 Land and Water Surface Classifications to 2025 Land and Water Surface Classifications

Prior Land Classifications (1976)	Acres	Proposed Land Classifications (2025)	Acres
Project Operations (PO)	353	Project Operations (PO)	232
		Environmentally Sensitive Areas (ESA)	384
Operations Recreation – Intensive Use (OR/IU)	1,883	High Density Recreation (HDR)	1,147
Operations Recreation – Low Density (OR/LD)	2,895	Multiple Resource Management Lands – Low Density Recreation (LDR)	2,801
Natural Area (NA)	3,569	Wildlife Management (WM)	4,172
TOTAL LAND ACRES	**8,700**	**TOTAL LAND ACRES**	**8,736**
Prior Water Surface Classifications (1975)	**Acres**	**Proposed Water Surface Classifications (2025)**	**Acres**
Water	10,383	Open Recreation (WS/OR)	10,154
		Restricted (WS/R)	34
		No Wake (WS/NW)	160
TOTAL WATER SURFACE ACRES	**10,383**	**TOTAL WATER SURFACE ACRES**	**10,348**
TOTAL FEE	**19,083**	**TOTAL FEE**	**19,084**

* Total Acreage differences from the 1976 total to the 2025 totals are due to improvements in measurement technology, deposition/siltation, and erosion. Totals also differ due to rounding while adding parcels.

The acreages of the conservation pool and USACE land lying above the conservation pool were measured using satellite imagery and Geographic Information System (GIS) technology. The GIS software allows for more finely tuned measurements and, thus, stated acreages may vary from official land acquisition records and acreage figures published in the 1976 Public Use Plan. Some changes in acreage may also be due to erosion and siltation. A more detailed summary of changes and rationale can be found in Chapter 8.

ES.4 PLAN ORGANIZATION

Chapter 1 of the Master Plan presents an overall introduction to Skiatook Lake. Chapter 2 consists of an inventory and analysis of Skiatook Lake and associated land resources. Chapters 3 and 4 lay out management goals, resource objectives, and land classifications descriptions. Chapter 5 is the resource management plan that identifies

how project lands will be managed for each land use classification. This includes current and projected overall park facility needs, an analysis of existing and anticipated resource use, and anticipated influences on overall project operation and management. Chapter 6 details special topics that are unique to Skiatook Lake. Chapter 7 identifies the public involvement efforts and stakeholder input gathered for the development of the Master Plan, and Chapter 8 gives a summary of the proposed changes in land and water classifications 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 Environmental Assessment was developed in conjunction with the Master Plan, which analyzed alternative management scenarios for Skiatook Lake, in accordance with federal regulations including the National Environmental Policy Act of 1969, as amended (NEPA); regulations of the Council on Environmental Quality; and USACE regulations, including USACE NEPA procedures. 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 as follows: 1) No Action Alternative, which would continue the use of the 1976 Master Plan, and 2) Proposed Action. The EA analyzed the potential impact these alternatives would have on the natural, cultural, and human environments. The Master Plan is conceptual and broad in nature, and any action proposed in the Plan that would result in significant disturbance to natural 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 GENERAL OVERVIEW

Skiatook Damsite is located at River Mile 14.3 on Hominy Creek in Osage County, approximately 5 miles west of Skiatook, Oklahoma. It is one of five projects in the Bird Creek Basin plan recommended to meet the comprehensive water resources needs of the area.

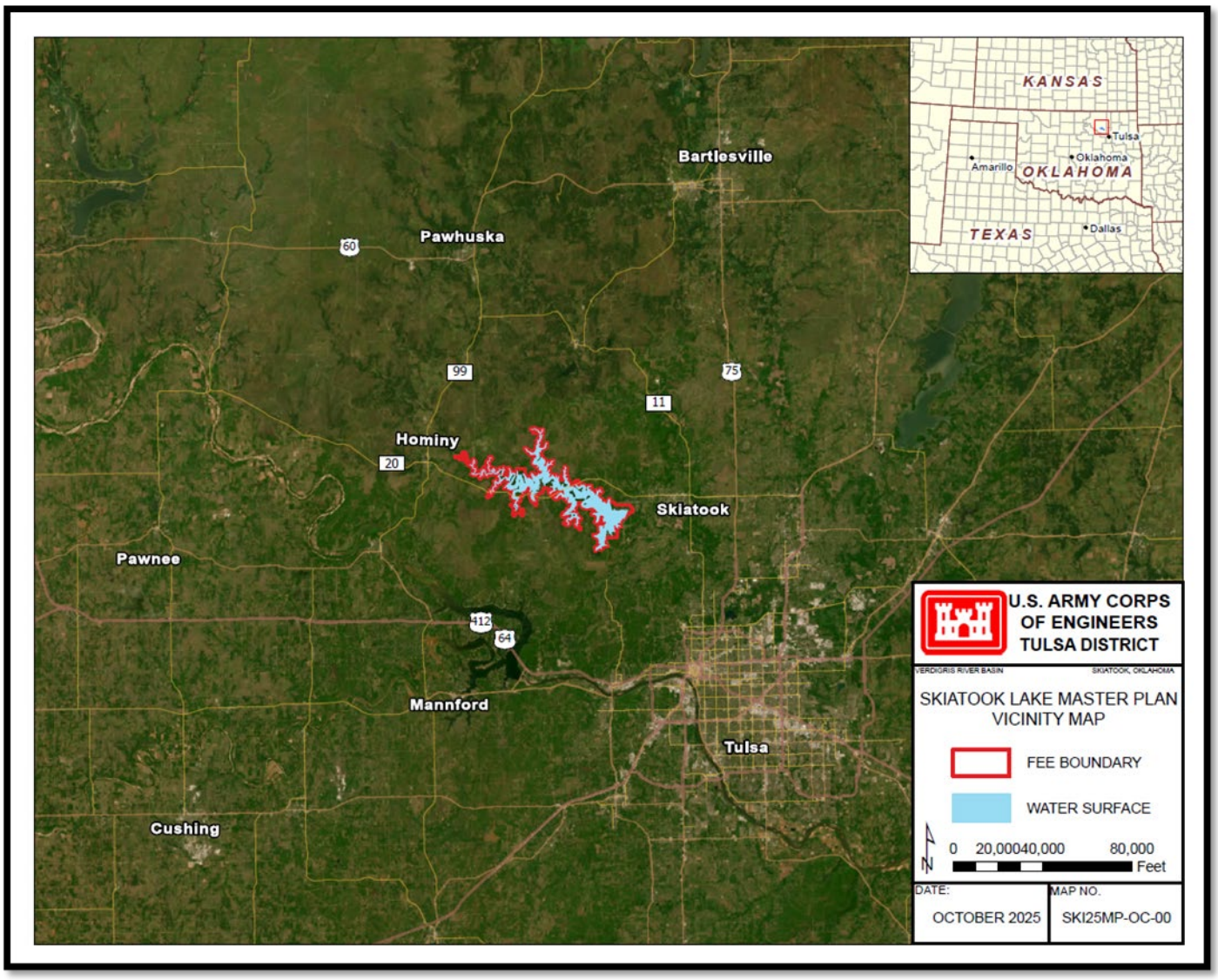

Figure 1.1 Vicinity Map of Skiatook Lake

The project serves the purposes of flood control, water quality, water supply, recreation, and fish and wildlife management. Construction began in 1974 and cost approximately $120 million.

The Master Plan 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 Skiatook Lake as reflected in ER 1130-2-540. The Master Plan identifies conceptual types and levels of activities, but does not include designs, project sites, or estimated costs. All actions carried out by the USACE, other agencies, and individuals granted leases to USACE lands must be consistent with the Master Plan. The Plan does not address the flood risk management or water supply purposes of Skiatook Lake. The 1976 Skiatook Lake Master Plan was written as Design Memorandum No. 3B and last supplemented in 1993, serving well past the intended planning horizon of 25 years. In 1999, USACE discontinued use of the Design Memorandum system as a means of organizing the many phases of civil works projects, therefore, the term “Design Memorandum” is not used in the title of this Master Plan revision.

National USACE missions associated with water resource development projects may include flood risk management, water supply, water quality, navigation, recreation, environmental stewardship 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 helps to create 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 stewardship and recreation missions. Maintaining a healthy vegetative cover and including a native prairie or tree cover 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, the USACE has developed the following statements.

The USACE Sustainability Policy and Strategic Plan states:

> *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 for 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 AUTHORIZATION

Skiatook Dam and Lake were authorized for construction by the Flood Control Act approved October 23, 1962 (Public Law 87-874, 87th Congress, House Resolution 13273), in accordance with the plan outlined in House Document No. 563 (87th Congress, 2nd session).

1.3 PROJECT PURPOSE

Skiatook Lake is a multipurpose project that was designed and is regulated to provide maximum benefits in conjunction with other reservoirs in the Bird Creek and Verdigris River systems. Skiatook Lake has the following primary authorized purposes:

- Flood Control
- Water Supply
- Water Quality Control
- Recreation
- Fish and Wildlife

1.4 MASTER PLAN PURPOSE AND SCOPE

In accordance with Engineering Regulation (ER) 1130-2-550 and Engineering Pamphlet (EP) 1130-2-550, master plans are required for most USACE water resources development projects having a federally owned land base. The master plan works in tandem with the Operational Management Plan (OMP), which is the task-oriented implementation tool for the resource objectives and development needs identified in the master plan. This revision of the Master Plan is intended to bring the master plan up to date to reflect current ecological, socio-demographic, and outdoor recreation trends that are impacting the lake, as well as those anticipated to occur within the next 25 years.

The *Skiatook Lake Master Plan (*hereafter Plan or 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 Skiatook Lake project. It is a vital tool for responsible stewardship and sustainability of the project's natural and cultural resources 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 the economy, quality, and needs in the management of Skiatook Lake resources and facilities, and that goals and objectives are accomplished at an appropriate scale.

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 the following four primary components:

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

It is important to note what the Master Plan does not address. Details of design, management and administration, and implementation are not addressed here but are covered in the Skiatook Lake OMP. In addition, the Master Plan does not address the specifics of regional water quality, shoreline management (a term used to describe primarily vegetation modification or permits by neighboring landowners), or water level management, nor does it address the operation and maintenance of prime project operations facilities such as the dam embankment, gate control outlet, and spillway. Additionally, the Plan does not address the flood risk management, water supply, or fish and wildlife purposes of Skiatook Lake with respect to management of the water level in the lake.

The previous Plan was sufficient for prior land use planning and management, but 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 and cultural resources are all factors affecting Skiatook Lake and the region in general. In response to these escalating pressures and trends, a full revision of the 1976 Master Plan is required as set forth in this Master Plan. The Master Plan revision updates land classifications and includes new resource management goals and objectives.

1.5 BRIEF WATERSHED AND PROJECT DESCRIPTION

The Hominy Creek watershed is roughly elliptical in shape, with a maximum length of about 33 miles and a maximum width of about 16 miles. The drainage area above the Skiatook dam site is 354 square miles, all of which is considered to contribute to runoff.

The total drainage area of Hominy Creek is 415 square miles. The basin ranges in elevation from about 610 feet to 1,050 feet. The vegetation consists of pasture, cultivated crops and considerable woodlands. The stream pattern consists of one principal stream with several major left bank tributaries. Slopes may vary from 3 feet per mile to above 100 feet per mile on some of the tributaries.

The dam is a rolled earth-filled embankment 3,590 feet long, including the spillway, and rises 143 feet above the streambed. A 32-foot crest width was required to accommodate the relocation of Oklahoma Highway 97 across the dam, based on class "C" standards. The embankment contains an impervious core with a top width of 20 feet at elevation 750.0 feet and a maximum base width of approximately 220 feet. Compacted random fill was placed on each side of the impervious core to the required slopes. The upstream slope of the embankment is protected by 18-inch riprap placed on a 6-inch bedding layer from elevation 680.0 feet to elevation 736.0 feet. The downstream slope of the embankment is protected by grass sod.

The uncontrolled spillway was excavated in the right abutment 560 feet south of the dam axis. The spillway channel is about 620 feet long and has a 100-foot-wide invert at elevation 732.0 feet. The side slopes of the spillway are 4V to 1H from the invert to the top of the limestone where a 10-foot berm is provided, then IV to1H to natural ground. The crest is at elevation 732.0 feet and is protected by a 25-footwide sill and slab founded on shale. The approach channel has a slope of plus 0.2 percent and the exit channel has a super critical slope of minus 2.0 percent. The spillway operates only for floods greater than the standard project flood, a frequency of operation of once in over a hundred years. Spillway modification construction was performed in 2003. This construction modified the spillway with an anchored two-foot thick reinforced concrete chute to stop erosion problems.

The outlet works consists of a gate tower, tunnel, and stilling basin. The gate tower contains two 4.667-feet by 10.5-feet passages for flood releases controlled by hydraulically operated slide gates. Tandem gates are installed in each passage. The downstream gate operates as the service gate and the upstream gate functions as the emergency gate. A 10.5-foot inside diameter round reinforced concrete-lined tunnel extends from the gate tower transition 980 feet downstream to the stilling basin. The tunnel inlet invert elevation is 620.0 feet and the outlet invert elevation is 615.0 feet.

Skiatook Lake is a multi-purpose project for flood control, water supply, water quality, recreation, and other beneficial uses, including fish & wildlife. The project was designed and is regulated to provide maximum benefits in conjunction with other reservoirs in the Bird Creek and Verdigris River systems.

1.6 DESCRIPTION OF RESERVOIR

Based on the 2025 GIS data maintained by the Tulsa District, Skiatook Lake covers approximately 10,348 surface acres of water when at the top of conservation pool (714.0 NGVD29). The average depth of the lake is 32 feet and has about 160

miles of shoreline. The top of the flood control pool is elevation 729.0 feet NGVD29. At the conservation pool, the lake was designed to accommodate 321,410 acre-feet.

1.7 PROJECT ACCESS

Oklahoma Highway 20 (SH-20) provides excellent traffic circulation throughout the lake area.

1.8 PRIOR DESIGN MEMORANDA AND PLANNING REPORTS

Design Memorandums (DM) and planning reports approve and set forth design and development plans 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. The *Master Plan, Skiatook Lake, Hominy Creek Oklahoma*, dated September 1976, presents a program for development and management of the Skiatook Lake area for recreation and other land and water uses. The following are DM's for Skiatook Lake:

- Design Memorandum No. 1, Hydrology – Part I, dated August 1964
- Design Memorandum No. 1, Hydrology – Part II, dated June 1966
- Design Memorandum No. 2, General Design, dated October 1966
- Design Memorandum No. 3A, Preliminary Master Plan, dated September 1966
- Design Memorandum No. 3B, Master Plan, dated August 1977
- Design Memorandum No. 4-1, Real Estate for Dam Site, Public Use Areas, Access Roads, and Part of the Reservoir Area, dated January 1967
- Design Memorandum No. 4-3, Real Estate for Remainder of Lake, October 1974
- Design Memorandum No 5, Left Abutment Access Road, dated July 1966
- Design Memorandum No. 6, Embankment (Revised), dated June 1976
- Design Memorandum No. 7, Outlet Works and Spillway (Revised), dated May 1978
- Design Memorandum No. 8. Construction Material, dated April 1966
- Design Memorandum No. 9, Project Buildings and Overlook, June 1966
- Design Memorandum No. 10, Relocation of Highway 20, dated September 1967
- Design Memorandum No. 11, Relocation of Osage County Roads, dated May 1976
- Design Memorandum No. 12, Relocation of Facilities Operated by William Brother Pipeline Company, dated November 1967
- Design Memorandum No. 13, Relocation of Facilities of Shell Pipeline Corporation and Texas Pipeline Company, dated June 1968
- Design Memorandum No. 14, Relocation of Facilities Operated by Verdigris Valley Electric Cooperative, Inc., dated December 1982
- Design Memorandum No. 15, Relocation of Facilities Operated by Southwestern Bell Telephone Company, dated July 1974
- Design Memorandum No. 16, Relocation of Facilities Operated by Bigheart Pipeline Corporation, dated July 1974
- Design Memorandum No. 17, Relocation of Facilities Operated by Transok, Incorporated, dated May 1975

- Design Memorandum No. 18, Relocation of Facilities Operated by Arco Pipeline Company, dated May 1975
- Design Memorandum No. 19, Relocation of Facilities Operated by Cities Service Gas Company, dated May 1975
- Design Memorandum No. 20, Relocation of Facilities Operated by Phillips Petroleum Company, dated September 1977
- Design Memorandum No. 21, Relocation of Facilities Operated by Indian Electric Cooperative, Inc, dated May 1975
- Design Memorandum No. 22, Relocation of Facilities Operated by Public Service Company of Oklahoma, dated July 1975
- Design Memorandum No. 23, Clearing, dated July 1982
- Design Memorandum No. 24, Sedimentation and Degradation Ranges, dated November 1974
- Design Memorandum No. 25, Relocation of Facilities Operated by SAR Water Corporation, dated July 1974
- Design Memorandum No. 26, Plugging Oil and Gas Wells, dated March 1980
- Design Memorandum No. 27, Right Abutment Access Roads, dated February 1981
- Design Memorandum No. 28, Initial Filling Plan, dated May 1984

1.9 PUBLIC LAWS

The following Public Laws (PL) are applicable to Skiatook Lake. Additional information on Federal Statutes applicable to Skiatook can be found in the Environmental Assessment for the Skiatook Lake Master Plan revision in Appendix B of this Plan.

- Flood Control Act of 1944, Section 4 PL 78-534 of this act as last amended in 1962 by Section 207 of Public Law 87-874 authorizes the 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. This law also authorized the creation of the Southwestern Power Administration (SWPA), then within the Dept. of the Interior and now within the Dept. of Energy, as the agency responsible for marketing and delivering the power generated at federal reservoir projects.
- River and Harbor Act of 1946, PL 79-525. This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.
- Flood Control Act of 1946, PL 79-526. This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes. This law amends PL 78-534 to include authority to grant leases to non-profit

organizations at recreational facilities in reservoir areas at reduced or nominal fees.

- Flood Control Act of 1954, PL 83-780. This act authorizes the construction, maintenance, and operation of public park 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.
- Fish and Wildlife Coordination Act 1958, PL 85-624. This act as amended in 1965 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.
- Rivers and Harbors Act of 1962, PL 87-874. This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes to include projects for improvement of the Verdigris River and tributaries in Oklahoma and Kansas.
- National Historic Preservation Act of 1966, PL 89-665. 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.
- River and Harbor and Flood Control Act of 1968, PL 90-483. Mitigation of Shore Damages. Section 210 restricted collection of entrance fee at USACE lakes and reservoirs to users of highly developed facilities requiring continuous presence of personnel.
- National Environmental Policy Act of 1969 (NEPA), PL 91-190. 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.

- River and Harbor and Flood Control Act of 1970, PL 91-611. Section 234 provides that persons designated by the Chief of Engineers shall have authority to issue a citation for violations of regulations and rules of the Secretary of the Army, published in the Code of Federal Regulations.
- The Water Resources Development Act (WRDA) 1986, PL 99-662. This act provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure and establishes new requirements for cost sharing.
- WRDA 1996, PL 104-303. Authorizes recreation and fish and wildlife mitigation as purposes of a project, to the extent that the additional purposes do not adversely affect flood control, power generation, or other authorized purposes of a project.

1.10 PERTINENT PROJECT INFORMATION

Table 1.1 provides pertinent information regarding operational pool elevations and existing reservoir storage capacity at Skiatook Lake.

Table 1.1 Skiatook Lake Pertinent Data based on a 2017 re-survey:

Feature	Elevation (feet)	Area (acres)	Capacity (acre-feet)	Equivalent Runoff [1] (inches)
Top of Dam	756.0	23,033	983,650	52.1
Maximum Pool	750.8	21,180	869,176	46.0
Spillway Crest	732.0	14,549	540,770	28.7
Top of Flood Control Pool	729.0	13,771	499,871	26.5
Flood Control Storage	714.0-729.0	-	177,694	9.4
Top of Conservation Pool	714.0	10,290	322,177	17.0
Conservation Storage[2]	657.0-714.0	-	306,076	16.2
Top of Inactive Pool	657.0	1,651	16,101	0.85
Inactive Storage	613.0-657.0	-	16,101	0.85

[1] From a 354-square-mile drainage area.
[2] Includes 21% for water supply (14 mgd yield based on 62,900 acre-feet of storage after sedimentation), and 79% for water quality control (62 mgd yield based on 233,000 acre-feet after sedimentation).

CHAPTER 2 – PROJECT SETTING AND FACTORS INFLUENCING MANAGEMENT AND DEVELOPMENT PHYSIOGRAPHIC SETTING

2.1 ECOREGION OVERVIEW

Ecoregions denote areas of general similarity in ecosystems and in the type, quality, and quantity of environmental resources. The Environmental Protection Agency (EPA) has developed a series of maps that categorizes these regions across the United States. Levels I and II divide the North American continent into 15 and 52 regions, respectively, while Level III ecoregions represent a subdivision of those into 104 unique regions and Level IV a finer sub-classification of those. Skiatook Lake and its watershed are located in the Level III Central Great Plains ecoregions as illustrated in Figure 2.1 (EPA 2021).

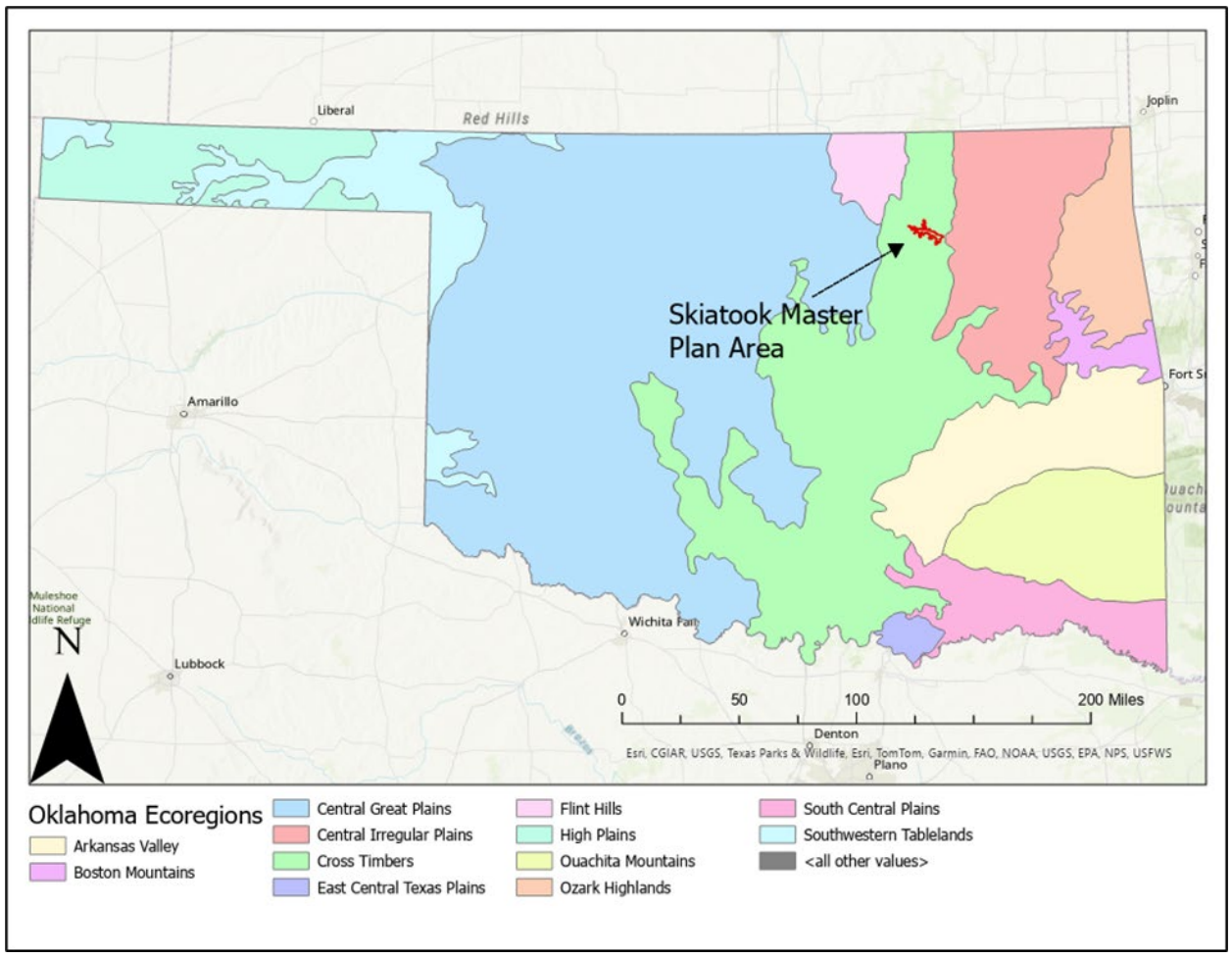

Figure 2.1 Skiatook Lake within Oklahoma Ecoregions
Source: EPA (2021)

The Cross Timbers Ecoregion consist of large open forest consisting of short post oaks and blackjacks up to about 40 feet (12 m) in height. Black hickories are found in moist sites while redbuds, roughleaf dogwoods, and other small shrubs are in open areas. In drier areas, trees are more dispersed and shorter.

2.2 CLIMATE

Skiatook Lake lies in the northeastern part of the state of Oklahoma. The region is characterized by moderate winters and long, humid summers with high temperatures. Rainfall usually occurs as high intensity, local thunderstorms occurring primarily in the late spring and early fall months. These storms are frequently accompanied by high winds, hail, and occasional tornadoes. The mean annual temperature in nearby Tulsa, Oklahoma (the nearest NOAA weather station) is about 61.3 degrees Fahrenheit (°F) (NOAA, 2021A). January, the coldest month, has an average temperature of 38.5°F and average minimum daily temperature of about 28°F. July has the highest average daily temperature of 83.4°F, and July has the highest average maximum daily temperature of 93.6°F (NOAA, 2020). The average length of the growing season is 192 days in Osage County (Oklahoma Climatological Survey, 2025). Skiatook Lake lies within the USDA Plant Hardiness Zone 7B and 7A, which is determined by the winter extreme low temperatures, with 7b having normal winter lows between 5°F and 10°F and 7A having normal winter lows between 0°F and 5°F (USDA, 2023).

The normal annual precipitation is approximately 40.25 inches in Osage County during spring and less precipitation during winter (Oklahoma Climatological Survey, 2025). The highest annual precipitation in Osage County recorded was in 1985 at 66.0 inches whereas the lowest annual precipitation recorded in Osage County was in 1956, at 16.81 inches (Oklahoma Climatological Survey, 2025). The average monthly climate data is presented in Figure 2.2, which includes the average precipitation each month and the average minimum, maximum, and daily average for each month. Tulsa, Oklahoma's monthly climate normal was used to show average minimum, maximum, and daily average for each month. The Tulsa INTL Airport weather station is about 14 miles east of Skiatook Lake.

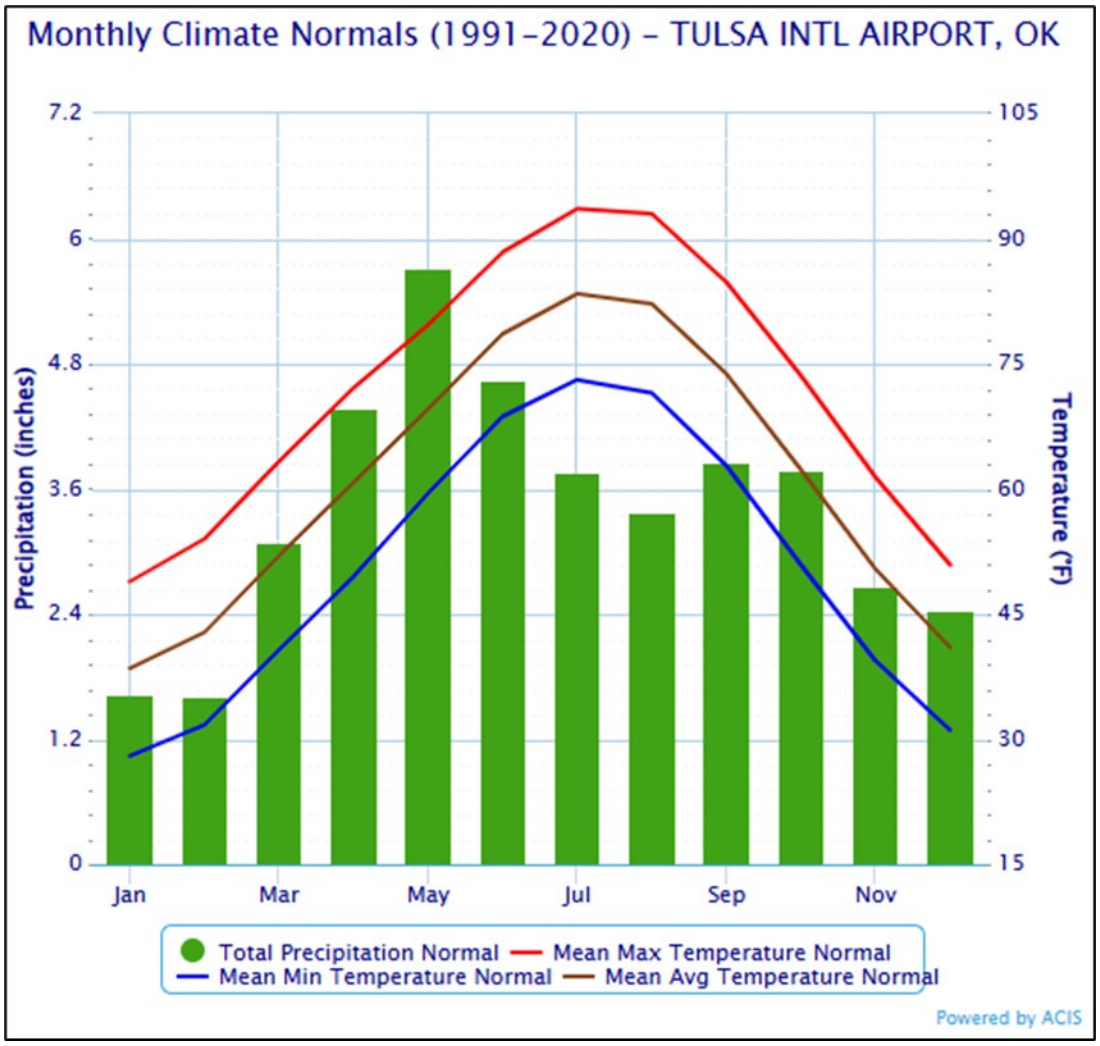

Figure 2.2 Average Monthly Climate Tulsa, Oklahoma, 1991 – 2020
Source: NOAA, 2023.

2.3 AIR QUALITY

The U.S. Environmental Protection Agency (EPA) established nationwide air quality standards to protect public health and welfare in 1971. The Air Quality Division of the Oklahoma Department of Environmental Quality (DEQ) has adopted the National Ambient Air Quality Standards (NAAQS) as the state's air quality criteria. NAAQS standards specify maximum permissible short- and long-term concentrations of various air contaminants including primary and secondary standards for six criteria pollutants: Ozone (O_3), Carbon Monoxide (CO), Sulfur Dioxide (SO_2), Nitrogen Oxides (NO_x), particulate matter (PM10 and PM2.5), and Lead (Pb). If the concentrations of one or more criteria pollutants in a geographic area are 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. There are currently no

non-attainment areas for any monitored pollutants in the State of Oklahoma including the counties around Skiatook Lake (DEQ, 2021).

2.4 TOPOGRAPHY, GEOLOGY, AND SOILS

2.4.1 Geology

Rock units were formed during the Paleozoic (30 percent) and Mesozoic (70 percent) Eras. Paleozoic strata consist of Pennsylvanian marine deposits (sandstone, shale, coal, and limestone). Mesozoic strata consist of Lower Cretaceous marine deposits (limestone).

2.4.2 Topography

The predominant landform on about 70 percent of the Section consists of irregular plains that originated from uplift of level bedded continental sediments, that had been deposited into a shallow inland sea, followed by a long period of erosion. Other landforms include plains with hills and open high hills. Elevation ranges from 330 to 1,300 ft (100 to 400 m). Local relief ranges from 100 to 300 ft (30 to 90 m).

2.4.3 Soils

The Natural Resources Conservation Service NRCS Web Soil Survey (NRCS 2022) reports 36 soil types occurring within Skiatook project lands. Table 2.1 lists the acreage and farmland status associated with each soil and surface type in the detention area while Figure 2.3 shows the location of the soils.

The main soil series within Skiatook Lake Project Lands is the Niotaze-Bigheart-Rock outcrop complex. Of the 36 soil types at Skiatook Lake, this soil association makes up 3,911.3 acres of soil found and all areas of this soil is not prime farmland. The Niotaze soils have very dark grayish brown cobbly sandy loam A horizions, brown fine sandy loam E horizons, reddish brown silty clay 2Bt horizons, mixed light brown and gray clay loam 2BCt horizons, grayish brown shale bedrock 2Cd horizons, and grayish brown moist 2Cr horizons. Their taxonomic class identifies the soil as fine, smectitic, thermic Albaquic Hapludalfs (USDA, 2016).

Table 2.1 Acres of Surface Soil Types within Skiatook Lake Project Lands

Soil Type	Number of Acres	Percent Total
Barnsdall very fine sandy loam	290	1.50%
Coyle loam	77.7	0.40%
Pocasset fine sandy loam	77.9	0.40%
Pocasset fine sandy loam	96.5	0.50%
Bethany-Pawhuska complex	3	0.00%
Lucien-Coyle complex	68	0.40%

Soil Type	Number of Acres	Percent Total
Agra silt loam	5.5	0.00%
Agra-Pharoah complex	18.1	0.10%
Dougherty loamy fine sand	2.6	0.00%
Foraker-Shidler complex	410.7	2.20%
Lightning silt loam	44.5	0.20%
Braman silt loam	136.8	0.70%
Braman silt loam	8	0.00%
Braman-Drummond complex	1.5	0.00%
Norge silt loam	11.5	0.10%
Norge silt loam	2.7	0.00%
Norge silt loam	7.6	0.00%
Norge, Agra, and Prue soils	42.8	0.20%
Norge-Pawhuska complex	7.2	0.00%
Oil-waste land-Huska complex	4.7	0.00%
Osage silty clay	27.4	0.10%
Pits	6.3	0.00%
Prue loam	53.5	0.30%
Shidler silty clay loam	0.1	0.00%
Steedman silt loam	0.1	0.00%
Steedman silt loam	6.1	0.00%
Steedman-Lucien complex	459.5	2.40%
Steedman-Lucien complex	10.3	0.10%
Westsum silty clay loam	5.6	0.00%
Verdigris silt loam	203	1.10%
Verdigris silt loam	638.3	3.30%
Wynona silty clay loam	63.6	0.30%
Bartlesville-Bigheart complex	135	0.70%
Bigheart-Niotaze-Rock outcrop complex	1,868.80	9.80%
Large dam	49.3	0.30%
Niotaze-Bigheart-Rock outcrop complex	2,276.40	11.90%
Niotaze-Bigheart-Rock outcrop complex	1,222.40	6.40%
Niotaze-Bigheart-Rock outcrop complex	412.5	2.20%
Water	10,330.3	54.10%

Source: Soil Classes (NCRS, 2022)

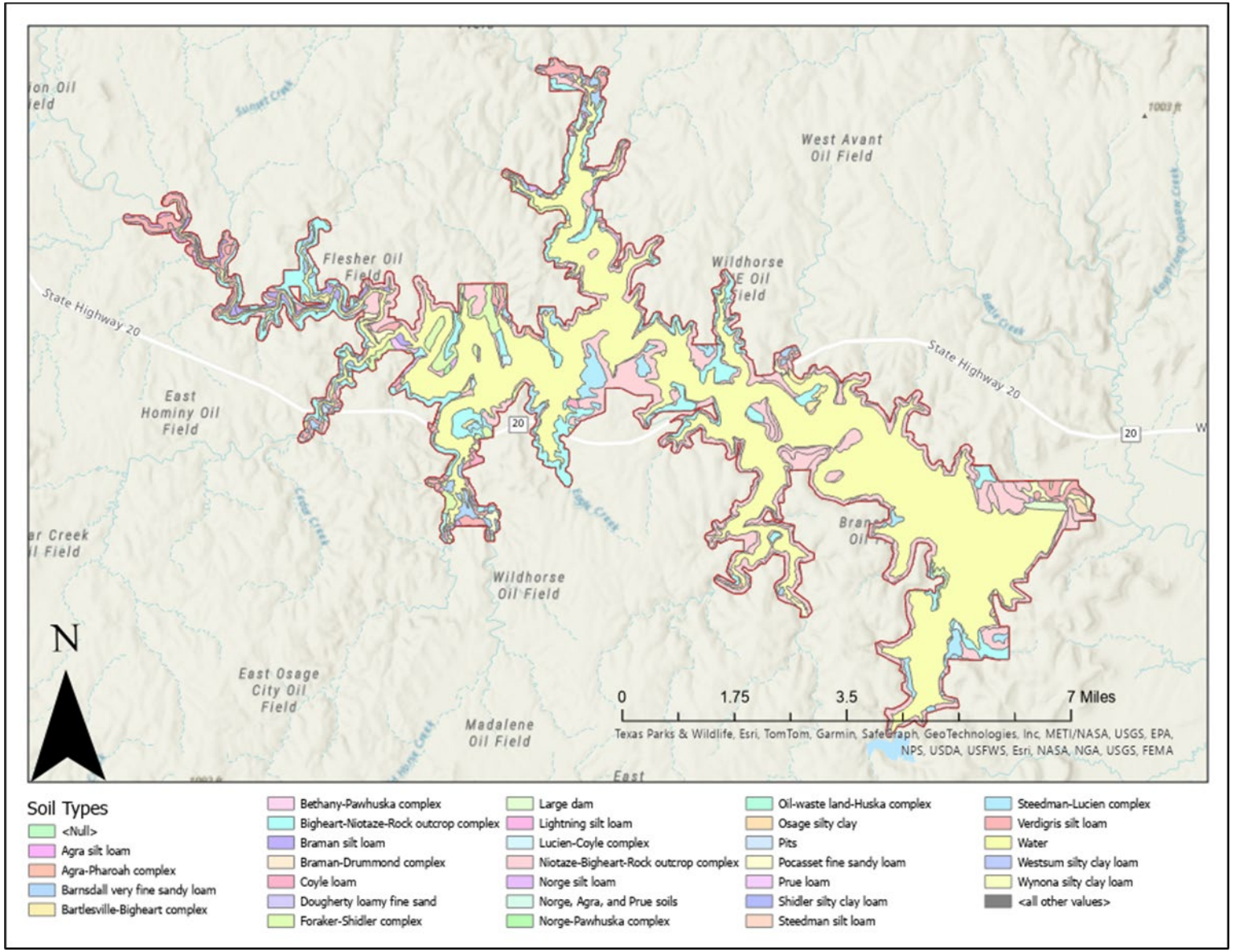

Figure 2.3 Skiatook Lake NRCS Soil Map

2.4.4 Prime Farmland

As required by Section 1541(b) of the Farmland Protection Policy Act (FPPA) of 1980 and 1995, 7 U.S.C. 4202(b), federal and state agencies, as well as projects funded with federal funds, are required to (a) use the criteria to identify and take into account the adverse effects of their programs on the preservation of farmland, (b) consider alternative actions, as appropriate, that could lessen adverse effects, and (c) ensure that their programs, to the extent practicable, are compatible with state and units of local government and private programs and policies to protect farmland.

There are several soil types in the study area that are considered prime farmland soils or soils associated with farmlands of state importance. However, the lands represented by these soil types have not been used for farming since the lands were acquired prior to the initiation of construction of Skiatook Lake in 1962. There are approximately 1,178.1 acres of prime farmland present at Skiatook Lake.

2.5 WATER RESOURCES

2.5.1 Surface Water

Skiatook Lake is located on River Mile 14.3 on Hominy Creek watershed in Osage County, Oklahoma and is about 5 miles west of the town of Skiatook. The Hominy Creek watershed is roughly elliptical in shape, with a maximum length of about 33 miles and a maximum width of about 16 miles. The drainage area above the Skiatook dam site is 354 square miles, all of which is considered to contribute to runoff. The total drainage area of Hominy Creek is 415 square miles.

2.5.2 Wetlands

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, and under normal circumstances these wetlands do support this vegetation type. Defined within the Clean Water Act (CWA), 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 230.3). Jurisdiction for these waters is addressed with the USACE and EPA.

The National Wetlands Inventory (NWI) established by US Fish and Wildlife Service (USFWS) is used to identify wetland types in a USACE water resource project area. The NWI was used to identify and calculate wetland acreage within the fee boundary of the project. Table 2.2 quantifies the number of acres per wetland type and Figure 2.4 displays the wetland types at Skiatook Lake based on National Land Cover Data from USGS including wetland habitat types.

Table 2.2 Total Acres of Wetland and Open Water at Skiatook Lake

Wetland Types	Acres
Riverine	578.68
Lake	146.97
Freshwater Emergent Wetland	39.26
Freshwater Forested/Shrub Wetland	499.16
Freshwater Pond	111.85
Total Acres of Wetlands	**1,375.92**

*These totals are based on USGS calculations and differ from the official or calculated acres reflected in other parts of this document.

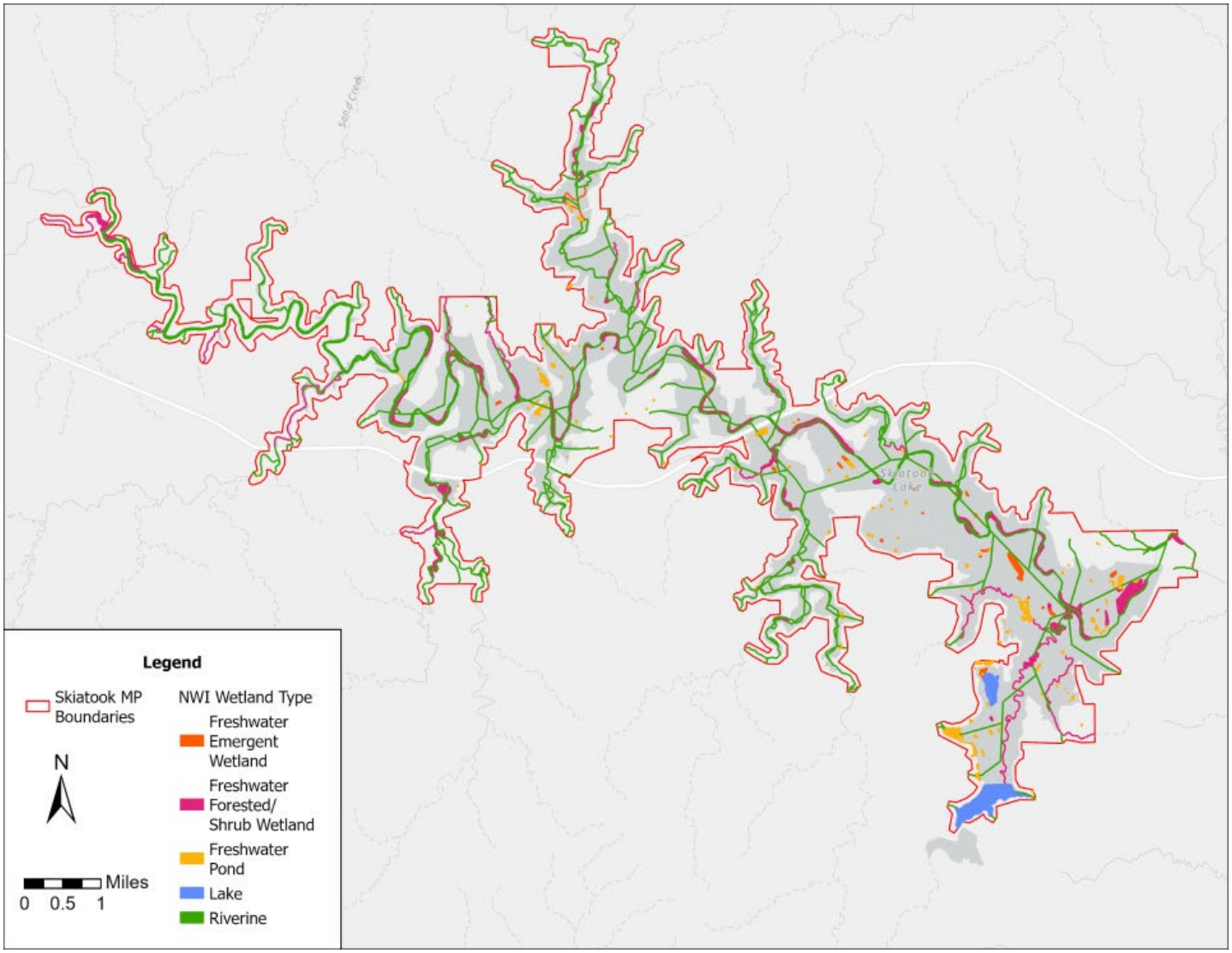

Figure 2.4 Wetland Types at Skiatook Lake

2.5.3 Groundwater

The Ozark Plateaus aquifer system is located east of Skiatook Lake and consists of limestone, dolomite and sandstone. The aquifer underlies an area of about 49,000 square miles and about 212 million gallons of groundwater is withdrawn for public and domestic supply. The aquifer is composed of three regional aquifers, Springfield Plateau, Ozark, and St. Francois aquifers.

The Vamoosa-Ada aquifer is located west of Skiatook Lake, consisting of the Vamoosa Formation and the overlying Ada Group of Pennsylvanian age. The rocks in the aquifer were deposited nearshore ranging from marine on the west to nonmarine on the east. The aquifer is a sequence of fine- to very fine-grained sandstone, siltstone, shale, and conglomerate, with interbedded very thin limestone.

2.5.4 Hydrology

Surface waters are categorized by hydrologic units. Hydrologic units are classified by the United States Geological Survey (USGS) using a Hydrologic Units Code (HUC) system. The units are classified from largest HUC with a two-digit region (i.e., the Arkansas-White-Red Region), encompassing the largest area, to a twelve-digit sub-watershed HUC. Skiatook Lake is classified by sub-watersheds as follows:

- 11 (HUC 2: Region) – Arkansas-White-Red Region
- 1107 (HUC 4: Sub-region) – Neosho-Verdigris
- 110701 (HUC 6: Basin) – Verdigris
- 11070107 (HUC 8: Sub Basin) – Bird
- 1107010702 (HUC 10: Watershed) – Hominy Creek
- 110701070207 (HUC 12: Sub-watershed) – Mahala Creek-Hominy Creek
- 110701070206 (HUC 12: Sub-watershed) – Boar
- 110701070209 (HUC 12: Sub-watershed) – Cedar Canyon
- 110701070211 (HUC 12: Sub-watershed) – Cedar Creek-Skiatook Lake
- 110701070208 (HUC 12: Sub-watershed) – Buck Creek
- 110701070210 (HUC 12: Sub-watershed) – Turkey Creek-Skiatook Lake
- 110701070212 (HUC 12: Sub-watershed) – Lost Creek-Skiatook Lake
- 110701070213 (HUC 12: Sub-watershed) – Quapaw Creek

2.5.5 Water Quality

Designated beneficial uses of the impoundment created by Skiatook Lake include Public and Private Water Supply, Fish and Wildlife Propagation as a Warm Water Aquatic Community, Agriculture, Primary Body Contact Recreation, and Aesthetics (OAC 2020a). Based on the 2022 Integrated Water Quality Assessment prepared by the Oklahoma Department of Environmental Quality (ODEQ 2022), Skiatook Lake is listed as impaired by turbidity affecting Fish and Wildlife Propagation as a Warm Water Aquatic Community.

USACE previously conducted water quality sampling at Skiatook Lake, OK in 1994, 2003-2004, and 2019. Thermal stratification and hypolimnetic hypoxia regularly occur in summer months. Alkalinity is consistently low and median hardness was lower in 2019. Chloride and sulfate concentrations were lower in 2019. Nutrients were present in concentrations supporting a productive system. Water clarity is lower in the upper lake improving moving downstream toward the dam. Trophic classification using chlorophyll-a suggests a moderately eutrophic system with higher productivity in the upper lake. Iron and manganese concentrations are seasonally high. Arsenic is routinely present at low levels. Detectable mercury concentrations occur at similar frequencies each sampled period, often during late summer months.

2.6 HAZARDOUS MATERIALS AND SOLID WASTE

There are no hazardous or solid waste advisories for Skiatook Lake.

2.7 HEALTH AND SAFETY

Skiatook Lake's authorized purposes include flood control, water quality control, water supply, recreation, and fish and wildlife. Compatible uses incorporated in project operation management plans include conservation and fish and wildlife habitat management components. The USACE, with some assistance from the Oklahoma Highway Patrol, Oklahoma Department of Wildlife Conservation (ODWC), 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, the project 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. Skiatook Lake also has solid waste management plans in place for camping and day use areas that are maintained by the USACE.

2.8 ECOREGION AND NATURAL RESOURCE ANALYSIS

2.8.1 Natural Resources

Skiatook Lake lies within the Cross Timbers ecoregion (Level III), the ecoregion consists of short post oaks and blackjacks. Redbud, roughleaf dogwood and several other small trees can be found in the open areas of the environment. In dry, less suitable areas, trees are shorter and more scattered. As the oaks have more rounded canopies that extend to the ground, understories are less developed. Sumac, coral berry and low shrubby oaks fill the spaces between trees (ODWC, 2016, 25-27).

Riparian/Bottomland Hardwood Forest – Riparian/Bottomland hardwoods are found along rivers and streams, mostly in broad floodplains. They are commonly found in areas where the rivers or streams flood beyond their channel confines. Common species found in riparian/bottomland hardwood forest can be made up of different Gum (Nyssa sp.), Oak (Quercus sp.), and Bald Cypress (Taxodium distichum). This habitat type acts as a natural buffer between uplands and adjacent water bodies, they act as natural filters of nonpoint source pollutants.

This region like so many other ecological regions in Oklahoma has undergone significant changes in the past 150 years. Although habitat for wildlife is present throughout the ecological regions as a whole, populations vary considerably within sub-regions. The diversity and configuration of the plant communities on the landscape influence wildlife populations. Other factors include fragmentation of once continuous habitat into smaller land holdings; competition for food and cover with livestock; conversion of woodland habitat to improved pastures, or urban and rural developments; and lack of proper wildlife and habitat management.

2.8.2 Vegetation Resources

The Texas Parks and Wildlife Department (TPWD) Wildlife Habitat Assessment Protocol (WHAP) was used to assist in the preparation of the Master Plan. The WHAP assessment was developed to allow a qualitative, holistic evaluation of wildlife habitat for particular tracts of land and measures key components that contribute to the ecological condition of the evaluated point and resulting overall suitability for wildlife.

The assessment was conducted June 17-18, 2024, at Skiatook Lake by an interdisciplinary USACE team consisting of USACE biologists and park rangers. Sixty-five WHAP survey point locations were selected and surveyed based on areas believed or known to have representative habitat types and features based on aerial imagery from existing GIS data as well as from local knowledge of the area. The purpose of the survey was to quickly assess wildlife habitat quality within the USACE Skiatook Lake fee-owned property. The highest score a site can receive is 1.00 while the lowest is 0.03, while a score of 0 represents a site skipped and not incorporated into the report calculations. The scores are not species dependent but rather diversity dependent. The data gathered from this survey helped to quantifiably describe the general habitat characteristics and identify unique/high quality areas found within USACE Skiatook Lake Fee Boundary. This data helped with revising the land classification based on what areas needed the most protection. Three major habitat types were selected and assessed at Skiatook Lake and include riparian/bottomland hardwood forests (BHF), grasslands, and upland forests.

The two most abundant habitat types surveyed for the WHAP were upland forests and riparian/bottomland hardwood forest. To evaluate all habitat types on an even scoring basis, upland forest and grassland scores were normalized by dividing their original scores by the maximum possible score for their respective habitat types. These habitat types had the highest average scores, with average total scores within 1 point of each other. This reflects how normalizing efforts on the data has helped to evaluate sites on an even scoring basis. The WHAP assessment report can be found in Appendix C of this Plan.

2.8.3 Fisheries and Wildlife Resources

Skiatook Lake provides an improved fishery over the natural river, allowing some species of sport fish to flourish in contrast to previous natural river conditions. Major species that are present in the lake include: Walleye (*Sander vitreus*), Black Crappie

(*Pomoxis nigromaculatus*), White Crappie (*Pomoxis annularis*), Channel Catfish (*Ictalurus punctatus*), Blue Catfish (*Ictalurus furcatus*), flathead catfish (*Pylodictis olivaris*), largemouth bass (*Micropterus salmoides*), smallmouth bass (*Micropterus dolomieu*), spotted bass (*Micropterus* punctulatus),white bass (*Morone chrysops*), bluegill (*Lepomis macrochirus*), green sunfish (*Lepomis cyanellus*), common carp (*Cyprinus carpio*), buffalo (*Ictiobus cyprinellus*), and freshwater drum (*Aplodinotus grunniens*).

Common wildlife species include: whitetail deer; bobwhite quail; mourning dove; cottontail rabbit; wild turkey; migratory waterfowl that includes Canada geese, snow geese; white-fronted geese and numerous species of ducks; fox squirrel; feral hogs, coyote, osprey, bald eagle, stripped skunks, red eared slider, five-lined skinks, scissor-tailed fly catchers, and painted buntings.

2.8.4 Threatened and Endangered Species

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

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.

By protecting a specific species, the USFWS and National Marine Fisheries Service (NMFS) may list them as endangered, threatened, proposed, candidate, migratory, and or protected. Those agencies are also responsible for identifying critical habitat for species. A species can have more than one protection measure with the exclusion of endangered, threatened, and listed. A species cannot be both endangered and threatened; however, a species can be endangered, migratory and protected.

1. Endangered is officially recognized by USFWS as being in danger of extinction throughout all or a significant portion of its range. Under this protection measure, a species cannot be taken, essential habitat altered and destroyed, nor transported without a permit. Take means “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct” (USFWS, 2020B).

2. Threatened means any species recognized by the USFWS as being likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Under this protection measure, a species cannot be taken, essential habitat altered and destroyed, nor transported without a permit.

3. Proposed species are those that have been determined to be in danger of extinction throughout all or a significant portion of its range, and the USFWS has proposed a draft rule to list it as either endangered or thereatened in the Federal Register to be listed under Section 4 of the ESA.

4. Candidate is a species for which the USFWS has on file sufficient information on biological vulnerability and threat(s) to support issuance of a proposal to list, but issuance of a proposed rule is currently precluded by higher priority listing actions.

5. Critical habitat is that which is essential to the conservation of a particular species.

6. Protected means that there are other Federal laws and regulations protecting the species than the Endangered Species Act. Examples include Bald and Golden Eagle Protection Act, Lacey Act, and Migratory Bird Treaty Act. Just because a species is listed as migratory doesn't automatically qualify it as protected, it must be protected by more than one law.

7. Migratory means it applies specifically to migratory birds. The law that governs these species is the Migratory Bird Treaty Act. The USFWS may list a species under "Similarity of Appearance (Threatened)" because of the species' similarity of appearance to another species that is currently listed as threatened. Under this classification these species will not have to go through Section 7 Consultation of the Endangered Species Act because they are not biologically endangered. However, under this listing category, the species may be protected by Section 9 of the Endangered Species Action, which primarily prohibits the "taking" of endangered species of fish and wildlife.

The USFWS's Information for Planning and Consultation (IPaC) database (USFWS, 2025) lists the threatened and endangered species, and trust resources that may occur within the Skiatook Lake Federal Fee Boundary (see USFWS Species List and the IPAC Report in Appendix C). Based on the IPaC report, there are 7 federally listed, proposed, or candidate species that could be found within Skiatook Lake (USFWS, 2025). A list of these species is presented in Table 2.3. There is no Critical Habitat nor Candidate Species designated within or near Skiatook Lake.

Table 2.3 Federally Listed Threatened & Endangered Species with Potential to Occur at Skiatook Lake

Common Name	Scientific Name	Federal Status	State Status
Tricolored Bat	*Perimyotis subflavus*	Proposed Endangered	Not Listed
Piping Plover	*Charadrius melodus*	Threatened	Not Listed
Rufa Red Knot	*Caildris canutus rufa*	Threatened	Not Listed
Alligator Snapping Turtle	*Macrochelys temminckii*	Proposed Threatened	Not Listed
American Burying Beetle	*Nicrophorus americanus*	Threatened	Not Listed
Monarch Butterfly	*Danaus plexippus*	Proposed Threatened	Not Listed
Western Regal Fritillary	*Argynnis idalia occidentalis*	Proposed Threatened	Not Listed
No Common name, referred to as Geocarpon	*Geocarpon mimimum*	Threatened	Threatened

The tricolored bat (*Perimyotis subflavus*) is a small yellowish to nearly orange bat that can be found across the eastern and central United States and parts of southern Canada, Mexico and Central America. The species can be found in caves and abandoned mines during the winter, but in the southern United States, where caves are sparse, the species can be found roosting in culverts and foraging during the warm nights. During the spring, summer, and fall, tricolored bats can be found roosting in the leaves of living or dead deciduous hardwood trees (NatureServe, 2022C).

The piping plover (*Charadrius melodus*) is a shorebird listed as endangered in the watershed of the Great Lakes of North America and threatened in the remainder of its range, which includes the Northern Great Plains, the Atlantic Coast, the Gulf Coast, the Bahama Islands, and the West Indies (USFWS, 1996). The Northern Great Plains population of piping plover spends up to 10 months a year on its wintering ground along the Gulf Coast and arrives on prairie breeding grounds in early May. During migration periods, they use large rivers, reservoir beaches, mudflats, and alkali flats (NatureServe, 2020D). They feed on a variety of aquatic and terrestrial invertebrates. The sandy beaches within the study area could provide suitable habitat during the plovers' spring and fall migrations. Despite the availability of habitat and the location of the lake within the species known migratory route the occurrence of the species within the project area is considered to be rare due to the lack of recent sightings.

The red knot (*Calidris canutus rufa*) is a migratory shorebird listed as threatened wherever found (USFWS, 2025C). Although sightings are rare, the project area is listed as a location where the red knot is “known or believed to occur” and is located within the probable migratory path, between breeding in the Arctic tundra and winter habitats in the southern U.S. and Central and South America. Red knots forage along sandy beaches and mud flats, and this species may use the study area for temporary stopover and foraging (NatureServe, 2022B).

The Alligator Snapping Turtle (*Macrochelys temminckii*) is the largest freshwater turtle in the United States. The species inhabits along the bottom of waterways in the Midwest, Southeast, and some parts of the Southwest. The snapping turtle’s preferred habitats are large rivers, streams, canals, lakes, and swamps, while the favored features are high canopy forest areas and structures that include tree root masses, stumps, and submerged trees. In the Winter, the species prefers shallow areas while in the Summer the species prefers deeper areas. The oldest snapping turtle documented in captivity was 80 years old and a mature female produces only one clutch each year, ranging from eight to 52 eggs. Hatchings can be found in shallow water with an abundant canopy and vegetation (USFWS, 2025A).

The American burying beetle is the largest carrion beetle in North America and can reach up to 1.0 to 1.8 inches in length. The species is believed to bury themselves under vegetation litter and/or soil. The species lives in a wide range of habitats, wet meadows, partially forested loess canyons, oak-hickory forests, shrub land, and grasslands, lightly grazed pasture, riparian zones, coniferous forest and deciduous forest with open understory (USFWS, 2025E).

The Monarch butterfly (*Danaus plexippus*) is listed as a proposed threatened species wherever it is found (USFWS, 2025B). It is an orange butterfly with black stripes and white dots on its wings, whose span can be up to 10 cm (NatureServe, 2022A). Its breeding habitat consists primarily of milkweed species (*Asclepias* spp.), which larvae feed exclusively. When it is in North America and is migrating, the species can be found pretty much wherever blooming flowers are.

The Western Regal Fritillary is listed as a proposed threatened species. This species of brush-footed butterflies displays large, orange and black wings. They can be found in tall-grass prairies and other open and sunny locations like damp meadows, marshes, wet fields, and mountain pastures.

The *Geocarpon minimum* occurs in highly mineralized soils within two different microhabitat types. In the Ozark and Cross Timbers ecoregions, it occurs in mineralized sandy soils dispersed within rocky outcrops in sandstone glades. In the Arkansas Valley and South Central Plains ecoregions, it occurs in saline prairies habitats along the margins of highly mineralized areas of bare soil. The species emerges in early November, flower and fruiting season occurs from January to early June, however, March and April are the most common survey dates reported throughout the range. Flowering period lasts about a month (USFWS, 2025D).

2.8.5 Oklahoma Natural Heritage Inventory

The Oklahoma Natural Heritage Inventory (ONHI), administered by the University of Oklahoma (OU) (2022), manages and disseminates occurrence of information on rare species, native plant communities, and animal aggregations in Oklahoma to help guide project planning efforts. An official request via email was made requesting this information for the Skiatook Lake project area. In the inventory given to USACE, ONHI indicates that there are no federally endangered, threatened, and protected species that are known to occur within the vicinity Skiatook Lake Federal Fee Boundary. (*Arkansia wheeleri*) (ONHI, 2022).

The species identified as Threatened, Endangered or Candidate Species by ODWC (2022) that are not federally listed are included in Appendix C as well as a list of Species of Greatest Conservation Need (SGCN) for the Ouachita Mountains, Arkansas River Valley and West Gulf Coastal Plain Region (ODWC, 2016).

2.8.6 Invasive Species

An invasive species is defined as a plant or animal that is non-native (or native nuisance) to an ecosystem and whose introduction causes, or is likely to cause, economic and/or environmental harm, or harm to human health. Invasive species can thrive in areas beyond their normal range of dispersal. These species are characteristically adaptable, aggressive, and have high reproductive capacity. Their vigor, along with a lack of natural enemies or controls, often leads to outbreak populations with some level of negative effects on native plants, animals, and ecosystem functions and are often associated with disturbed ecosystems and human activities.

Table 2.4 lists many of the invasive and noxious native species found at Skiatook Lake (USACE, 2016A). Other species are currently being researched for their invasive characteristics.

Table 2.4 Invasive and Noxious Native Species Found at Skiatook Lake

Common Name	Scientific Name	Native/Non-native
Birds		
Black Vulture	*Coragyps atratus*	Native
Cowbirds	*Molothrus ater*	Native
Mammals		
Wild Boar	*Sus scrofa*	Non-native
Insects		
Red Imported Fire Ant	*Solenopsis invicta*	Non-native
Plants		

Common Name	Scientific Name	Native/Non-native
Johnson Grass	*Sorghum halepense*	Non-native
Multiflora Rose	*Rosa multiflora*	Non-native
Musk Thistle	*Carduus nutans*	Non-native
Common Reed	*Phragmites australis*	Non-native
Eastern Red Cedar	*Juniperus virginiana*	Native
Amphibians		
None	None	None
Mollusks		
Zebra Mussel	*Dreissena polymorphs*	Non-native
Fish		
None	None	None

Because of the lake's relative isolation from metropolitan areas, it does not have as many invasive species compared to those within or directly adjacent to major metropolitan areas. The remoteness protects the lake from the inadvertent release and spread of common landscape plants that could become aggressive colonizers from nearby residential developments.

2.9 AESTHETIC RESOURCES

Skiatook 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 that 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 from USACE property 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. Furthermore, unauthorized removal of trees and other vegetation from USACE property could result in fines. Additionally, reasonable measures must be taken to ensure that damage to the natural landscape from invasive species and catastrophic wildfire are minimized. Vegetative management, debris removal, and other shoreline issues are managed by the USACE Skiatook Lake Office.

2.10 CULTURAL RESOURCES

Cultural resources preservation and management are an equal and integral part of all resource management at USACE-administered operational projects. The term "cultural resources" is a broad term that includes but is not limited to historic and prehistoric archaeological sites, deposits, and features; burials and cemeteries; historic and prehistoric districts comprised of groups of structures or sites; cultural landscapes; built environment resources such as buildings, structures (such as bridges), and objects; Traditional Cultural Properties (TCP) and sacred sites. These property types may be listed on the National Register of Historic Places (NRHP) if they meet the criteria specified by 36 CFR 60.4 as authorized by the NHPA, reflecting significance in architecture, history, archaeology, engineering, and culture. Cultural resources that are identified as eligible for listing in the NRHP are referred to as "historic properties," regardless of category. A TCP is a property that is eligible for inclusion in the NRHP based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. Ceremonies, hunting practices, plant-gathering, and social practices which are part of a culture's traditional lifeways, are also cultural resources.

Stewardship of cultural resources on USACE Civil Works water resources projects is an important part of the overall Federal responsibility. Numerous laws pertaining to identification, evaluation, and protection of cultural resources, Native American Indian rights, curation and collections management, and the protection of resources from looting and vandalism establish the importance of cultural resources to our Nation's heritage. With the passage of these laws, the historical intent of Congress has been to ensure that the Federal government protects cultural resources. Guidance is derived from several cultural resources laws and regulations, including but not limited to Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966 (as amended); Archaeological Resources Protection Act (ARPA) of 1979; Native American Graves Protection and Repatriation Act (NAGPRA); and 36 CFR Part 79, Curation of Federally Owned and Administered Archeological Collections. Implementing regulations for Section 106 of the NHPA and NAGPRA are 36 CFR Part 800 and 43 CFR Part 10, respectively. All cultural resources laws and regulations should be addressed under the requirements of the National Environmental Policy Act (NEPA) of 1969 (as amended), as applicable. USACE summarizes the guidance provided in these laws in ER and EP 1130-2-540.

2.10.1 Cultural History Sequence

Six broad cultural divisions are applicable to a discussion of the culture history of the Skiatook Lake region: Paleoindian, Archaic, Woodland, Mississippian/Plains Village, Protohistoric, and Historic. These general adaptation types are adopted in this Master Plan to characterize prehistoric cultural traditions within the following regional chronology:

Paleoindian: 30,000 to 7000 BC
Archaic: 7000 BC to 1 AD

Woodland: AD 1 to 1000
Mississippian/Plains Village: AD 1000 to 1500
Protohistoric (Contact Period): AD 1500 to 1830
Historic: AD 1830 to present

Paleoindian Period

While it is becoming increasingly evident that humans arrived in the Americas as early as 30,000 years ago, the Paleoindian Period is broadly accepted as spanning the end of the Pleistocene into the Early Holocene. The Clovis complex (9500–8900 BP) is the earliest well-substantiated archaeological period in the Central Plains. Paleoindian sites are usually identified by the presence of the remains of extinct Pleistocene megafauna and signature stone tools. The most visible tools are projectile points, which are used to reference different archaeological complexes. Point types include unnotched lanceolate projectile points, fluted (Clovis and Folsom), and unfluted (Allen-Frederick, Agate Basin, Hell Gap, Meserve, Plainview, Cody, Dalton, Plano, and undesignated "Late Paleoindian"). Long characterized as specialized big-game hunters, it has now been demonstrated that the archaeological complexes of the Paleoindian Period represent diversified economies of small bands of hunters and gatherers. Some groups were more reliant on megafauna than others, and some hunted megafauna during specific seasons (Blackmar and Hofman 2006). The Dalton Complex is well represented in eastern Oklahoma, spanning the period from the end of the Paleoindian Period into the Early Archaic (Ballenger 2001; Blackmar and Hofman 2006; Meltzer 2009).

In Oklahoma, the earliest proven evidence of human occupation occurs at sites such as the Domebo site, a Clovis-era mammoth kill site in Caddo County, and Jakes Bluff, a bison kill site in Harper County (Gilbert 2000). Isolated Paleoindian points have typically been found on the surface, and these points are most often collected, resulting in the loss of archaeological context. For these reasons, a limited number of Paleoindian sites have been recorded in the project area, though sites with both Paleoindian and Archaic deposits are better represented. The small number of sites from this period is much more a product of archaeological visibility than an actual representation of prehistoric populations and patterns of land use (Blackmar and Hofman 2006). In eastern Oklahoma, sites such as the Packard site in Mayes County, the Quince Site in Atoka County, and the Billy Ross site in Haskell County include large quantities of local chert, which may indicate that later Paleoindian peoples were less nomadic than earlier Paleoindians (Brooks 2021; Hawkins 2011).

Archaic Period

During the Archaic Period, an increase in seasonal variability of resources and increasing populations resulted in changing settlement and subsistence patterns (Gilbert 2000). Repeated occupation of sites, often on a seasonal basis, and features such as rock-lined hearths, roasting pits, and grinding tools reflect intensive plant processing and the cyclical exploitation of resources (Brogan 1981; Sabo and Early 1990; Brooks 2021). Increasing diversity of stone tools through time reflects the

increasing variability of faunal and floral resources and the diversity of activities taking place at habitation sites (Thies and Witty 1992). Projectile points from the Middle and Late Archaic are stylistically quite different (typically notched and stemmed) from those of the Paleoindian Period. Archaic assemblages include a variety of large dart points, knives, drills, axes, gouges, scrapers, and grinding implements (such as manos and metates). The Archaic Period is traditionally divided into Early, Middle, and Late Periods, the overall extent of which was approximately 7000 BC to 1 AD.

The Calf Creek Culture was prominent in Oklahoma during the Archaic Period between 7,000 and 4,000 years ago. This group adapted to a long drought period by living in highly mobile bands, hunting bison, and supplementing their diet with edible starchy plant seeds that were more readily available in the dry climate. Calf Creek is distinguished by finely made large spear points with deep notches on the base. Archaeologists believe there were four groups located in the east central, north central, south central, and western areas of the state based on their reliance on local flint found in the four areas (Gilbert 2000).

Prominent Calf Creek sites in Oklahoma include Primrose and Stillman Pit sites in Murray County, the Kubik site in Kay County, the Arrowhead Ditch site in Muskogee County, and the Anthony site in Caddo County. The Anthony site is unique in that it exhibits artifacts from all four Calf Creek groups and was likely a gathering place for the people as a whole (Gilbert 2000). Other Archaic sites in Oklahoma include the Pumpkin Creek site in Love County, the Lawrence site in Nowata County, and the Gore Pit site in Comanche County. The Lawrence site is near the project area and known for its burned rock cooking pit concentrations (Hawkins 2011). Archaic sites further north along the Kiamichi River than the project area indicate people depended heavily on riverine resources, though sites closer to the Red River demonstrate less cultural diversity (Brooks 2021).

Woodland

The Woodland Period in Oklahoma can be defined as one of technological innovation, with ceramics, the bow and arrow, the gradual intensification of horticulture, and concomitant social changes differentiating this time period from more residentially mobile hunting and gathering populations of earlier times. As people began domesticating plants during this period, populations became more sedentary in order to cultivate and harvest crops. In North America, sunflower, native squash, may grass, marsh elder, goosefoot, and pigweed were first domesticated, while South American crops such as corn, beans, squash, and chiles were imported through trade later. Bone tools from bison were commonly used in agricultural practices. People lived in small, seasonal villages with houses made of pole frameworks with grass thatch or cane matting to form walls and circular hearths (Gilbert 2000).

The appearance in the archaeological record of small corner-notched projectile points indicates that the bow and arrow was in use. The presence of ceramic sherds indicates that ceramic use in the form of pottery for storage and cooking had become widespread. Projectile points from this period include, in addition to the small corner-

notched points, large contracting stem points and corner-notched projectile points in a variety of styles, indicating continued use of the atlatl and darts, as well as spears likely employed for symbolic political or religious effect (Logan 2006; Hawkins 2011; Gilbert 2000; Brooks 2021).

Woodland Period sites in Oklahoma continued to follow a north-south, east-west distinction. In eastern Oklahoma north of the Arkansas River, the Cooper Culture has been defined in Delaware and Mayes counties. These archaeological assemblages are similar to groups living near Kansas City, including spear points, ceramics, clay figurines, and the use of rock shelters as seasonal camps. South of the Arkansas River but north of the Ouachita Mountains, the Fourche Maline Culture is prominent and exhibited by the McCutchan-McLaughlin site in Latimer County. In western Oklahoma, people continued a nomadic bison-hunting lifestyle and were slow to adopt the bow and arrow. The Certain Bison Kill site in Beckham County represents this, though sites such as the Swift Horse site in Roger Mills County demonstrate more adaptation of plant subsistence and bow and arrow use (Hawkins 2011; Brooks 2021).

Mississippian/Plains Village

From 1000 to 1500 AD, two main cultures were present in Oklahoma: the Mississippian to the east and the Plains Village to the north and west. Although in other regions either the Mississippian or the Plains Village are considered unique cultures and time periods in prehistoric chronology, Oklahoma presents a crossroads where the cultures coexisted in the area around the same time. Both cultures became more reliant upon cultivating crops, and large villages soon became common. Both cultures also began creating more pottery forms and styles, including bowls, jars, plates, bottles, and effigies with a wide variety of surface treatments. Ornamentation made from copper, marine shell, animal bone, a variety of minerals, and textiles was widely used as well (Hawkins 2011; Brooks 2021).

The Mississippian culture in Oklahoma, also known as the Caddoan culture, is the westernmost representation of a mound-building culture that dominated the southeast during this timeframe. Early Mississippians constructed houses and temples with square or rectangular floor plans featuring center posts supporting the roofs. Later structures had only two center posts, and some were circular. Large burial mounds surrounded by smaller mounds are defining features of Mississippian culture. Burials included grave goods that became more elaborate over time. The Harlan site in Cherokee County is the earliest known center of Mississippian culture in Oklahoma. Spiro Mounds in Le Flore County is the most famous Mississippian site in Oklahoma. Consisting of at least 12 mounds covering an area of 80 acres, the site contained many well-preserved and elaborate objects that yielded a great deal of information about the Mississippian people with evidence of a sophisticated society, extensive trade networks, a highly developed religious center, and a political system that controlled the region (Gilbert 2000).

Plains Village people grew crops and hunted and gathered wild resources. Artifact assemblages contain gardening tools along with triangular arrow points for

hunting. Sites from this time are often identified in lowland terraces of waterways where gardening with bone tools was viable. These villages have been found along major rivers and their tributaries, including the Arkansas, Canadian, North Canadian, Washita, and Red Rivers (Gilbert 2000). Food was stored in underground cache pits that could be 3-5 feet deep and 3-5 feet wide. Ceramics were used for cooking directly over fire both inside and out and were usually smooth, though some were cord-marked. Clay figurines have been found at Plains Village sites as well and may have been used in fertility ceremonies related to agriculture. Plains Village people typically lived in villages of 75-150 people. Houses were square or rectangular and could be over 20 feet long. Rather than mounds, Plains Village people buried their dead in nearby cemeteries (Gilbert 2000). Examples of Plains Village sites in Oklahoma include the Roy Smith Site in Beaver County, the Heerwald site in Custer County, the Arthur site in Garvin County, and the McLemore site in Washita County.

The Protohistoric (Contact) Period

The period from A.D. 1500–1830 is referred to as the Protohistoric (or Contact) Period. During this time, non-native explorers, trappers, and traders visited the region, and land claims by first the Spanish and then the French brought significant changes (Everett 2021a). This was a time of reorganization and relocation by Native peoples in response to rapid cultural change as European contacts introduced new technologies, goods traded throughout the continent, diseases that spread ahead of them, the fur trade, and the horse. The pressures of these rapid changes led to increased inter-group conflict, including conflicts over access to and control of resources. People aggregated into large villages situated along major rivers, and in the later part of the period, many of these villages were fortified (Vehik 2006). The Tribes first encountered by Europeans in Oklahoma included the Caddo and Wichita in the southern and eastern parts of the state, and the Plains Apache, Osage, Pawnee, and other more nomadic groups in the northern and western parts of the state. The project area was primarily occupied by the Wichita and the Caddo, though the Osage were known to hunt and raid in the area (Everett 2021a).

The first Europeans documented in Oklahoma were part of a Spanish expedition led by Francisco Vazquez de Coronado in 1541. In search of gold, they erroneously believed to be in the province of Quivira, the expedition began in New Mexico and ended at a Wichita village in southern Kansas, passing through the panhandles of Texas and Oklahoma (Everett 2021a). Additional Spanish explorations in search of gold were conducted in the region throughout the early 1600s. However, the most valuable findings of these expeditions were the descriptions of the land, animals, and peoples they encountered. Spain eventually lost interest in exploring the area northeast of New Mexico and viewed it as a buffer zone between its territory and the French.

In 1682, Robert Cavelier, Sieur de la Salle, claimed the territory drained by the Mississippi as part of the French Empire in North America. By 1700, French traders were established in the region and had developed trading relationships with Wichita groups in the Arkansas Valley of northern Oklahoma and with the Osage to the east. In 1718, Jean Baptiste Benard Sieur de La Harpe led a trading expedition with the

eventual goal of establishing a trading post along the Red River in present-day Texas. The party traveled through eastern Oklahoma and stopped at a Wichita village in present Tulsa County at a site known as Lasley-Vore.

The Caddoan language-speaking Wichita and Affiliated Tribes were historically known as the Wichita Proper, Waco, Taovaya, Tawakoni, and Kichai. These Tribes can be traced back at least 800 years to the Washita River culture of central and western Oklahoma. The Washita River people resided in small villages of rectangular, mud-plastered houses with small gardens nearby. Between 1350 and 1450, some Washita River people began migrating north to the Great Bend of the Arkansas River in southern Kansas. Great Bend villagers lived in large, circular grass houses, grew crops, and hunted bison and small game. The archaeological record documents significant long-distance trade with the southwest, evidenced by items such as painted and glazed pottery, turquoise beads and pendants, and shell beads distinctive to Southwest Pueblo cultures. The Wichita used horses from Spanish colonies to more effectively hunt buffalo and employed guns, metal hoes, and buckets obtained from the French in their daily lives and for trade with the Comanche. In the late 1700s, increased pressure from the Osage forced the Wichita to abandon their homes in northern Oklahoma. They moved south into southeastern Oklahoma and Texas outside the project area (Wichita and Affiliated Tribes 2021). The Wichita gradually relocated to what is now northern Texas until 1859, when their reservation was established in Indian Territory (Wichita and Affiliated Tribes 2021).

The Osage were one of five immigrant Tribes of Dhegiha Siouan speakers who originated in the Ohio River area. Over time the Dhegiha Sioux diffused into different Tribes as they migrated westward, and the Osage were one of the last to split and settle in the central and western portions of Missouri around 1300 (Hunter 2013). Osage villages were physically arranged to reflect the Osage cosmos with a central street running east-west representing the path of the sun. Dwellings were rectangular long houses with domed roofs constructed of poles and woven cattail mats, bark, hides, or some combination thereof. Osages planted crops near their permanent villages, though the entire village would move onto the plains during the summer and autumn buffalo hunts and return to the permanent village locations for the remainder of the year (Bailey and Swan 2004). As the French built trade alliances with the Osage in the late 1600s and early 1700s, the Osage benefited greatly from the influx of guns and other French trade goods, as well their villages' proximity to accessible river trade routes. The Osage became the dominant Tribe in the region and began forcing the Wichita and Caddo further south. Similarly, other eastern Tribes' forced removal to traditional Osage lands in Missouri put a strain on resources available to the Tribes. In the 1790s, French trader Rene Auguste Chouteau convinced roughly one third of the Tribe to relocate to the Three Forks region of Oklahoma where the Arkansas, Verdigris, and Grand Rivers converge near Chouteau's new trading posts. Known as the Arkansas Osage, the group mainly settled at Claremore with other villages nearby.

As eastern Tribes such as the Cherokee were forced to move into Osage territory in Arkansas by the United States in the early 1800s, increased conflict between the Osage and eastern Tribes became more commonplace as the groups competed for

natural resources. In an effort to stop the violence, the United States signed treaties in 1818 and 1825 with the Osage establishing their reservation in southern Kansas and forcing Osage removal. However, the last Arkansas Osage did not leave the region until 1839, when they became too overwhelmed by eastern Tribes forced into the area by the Indian Removal Act of 1830 (Bailey and Swan 2004). The first printing press in Oklahoma was established at the Union Mission in 1835, technically ending the Protohistoric era in the state (Everett 2021b).

2.10.2 Historical Period

What is now the state of Oklahoma was included in the Louisiana Purchase in 1803, becoming part of the Louisiana Territory. When Louisiana joined the Union as a state in 1812, Louisiana Territory was renamed the Missouri Territory by the U.S. Congress to avoid confusion with the new state. In the 1820s, Oklahoma was designated Indian Territory and closed to white settlement. From that time until 1890, when the Organic Act created the Oklahoma Territory and incorporated it into the United States, more than three dozen Tribes had been forced to reside there (Bolton 2021). A portion of present-day McCurtain County was included in Miller County, Arkansas, as part of disputed territory between Mexico (present-day Texas) and the United States. The county was later abolished when Texas declared its independence from Mexico in 1836 (Rowe, 2022).

The Choctaw have two creation myths that differ dramatically, but both are centered around Nanih Waiya Mound located in modern-day Mississippi. When the Choctaw were first referenced in the written record in the late 1600s, they were a matrilineal community living in three geographical districts, with two social divisions and multiple clans within each division that determined social roles and hierarchy (Mould, 2018). During the 1700s, their government consisted of local headmen presiding over groups of villages. It was not until the early 1800s that the Choctaw began to coalesce into one nation as a gradual response to pressure from the U.S. Government (Krauthamer, 2013). The Choctaw were the first major Tribe in the southeast to be removed to modern-day Oklahoma. Removal for the Choctaw lasted over 70 years, with groups periodically being removed from their homeland until 1903. The largest group, approximately 12,000 people, made the journey first between 1830-1834 after the Treaty of Dancing Rabbit Creek was signed in 1830.

The Chickasaw homeland was located in portions of modern-day southwestern Kentucky, western Tennessee, northern Mississippi, and northwestern Alabama (Chickasaw Nation, 2021). Descendants of mound-building societies, the Chickasaw were a matrilineal society that generally lived in towns containing around 200 households. Towns could move but kept the same names, spreading apart during peacetime but clustering during war. A typical town contained a log-palisaded fort, religious and council buildings, and grounds for councils, festivals, and sports. Individual households usually included a winter house that was circular, approximately twenty-five feet in diameter, and framed with pine logs and poles, with mud-plaster walls and a sunken earthen floor; one or two summer houses, which were rectangular and had two rooms, walls of loosely woven mats, and roofs of grass thatch and bark; and a storage

house for crops (Newhall, 2018). The Chickasaw were considered great warriors and were instrumental in fighting the French during the French and Indian War (Chickasaw Nation, 2021). They were the last major Tribe in the southeast to be removed to modern-day Oklahoma and were able to negotiate favorable sales of their land in Mississippi. This allowed the Chickasaw to pay for their own removal and select favorable seasons to travel, which saved hundreds of lives.

In 1837, the Chickasaw, who had been traditional enemies of the Choctaw, signed a treaty with the Choctaw to create a Chickasaw district within the Choctaw Nation. The Chickasaw became a part of the Choctaw Nation, and the two groups negotiated with the United States together (Choctaw Nation, March 2021 and April 2021). At this time, Choctaw Nation was divided into three Choctaw districts to the east—Moshulatubbee, Apukshunnubbee, and Pushmataha—and the Chickasaw District to the west. Chickasaw and Choctaw families were free to live in any of the four districts despite their Tribal affiliation, though the bulk of Chickasaw families lived in the Chickasaw district. In 1855, the Choctaw, Chickasaw, and United States entered into a treaty that split the Tribes into two nations once again and sold Choctaw land holdings west of the Chickasaw district to the United States, reducing the reservation from over 23.7 million acres to 6.688 million acres. During this time, the Choctaw prospered economically through small farms and large cotton plantations (Choctaw Nation, March 2021 and April 2021).

Both the Chickasaw and Choctaw had participated in the southern market economy built around chattel slavery. By the time both Tribes were removed to Indian Territory, their slave-owning population reflected that of the rest of the Deep South. The upper-middle class owned anywhere from 1-15 slaves, a handful of extremely wealthy individuals owned hundreds of slaves, and the majority of Chickasaw and Choctaw citizens owned no slaves or rented enslaved labor instead (Krauthamer 2013). Their slaveholdings meant that the majority of Choctaws and Chickasaws sympathized with the South during the Civil War, and the Tribes allied with the Confederacy.

Oklahoma went through a period of instability during the Civil War. Its low population, proximity to Confederate (Texas and Arkansas) and Union (Kansas) neighbors, relatively minor tactical importance to the western campaign focused on the Mississippi River, and the Tribes' smaller militaries ensured the territory became used for troop movements to other locales and a hotspot for small raids and guerilla warfare for both sides. The Five Tribes (Cherokee, Choctaw, Chickasaw, Muscogee Creek, and Seminole) signed treaties with the Confederacy in 1861 as the Confederacy promised to respect Tribal lands and sovereignty and not abolish slavery. At this time, approximately 14 percent of Oklahoma's residents were enslaved people. The Tribes formed regiments that fought in engagements throughout the western theater, most notably at Pea Ridge, Arkansas, and Honey Springs, Oklahoma (Huston 2021). The culminative battle at Honey Springs in 1863 ensured the Union maintained control of the territory for the remainder of the war, though small Confederate raids continued. Due to constant marauding, retaliation, and split loyalties, refugee camps became common. Union loyalists were moved to Ft. Riley in Kansas and Ft. Smith in Arkansas, and Ft. Gibson was surrounded by as many as 7,000 refugees. Confederate camps along the Red

River held close to 15,000 refugees (Huston 2021). After the Confederacy surrendered, the Five Tribes signed a peace treaty with the United States in 1866. The treaty gave the western half of the territory to other Tribes in Kansas, abolished slavery, granted freedmen citizenship and property rights, and opened the territory to railroads across Tribal lands (Huston 2021).

Numerous people already lived in the new “Indian Territory” including the Osage and Wichita. The Osage oral history and archaeological evidence shows they originated in the Ohio River Valley and migrated to Eastern Missouri during the Woodland Period. With the collapse of the Mississippian society, the Osage moved to places along the Osage River and its tributaries in Missouri (Library of Congress, 2010). The Osage used modern-day Osage County, Oklahoma as part of their western territory. They used nearly permanent villages occupied by large numbers of Osages along the Arkansas River (OHS 2023b; Wilson, 1985). The Osage used a system of trails connecting their villages in Missouri to the plains region. The Osages Arkansas, Missouri, and Oklahoma territories were relinquished as part of treaties between 1808 and 1825 and in return the Osage received land in Kansas. The Osage sold their land in Kansas and purchased a portion of Cherokee land in the Indian Territory as spelled out in the Drum Treaty. By 1874 the Osage had purchased all of Osage County from the Cherokee (Wilson, 1985).

Though oil had been known in Osage County from prior to European contact, the oil fields in Osage County were first recognized as economically viable in the 1890’s. By the 1920’s Osage families were receiving far more money than the average American family at the time. The new wealth created by the oil fields allowed boom towns such as Pawhuska to expand but also brought a criminal element to the area. The Federal Government passed a law that forced the Osage to prove their ability to manage their newfound wealth or have an overseer of their funds appointed (OHS, 2023b). Predictably, this led to much corruption and a conspiracy headed by William Hale to defraud and murder the Osage people to take over control of their finances in the early 20th century (Hunter, 2013).

During Reconstruction, Oklahoma struggled with lawlessness as much as, if not more than, during the Civil War. Tribal police and courts had no jurisdiction over non-Tribal citizens (Huston, 2021). In the 1890s, The Dawes Commission began the process of allotment that would transition communally held Tribal lands into individually owned private property. This led to a large loss of Tribal lands, Tribal citizens who accepted allotments now becoming United States Citizens and allowed the area that had formerly been Indian Territory to become the territory of Oklahoma, which could then apply for statehood. Oklahoma achieved statehood in 1907 (Kidwell, 2021).

Skiatook Lake occupies part of Osage County, which was organized in 1907 with Oklahoma’s statehood. The town of Pawhuska became the county seat. Unlike most Oklahoma counties, Osage County was not opened by land runs. Under the Osage Allotment Act of 1906, each enrolled Osage tribal member received an allotment of land, while the Osage Nation retained communal mineral rights (Burns 2009). This legal structure allowed Osage citizens to lease oil rights and receive direct royalty payments, leading to great wealth in the early 20th century. The economic prosperity of the 1910s

and 1920s was followed by turbulent events including the Osage Reign of Terror and the Great Depression, which altered the county's trajectory. Nonetheless, Osage County continued to rely on oil production and cattle ranching across its vast prairie throughout the 20th century.

The town of Skiatook, located in the southeastern part of the county, was originally established around 1880 as a ranching and trading community along Bird Creek. Its location near the Kansas, Oklahoma Central and Southwestern Railway helped it develop as a regional hub for agriculture and commerce. Over time, it became part of the greater Tulsa metropolitan commuting area, though it retained its rural character.

By the 1950s, recurring flooding along Hominy Creek and growing concerns over water supply and quality in the region led local and federal leaders to advocate for a new reservoir. This proposal gained momentum with support from the U.S. Army Corps of Engineers and Oklahoma's congressional delegation. In 1962, the Flood Control Act authorized construction of Skiatook Lake (Public Law 87-874), in accordance with a plan outlined in House Document No. 563 (87th Congress, 2nd Session) (USACE, 1972).

Construction of Skiatook Dam began in 1973 and was completed in 1984. Impoundment of the reservoir began in October 1984, and the lake reached its conservation pool level by 1985. The completed project included an earth-fill embankment dam with a morning-glory-type spillway and outlet works for water control. The lake encompasses a surface area of approximately 10,348 acres and provides critical functions including flood control, municipal water supply, water quality management, fish and wildlife habitat, and recreation (USACE, 2006).

Historic site types and related resources expected in the project area include homesteads and ranches, farmsteads, trails, cemeteries, wells, cisterns, privies, rock walls, foundations or foundation piers, cellar depressions, oil and gas components, railroad lines, roads, schools, dumps, and water diversion features.

2.10.3 Cultural Resources at Skiatook Lake

There are approximately 45 known archaeological sites located wholly or in part on USACE fee lands associated with Skiatook Lake. These include 40 precontact sites, 4 historic sites, and 1 multicomponent site with both historic and precontact components. Of these, 1 site has been determined eligible for the NRHP, 4 are ineligible, and 40 have not been assessed for the NRHP.

Under the NHPA, properties of traditional religious and cultural importance to a living community may be determined to be eligible for inclusion on the NRHP. Commonly known as Traditional Cultural Properties (TCP), these properties are associated with cultural practices or beliefs of a living community that are rooted in that community's history and are important in maintaining the continuing cultural identity of the community. Therefore, TCPs must be taken into account in order to comply with

federal cultural resources regulations. Additionally, Executive Order 13007 states that each federal agency with responsibility for the management of Federal lands shall accommodate access to and ceremonial use of Native American sacred sites by religious practitioners and avoid adversely affecting the physical integrity of such sacred sites. There have been no TCPs or sacred sites identified at this time at Skiatook Lake. If TCPs or sacred sites are identified at Skiatook Lake in the future, they could be given additional protected status through ESA designation.

The Healing Rock, also known as Tepee Rock, is a 12-foot-tall triangular sandstone monolith with a 17-foot base and approximately 14–16 inches in thickness. Originally located in the Hominy Creek valley, this prominent natural formation has long been revered by local Native American communities, particularly the Osage and Quapaw Nations. Oral histories and tribal traditions maintain that Healing Rock was associated with early gatherings of the Native American Church and was believed to possess restorative powers (Henry 2002; Bersche 2002).

According to Quapaw elder Bill “Kugee” Supernaw, his great-grandfather, Tall Chief, brought the first Native American Church gatherings to the Osage people near the turn of the 20th century, around 1890–1900. These ceremonies were held in proximity to Healing Rock, which at the time stood prominently in the Hominy Creek valley. Community members are said to have brought ill or injured individuals to the site in hopes of healing (Bersche 2002). To prevent the rock’s submersion during the impoundment of Skiatook Lake, the U.S. Army Corps of Engineers relocated Healing Rock in 1986 to a ridge point south of the lake project office at the request of the Osage and Quapaw Tribes (Henry 2002; USACE 2006). Archaeological investigations at the time of relocation concluded that the rock and surrounding smaller stones were of natural origin, with no evidence of prehistoric cultural modification (Henry 2002).

Healing Rock was officially determined eligible for listing on the National Register of Historic Places (NRHP) in 2003 as a traditional cultural property due to its long-standing religious and cultural importance to the Osage and Quapaw Nations (USACE 2006). In consultation, both tribes have reaffirmed the site’s significance and the need to protect it from damage or inappropriate use. The rock and its access trail are excluded from nearby lease agreements and are maintained by USACE as part of the Skiatook Lake office compound (USACE 2006).

Multiple formal archaeological surveys have been completed at Skiatook Lake since the 1970s in response to lake construction, infrastructure development, recreation projects, and compliance with Section 106 of the National Historic Preservation Act (NHPA). This section summarizes the major investigations carried out within the lake area. Initial archaeological work began in the early 1970s with pre-impoundment investigations by the Oklahoma River Basin Survey under the University of Oklahoma and the University of Tulsa. A 1974 survey identified numerous sites within the future inundation zone, including open campsites and rockshelters along Hominy Creek and its tributaries. These early studies, such as those compiled by Gettys, Layhe, and Bobalik (1976), provided the foundation for later mitigation and planning efforts and

emphasized surface visibility and the distribution of sites across terraces, uplands, and rockshelter settings.

Subsequent excavations in the late 1970s and early 1980s, particularly those led by Donald Henry and Carol Haury, focused on paleoenvironmental reconstruction and multi-component sites such as 34OS85 (Copperhead Cave). Excavations at this site revealed a stratified sequence spanning from the Archaic to the Woodland periods and yielded chipped stone tools, ceramics, faunal remains, hearths, and other cultural features (Haury 1982; Henry 1982). These investigations established regional sequences and informed understandings of long-term habitation in the Cross Timbers region.

During the 1990s, cultural resource surveys expanded in response to planned recreational and utility improvements around Skiatook Lake. In 1992, Henry conducted a cultural resource survey for a proposed waterline corridor near Hominy Creek Valley. The survey covered a 1-km route and concluded that no prehistoric or historic archaeological evidence was present within the project area, recommending clearance for development (Henry 1992a).

Additional surveys completed in 1992 and 1995, including investigations at the proposed Crystal Bay Marina extension and public use areas, focused on slope stability, erosional exposure, and landform potential for buried resources. These investigations documented a small number of historic artifacts and surface features but found no significant cultural deposits requiring further work (Henry 1992b; Picarella 1995; Winchell 1995). In 2002, Henry conducted a large-scale cultural resource survey of the Cross Timbers project, involving over 500 acres of shoreline and upland terrain. The only cultural resource documented during this survey was the Healing Rock, a sandstone monolith relocated in 1986 due to its cultural and religious significance. No new archaeological sites were identified, and the survey emphasized erosional loss and limited occupation suitability in the surveyed parcels (Henry 2002).

Since 2010, additional surveys have been conducted in response to utility infrastructure upgrades and recreational developments. In 2019, Hawkins completed a survey of a new lease area for the Zink Ranch boat dock, which resulted in no cultural resource findings (Hawkins 2019). In 2021, two intensive cultural resource surveys were carried out along transmission corridors. One, conducted by Dillon and Sefton, involved pedestrian and shovel testing of a transmission line corridor intersecting USACE land at Skiatook Lake. No archaeological sites were recorded during the effort, and clearance was recommended (Dillon and Sefton 2021). A similar survey was completed that same year by Futch and colleagues for an adjacent segment of the transmission corridor, also yielding negative results (Futch et al. 2021). Small surveys have been, and continue to be, conducted in and near Skiatook Lake for compliance with Section 106 of the NHPA.

2.10.4 Long-term Objectives for Cultural Resources

As funding allows, the Tulsa District will plan and budget for a Historic Preservation Management Plan (HPMP) that shall be developed and incorporated into

the Operational Management Plan (OMP) in accordance with EP 1130-2-540. The purpose of the HPMP is to provide a comprehensive program to direct the historic preservation activities and objectives at Skiatook Lake and it will be accomplished if future funding is forthcoming. Completion of a full inventory of cultural resources at Skiatook Lake is a long-term objective that is needed for compliance with Section 110 of the National Historic Preservation Act (NHPA). All currently known sites with unknown eligibility and newly recorded sites must be evaluated to determine their eligibility for the NRHP. Identification and evaluation of sites is an ongoing process at Skiatook Lake. As more significant sites are identified, they could be protected through various land classifications in the future.

In accordance with Section 106 of the NHPA, any proposed activities or projects at Skiatook Lake will require review by District Archaeologists to assess their potential to impact historic properties. These activities may include those described in this Master Plan or those that may be proposed in the future by others for leases, licenses, right-of-way easements, recreational development, construction, wildlife management, or other activities that can be considered undertakings subject to Section 106 of the NHPA. The need for cultural resource surveys to locate and evaluate historic and prehistoric resources, consultation, or other compliance activities related to Section 106 of the NHPA shall be determined and coordinated by a qualified District Archaeologist. Resources determined eligible for the NRHP must be protected from proposed project impacts, or the impacts must be mitigated in consultation with appropriate parties.

The Archaeological Resources Protection Act (ARPA) secures the protection of archaeological resources and sites on lands owned and administered by the United States for the benefit of the American people. According to ARPA, it is illegal to excavate, remove, damage, or deface archaeological resources on public lands without a permit issued by the federal agency managing the land. It is also illegal to sell or transport archaeological resources removed from public lands. Tulsa District requires permits for archaeological investigations at Skiatook Lake in accordance with ARPA and is increasing surveillance and coordination with law enforcement agencies in the state to enforce ARPA civil and criminal penalties.

According to the Native American Graves Protection and Repatriation Act (NAGPRA), it is the responsibility of a federal agency to inventory human remains and associated funerary objects, as well as summarize any potential sacred objects, that existed within their archaeological collections prior to the passage of the law and, to the extent possible, identify their cultural affiliation in order to repatriate such objects to affiliated Tribes requesting their return. In addition, there are responsibilities related to the inadvertent discovery of human remains or funerary objects that occurred on federal land after the passage of the law that require a separate process of consultation, affiliation determinations, and notifications prior to repatriation. Although NAGPRA compliance has been an ongoing focus of the Tulsa District and many consultations and repatriations have occurred over the past 25-30 years, there is still more work to be done.

In recognition of the significance of the responsibility the Tulsa District has to ensure the proper and respectful treatment of the individuals who have been - or may inadvertently be - disinterred from Tulsa District land and acknowledging the fact that this work requires more than a part-time effort to be accomplished, a new full-time position has been established to focus on the proper execution of this responsibility. The intensive process to verify existing documentation and complete any missing part of the process for all collections of human remains, funerary objects, or sacred objects subject to NAGPRA in Tulsa District archaeological collections is in progress. As a necessity, this renewed effort is starting with research and reorganization of associated records and archaeological collections to ensure the proper identification and initial inventory of all NAGPRA materials that are under the control of Tulsa District. This effort will include NAGPRA collections that have been made – or may yet be discovered - at Skiatook Lake, therefore, compliance with NAGPRA is ongoing.

2.11 SOCIOECONOMICS AND DEMOGRAPHICS

2.11.1 Zone of Interest

Skiatook Dam is in Osage County, Oklahoma, and is located on Hominy Creek about 14 miles upstream of the confluence of Hominy Creek and Bird Creek. It is 4 miles west of the town of Skiatook, Oklahoma, 11 miles east of Hominy, Oklahoma, and about 18 miles northwest of Tulsa. The zone of interest for the socio-economic analysis covers a 50-mile radius to include Chautauqua County and Montgomery County within the state of Kansas, and Craig County, Creek County, Lincoln County, Mayes County, Noble County, Nowata County, Okmulgee County, Osage County, Pawnee County, Payne County, Rogers County, Tulsa County, Wagoner County, and Washington County within the state of Oklahoma (Table 2.5).

Table 2.5 Zone of Interest Counties

Zone of Interest Counties
Chautauqua County, KS
Montgomery County, KS
Craig County, OK
Creek County, OK
Lincoln County, OK
Mayes County, OK
Noble County, OK
Nowata County, OK
Okmulgee County, OK
Osage County, OK
Pawnee County, OK
Payne County, OK
Rogers County, OK
Tulsa County, OK
Wagoner County, OK
Washington County, OK

2.11.2 Population

The total population in the zone of interest in 2023 was 1,303,746 (Table 2.6). In Oklahoma, approximately 52% of the zone of interest's population resides in Tulsa County, 7% reside in Rogers County, 6% reside in Creek County, 6% reside in Payne County, 6% reside in Wagoner County, 1% reside in Craig County, 3% reside in Lincoln County, 3% reside in Mayes County, 1% reside in Noble County, 1% reside in Nowata County, 3% reside in Okmulgee County, 4% reside in Osage County, 1% reside in Pawnee County, and 4% reside in Washington County. In Kansas, approximately 2% of the zone of interest's population resides in Montgomery County, and less than 1% reside in Chautauqua County.

Table 2.6 Population Estimates and Projections (2010, 2020, 2023)

Geographical Area	2010	2020	2023 Population Estimate	2030 Population Projection Estimates
United States	308,745,538	331,449,281	332,387,540	
Kansas	2,853,118	2,937,880	2,937,569	3,031,336
Oklahoma	3,751,351	3,959,353	3,995,260	4,094,815
Chautauqua County, KS	3,669	3,395	3,370	2,986
Montgomery County, KS	35,471	31,156	31,143	28,730

Geographical Area	2010	2020	2023 Population Estimate	2030 Population Projection Estimates
Craig County, OK	15,029	14,107	14,215	13,494
Creek County, OK	69,967	71,754	72,353	72,112
Lincoln County, OK	34,273	33,458	33,917	34,933
Mayes County, OK	41,259	39,046	39,406	41,761
Noble County, OK	11,561	10,924	10,909	10,929
Nowata County, OK	10,536	9,320	9,392	10,084
Okmulgee County, OK	40,069	36,706	36,922	36,995
Osage County, OK	47,472	45,818	45,963	45,931
Pawnee County, OK	16,577	15,553	15,689	15,937
Payne County, OK	77,350	81,646	82,290	86,914
Rogers County, OK	86,905	95,240	97,235	95,670
Tulsa County, OK	603,403	669,279	673,708	685,303
Wagoner County, OK	73,085	80,981	84,339	84,547
Washington County, OK	50,976	52,455	52,895	52,411
Zone of Interest Total	**1,217,602**	**1,290,838**	**1,303,746**	**1,318,737**

Source: U.S. Census Bureau, 2023 American Community Survey 5-Year (2019-2023), U.S. Census Bureau, (2010), 2025 Oklahoma Department of Commerce (2020-2030), 2025 Wichita State University (2020-2030)

From 2023 to 2050, the population in the zone of interest is expected to increase by 6.15% from 1,303,746 to 1,383,968, an average annual growth rate of 0.21%. The forecasted population of Kansas is expected to increase by 8.07%. No counties within the zone of interest are expected to grow in Kansas. Counties in Kansas forecasted to decrease in population include Chautauqua County (-29.58%) and Montgomery County (-21.85%). The forecasted population of Oklahoma is expected to increase by 9.53%. Creek County (0.18%), Mayes County (2.76%), Nowata County (1.53%), Payne County (15.97%), Rogers County (1.44%), Tulsa County (11.42%), Wagoner County (6.72%), and Washington County (2.36%) are forecasted to increase in population. Counties in Oklahoma forecasted to decrease in population include Craig County (-15.98%), Lincoln County (-0.38%), Noble County (-6.19%), Okmulgee County (-9.61%), Osage County (-9.04%), and Pawnee County (-6.07%). Population for the years 2010 and 2020 are included for historical reference.

The distribution of the population by sex (Table 2.7) shows approximately 50% male and 50% female. Figure 2.5 shows the population by age group for Kansas and Oklahoma, and the entire zone of interest. The zone of interest is consistent by age group when compared to the entire states.

Table 2.7 Population Estimate by Sex

Geographical Area	Male	Female
United States	164,545,087	167,842,453
Kansas	1,473,655	1,463,914
Oklahoma	1,988,686	2,006,574
Chautauqua County, KS	1,794	1,576
Montgomery County, KS	15,451	15,692
Craig County, OK	7,321	6,894
Creek County, OK	35,915	36,438
Lincoln County, OK	17,001	16,916
Mayes County, OK	19,763	19,643
Noble County, OK	5,407	5,502
Nowata County, OK	4,629	4,763
Okmulgee County, OK	18,350	18,572
Osage County, OK	23,200	22,763
Pawnee County, OK	7,889	7,800
Payne County, OK	42,085	40,205
Rogers County, OK	48,720	48,515
Tulsa County, OK	330,663	343,045
Wagoner County, OK	42,042	42,297
Washington County, OK	26,073	26,822
Zone of Interest Total	**646,303**	**657,443**

Source: U.S. Census Bureau, 2023 American Community Survey 5-Year (2019-2023)

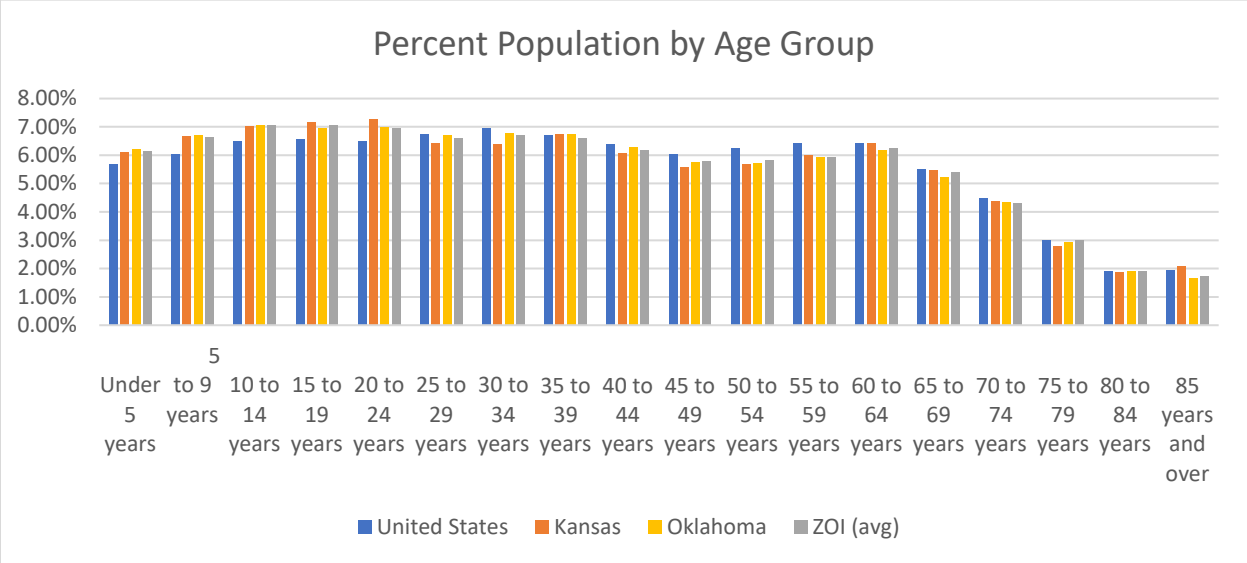

Figure 2.5 2023 Percent of Population by Age Group

Source: U.S. Census Bureau, 2023 American Community Survey 5-Year Estimates (2019-2023)

Population by race and Hispanic Origin is displayed in Table 2.8. The zone of interest is approximately 64% White, 10.6% Hispanic or Latino, 7.1% American Indian and Alaskan Native, 2.6% Asian, 6.5% Black, 0.3% some other race, and 8.9% two or more races. The other race categories each account for less than 1%. By comparison, the population in the state of Kansas is 73% White, 13% Hispanic or Latino, 5.3% Black, 0.4% American Indian or Alaskan Native, 2.9% Asian, 0.1% Native Hawaiian/Other Pacific, 0.4% Some Other Race, and 4.4% Two or More Races. The population in the state of Oklahoma is 63% White, 12% Hispanic or Latino, 6.9% Black, 6.8% American Indian or Alaskan Native, 2.3% Asian, 0.2% Native Hawaiian/Other Pacific, 0.3% Some Other Race, and 8.5% Two or More Races.

Table 2.8 2023 Population Estimate by Race/Hispanic Origin

Area	White	Hispanic or Latino	Black	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races
Kansas	2,155,363	389,514	154,704	12,516	84,668	2,217	11,194	127,393
Oklahoma	2,509,923	490,797	274,899	271,284	92,345	6,313	11,236	338,463
Chautauqua County, KS	2,788	161	32	84	15	0	19	271
Montgomery County, KS	24,097	2,428	1,321	702	75	34	129	2,357
Craig County, OK	8,758	516	494	2,806	174	21	12	1,434
Creek County, OK	53,200	3,706	1,537	8,132	432	3	157	5,186
Lincoln County, OK	27,194	1,278	576	1,894	147	19	102	2,707
Mayes County, OK	24,619	1,495	138	7,883	218	32	91	4,930
Noble County, OK	8,693	475	133	611	7	3	18	969
Nowata County, OK	6,101	282	153	1,467	50	0	21	1,381
Okmulgee County, OK	22,568	1,838	2,586	5,464	192	0	20	4,254
Osage County, OK	28,602	2,051	4,676	4,881	92	8	83	5,570
Pawnee County, OK	11,755	588	151	1,395	54	42	49	1,685
Payne County, OK	61,125	5,287	2,989	3,165	3,296	61	126	6,241
Rogers County, OK	67,604	5,690	892	11,720	1,638	84	349	9,258

Area	White	Hispanic or Latino	Black	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Some other race	Two or more races
Tulsa County, OK	392,277	102,464	64,195	30,852	24,625	1,006	2,099	56,190
Wagoner County, OK	56,996	6,937	2,874	6,838	1,758	14	359	8,563
Washington County, OK	37,488	3,538	1,434	4,365	1,106	11	39	4,914
Zone of Interest	**833,865**	**138,704**	**84,181**	**92,259**	**33,879**	**1,338**	**3,673**	**115,847**

Source: U.S. Census Bureau, 2023 American Community Survey 5-Year (2018-2023)

2.11.3 Education and Employment

Table 2.9 displays the highest level of education attained by the population ages 25 and over. In the zone of interest, 3.5% of the population has less than a 9th grade education; another 6.3% has between a 9th and 12th grade education; 29.8% has at least a high school diploma or equivalent; 22.3% has some college education; 9.2% has an associate degree; 19.0% has a bachelor's degree; and 10.0% has a graduate or professional degree.

In Kansas, 3.4% of the population has less than a 9th grade education; another 4.7% has between a 9th and 12th grade education; 25.6% have at least a high school diploma or equivalent; 22.1% has some college education; 9.0% has an associate degree; 22.0% have a bachelor's degree; and 13.1% has a graduate or professional degree.

In Oklahoma, 3.8% of the population has less than a 9th grade education; another 7.1% has between a 9th and 12th grade education; 30.7% has at least a high school diploma or equivalent; 22.3% has some college education; 8.3% has an associate degree; 18.1% has a bachelor's degree; and 9.7% has a graduate or professional degree.

Table 2.9 2023 Population Estimate by Highest Level of Educational Attainment, Population 25 Years of Age and Older

Area	Population 25 years and over	Less than 9th grade	9th to 12th grade, no diploma	High school graduate (includes equivalency)	Some college, no degree	Associate's degree	Bachelor's degree	Graduate or professional degree
Kansas	1,933,293	66,345	90,250	495,115	427,546	174,373	425,528	254,136
Oklahoma	2,641,325	100,466	186,612	811,387	588,667	220,400	478,236	255,557
Chautauqua County, KS	2,409	101	155	933	524	254	326	116

Area	Population 25 years and over	Less than 9th grade	9th to 12th grade, no diploma	High school graduate (includes equivalency)	Some college, no degree	Associate's degree	Bachelor's degree	Graduate or professional degree
Montgomery County, KS	20,955	592	1,530	6,616	5,100	2,652	3,012	1,453
Craig County, OK	9,918	370	997	4,058	2,180	838	1,040	435
Creek County, OK	49,584	1,132	3,588	20,003	11,286	4,451	6,445	2,679
Lincoln County, OK	23,403	585	1,979	9,786	5,613	1,819	2,552	1,069
Mayes County, OK	27,086	794	2,092	10,676	6,442	2,624	3,315	1,143
Noble County, OK	7,545	251	422	2,660	1,853	829	1,066	464
Nowata County, OK	6,519	137	490	2,722	1,437	661	801	271
Okmulgee County, OK	24,758	805	2,121	8,481	5,906	3,162	2,975	1,308
Osage County, OK	32,770	802	2,622	11,900	7,021	3,380	4,776	2,269
Pawnee County, OK	10,864	364	955	4,721	2,240	811	1,331	442
Payne County, OK	44,715	1,196	1,856	12,092	8,366	3,272	9,757	8,176
Rogers County, OK	66,240	1,596	3,590	21,868	15,138	7,089	11,550	5,409
Tulsa County, OK	442,433	18,922	26,250	110,884	97,611	39,596	97,061	52,109
Wagoner County, OK	57,774	1,664	3,116	17,728	13,972	5,776	10,466	5,052
Washington County, OK	35,869	644	2,410	11,920	7,422	2,548	7,284	3,641
Zone of Interest	**862,842**	**29,955**	**54,173**	**257,048**	**192,111**	**79,762**	**163,757**	**86,036**

Source: U.S. Census Bureau, 2018-2023 American Community Survey 5-Year Estimates (2023 Estimate)

Employment by sector is presented in Figure 2.6 and Table 2.10. Figure 2.6 shows that the largest percentage of the zone of interest is employed in the educational services, and health care and social assistance sector at 22.9%. Construction employs 7.5%, 6.6% work in Transportation and warehousing, and utilities,11.4% of the population works in Manufacturing, 11.5% work in Retail trade, 9.8% in Professional, scientific, and management, and administrative and waste management services, 8.9% work in Arts, entertainment, and recreation, and accommodation and food services. The remainder of the employment sectors each comprise less than 6% of the zone of interest's labor force.

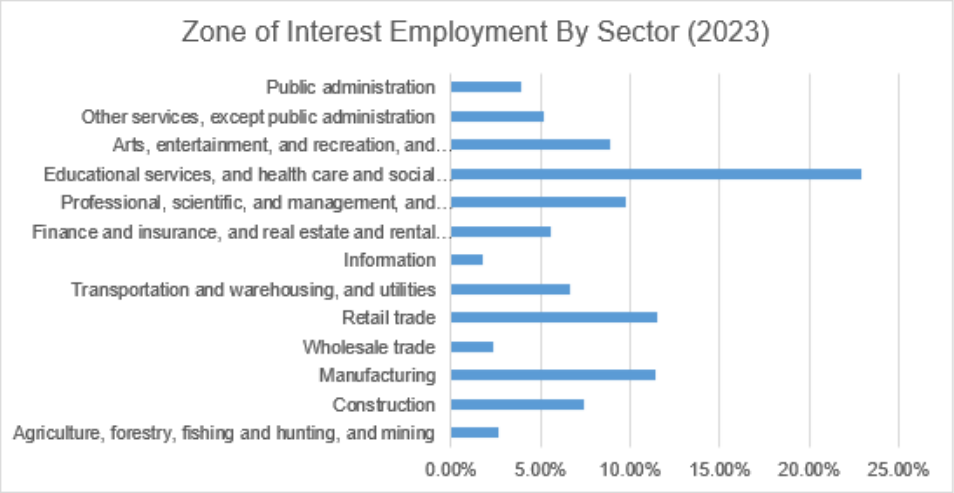

Figure 2.6 Zone of Interest Employment by Sector (2023)
Source: U.S. Census Bureau, 2023 American Community Survey 5-Year Estimates (2019-2023)

Table 2.10 Annual Average Employment by Sector (2023)

Employment Sector	United States	Kansas	Oklahoma	Chautauqua County, KS	Montgomery County, KS	Craig County, OK	Creek County, OK	Lincoln County, OK
Civilian employed population 16 years and over	159,808,535	1,454,760	1,808,400	1,363	13,484	5,485	31,496	14,300
Agriculture, forestry, fishing and hunting, and mining	2,552,148	45,519	70,517	175	621	373	841	673
Construction	11,064,175	92,579	130,633	92	734	362	2,859	1,570
Manufacturing	15,912,421	179,792	169,093	178	2,756	460	4,522	1,255
Wholesale trade	3,678,210	34,877	40,413	44	155	113	681	228
Retail trade	17,368,629	154,727	213,050	78	1,538	599	3,646	1,698
Transportation and warehousing, and utilities	9,373,191	78,346	107,007	109	717	430	2,259	1,058
Information	2,998,298	23,589	25,994	6	143	69	409	125
Finance and insurance, and real estate and rental and leasing	10,673,893	94,640	99,468	30	386	201	1,706	897
Professional, scientific, and management, and administrative and waste management services	19,763,960	145,304	165,980	37	960	343	2,864	1,046

Employment Sector	United States	Kansas	Oklahoma	Chautauqua County, KS	Montgomery County, KS	Craig County, OK	Creek County, OK	Lincoln County, OK
Educational services, and health care and social assistance	37,381,621	361,409	416,261	516	3,161	1,425	6,563	2,761
Arts, entertainment, and recreation, and accommodation and food services	14,010,750	112,932	165,842	28	1,055	427	2,087	1,069
Other services, except public administration	7,514,289	63,842	92,278	12	613	299	1,659	897
Public administration	7,516,950	67,204	111,864	58	645	384	1,400	1,023

Source: U.S. Census Bureau, 2018-2023 American Community Survey 5-Year Estimates (2023 Estimate)

Employment Sector	Mayes County, OK	Noble County, OK	Nowata County, OK	Okmulgee County, OK	Osage County, OK	Pawnee County, OK	Payne County, OK	Rogers County, OK
Civilian employed population 16 years and over	16,802	4,811	3,819	14,630	19,195	6,542	37,189	46,872
Agriculture, forestry, fishing and hunting, and mining	578	292	218	354	758	391	1,267	1,148
Construction	1,344	527	293	1,169	1,403	648	2,275	3,935
Manufacturing	2,688	868	606	1,498	2,108	765	2,318	5,893
Wholesale trade	343	252	37	296	347	89	427	1,257
Retail trade	1,868	334	382	1,881	2,333	723	3,723	5,523
Transportation and warehousing, and utilities	1,237	192	237	991	1,425	516	1,318	4,266
Information	221	16	38	165	361	51	555	792
Finance and insurance, and real estate and rental and leasing	743	244	290	522	901	270	1,566	2,534
Professional, scientific, and management, and administrative and waste management services	1,239	204	207	1,042	1,671	467	2,466	4,209
Educational services, and	3,503	1,123	975	3,756	4,522	1,405	13,754	9,567

Employment Sector	Mayes County, OK	Noble County, OK	Nowata County, OK	Okmulgee County, OK	Osage County, OK	Pawnee County, OK	Payne County, OK	Rogers County, OK
health care and social assistance								
Arts, entertainment, and recreation, and accommodation and food services	1,625	226	248	1,305	1,748	448	4,631	3,717
Other services, except public administration	757	212	172	539	685	328	1,417	2,115
Public administration	656	321	116	1,112	933	441	1,472	1,916

Source: U.S. Census Bureau, 2018-2023 American Community Survey 5-Year Estimates (2023 Estimate)

Employment Sector	Tulsa County, OK	Wagoner County, OK	Washington County, OK	Zone of Interest
Civilian employed population 16 years and over	325,325	40,103	22,988	604,404
Agriculture, forestry, fishing and hunting, and mining	6,013	832	1,258	15,792
Construction	22,878	3,559	1,360	45,008
Manufacturing	34,782	5,341	2,877	68,915
Wholesale trade	8,783	987	363	14,402
Retail trade	37,039	5,192	2,887	69,444
Transportation and warehousing, and utilities	21,052	2,966	1,173	39,946
Information	6,791	490	234	10,466
Finance and insurance, and real estate and rental and leasing	20,308	2,170	1,052	33,820
Professional, scientific, and management, and administrative and waste management services	36,802	3,532	2,146	59,235
Educational services, and health care	71,415	8,663	5,144	138,253

Employment Sector	Tulsa County, OK	Wagoner County, OK	Washington County, OK	Zone of Interest
and social assistance				
Arts, entertainment, and recreation, and accommodation and food services	30,616	2,549	2,208	53,987
Other services, except public administration	18,349	1,803	1,515	31,372
Public administration	10,497	2,019	771	23,764

Source: U.S. Census Bureau, 2018-2023 American Community Survey 5-Year Estimates (2023 Estimate)

A summary of the civilian labor force in the zone of interest is displayed in Table 2.11. In 2023, the zone of interest had an unemployment rate of 4.73%, lower than the unemployment rates of Oklahoma (4.90%) and nationwide (5.20%) and higher than the rate of Kansas (3.90%).

Table 2.11 Labor Force, Employment and Unemployment Rates, 2023 Annual Averages

Geographic Area	Civilian Labor Force	Number Employed	Number Unemployed	Unemployment Rate
United States	168,567,852	159,808,535	8,759,317	5.20%
Kansas	1,513,914	1,454,760	59,154	3.90%
Oklahoma	1,901,599	1,808,400	93,199	4.90%
Chautauqua County, KS	1,454	1,363	91	6.30%
Montgomery County, KS	14,027	13,484	543	3.90%
Craig County, OK	5,758	5,485	273	4.70%
Creek County, OK	32,656	31,496	1,160	3.60%
Lincoln County, OK	14,828	14,300	528	3.60%
Mayes County, OK	17,982	16,802	1,180	6.60%
Noble County, OK	4,924	4,811	113	2.30%
Nowata County, OK	4,025	3,819	206	5.10%
Okmulgee County, OK	15,767	14,630	1,137	7.20%
Osage County, OK	20,286	19,195	1,091	5.40%
Pawnee County, OK	6,783	6,542	241	3.60%
Payne County, OK	38,926	37,189	1,737	4.50%
Rogers County, OK	49,163	46,872	2,291	4.70%
Tulsa County, OK	343,876	325,325	18,551	5.40%

Geographic Area	Civilian Labor Force	Number Employed	Number Unemployed	Unemployment Rate
Wagoner County, OK	42,127	40,103	2,024	4.80%
Washington County, OK	23,912	22,988	924	3.90%
Zone of Interest	**636,494**	**604,404**	**32,090**	**4.73%**

Source: U.S. Census Bureau, 2023 American Community Survey 5-Year (2019-2023) (2023 averages)

2.11.4 Households, Income and Poverty

Table 2.12 displays the number of households and average household sizes in the state and zone of interest. There were approximately 508,428 households in the zone of interest with an average household size of 2.52.

Table 2.12 2023 Households and Household Size

Geographic Area	Total Households	Average Household Size
United States	127,482,865	2.54
Kansas	1,160,715	2.46
Oklahoma	1,542,780	2.51
Chautauqua County, KS	1,315	2.50
Montgomery County, KS	12,871	2.35
Craig County, OK	5,248	2.48
Creek County, OK	27,830	2.57
Lincoln County, OK	12,972	2.59
Mayes County, OK	15,267	2.55
Noble County, OK	4,203	2.52
Nowata County, OK	3,715	2.48
Okmulgee County, OK	14,177	2.50
Osage County, OK	17,074	2.60
Pawnee County, OK	6,002	2.58
Payne County, OK	32,341	2.25
Rogers County, OK	35,722	2.68
Tulsa County, OK	268,530	2.47
Wagoner County, OK	30,565	2.75
Washington County, OK	20,596	2.52
Zone of Interest	**508,428**	**2.52**

Source: U.S. Census Bureau, 2018-2023 American Community Survey 5-Year Estimates (2023 Estimate)

The median household income in the zone of interest ranged from $48,937 in Payne County, OK to $78,520 in Wagoner County, OK in 2023, as displayed in Table 2.13. Per capita income in the zone of interest was $32,043 in 2023, lower than the per

capita income of the state of Kansas ($39,638), Oklahoma ($34,859), and the United States ($43,289).

Table 2.13 2023 Median and Per Capita Income

Geographic Area	Median Household Income (All)	Per Capita Income
United States	$78,538	$43,289
Kansas	72,639	39,638
Oklahoma	63,603	34,859
Chautauqua County, KS	54,592	30,782
Montgomery County, KS	53,242	28,959
Craig County, OK	50,182	26,443
Creek County, OK	61,849	31,986
Lincoln County, OK	59,425	31,303
Mayes County, OK	57,279	30,528
Noble County, OK	70,071	33,482
Nowata County, OK	52,679	30,575
Okmulgee County, OK	53,123	28,980
Osage County, OK	60,482	32,096
Pawnee County, OK	57,551	28,961
Payne County, OK	48,937	28,980
Rogers County, OK	77,688	38,122
Tulsa County, OK	67,317	39,673
Wagoner County, OK	78,520	36,851
Washington County, OK	61,205	34,969
Zone of Interest	**60,259**	**32,043**

Source: U.S. Census Bureau, 2018-2023 American Community Survey 5-Year Estimates (2023 Estimate)

Table 2.14 displays the percentage of persons and families whose incomes fell below the poverty level in the past twelve months as of 2023. Within the zone of interest, Payne County, OK had the greatest share of people with incomes below the poverty level at 23.9%, followed by Craig County, OK at 19.5%. In terms of families below the poverty level, Noble County, OK had the lowest percentage with 6.1% and Craig County, OK has the highest with 14.4%.

Table 2.14 Percent of Families and People Whose Income in the Past 12 Months is Below the Poverty Level (2023)

Geographic Area	All Families	All People
United States	12.4%	8.7%
Kansas	11.5	7.7
Oklahoma	15.3	11.1
Chautauqua County, KS	16.9	13.0
Montgomery County, KS	16.3	12.0
Craig County, OK	19.5	14.4
Creek County, OK	13.9	11.3
Lincoln County, OK	16.5	12.8
Mayes County, OK	17.6	14.0
Noble County, OK	11.5	6.1
Nowata County, OK	16.4	12.1
Okmulgee County, OK	17.6	13.5
Osage County, OK	12.6	9.1
Pawnee County, OK	17.0	12.5
Payne County, OK	23.9	12.1
Rogers County, OK	9.6	7.2
Tulsa County, OK	14.7	10.8
Wagoner County, OK	9.3	6.2
Washington County, OK	14.6	11.1
Zone of Interest	**15.5**	**11.1**

Source: U.S. Census Bureau, 2023 American Community Survey 5-Y

2.12 RECREATION FACILITIES, ACTIVITIES, NEEDS, AND TRENDS

2.12.1 Visitation Profile

Visitation numbers are impacted by several factors including counting methodology, flooding, drought, COVID-19, and other environmental factors. Table 2.15 provides total visitation by year for FY 2019-2023. Other popular activities include picnicking and walking, hiking, and jogging. Overall, visitation is trending up with 2023 reporting 466,165 visitors.

Table 2.15 Skiatook Lake Total Visitation FY 2019-2023

	2019	2020	2021	2022	2023
TOTAL VISITATION	382,075	490,644	446,143	466,165	456,909

Source: USACE VERS (Visitation Estimation & Reporting System, 2019-2023)

2.12.2 Recreation Areas and Facilities

Skiatook Lake offers a variety of recreational opportunities. The quiet location provides a relaxing setting for camping, hunting, fishing, boating, hiking, and swimming. Table 2.16 provides a listing of areas as well as a general summary of the primary recreation facilities provided.

Table 2.16 Recreational Facilities and Operating Agencies

FACILITIES	Managing Entity	Designated Campsites	Boat Launching Ramps	Restrooms	Courtesy Dock	Group Picnic Shelter	Fishing Facilities	Designated Picnic Area	Dump Stations	Swimming Area	Trails	Playground
LOCATION												
Black Dog Park	U		*	*	*	GS						
Bull Creek Peninsula	U	N	*	*	*			A				
CrossTimbers Marina	O		*	*	*		D					
Crystal Bay Marina	O		*				D					
Hominy Landing	U		*	*	*		D					
Osage Park	U		*	*	*						H	
Overlook	U			*							H	
Quapaw Park	U											
Skiatook Point	U		*	*	*							
Tall Chief Cove	U	E	*	*	*	GS		A	*	BE	H	*
Twin Points	U	E	*	*	*				*	BE		*

* Exists at lake

Managing Entity
O Other
U USACE

Camping
E Electric Campsites
N Non-electric Campsites

Fishing
D Fishing Docks
P Fishing Piers

Picnic
A Picnic Area
G Group Picnic
GS Group Picnic Shelter

Swimming
BE Beach
P Swimming Pool

Trails
B Bike Trails
Q Equestrian Trails
H Hiking Trails
I Interpretive Hiking Trails
M Multipurpose Trails

Source: USACE, 2016B

2.12.3 Fishing and Hunting

The lands and waters around Skiatook Lake offer excellent opportunities for hunting and fishing. Approximately 8,000 acres are open to hunting, with populations of deer, quail, rabbit, and squirrel. Anglers can enjoy a variety of fish species, including bass, crappie, walleye, catfish, and sunfish, with ample access from both the shoreline and boats.

2.12.4 Camping and Picnicking

Multiple areas around the lake provide options for both overnight and day-use visitors. Amenities vary by location but commonly include developed and primitive campsites, restrooms, picnic tables, grills, group shelters, and boat ramps. These areas offer a scenic and peaceful setting for families and outdoor enthusiasts.

2.12.5 Boating

The lake is well-suited for boating of all types, including fishing boats, pontoons, and personal watercraft. Several boat ramps with courtesy docks are available, and all boating must comply with state and federal regulations.

2.12.6 Sightseeing

Surrounding the lake are rolling hills, oak woodlands, and tallgrass prairie. The shoreline features rocky bluffs and elevated points that provide expansive views, making the area ideal for photography, wildlife observation, and quiet enjoyment of nature.

2.12.7 Swimming

Two designated swimming areas are available at the lake, each with nearby amenities for comfort and convenience. These sandy beach areas are ideal for families looking to enjoy a day by the water.

2.12.8 Trails

Walking and hiking trails are available for all skill levels, ranging from short, easy loops to more challenging routes. Trails wind through wooded areas, open prairie, and along the lake’s edge, offering visitors a chance to explore the natural landscape on foot.

2.12.9 Commercial Concession Leases

Concessionaires provide valuable services to the public at USACE lakes across the United States. USACE makes efforts to attract concessionaires that can establish

suitable, well-maintained businesses offering desirable water-related services to the general public.

- **CrossTimbers Marina**

CrossTimbers Marina occupies 35 acres in Sperry, Oklahoma. Located on the eastern shore of Skiatook Lake, approximately 25 minutes from downtown Tulsa, this full-service marina offers a wide range of services and amenities including a fishing pier, lakeside cottages, a restaurant, and watercraft rentals. CrossTimbers provides a comprehensive and enjoyable lake experience for boaters and vacationers alike.

- **Crystal Bay Marina**

Crystal Bay Marina encompasses 132 acres west of the town of Skiatook in Osage County. Nestled in a scenic cove surrounded by rolling hills and Blackjack Oak trees, the marina offers a peaceful setting for visitors. Amenities include a full-service marina, a courtesy fishing dock, and a boat launch facility, making it a tranquil destination for relaxation and lake access.

2.12.10 Recreation Analysis – Trends and Needs

The 2023 Statewide Comprehensive Outdoor Recreation Plan (SCORP) was referred to in preparing the Plan. Preparation of the 2023 SCORP included statewide surveys, outdoor recreation enthusiasts' survey, outdoor recreation providers' survey, and observations. In addition, the SCORP assessed public preferences through cited research pertinent to the recreation needs and issues of the people of Oklahoma and those who visit the state for recreational experiences.

The 2023 SCORP references data from a survey of statewide residents with questions pertaining to reasons and barriers to participation in outdoor recreation, funding priorities, use of technology while recreating, opinions about outdoor recreation issues, and demographics. The following are a list of findings from survey of statewide residents in the SCORP:

- 621 individuals completed the survey, with 96% of the respondents being Oklahoma residents.
- Over 70% of the respondents were female.
- 46% of the respondents indicated that they participate in outdoor recreation activities a few times per week.
- The top 5 most important reasons for participation are outdoor recreation actives were: (1) for relaxation, (2) connect with nature, (3) release from work/other pressures (4) release of personal pressure and stress, and (5) staying fit.
- The top 3 highest reasons identified as barriers to outdoor recreation participation were: (1) lack of time, (2) weather limiting options, and (3) sites/areas being too crowded.
- The top 5 rated outdoor recreation activities that people participate in are hiking/walking, camping, swimming, wildlife watching and fishing.

- The top funding priorities for respondents were: (1) improve/enhance existing parks and recreation areas and facilities, (2) increase outdoor recreation opportunities for children and youth, and (3) invest in new parks and recreation areas.
- 27% of respondents said that they participate less in outdoor recreation since the COVID-19 pandemic while 31% answered that they participate more.

The SCORP and related studies document national and regional trends showing the highest demand for unpaved trails for walking and hiking with demand expected to increase in the near future. Given the outdoor recreation trends, it is evident that future recreation development at Skiatook Lake should focus more on providing increased trail opportunities (of all kinds), more facilities for family and group gatherings, and more wildlife and nature-related viewing opportunities. With the popularity of hunting in Wildlife Management Areas, trails can be developed for hiking and nature viewing during non-hunting seasons and provide parking and trailheads that can be used for both types of activities. The USACE should also place a high priority on the protection and retention of large, undeveloped parcels of public land. Doing so responds to outdoor recreation needs expressed in the SCORP and related studies. These large expanses of natural habitat on public land are held in high regard by the citizens throughout the zone of interest. This Plan responds to these needs through revised land classifications, new management objectives, and conceptual management plans for each land classification.

2.13 REAL ESTATE

A total of 18,960.28 acres of land were originally acquired in fee simple title for the Skiatook Lake project by USACE. There are 938.59 easement acres. Easement acres reflect all easements on the project and not solely flowage easements. These are the official acres from the Tulsa District Real Estate Division and may differ from those in other parts of this plan, which are for planning purposes only, due to improved measurement technology, erosion, and sedimentation.

2.13.1 Outgrants

The term “outgrant” is a broad term used by the USACE to describe a variety of real estate instruments wherein an interest in real property has been conveyed by the USACE to another party. Outgrants at Skiatook Lake include leases, licenses, easements, consents, permits, and others which include the following (including consents):

- 28 Easement
- 3 Leases
- 1 License
- 7 Consents

The demand for real estate outgrants at Skiatook Lake ranks fairly low among all USACE lake projects in terms of the total number and complexity. Management actions

related to outgrants include routine inspections to ensure compliance with the terms of the outgrant, public safety requirements, and environmental compliance such as proper solid waste disposal and storage of pesticides. Additional actions include review of maintenance and construction proposals made by grantees. Leases are generally inspected annually for overall compliance, whereas minor outgrants are inspected approximately every five years or as needed. The management of outgrants is a major responsibility shared by the Operations and Real Estate Divisions of Tulsa District.

2.13.2 Guidelines for Property Adjacent to Public Land

It is the policy of the USACE to manage the natural, cultural, and developed resources of Skiatook Lake to provide the public with safe and healthful recreational opportunities, while protecting and enhancing those resources. While private exclusive use of public land is not permitted, property owners adjacent to public lands do have all the same rights and privileges as any other citizen on government owned property. Therefore, the information contained in these policies is designed to acquaint the adjoining landowner and other interested persons with the types of property involved in the management of government land at Skiatook Lake.

2.13.3 Trespass and Encroachment

Government property is monitored by USACE 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 the USACE approval. Unauthorized trespasses may result in a Title 36 citation requiring violators to appear in Federal Magistrate Court, which could subject the violator to fines or imprisonment (See 36 C.F.R. 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, 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 the USACE Real Estate Division, with recommendations from Operations Division and Office of Counsel. The 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.

Incidents of unauthorized tree removal and mowing have occurred as well as the placement of personal property items such as outdoor furniture, firewood, boats, vehicles, and structures on USACE land. Trash dumping is an especially difficult and expensive problem at many USACE lakes. Efforts are continuously underway to resolve

these unauthorized acts, but the sheer volume creates a workload that is difficult to accomplish.

CHAPTER 3 – RESOURCE GOALS AND OBJECTIVES

3.1 INTRODUCTION

The terms “goals” and “objectives” are often defined as synonymous, but in the context of this Master Plan resource 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.

3.2 RESOURCE GOALS

The following statements, paraphrased from EP 1130-2-550, Chapter 3, express the goals for the Skiatook 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 the project’s 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 the project’s natural resources.

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

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 as follows:

- Foster sustainability as a way of life throughout the organization.
- Proactively consider environmental consequences of all USACE activities and act accordingly.
- Create mutually supporting economic and environmentally sustainable solutions.
- Continue to meet our corporate responsibility and accountability under the law for activities undertaken by USACE, which may impact human and natural environments.
- Consider the environment in employing a risk management and systems approach throughout the life cycles of projects and programs.

- Leverage scientific, economic and social knowledge to understand the environmental context and effects of USACE actions in a collaborative manner.

- Employ an open, transparent process that respects views of individuals and groups interested in USACE activities.

3.3 RESOURCE OBJECTIVES

Resource objectives are defined as 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 Tulsa District, Skiatook Lake Project Office. The objectives stated in this Master Plan support the goals of the Master Plan, the USACE Environmental Operating Principles (EOPs), and applicable national performance measures. They are consistent with authorized project purposes, federal laws and directives, regional needs, resource capabilities, and they take public input into consideration. Recreational and natural resources carrying capacities are also accounted for during development of the objectives found in this Master Plan, as well as regional and state planning documents including:

- Oklahoma Comprehensive Wildlife Conservation Strategy – Cross Timbers Region
- Oklahoma Statewide Comprehensive Outdoor Recreation Plan

The objectives in this Master Plan are intended to provide project benefits, meet public needs, and foster environmental sustainability for Skiatook Lake to the greatest extent possible. Tables 3.1 through 3.5 list the resource objectives for Skiatook Lake. Objectives are subject to personnel and funding availability as well as recreational partners.

Table 3.1 Recreational Objectives

Recreational Objectives	Goals				
	A	B	C	D	E
Renovate existing facilities to provide a quality recreation experience, as funding becomes available, for visitors while protecting natural resources for use by others. Examples include provision of universally accessible facilities, improved electrical service at campsites.	*		*		
Provide affordable opportunities for day use activities, especially picnicking and swimming.	*		*		
Consider existing and future potential recreational opportunities for multiple user groups while ensuring visitor safety.	*		*	*	
Manage recreation facilities in accordance with public demand. Examples include universally accessible fishing docks, playground equipment in day use and camping areas.	*		*		
Work with partners to improve existing trails and develop new ones.	*		*		*
Consider flood/conservation pool to address potential impact to recreational facilities (i.e., campsites, boat ramps, courtesy docks, etc.).	*	*	*	*	
Ensure consistency with USACE Natural Resource Management (NRM) Strategic Plan.					*
Monitor the Oklahoma SCORP 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 Skiatook 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
Give priority to the preservation and improvement of wild land values in public use planning, design, development, and management activities.	*	*		*	*
Work with Tribal Nations to provide access to any culturally significant sites and natural resources.		*		*	*
Consider flood/conservation pool levels to ensure that natural resources are managed in ways that are compatible with project purposes.	*	*		*	
Actively manage and conserve fish and wildlife resources, especially threatened and endangered species and Species of Greatest Conservation Need, by implementing ecosystem management principles. Key among these principles is the use of native species adapted to the Level III Central Great Plains and Level IV Broken Red Plains and Pleistocene Sand Dunes.	*	*		*	*
Manage high density and low-density recreations lands in ways that enhance benefits to wildlife.					*
Optimize resources, labor, funds, and partnerships for protection and restoration of fish and wildlife habitats.		*			*
Minimize activities which disturb the scenic beauty and aesthetics of the lake.	*	*	*	*	
Implement prescribed fire, timber harvests, and removal of targeted species as a management tool to promote the vigor and health of forests, woodlands, and prairies.	*	*			*
Stop unauthorized uses of public lands such as off-road vehicle (ORV) use, trash dumping, unauthorized fires, fireworks, poaching, clearing of vegetation, agricultural trespass, timber theft, unauthorized trails and paths, and placement of advertising signs that create negative environmental impacts.	*	*	*	*	*
Monitor lands and waters for invasive, non-native, and aggressively spreading native species and take action to prevent and/or reduce the spread of these species.	*	*		*	*

Natural Resource Management Objectives	Goals				
	A	B	C	D	E
Protect and/or restore important native habitats such as prairies, bottomland hardwoods, riparian zones, 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 species. Emphasize actions that promote butterfly and /or pollinator habitat, migratory bird habitat, habitat for birds listed by USFWS as Birds of Conservation Concern, and potential habitat for American Burying Beetle.	*	*		*	*
As funding permits, continue operations of the fish nursery as part of the Memorandum of Understanding handshake agreement.	*	*		*	*

*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 opportunities (i.e., comment cards, updates to local municipalities, web page) for communication with agencies, special interest groups, and the general public. Utilize social media to inform visitors.	*			*	*
Provide 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, cultural resources, ecology, and USACE missions.	*	*	*	*	*
Promote USACE Water Safety message.	*		*	*	*
Educate adjacent landowners on policies and permit processes to reduce encroachment actions.	*	*	*	*	*
Work with Tribal Nations to provide educational and informational opportunities to the general public.	*	*	*	*	*

*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
Maintain the public lands boundary line to ensure it is clearly marked and recognizable in all areas to reduce habitat degradation and encroachment actions.	*	*		*	
Identify safety hazards or unsafe conditions; correct infractions and implement safety standards in accordance with EM 385-1-1.					*
Ensure green design, construction, 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.					*
Manage non-recreation outgrants such as utility and road easements in accordance with national guidance set forth in ER and EP 1130-2-550 and applicable chapters in ER 405-1-12.	*				*
The USACE will continue to monitor both current and projected climate change impacts to operations and the authorized project purposes within USACE federal fee boundary and react through adaptation and resiliency projects, as funding becomes available.	*	*	*		*

*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
As funding permits, complete an inventory in accordance with Section 110 NHPA and prepare a Cultural Resources Management Plan.	*	*		*	*
Increase public awareness and education of regional and local Tribal histories.		*		*	*
Monitor and enforce Title 36 and ARPA to prevent unauthorized excavation and removal of cultural resources.		*		*	*
Provide access by Tribal Nations to any cultural resources, sacred sites, or other Traditional Cultural Properties.	*	*			
Preserve and protect cultural resources sites in compliance with existing federal statutes and regulations.	*	*	*	*	*

*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: Operations, Recreation, Fish and Wildlife, and Mitigation. Land allocations, unlike classifications, are assigned at the time of purchase and do not change unless authorized by Congress. At Skiatook Lake, the land allocation categories that apply are Operations. Operations allocation is defined as those lands that are required to operate the project for the primary authorized purposes of flood control, water supply, fish and wildlife, and irrigation. Recreation allocation is defined as lands acquired specifically for the authorized purpose of recreation, referred to as separable recreation lands. The remaining allocations of Fish and Wildlife or Mitigation would apply only if lands had been acquired specifically for these purposes.

4.2 LAND CLASSIFICATION

4.2.1 General

The objective of classifying project lands is to identify how a given parcel of land shall be used now and in the foreseeable future. Land classification is a central component of this plan, and once a particular classification is established any significant change to that classification would require a formal process including public review and comment.

4.2.2 Prior Land Classifications

The previous version of the Skiatook Lake Master Plan included land classification criteria that were similar, but not identical to the current criteria. In the 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. Table 4.1 identifies land and water surface classification changes from the 1976 Master Plan to the 2025 Master Plan Revision.

Table 4.1 Change from 1976 Land and Water Surface Classifications to 2025 Land and Water Surface Classification

Prior Land Classifications (1976)	Acres	Proposed Land Classifications (2025)	Acres
Project Operations (PO)	353	Project Operations (PO)	232
		Environmentally Sensitive Areas (ESA)	384
Operations Recreation – Intensive Use (OR/IU)	1,883	High Density Recreation (HDR)	1,147
Operations Recreation – Low Density (OR/LD)	2,895	Multiple Resource Management Lands– Low Density Recreation (LDR)	2,801
Natural Area (NA)	3,569	Wildlife Management (WM)	4,172
TOTAL LAND ACRES	**8,700**	**TOTAL LAND ACRES**	**8,736**
Prior Water Surface Classifications (1975)	**Acres**	**Proposed Water Surface Classifications (2025)**	**Acres**
Water	10,383	Open Recreation (WS/OR)	10,154
		Restricted (WS/R)	34
		No Wake (WS/NW)	160
TOTAL WATER SURFACE ACRES	**10,383**	**TOTAL WATER SURFACE ACRES**	**10,348**
TOTAL FEE	**19,083**	**TOTAL FEE**	**19,084**

* Total fee simple title acreage differences from the 1975 total to the 2025 totals are due to improvements in measurement technology, deposition/siltation, and erosion. Totals also differ due to rounding while adding parcels.

4.2.3 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 five primary, and four subcategories of land classifications identified in USACE regulations, as well as four water classifications which are as follows:

- Project Operations
- High Density Recreation
- Mitigation
- Environmentally Sensitive Areas
- Multiple Resource Management Lands
    - Low Density Recreation
    - Wildlife Management

    - Vegetative Management
    - Future/Inactive Recreation
- Water Surface
    - Restricted Areas
    - Designated No Wake Areas
    - Fish and Wildlife Sanctuary
    - Open Recreation

The land and water surface classifications for Skiatook Lake were established after considering public comments, input from key stakeholders and lessees operating on USACE land, as well as USACE expert assessment. Additionally, wildlife habitat values identified in the WHAP and the trends analysis provided in the SCORP were used in land and water classification decision making. Furthermore, the USACE consulted with Tribal Nations who have cultural and historical interests in the lands at Skiatook Lake. 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.

4.2.4 Project Operations (PO)

This classification includes the lands managed for operation of the dam, stilling basin, project office, maintenance compound, spillway, and levee, all of which must be maintained to carry out the primary authorized purposes of flood risk management, water supply, recreation, and fish and wildlife. In addition to the operational activities taking place on these lands, limited recreational use may be allowed for activities such as public fishing access below the discharge outlet works. Regardless of any limited recreation use allowed on these lands, the primary classification of Project Operations will take precedent over other uses. There are 232 acres of Project Operations land specifically managed for this purpose.

4.2.5 High Density Recreation (HDR)

This classification includes lands developed, or available to be developed for intensive recreational activities including day use areas, campgrounds, marinas, and related concession areas that are water-based. 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 Skiatook Lake, there are 1,147 acres classified as High Density Recreation land. Each of the High Density Recreation Public Use Areas is described briefly in Chapter 5 of this Plan.

4.2.6 Mitigation

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

4.2.7 Environmentally Sensitive Areas (ESA)

These are areas where scientific, ecological, cultural, and aesthetic features have been identified. Several areas are designated as ESAs at Skiatook Lake primarily for the protection of a combination of sensitive habitats, aesthetics, and legally protected cultural resources. Each of these areas is discussed in Chapter 5 of this Plan and illustrated on the maps in Appendix A. Within those areas, hunting and other wildlife management activities are still permitted, but protection of sensitive resources takes priority over any other activity. The process of correspondence with Tribal Nations to designate ESAs is briefly described as a special topic in Chapter 6 of this Plan. There are 384 acres classified as ESA at Skiatook Lake.

4.2.8 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 space, a small boat ramp, and/or primitive sanitary facilities. There are 6,973 acres of land under

this classification at Skiatook Lake. The following paragraphs list each of the sub-classifications, and the number of acres and primary uses of each.

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.). There are 2,801 acres under this classification at Skiatook Lake.

Wildlife Management (WM)

This land classification applies to lands managed primarily for the conservation of fish and wildlife habitat. These lands generally include comparatively large contiguous parcels of land for 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 4,172 acres of land included in this classification at Skiatook Lake.

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 under this classification at Skiatook Lake.

Future or Inactive Recreation (FOIR)

These are lands with site characteristics compatible with High Density Recreation development but have been undeveloped or planned for very long-range recreation needs. 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 classified as Future or Inactive Recreation.

4.2.9 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 the 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 are as follows:

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 immediately surrounding the gate control tower upstream of the Skiatook Lake Dam, around the water intake structures, just below the dam, and at

designated swim beaches. There are 34 acres of restricted water surface at Skiatook Lake.

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 eight boat ramps at Skiatook Lake where no-wake restrictions are in place for reasons of public safety and protection of property. There are 160 acres of designated no-wake water surface at Skiatook Lake. No-wake areas are typically denoted by buoys in appropriate areas.

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. Skiatook Lake has no acres of water surface designated as a Fish and Wildlife Sanctuary.

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. There are 10,154 acres of water surface at Skiatook Lake are designated as Open Recreation.

4.2.10 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 Skiatook Lake there are easement lands where a flowage easement was acquired. 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.

CHAPTER 5 – RESOURCE PLAN

5.1 RESOURCE PLAN OVERVIEW

This chapter describes the management plans for each land use classification within the Master Plan. Management plans describe how the project lands and water surface will be managed in broad terms. A more descriptive plan for managing these lands resides in the Skiatook Lake and Birch Lake Operational Management Plan (OMP). The OMP is a task and budget-oriented plan identifying tasks necessary to implement the Resource Plan and achieve the goals and objectives of the Master Plan. Management of all lands, recreation facilities, and related infrastructure must take into consideration the effects of pool fluctuations associated with authorized project purposes. Management actions are dependent on congressional appropriations, the financial capability of lessees and other key stakeholders, and the contributions of labor and other resources by volunteers. Acreages shown for the various land classifications were calculated using GIS technology and may not agree with lease documents, prior publications, or official land acquisition records.

5.2 PROJECT OPERATIONS

The Project Operations (PO) classification is land associated with the dam, spillway, levees, lake office, maintenance facilities, and other areas managed solely for the operation and fulfillment of the primary mission of the project. There are 232 acres of lands under this classification, all of which are managed by the USACE. The Project Operation land management plan consists of continuing to provide physical security necessary to ensure continued operation of the critical operational structures.

Public access to Project Operations lands is restricted although limited recreational access is permitted when lake operations allow. Regardless of any authorized public recreational use of lands that are classified as Project Operations, the operation, maintenance, and safety requirements of the dam and associated lands and infrastructure take priority over any recreational access.

5.3 HIGH DENSITY RECREATION

Skiatook Lake has 1,147 acres classified as High Density Recreation. These lands were developed for intensive recreational activities for the visiting public including day use and campgrounds. National USACE policy set forth in ER and EP 1130-2-550, Chapter 16, limits recreation development 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, trails, swimming beaches, boat launching ramps and comprehensive resorts. Examples of activities that are not dependent on a project's natural resources include theme parks or ride-type attractions, sports or concert stadiums, and stand-alone facilities such as restaurants, bars, motels, hotels, and golf courses.

The High-Density Recreation areas at Skiatook Lake include 7 (seven) park areas that are managed by USACE. The USACE will continue to review requests and ensure compliance with applicable laws and regulations for proposed activities in all USACE-operated HDR areas. USACE will also continue to ensure that recreation areas are managed and operated in accordance with the objectives prescribed in Chapter 3. Additional best management practices to implement may include the following:

- Monitor the Oklahoma SCORP 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 Skiatook Lake. Preserve and restore wildlife habitat in high density recreation areas.
- Continue coordination with Oklahoma Forest Service regarding the management of emerald ash borer and sustaining general tree health in high density recreation areas.
- Work with Tribal Nations to provide educational and informational opportunities to the general public.

The following is a description of the parks operated by USACE at Skiatook Lake, some of which are highly developed, while others have only basic facilities and limited development. Classifications for the various parks at Skiatook Lake include Day Use, Class A (highly developed parks) and Class C (parks with basic facilities). Maps showing existing parks and facilities can be found in Appendix A.

5.3.1 USACE Managed High Density Recreation Areas

USACE is the largest federal provider of outdoor recreation, managing 12 million acres of lands and waters across the country. The recreation mission and overarching strategy of USACE is to manage and conserve natural resources while continuing to deliver a quality recreation program that is resilient considering today's fiscal realities and be responsive to the changing needs of the American people. The following parks are under USACE direct management.

Day Use Parks

- **Overlook**

Located just west of the Skiatook Dam along State Highway 20 in Osage County, Skiatook Overlook is a 20-acre scenic area managed through an outgrant. Situated atop steep bluffs, the overlook provides panoramic views of Skiatook Lake's clear waters and the surrounding woodlands. Amenities include waterborne restroom and a short, paved hiking trail. This quiet area is ideal for sightseeing, photography, and wildlife observation.

- **Black Dog Park**

Black Dog Park is a 75-acre recreation area operated by the U.S. Army Corps of Engineers, located on the northwest shore of Skiatook Lake in Osage County. Approximately 11 miles west of the town of Skiatook and about 50 miles northwest of Tulsa, the park offers two 2-lane boat ramps with a courtesy dock, spacious parking areas, restrooms, picnic tables, a group picnic shelter, and a fishing pier. Visitors can enjoy boating, fishing, picnicking, and wildlife observation. Black Dog serves as the main boat ramp for all fishing tournaments at the lake. The surrounding landscape of rolling hills, tallgrass prairie, and oak woodlands provides a scenic backdrop for outdoor enthusiasts.

Photo 5.1 Boat Ramp at Black Dog Park

- **Osage Park**

Osage Park is a 130-acre day-use area managed by the U.S. Army Corps of Engineers, located on the northern shore of Skiatook Lake in Osage County, approximately 10 miles west of the town of Skiatook. Accessible via State Highway 20, the park includes a two-lane boat ramp with a courtesy dock, a vault toilet, and ample parking. The area's rolling hills and rocky cliffs offer scenic views and opportunities for boating, fishing, and hiking on the 1.2 mile Stay Gold Sunset Trail.

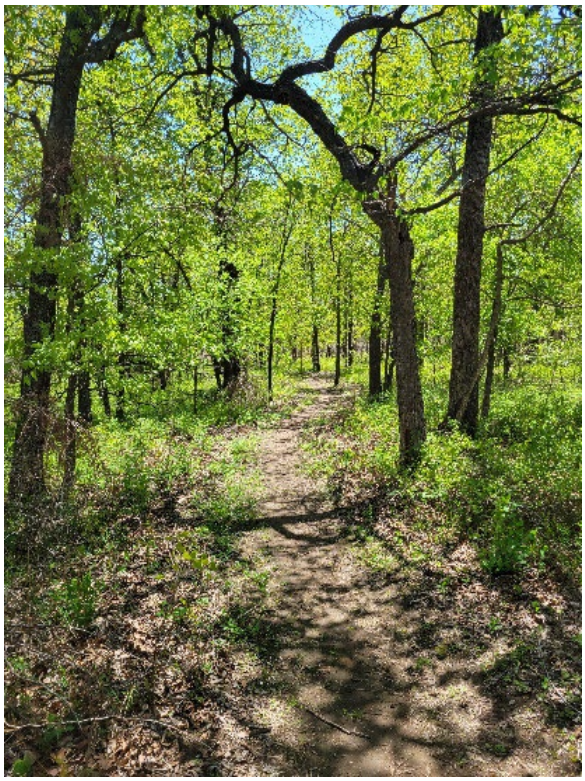

Photo 5.2 Stay Gold Sunset Trail

- **Quapaw Park**

Quapaw Park is a 183-acre day-use area managed by the U.S. Army Corps of Engineers, located below the dam of Skiatook Lake in Osage County. Accessible via local roads off State Highway 20, the park offers access to the outlet channel and a peaceful setting with opportunities for hunting, fishing, and wildlife observation. Rolling hills and a mix of Blackjack and Post Oak trees provide a scenic environment for nature-based recreation.

- **Skiatook Point**

Skiatook Point is a 120-acre recreation area managed by the U.S. Army Corps of Engineers, located on the eastern shore of Skiatook Lake in Osage County. Situated approximately 9 miles west of Skiatook, the area is accessible via local roads off State Highway 20. Facilities include a two-lane concrete boat ramp with a courtesy dock, vault toilet, and spacious parking. Visitors can enjoy boating, fishing, and picnicking amid a landscape of rolling hills and oak woodlands.

Campgrounds

- **Bull Creek Peninsula**

Bull Creek Peninsula is a 75-acre primitive campground and day-use area managed by the U.S. Army Corps of Engineers in northeastern Oklahoma. Located on the southeastern shore of Skiatook Lake, the area includes 41 primitive campsites, a boat ramp, courtesy dock, vault toilets, and picnic areas. Visitors enjoy wildlife observation, open grassy spaces, footpaths, and scenic lake views. While popular with locals, the site currently lacks potable water and modern infrastructure. Future improvements may include signage, trash receptacles, and erosion control measures to preserve the area's natural character.

- **Tall Chief Cove**

Tall Chief Cove is a 115-acre multi-use recreation area operated by the U.S. Army Corps of Engineers, located on the eastern shore of Skiatook Lake. Approximately 30 minutes northwest of Tulsa, the park is accessible via State Highway 20 and Lake Road. The campground includes 57 individual campsites with 50amp electric and water hookups, as well as a group picnic shelter. Amenities feature a large sandy swimming beach, two-lane boat ramp with courtesy dock, vault and flush toilets, showers, a dump station, and covered picnic tables. Additional recreational facilities include a playground, nature trails, volleyball and basketball courts, a disc golf course, and horseshoe pits. This area is known for its scenic bluffs and is popular for boating, fishing, hiking, and overnight camping.

Photo 5.3 Camp Site at Tall Chief Cove

Photo 5.4 Swim Beach at Tall Chief Cove

- **Twin Points**

Twin Points is a 593-acre recreation area managed by the U.S. Army Corps of Engineers, located on the eastern shore of Skiatook Lake in Osage County. Approximately 20 miles northwest of Tulsa, the park is accessible via State Highway 20 and Lake Road. The campground offers 54 campsites with 50-amp electrical and water hookups, picnic tables, grills, fire rings, and paved pads. Amenities include a modern restroom with hot showers and flush toilets, a sanitary dump station, a two-lane boat ramp with a courtesy dock, a designated swimming beach, a playground, and a basketball court. Surrounded by tallgrass prairie, rolling hills, and forested bluffs, Twin Points is a popular destination for both day-use and overnight visitors seeking boating, fishing, swimming, and panoramic lake views.

Photo 5.5 Sunset at Twin Points

5.3.2 Non-USACE Managed High Density Recreation Areas

Marinas

- **CrossTimbers Marina**

Crosstimbers Marina occupies 35 acres in Sperry, Oklahoma. It is located on the eastern shore of Skiatook Lake, approximately 25 minutes from downtown Tulsa, this full-service marina offers a wide range of services and amenities including a fishing pier, lakeside cottages, a restaurant, and watercraft rentals. Cross Timbers provides a comprehensive and enjoyable lake experience for boaters and vacationers alike.

Photo 5.6 CrossTimbers Marina

- **Crystal Bay Marina**

Crystal Bay Marina encompasses 132 acres west of the town of Skiatook in Osage County. Nestled in a scenic cove surrounded by rolling hills and Blackjack Oak trees, the marina offers a peaceful setting for visitors. Amenities include a full-service marina, a courtesy fishing dock, and a boat launch facility, making it a tranquil destination for relaxation and lake access.

5.4 MITIGATION

The Mitigation classification is applied to lands that were acquired specifically for the purpose of offsetting losses associated with the development of the project. There are no acres at Skiatook Lake under this classification. USACE lands at Skiatook Lake where environmental mitigation activities have taken place in association with real estate easements or other outgrants are not included in lands classified for Mitigation.

5.5 ENVIRONMENTALLY SENSITIVE AREAS

Six (6) distinct areas totaling 384 acres are designated as Environmentally Sensitive Areas (ESA). These 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 (NHPA), or applicable state statutes. The primary management objective for ESAs is to allow existing compatible uses to continue but to protect sensitive resources from intensive development, use, or disturbance beyond that which currently exists. In general, these areas must be managed to ensure that they are not adversely impacted. With the exception of natural surface pedestrian trails and

minimal visitor parking areas, limited or no development of public use facilities is allowed on these lands and no real estate outgrants for easements should be granted unless disturbance can be confined to the boundaries of existing easements. No agricultural or grazing uses are permitted on these lands unless necessary for a specific resource management benefit, such as prairie restoration or provision of supplemental browse and forage for wildlife. An ESA classification provides the highest level of ecological protection among the various land use classifications. Future management of ESAs includes monitoring and surveillance of cultural resource sites to ensure they are not damaged or destroyed. For a brief description of consultation with Tribal Nations for ESA and land classification changes, see Chapter 6.

The ESAs are listed and described in Table 5.1 and depicted in the map book found in Appendix A number of acres for each ESA and a brief location description of the ESA. Many of the ESAs were designated to protect culturally and/or historically significant sites. Since the purpose of the ESA designation is to protect those sites, many of the ESAs have been expanded well beyond the known cultural site to avoid identifying the exact location of the site and to protect potential additional unidentified sites adjacent to those which are being protected.

Table 5.1 ESA Listing

ESA#	Acres	Location and Description
ESA 1	121	ESA 1 is the island located in the middle of the lake.
ESA 2	7	ESA 2 is located on the north shoreline of the lake at the Highway 20 bridge embankment.
ESA 3	63	ESA 3 is located on the north shoreline of the lake.
ESA 4	52	ESA 4 is located on the south shoreline of the Hominy Creek branch of the lake.
ESA 5	105	ESA 5 is located on the north shoreline of the Hominy Creek branch of the lake.
ESA 6	36	ESA 6 is located on the south shoreline of the lake east of Twin Points.

5.6 MULTIPLE RESOURCE MANAGEMENT LANDS

Multiple Resource Management Lands (MRML) are, as the name implies, lands that serve multiple purposes, but that are sub-classified and managed for a predominant use. There are no lands sub-classified as Vegetation Management (VM) or Future or Inactive Recreation Areas at Skiatook Lake. The following paragraph describes the sub-classification, how they are managed, and provides the number of acres in each sub-classification.

5.6.1 Wildlife Management

There are 4,172 acres of MRML – Wildlife Management, which is the dominant land classification at Skiatook Lake. These are lands designated primarily for the

stewardship of fish and wildlife resources but are available for passive recreation use such as natural surface trails, hiking, and nature study. The USACE objectives for these lands is to continue to ensure wildlife management practices are ecologically sustainable and provide the intended public benefits. In general, this land classification calls for managing the habitat to support native, ecologically adapted vegetation, which in turn supports native game and non-game wildlife species, with special attention given to federal and state-listed threatened and endangered species. Future management may include such activities as placement of nesting structures, construction of water features or brush piles, prescribed fire, fencing, removal of invasive species, and planting of specific food-producing plants that may be necessary to support wildlife needs. Additional best management practices may include use of erosion control blankets that do not pose entrapment hazards to wildlife; elimination of open-top vertical pipes that pose an entrapment hazard to wildlife; minimize nighttime lighting and only use down-shielded lighting to prevent disorientation of night-migrating birds; follow USFWS guidelines for building glass to prevent bird collisions; preserve and restore wildlife habitat in high density recreation areas; ensure that mowing practices provide standing tallgrass over winter to provide essential cover for wintering birds; and report sightings of state-listed species and presence of rare vegetative communities to USFWS and ODWC. Priority will be given to the improvement or restoration of existing wetlands, or the construction of wetlands where topography, soil type, and hydrology are appropriate.

Use of available funds for wildlife management must be prioritized to meet legal mandates and regional priorities. While exceptions can occur, management actions will be guided by the following, in order of priority: 1) Protect federal and state-listed threatened and endangered species. 2) Meet the needs of species protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. 3) Meet the needs of rare species and Species of Greatest Conservation Concern. 4) Meet the needs of resident species not included in the above priorities.

Additionally, agricultural leases for grazing or hay production may be employed when such actions are beneficial to long-term ecological management goals. Hunting and fishing activities are regulated by federal and state laws and special restrictions proposed by the USACE and approved through state regulatory processes. Natural surface pedestrian trails are appropriate for most areas designated as Wildlife Management and can be implemented through partnerships with other agencies.

5.6.2 Low Density Recreation

There are 2,801 acres of MRML – Low Density Recreation (LDR) at Skiatook Lake. These lands have minimal development or infrastructure that support passive public use such as hiking, nature photography, bank fishing, and hunting. Since these lands are typically narrow or often adjacent to private residential developments, hunting is only allowed in select areas that are a reasonable and safe distance from adjacent residential properties. 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. Prevention of unauthorized use on this land,

such as trespassing or encroachment, is an important management and stewardship objective for all USACE lands but is especially important for lands near private development. Future management of these lands calls for maintaining a healthy, ecologically adapted vegetative cover to reduce erosion and improve aesthetics. Maintenance of an identifiable property boundary is also a high priority in these areas.

5.7 WATER SURFACE

At conservation pool level of 714.0 NGVD29 there are 10,348 acres of water surface. The USACE is the primary agency responsible for managing the recreational use of the water surface at Skiatook Lake. Enforcement of water surface rules and regulations is a shared responsibility between the USACE, ODWC, and the Marine Enforcement Division of the Oklahoma Highway Patrol (OHP). Zoning of the water surface is intended to ensure the security of key operations infrastructure, promote public safety, and protect habitat. In accordance with national USACE policy set forth in EP 1130-2-550, the water surface of the lake at the conservation pool elevation may be designated using the following classifications:

5.7.1 Restricted

Restricted water surface includes those areas where recreational boating is prohibited or restricted for project operations and safety and security purposes. Vessels are not allowed to enter Restricted water surface. The total acreage of Restricted water surface is approximately 34 acres. The Restricted water surface at Skiatook Lake includes the area around the intake gate control tower near the dam, immediately below the dam which is restricted for safety and security concerns. Also, around the designated swimming beach. Future management calls for one or more of the following management measures: placement of buoys; placement of signs at swimming beach; and describing the areas on maps available to the public.

5.7.2 Designated No-wake

Designated No-Wake areas are intended to protect environmentally sensitive shorelines and improve visitor safety near key recreation water access areas such as boat ramps, and swim beaches. Designated No-Wake areas at Skiatook Lake include approximately 160 acres. Future plans include for No-wake Areas include continuing placement of buoys, placement of signs near boat ramps, and describing the areas on maps available to the public.

5.7.3 Open Recreation

Open Recreation includes all water surface areas available for year-round or seasonal water-based recreational use. Approximately 10,154 acres of Skiatook Lake water surface is designated as Open Recreation. Signs at boat ramps warn boaters that navigation hazards such as standing dead timber, shallow water, and floating debris may be present at any time and location and it is incumbent upon boat operators to exercise caution. Boating on the lake is in accordance with USACE regulations and

water safety laws of Oklahoma. The USACE encourages all boaters and swimmers to wear lifejackets at all times and to learn to swim well.

5.7.4 Recreational Seaplane Operations

Recreation seaplane landings and takeoffs may occur on water surface areas where this activity is not prohibited. A map depicting areas where seaplane landings and takeoffs are prohibited can be found in Appendix A. The USACE imposed restrictions that apply to seaplane operations are published by the Federal Aviation Administration in their Notice to Airmen and are also set forth in Title 36 of the Code of Federal Regulations, Chapter III, Section 327.4. Note that once a seaplane is on the water it is considered to be a water vessel and falls under the guidelines for watercraft.

CHAPTER 6 – SPECIAL TOPICS/ISSUES/CONSIDERATIONS

6.1 COMPETING INTERESTS ON THE NATURAL RESOUCES

Skiatook Lake is a multi-purpose project with numerous authorized purposes. The authorized purposes accommodate the needs of federal, state, and municipal users which have developed over time and have contractual rights that must be honored. The benefits provided by virtue of authorized purposes are critical to the local and regional economies and are of great interest to the public. Aside from operating the reservoir to meet the needs of those entities with contractual rights, there are many competing interests for the utilization of federal lands including recreational users, adjacent landowners, those who own mineral rights, utility providers, and all entities that provide and maintain public roads. A growing population and increasing urbanization places additional stress on these competing interests through increased demand for water resources and recreation spaces as well as diminishing quality and space for natural habitat and open spaces. Balancing the interests of each of these groups to ensure that valid needs are met while at the same time protecting natural and cultural resources is a challenge. The purpose of this Plan is to guide management into the foreseeable future to ensure responsible stewardship and sustainability of the project's resources for the benefit of present and future generations.

6.2 UTILITY CORRIDORS

USACE policy allows for the establishment of designated corridors on project lands, where feasible, to serve as the preferred location for future outgrants such as easements for roads or utility lines. After obtaining public input and examining the location of existing roads and utility lines on project lands, and due to the relatively low demand for easements at Skiatook Lake, the USACE decided that the creation of utility corridors would not be necessary. Any entity seeking a utility easement to cross USACE property must research alternate routes around USACE property and demonstrate that a feasible alternative does not exist. Additionally, a NEPA review process would be required.

6.3 PUBLIC HUNTING ACCESS

Oklahoma has less public land available for hunting than many states, so public access on USACE lands is often the best opportunity for many Oklahoma residents for hunting. Hunting at all USACE projects is in accordance with applicable Federal and State regulations. Generally, all USACE hunting areas are open for public hunting of all legal species with the use of any legal weapon for that open season except in areas designated for restricted hunting. Hunting is prohibited in developed recreational areas, lands around dams, and around other structures. Vehicles must remain on established roads, and camping is allowed in designated areas only. Individuals interested in hunting on USACE lands should visit the Tulsa District Hunting Information webpage or visit the Skiatook Lake Office for more information. Hunting maps, guidelines, and restrictions are available at the USACE Tulsa District Website and Skiatook Lake Office.

6.4 CULTURAL RESOURCES AND CONSULTATION WITH TRIBAL NATIONS

It is required for federal agencies to consult with affiliated Native American Tribes on activities that take place on federal land under federal guidance including but not limited to Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966 (as amended); Archaeological Resources Protection Act (ARPA) of 1979; Native American Graves Protection and Repatriation Act (NAGPRA); and 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections. Implementing regulations for Section 106 of the NHPA and NAGPRA are 36 CFR Part 800 and 43 CFR Part 10, respectively. All cultural resources laws and regulations should be addressed under the requirements of the 1969 NEPA as amended. USACE summarizes the guidance provided in these laws in ER and EP 1130-2-540. Additionally, Executive Order 13007 states that each federal agency with responsibility for the management of Federal lands shall accommodate access to and ceremonial use of Native American sacred sites by religious practitioners and avoid adversely affecting the physical integrity of such sacred sites.

The Tulsa District takes its responsibilities for consultation on a government-to-government basis very seriously and consulted extensively with Native American Tribes on the Skiatook Lake Master Plan. The Tulsa District consulted with Tribes primarily on developing ESA's and ensuring areas of Tribal concern were addressed. This process has allowed Tribes to become more familiar with USACE property at Skiatook Lake, and has increased USACE staff awareness of Tribal histories, sites, and concerns in the area. This exchange of knowledge from developing the Master Plan will allow USACE staff to better engage with Tribes on future projects at Skiatook Lake and will likely lead to more efficient reviews and better outcomes meeting objectives for both parties.

6.5 CROSS TIMBERS ECOSYSTEM ON SKIATOOK LAKE

The Cross Timbers are a mosaic of savanna, upland forests, and glades that separate the eastern deciduous forests and the southern Great Plains grasslands. The Cross timbers expanse lies between central Texas, western Arkansas, Oklahoma, and southern Kansas. Skiatook Lake is nestled in the northern reaches of the historical Cross Timbers ecosystem in Oklahoma, located in southeast Osage County. There are several areas around the lake that show the prominent mixture of post oak and blackjack oak savannas, on coarse sandy soils. Around Twin Point Campground is a large 120-acre grassland managed by USACE and frequently burned to preserve the prairie, but right next to it is a large USACE managed hunting area that is littered with large old growth oaks and mixture of tall and shortgrass prairie. Further along the western creeks feeding Skiatook Lake are thicker deciduous forests intermixed with bottomland hardwoods like Red Oaks, Maples, and hickories. Part of managing the Cross Timbers ecosystem is prescribed fire as the primary oaks of this area are fire tolerant, but with fire suppression or lack of resources, eastern redcedar becomes invasive. Parts of the Cross Timbers include old-growth forests which contain post oaks from 200-400 years old which can be seen around the beautiful Skiatook Lake. A recent discovery was made in 2023, where a local researcher found Geocarpon minimum, also known as Tiny Tim. It is an annual succulent found in nearby states, but the location at

Skiatook Lake is the first recorded in Oklahoma. The vegetation types described at the sites are consistent with the Cross Timbers ecosystem.

6.6 THE HEALING ROCK

The Healing Rock (also known as *Teepee Rock* or *The Healing Stone*) is a fascinating natural landmark located near Skiatook Lake in Skiatook, Oklahoma. It stands roughly 12 ft tall, with a 17-ft base and a thin triangular profile that tapers to a jagged point. It is just over a foot thick and was formed purely by erosion. In the late 19th century, both the Osage and Quapaw tribes regarded the rock as sacred healing ground. It is said that the sick or injured would lean against it to draw out ailments; a belief rooted in cultural and spiritual practices. During the forced relocation of Native American tribes, the rock continued to serve as a refuge for those seeking peace and guidance. Settlers, too, began visiting the rock, attributing their recovery from illness or emotional distress to its healing energy. When plans for Skiatook Lake were finalized, it became clear the rock would be covered by water. In 1985, local Tribes, the Skiatook Chamber of Commerce, and USACE worked to relocate the rock to its present location, 1/8 mile south of the Skiatook Project Office. An access trail was built and is maintained to this day by USACE. Though Skiatook has grown and modernized, the Healing Rock remains a vital part of the town’s cultural and spiritual heritage.

CHAPTER 7 – PUBLIC AND AGENCY COORDINATION

7.1 PUBLIC AND AGENCY COORDINATION OVERVIEW

The USACE is dedicated to serving the public interest in support of the overall development of land uses related to land management for cultural, natural, and recreational resources of Skiatook 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 Skiatook Lake to ensure that future management actions are environmentally sustainable and responsive to public outdoor recreation needs. The following milestones provide a brief look at the overall process of revising the Skiatook Lake Master Plan.

The USACE began planning to revise the Skiatook Lake Master Plan in the spring of 2024. The objectives for the Master Plan revision are to (1) revise land classifications to reflect changes in USACE land management policies since the 1976 Master Plan, (2) prepare new resource goals and objectives, and (3) revise the Master Plan to reflect new agency requirements for Master Plan documents in accordance with ER 1130-2-550 and EP 1130-2-550.

7.2 INITIAL STAKEHOLDER AND PUBLIC MEETINGS

On 25 July 2024 a public information workshop was held at Skiatook Public Library to inform the public of the intent to revise the master plan. The public input period remained open for 30 days from 25 July 2024 to 24 August 2024. An extension of the comment period for Skiatook remained open from August 24, 2024 to August 30, 2024. At the public information workshop, a presentation was given that included the following topics:

- What is a Master Plan?
- What a Master Plan is Not
- Why Revise a Master Plan?
- Overview of the National Environmental Policy Act (NEPA) process
- Master Planning Process
- Instructions for submitting comments

For Skiatook Lake, USACE received three (3) comments.

Table 7.1 Comments from Initial Comment Period

Comment	Response
Comments from the EPA	
The region 6 office of the U.S. Environmental Protection Agency (EPA) has reviewed the Tulsa District, U.S. Army Corps of Engineers (USACE), project requesting comments on environmental issues for the proposed revision of the Skiatook Lake Master Plan. The USACE defines the master plan (MP) as the strategic land use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the water resource development project. It defines "how" the resources will be managed for public use and resource conservation. The current MP for Skiatook Lake was approved in 1966 and needs revision to address changes in regional land use, population, outdoor recreation trends, and the USACE management policy. The MP study area will include Skiatook Lake proper and all adjacent recreational and natural resources in USACE fee-owned property. To assist in the scoping process for the Project, EPA has identified significant areas for your attention. We offer the following comments for your consideration: **Air Quality Comments** EPA asks that the environmental document provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS) and non-NAAQS pollutants, criteria pollutant nonattainment areas, and potential air quality impacts of the proposed project. Such an evaluation is necessary to understand the potential impacts from temporary, long-term, or cumulative degradation of air quality.	Noted. USACE seeks to address this comment through the Environmental Assessment. Currently there are no anticipated construction activities within the Master Plan. Any future construction would be required to complete necessary NEPA analysis.

Comment	Response
EPA recommends the environmental document describe and estimate air emissions from potential construction, maintenance, and operation activities, as well as proposed mitigation measures to minimize those emissions. We recommend an evaluation of the following measures to reduce emissions of criteria air pollutants and hazardous air pollutants (air toxics): For existing conditions, EPA recommends the environmental document provide a detailed discussion of ambient air conditions, NAAQS, and criteria pollutant nonattainment areas in the vicinity of the project. EPA recommends the environmental document estimate emissions of criteria and hazardous air pollutants (air toxics) from the proposed project and discuss the timeframe for release of these emissions over the lifespan of the project and describe and estimate emissions from potential construction activities, as well as proposed mitigation measures to minimize these emissions. The environmental document should also consider any expected air quality and visibility impacts to Class I Federal Areas identified in 40 CFR Part 81, Subpart D. EPA recommends the environmental document specify all emission sources by pollutant from mobile sources (on and off-road), stationary sources (including portable and temporary emission units), fugitive emission sources, area sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention. EPA recommends the environmental document include a draft Construction Emissions Mitigation Plan and ultimately adopt this plan in the Record of Decision. We recommend all applicable local, state (e.g., coordination of land-clearing activities with the state air quality agency to determine air quality	

Comment	Response
conditions such as atmospheric inversions prior to performing open burning activities), or Federal requirements (e.g., certification of non-road engines as in compliance with the EPA Tier 4 regulations found at 40 CFR Parts 89 and 1039) be included in the Construction Emissions Mitigation Plan in order to reduce impacts associated with emissions of particulate matter and other toxics from any potential construction-related activities. **National Pollutant Discharge Elimination System (NPDES) Comments** EPA comments are specific to Clean Water Act (CWA) Section 402, 40 CFR § 122.26(b)(14)(x) and 40 CFR § 122.26(b)(15)(i) National Pollutant Discharge Elimination System (NPDES) permitting regulations which authorize the discharge of stormwater from large and small construction activities in areas upland from a waterbody and not considered a jurisdictional wetland area, regardless of the land's designation as federal, state, Indian country or private. The USACE's Skiatook Lake Master Plan Public Involvement presentation identified construction-related land classification definitions within the revision process including: Project Operations lands required for office, maintenance facilities and other areas used solely for project operations; High Density Recreation land developed for intensive recreational activities for the visiting public, including day use areas and campground areas for commercial concessions, and quasi-public development; and, Multiple Resource Management Lands - Low Density Recreation lands with minimal development or infrastructure that support passive public recreational use (e.g., trails, primitive camping, wildlife observation, fishing and hunting). Additionally, the 1984-86 Amendments of the Skiatook Lake Master Plan Design Memorandum identified development of an RV park with	

Comment	Response
campsites, picnic sites, group shelter, sanitary facilities, boat ramp parking, roads, and a gate station, as well as development of 3 recreational areas. The recreational area proposals identified county development of residential housing, public recreational areas, and concessionaire commercial, including a golf course building and golf course facility center, a motel, an additional golf course, private residential and other developments. I realize it is unclear at this time whether the Skiatook Lake Master Plan Revisions will include construction-related activities included in, or similar to, the previous iterations of the master plan. Therefore, it is important to clarify that stormwater discharges from earth disturbances related to construction activities for buildings/shelters, roads, parking, housing, RV parks and other traditional construction activities identified in the presentation and master plan do fall under Section 402 of the CWA and NPDES permitting program. For 40 CFR § 122.26(b)(14)(x) and 40 CFR § 122.26(b)(15)(i) NPDES regulations (applicable to State NPDES programs, see § 123.25) which authorize the discharge of stormwater from large and small construction activities, all entities associated with a construction project who: 1) meet the NPDES permitting authority's definition of "operator," 2) cause an earth disturbance of 1 acre or greater, or less than one acre if part of a larger common plan of development or sale that ultimately disturbs 1 acre or greater, and 3) discharge stormwater from their construction activities (including any on- and off-site construction support activities), are required to obtain NPDES permit coverage via the Construction General Permit (CGP) or other NPDES permit from the NPDES permitting authority prior to beginning construction activities and/or construction support activities.	

Comment	Response
EPA's 2022 CGP definition of construction activities refer to "earth-disturbing activities, such as the clearing, grading, and excavation of land, and other construction-related activities (e.g., grubbing; stockpiling of fill material; placement of raw materials at the site) that could lead to the generation of pollutants. Some of the types of pollutants that are typically found at construction sites are: sediment; nutrients; heavy metals; pesticides and herbicides; oil and grease; bacteria and viruses; trash, debris, and solids; treatment polymers; and any other toxic chemicals." Therefore, demolition, building additions, renovations and new construction on existing pavement that results in earth disturbance and/or construction support activities (e.g., equipment staging yards, materials storage areas, excavated material disposal areas, etc.) that involve earth disturbance or pollutant-generating activities of its own, are considered construction-related activities that require NPDES permit coverage. Additionally, because it appears that the overall earth disturbance of this Skiatook Lake Master Plan project will be greater than 1 acre, the larger common plan of development or sale will be triggered, therefore stormwater discharges from all construction activities and all -site or off-site construction support activities (i.e., borrow pits, staging areas, material storage areas, temporary batch plants, laydown areas, etc.) will be required to obtain NPDES permit coverage via the CGP or individual NPDES permit (except any portion of the project's construction activities that is covered by a CWA 404 permit or waived from permit coverage) regardless if the smaller project's earth disturbance in areas upland from the waterbody and not considered a jurisdictional wetland area is less than 1 acre. . In Oklahoma, the Oklahoma Commission on Environmental Quality (ODEQ) is the NPDES permitting authority, except discharges	

Comment	Response
in the State of Oklahoma 1) in areas under the authority of the Oklahoma Department of Agriculture and Forestry and 2) areas of Indian country covered by an extension of state program authority pursuant to Section 10211 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA) and 3) areas associated with oil and gas exploration, drilling, operations, and pipelines (includes SIC Groups 13 and 46, and SIC codes 492 and 5171) of which EPA is the NPDES permitting authority. EPA appreciates the opportunity to review the environmental issues and are available to discuss EPA's comments.	
Comments from the Public	
Corps of Engineers - I am writing to express my passion and concern for protecting Lake Skiatook from any future private or commercial development as you do a Skiatook Master Plan Revision. I have lived five minutes from Skiatook Point Boat Ramp for 25 years, hold a Masters in Fisheries, and have been richly blessed to spend a lot of time at many well-known reservoirs across America, as part of my career. In my opinion, we are at capacity here at Lake Skiatook — in terms of marina boat slip space — and we certainly don't want new marinas allowed at Skiatook in the future. Our lake is a rare gem — but it's only 10,000 surface acres — 1/5 the size of places like Lake of the Ozarks — that through improper management have become Chaotic! So please, as you plan for our future — promise me that not only will there be No more marinas permitted beyond the two in existence — but also that you'll work with private developers to	Noted. As part of the Master Plan revision process, the study team considered the vast recreational opportunities offered at Skiatook Lake. A resource objective was created to consider existing and future potential recreational opportunities for multiple user groups while ensuring visitor safety. Resource goals and objectives can be found in Chapter 3 of the Skiatook Lake Master Plan. The consideration of recreational opportunities for multiple user groups is also addressed in Chapter 6 of the Master Plan. The fee lands associated with the shoreline of Skiatook Lake are owned by the USACE and not in private ownership. USACE

Comment	Response
discourage over-development of residential properties on our hillsides. Please discourage the clear-cutting of critical rainwater straining trees and native vegetation, that help prevent our treasured clear waters from becoming turbid — as I've unfortunately witnessed an increase of in recent years. Keep Lake Skiatook Natural NOT Commercial!!	is committed to keeping the shoreline of Skiatook in its natural undeveloped state. USACE has no control over development off of fee lands to include residential development. New marinas at Skiatook lake are not in USACE interest.
I believe a beneficial and important addition to the master plan would be multi-use trails for hiking and mountain biking. Recent significant development of both hiking and mountain biking trails in the general Tulsa area (as well as NW Arkansas) has shown the interest is ready and waiting for locations to use! (Look at usage stats at Turkey Mountain for evidence that 'if you build it they will come'). I believe these sorts of activities fit very well in the Skiatook Lake area. It would encourage visitation during seasons where swimming and other lake activities are lower, and provide healthy outdoor activities for nearby residents. There are numerous examples, both in Oklahoma and Arkansas of very successful implementation of trails on Army Corps of Engineers land. Our family's personal favorite is Springhill in Barling, AR, where we attend a yearly NICA race (National Interscholastic Cycling Association - youth mountain biking - arkansasmtb.org I hope this will be considered during the rewriting of the Skiatook Lake Master Plan. Thank you for your consideration.	Noted. As part of the Master Plan revision process, the study team considered the vast recreational opportunities offered at Skiatook. A resource objective was created to consider existing and future potential recreational opportunities for multiple user groups while ensuring visitor safety. Resource goals and objectives can be found in Chapter 3 of the Skiatook Master Plan. The consideration of recreational opportunities for multiple user groups is also addressed in Chapter 6 of the Master Plan. Trails fit recreation activities that USACE is interested in supporting but will need to be in partnership with a non-profit entity for their development.

7.3 PUBLIC AND AGENCY REVIEW OF DRAFT MP, EA, AND FONSI

This section will be completed following the draft release, public input process, and 30-day comment period. Any comments received and government responses will be added.

CHAPTER 8 – SUMMARY OF RECOMMENDATIONS

8.1 SUMMARY OVERVIEW

The preparation of this Master Plan for Skiatook Lake 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 guidance include the preparation of contemporary Resource Objectives, Classification of project lands using the approved classification standards, and the 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, consideration of regional recreation and natural resource management priorities identified by other federal, state, and municipal authorities, and consultation with local Tribal Nations.

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 staffing levels at Skiatook Lake as also reflected in ER 1130-2-540. Factors considered in the Plan's development were identified through public involvement and review of regional and statewide planning documents including the 2023 Oklahoma SCORP, Mobility Plans by ODOT, EPA Ecoregion Handbook and descriptions, and the USFWS IPAC website. This Master Plan will guide the long-term sustainability of the outdoor recreation program and natural resources associated with Skiatook 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 updated land classification standards that reflect how lands are being managed now and will be managed in the foreseeable future. The updated land classification standards will also comply with current USACE standards. Public comment was solicited to assist in making these land reclassification decisions. Consultation was also conducted with Tribal Nations to provide input on cultural and natural resources to help inform the land classification decisions. Chapter 7 of this Plan describes the public involvement process and Appendix E provides a summary of public comments received. After analyzing public comment, examining recreational trends, and taking into account regional natural resource management priorities, USACE team members reclassified the federal lands and waters associated with Skiatook Lake as described in Table 8.1 and explained in Table 8.2.

Table 8.1 Change from 1976 Land and Water Surface Classifications to 2025 Land and Water Surface Classification

Prior Land Classifications (1976)	Acres	Proposed Land Classifications (2025)	Acres
Project Operations (PO)	353	Project Operations (PO)	232
		Environmentally Sensitive Areas (ESA)	384
Operations Recreation – Intensive Use (OR/IU)	1,883	High Density Recreation (HDR)	1,147
Operations Recreation – Low Density (OR/LD)	2,895	Multiple Resource Management Lands – Low Density Recreation (LDR)	2,801
Natural Area (NA)	3,569	Wildlife Management (WM)	4,172
TOTAL LAND ACRES	**8,700**	**TOTAL LAND ACRES**	**8,736**
Prior Water Surface Classifications (1975)	**Acres**	**Proposed Water Surface Classifications (2025)**	**Acres**
Water	10,383	Open Recreation (WS/OR)	10,154
		Restricted (WS/R)	34
		No Wake (WS/NW)	160
TOTAL WATER SURFACE ACRES	**10,383**	**TOTAL WATER SURFACE ACRES**	**10,348**
TOTAL FEE	**19,083**	**TOTAL FEE**	**19,084**

* Total fee simple title acreage differences from the 1975 total to the 2025 totals are due to improvements in measurement technology, deposition/siltation, and erosion. Totals also differ due to rounding while adding parcels.

Table 8.2 lists the descriptions and justifications for the reclassification of USACE lands at Skiatook Lake. The team examined numerous parcels that ranged from a few acres to hundreds of acres, and rather than describing how each individual parcel was reclassified, the changes are grouped by classification category. A few examples of changes made to individual parcels are provided to assist in understanding how and why changes were made. The prior land classification Public Use Area is similar to the current HDR classification; and the prior State Wildlife Management classification is similar to the current MRML – WM classification. The following table describes changes from the prior classification to current classifications but combines the similar classifications for ease of explaining changed acres.

Table 8.2 Changes and Justifications for Land Classifications [1]

Land Classification	Description of Changes [2]	Justification
Project Operations (PO)	The net decrease in Project Operations lands from 353 to 232 acres is due to the following: • 180 acres to WM • 74 acres to LDR • 4 acres from NA • 93 acres from OR/IU • 36 acres from water	All lands classified as PO are managed and used primarily in support of critical operational requirements related to the primary missions of flood risk management and water conservation, including lands that were previously classified as public use area.
High Density Recreation (HDR)	The net decrease in High Density Recreation lands from 1,883 to 1,147 acres is due to the following: • 92 acres from OR/LD • 470 acres to WM • 226 acres to LDR • 93 acres to PO • 40 acres to ESA	The net decrease in HDR lands is due to OR/IU lands being reclassified to WM, LDR, and PO to indicate current uses.

Land Classification	Description of Changes [2]	Justification
Low Density Recreation (LDR)	The net decrease in Low Density Recreation Lands from 2,895 to 2,801 acres resulted from the following: • 187 acres to ESA • 115 acres to WM • 92 acres to HDR • 74 acres from PO • 226 acres from OR/LD	The net decrease in LDR is due to OR/LD lands being reclassified to WM and HDR to indicate current uses as well as acreage being classified as ESA.
Wildlife Management (WM)	The net increase in Wildlife Management from 3,569 to 4,172 acres resulted from the following: • 470 acres from OR/IU • 115 acres from OR/LD • 180 acres from PO • 157 acres to ESA • 4 acres to PO	The net increase in WM lands is primarily due to lands being reclassified from OR.
Environmentally Sensitive Areas (ESA)	The classification of 384 acres as Environmentally Sensitive Areas resulted from the following: • 157 acres of NA • 40 acres of OR/IU • 187 acres of OR/LD	Reclassification of 384 acres was determined by the study team to be necessary to provide a high level of protection for those areas supporting significant habitat, views, or cultural sites. Classifying these areas as ESA will afford these areas with the highest level of protection from disturbance.

(1) The land classification changes described in this table are the result of changes to individual parcels of land ranging from a few acres to several hundred acres. New acreages were measured using more accurate GIS technology, thus total changes will not equal individual changes. The acreage numbers provided are approximate.
(2) Acreages are based on GIS measurements and may vary from net difference detailed in Table 8.1.

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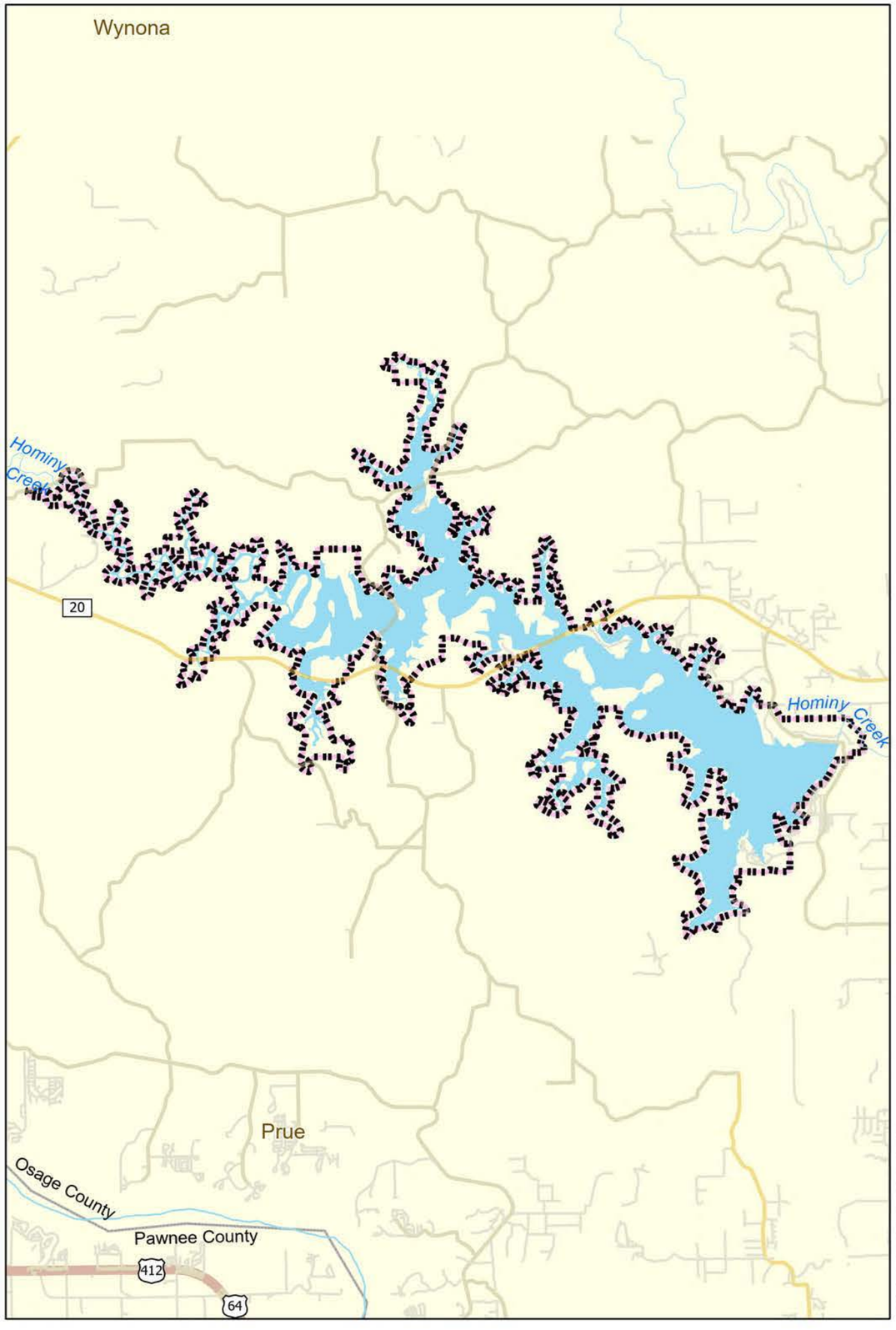
APPENDIX A – LAND CLASSIFICATION, MANAGING AGENCIES, AND RECREATION MAPS



INDEX TO MASTER PLAN MAPS

GENERAL

MAP NO.	TITLE
SKI25MP-OI-00	PROJECT LOCATION & INDEX TO MAPS
SKI25MP-OM-01	LAND MANAGING ENTITIES
SKI25MP-OP-01	SEAPLANE GUIDE
SKI25MP-OW-01	WATER SURFACE CLASSIFICATIONS AND MARINAS

LAND AND WATER CLASSIFICATIONS

MAP NO.	TITLE
SKI25MP-OC-00	LAND AND WATER CLASSIFICATIONS (00)
SKI25MP-OC-01	LAND AND WATER CLASSIFICATIONS (01)
SKI25MP-OC-02	LAND AND WATER CLASSIFICATIONS (02)
SKI5MP-OC-03	LAND AND WATER CLASSIFICATIONS (03)

RECREATIONAL AREAS

MAP NO.	TITLE
SKI25MP-OR-0A	MANAGED RECREATIONAL AREAS
SKI25MP-OR-0B	PLATE PARK INDEX
SKI25MP-OR-01	SKIATOOK POINT/OVERLOOK
SKI25MP-OR-02	OSAGE PARK
SKI25MP-OR-03	BULL CREEK PENINSULA
SKI25MP-OR-04	HOMINY LANDING
SKI25MP-OR-05A	TWIN POINTS A
SKI25MP-OR-05B	TWIN POINTS B
SKI25MP-OR-06	BLACK DOG PARK
SKI25MP-OR-07A	TALL CHIEF COVE A
SKI25MP-OR-07B	TALL CHIEF COVE B
SKI25MP-OR-08	QUAPAW PARK

Water Surface

Fee Boundary

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

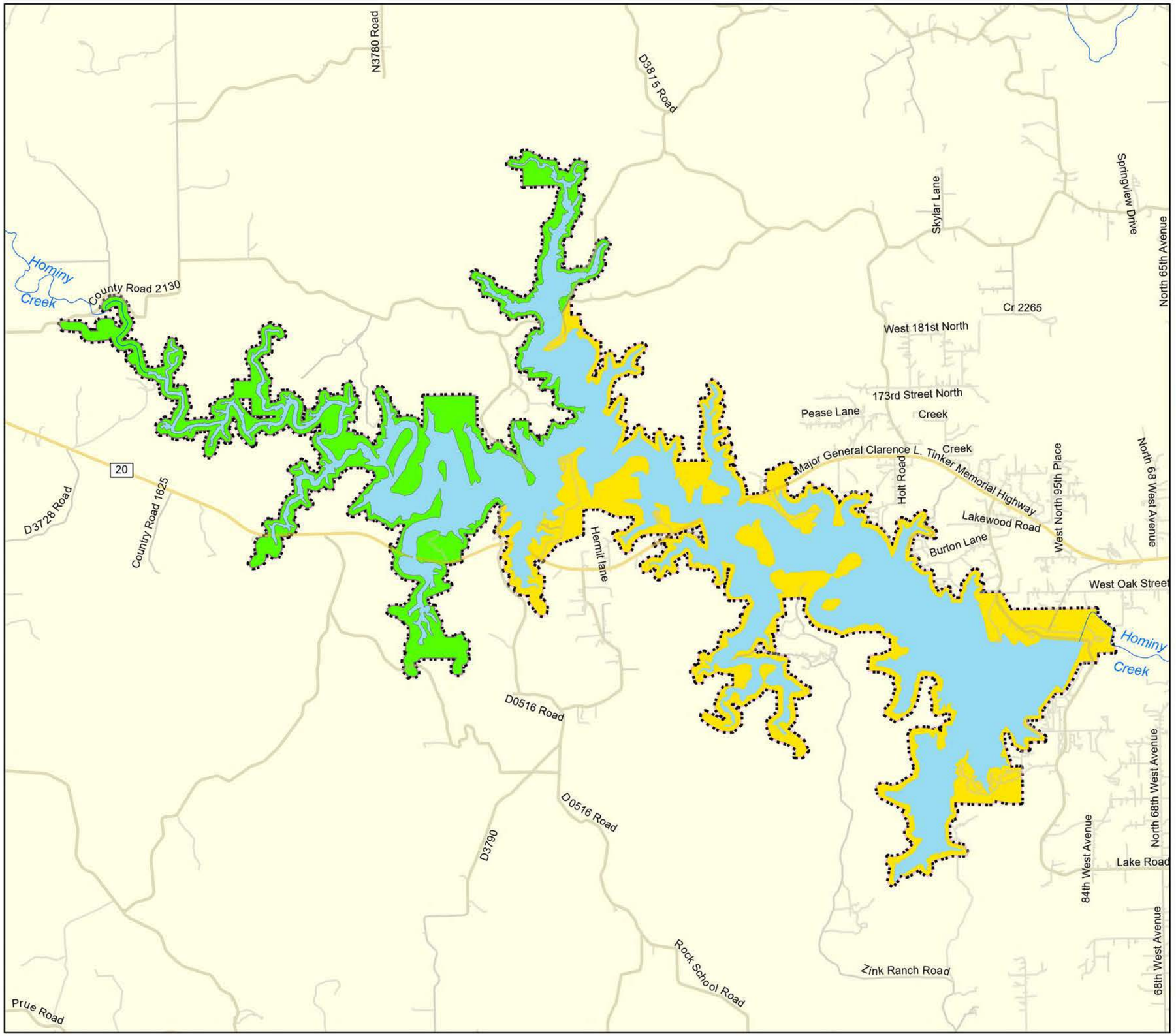
VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

PROJECT LOCATION AND MAP INDEX

N 0 1.5 3 6 Miles

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OI-00



U. S. Army Corps of Engineers

Oklahoma Department of Wildlife Conservation

Water Surface

Fee Boundary

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

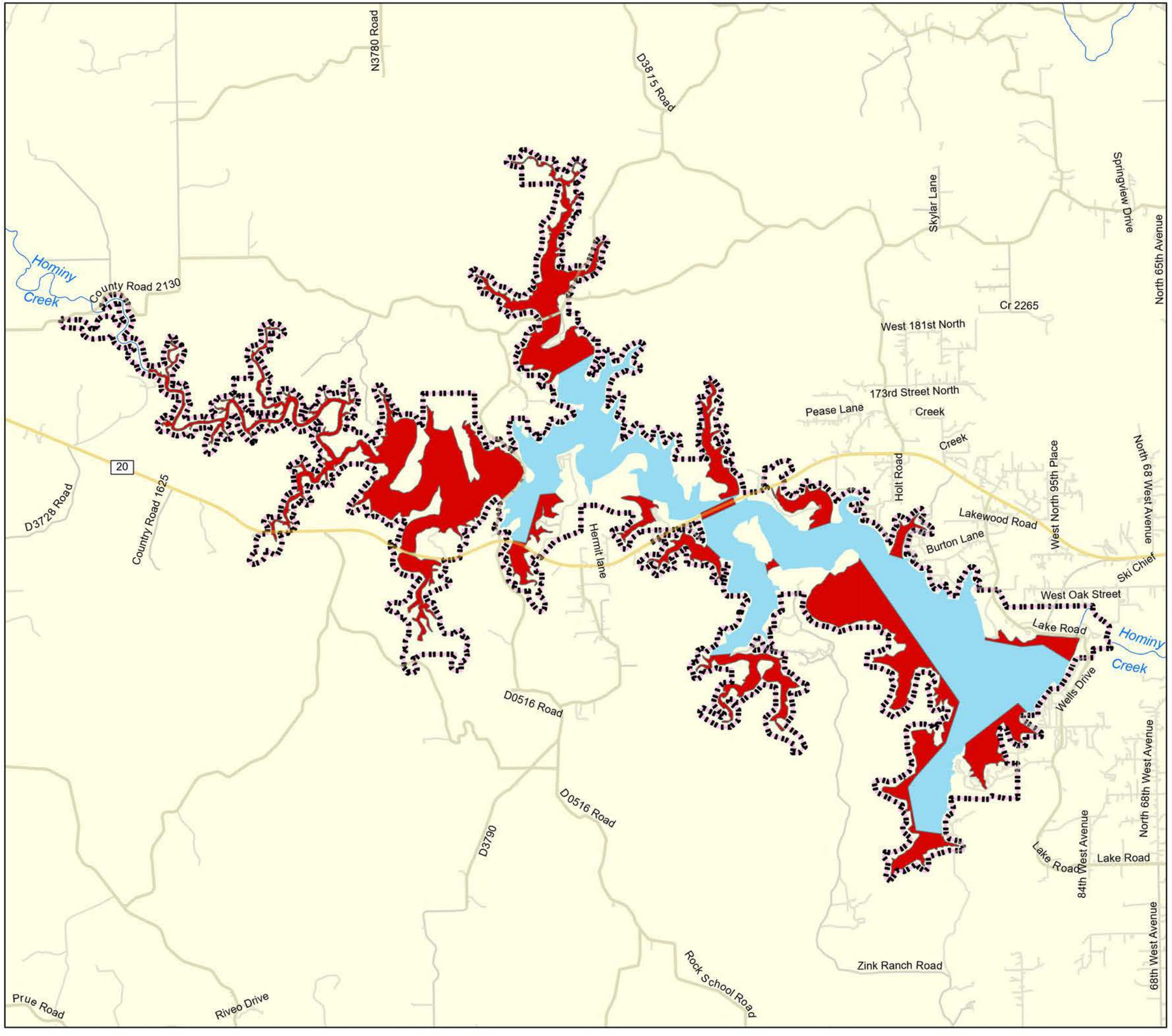
SKIATOOK LAKE MASTER PLAN

LAND MANAGING ENTITIES

N

0 0.75 1.5 3 Miles

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OM-01



Restricted Area

Water Surface

Fee Boundary

TAKEOFF AND LANDING PROHIBITED WITHIN 2,000 FEET OF DAM STRUCTURE, WITHIN 2,500 FEET OF BRIDGES AND WITHIN 700 FEET OF RECREATION AREAS.

OPERATION OF A SEAPLANE AT U.S. ARMY CORPS OF ENGINEERS PROJECTS IS AT RISK OF THE PLANES OWNER, OPERATOR, AND/OR PASSENGER(S).

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

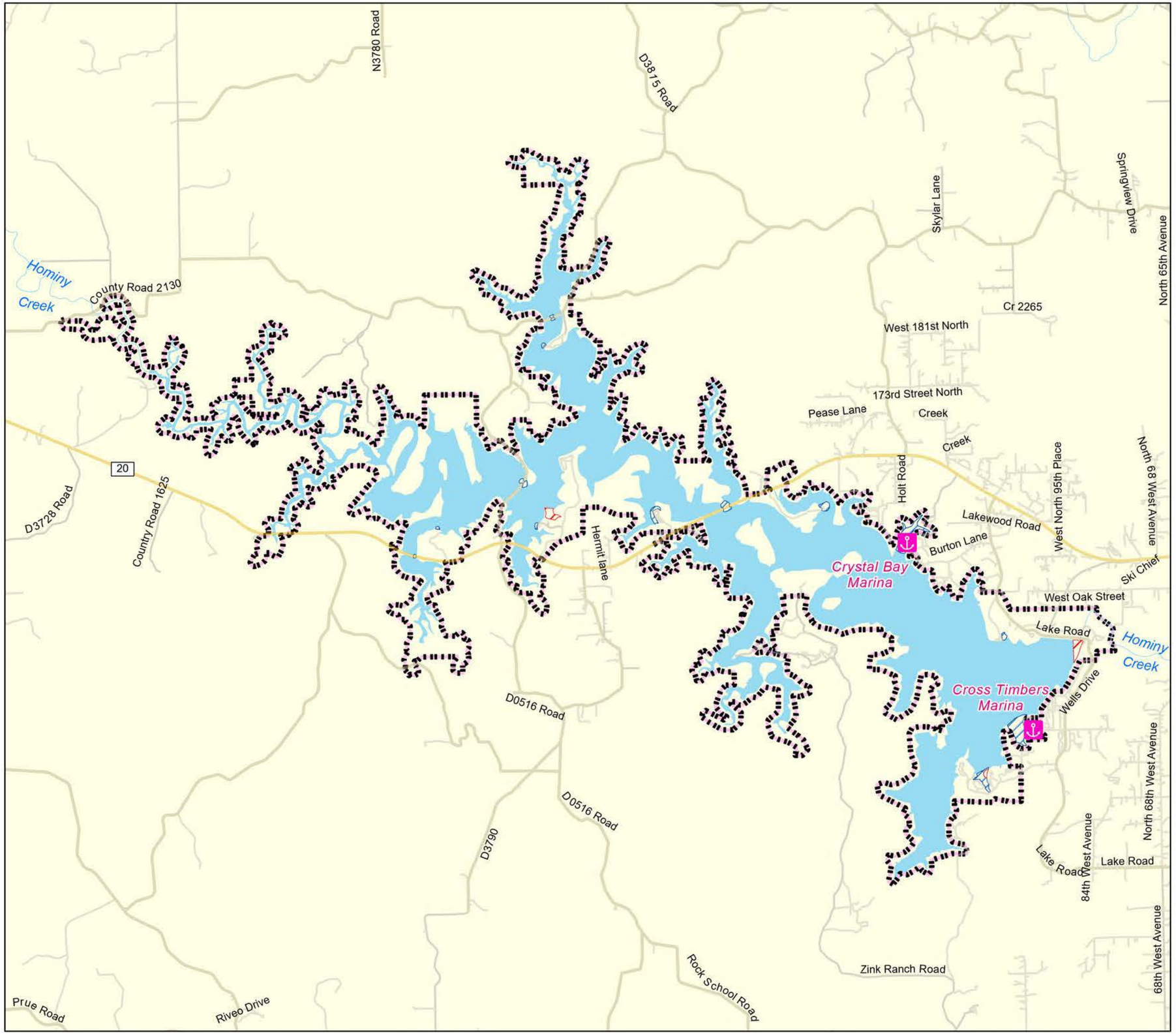
SKIATOOK LAKE MASTER PLAN

SEA PLANE GUIDE

N

0 0.75 1.5 3 Miles

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OP-01



Marina

Water Surface: Open Recreation

Water Surface: No Wake

Water Surface: Restricted

Fee Boundary

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

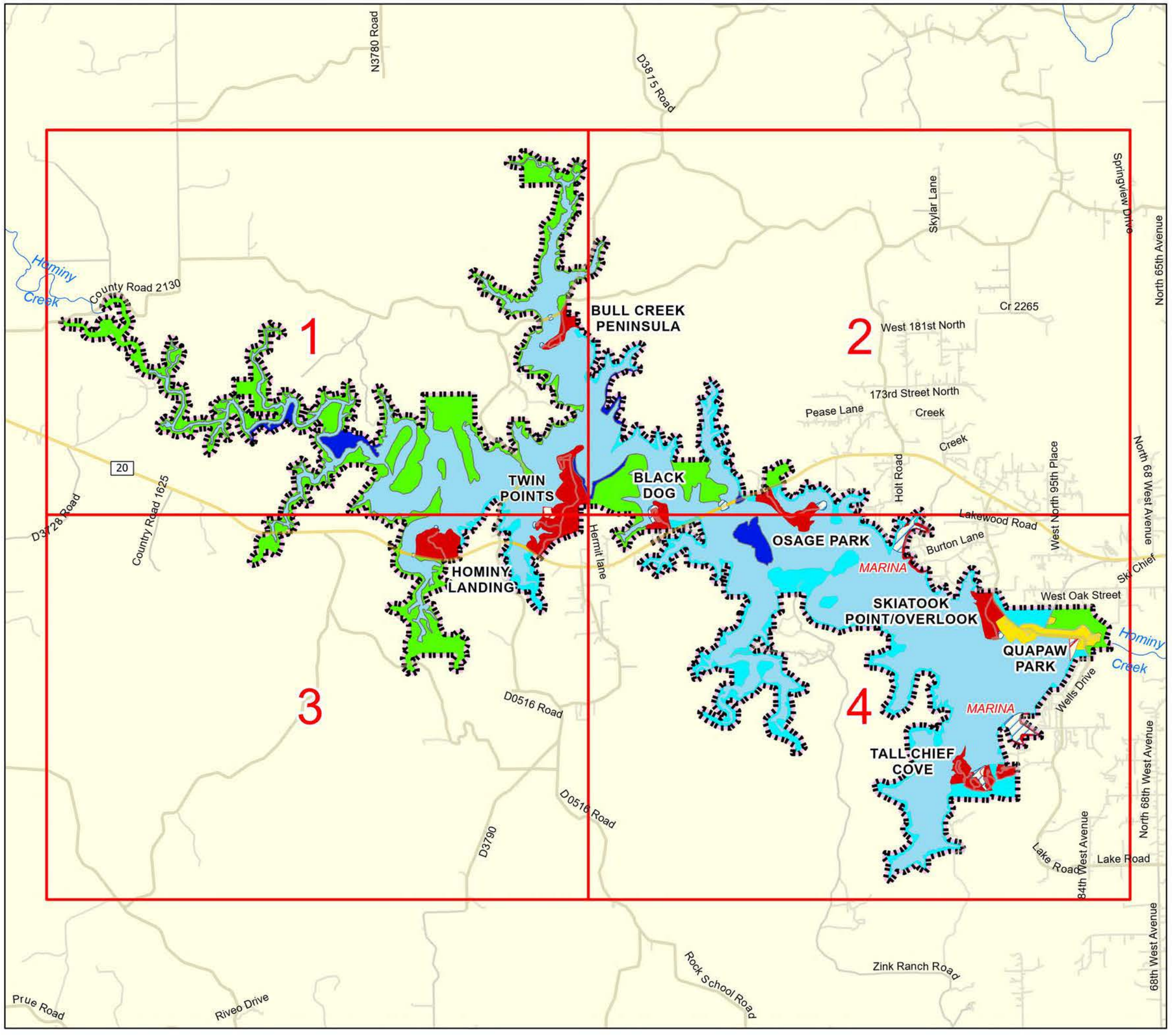
SKIATOOK LAKE MASTER PLAN

WATER SURFACE CLASSIFICATIONS AND MARINAS

N

0 0.75 1.5 3 Miles

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OW-01



- Environmentally Sensitive Area
- High Density Recreation
- Low Density Recreation
- Wildlife Management
- Project Operations
- Water Surface: Open Recreation
- Water Surface: No Wake
- Water Surface: Restricted
- Fee Boundary
- Index Grid

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

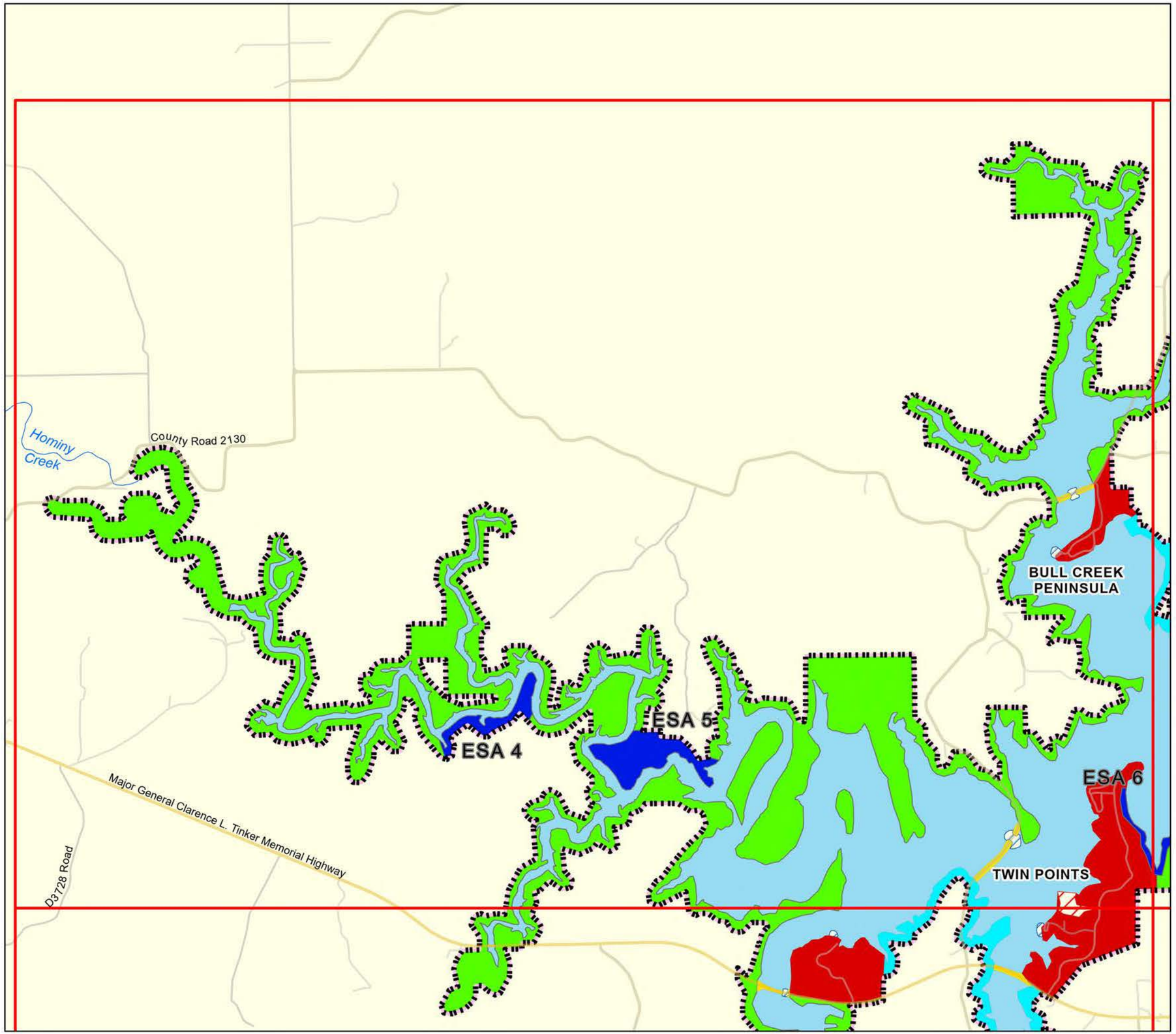
SKIATOOK LAKE MASTER PLAN

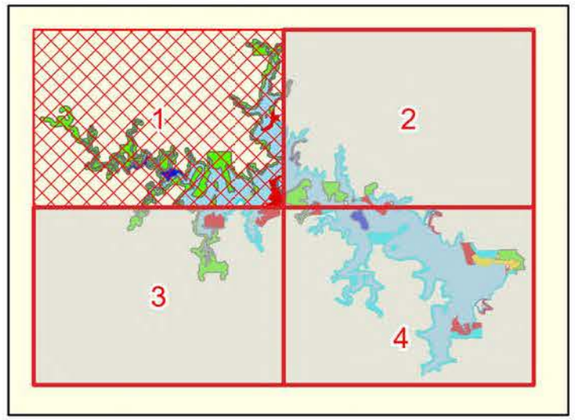
LAND AND WATER CLASSIFICATIONS (INDEX SHEET 00)

N

0 4,500 9,000 18,000 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OC-00





- Environmentally Sensitive Area
- High Density Recreation
- Low Density Recreation
- Wildlife Management
- Project Operations
- Water Surface: Open Recreation
- Water Surface: No Wake
- Water Surface: Restricted
- Fee Boundary
- Index Grid

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

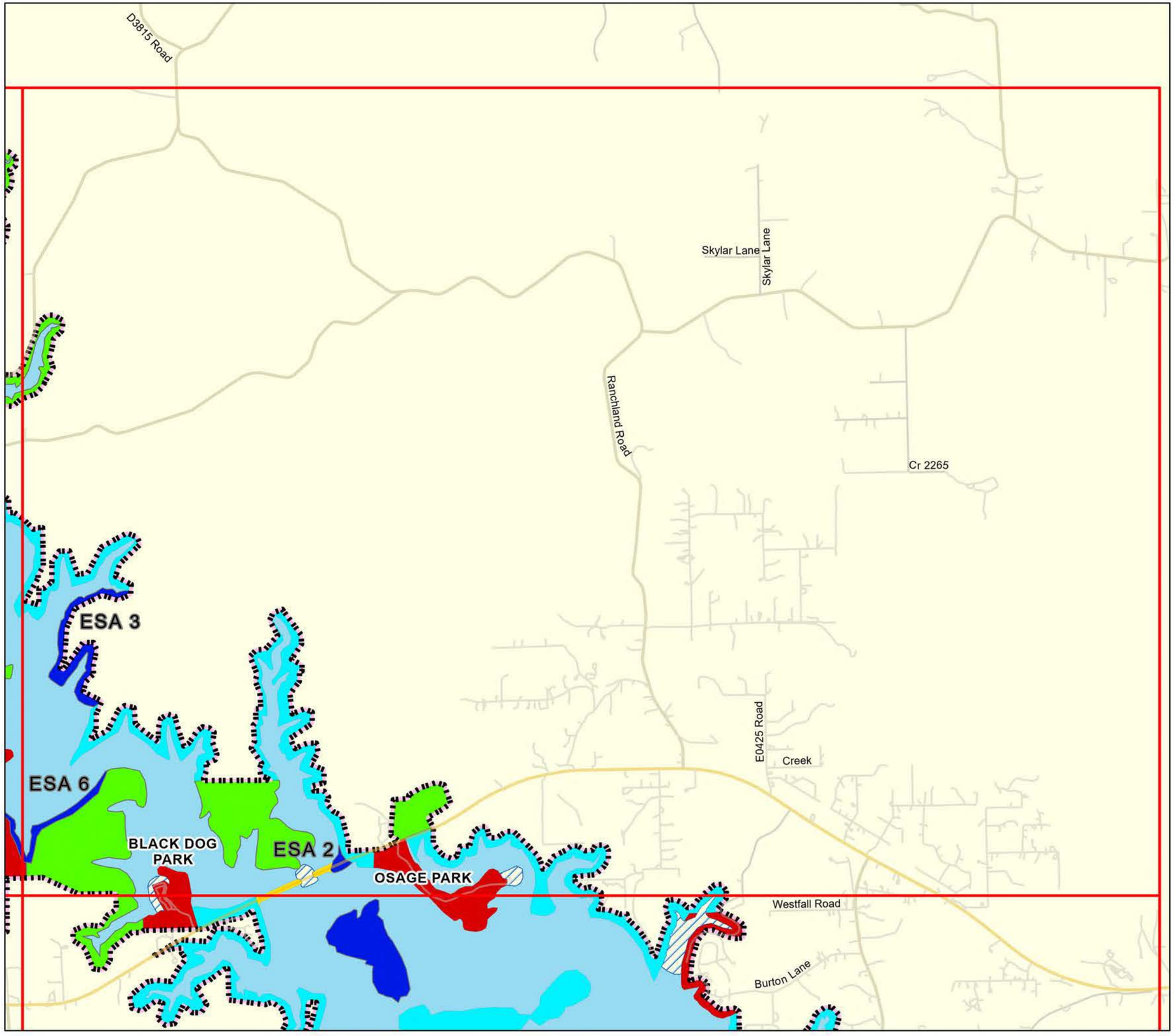
SKIATOOK LAKE MASTER PLAN

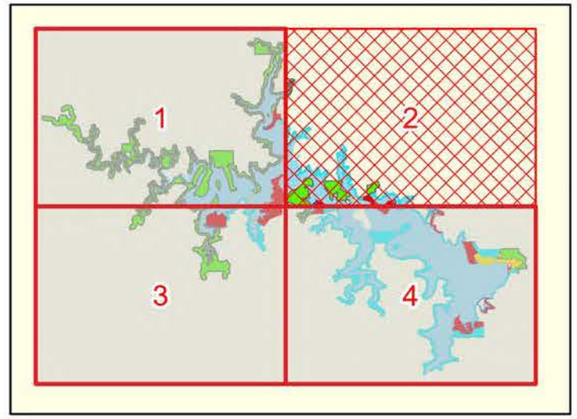
LAND AND WATER CLASSIFICATIONS (INDEX SHEET 01)

N

0 2,000 4,000 8,000 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OC-01





- Environmentally Sensitive Area
- High Density Recreation
- Low Density Recreation
- Wildlife Management
- Project Operations
- Water Surface: Open Recreation
- Water Surface: No Wake
- Fee Boundary
- Index Grid

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

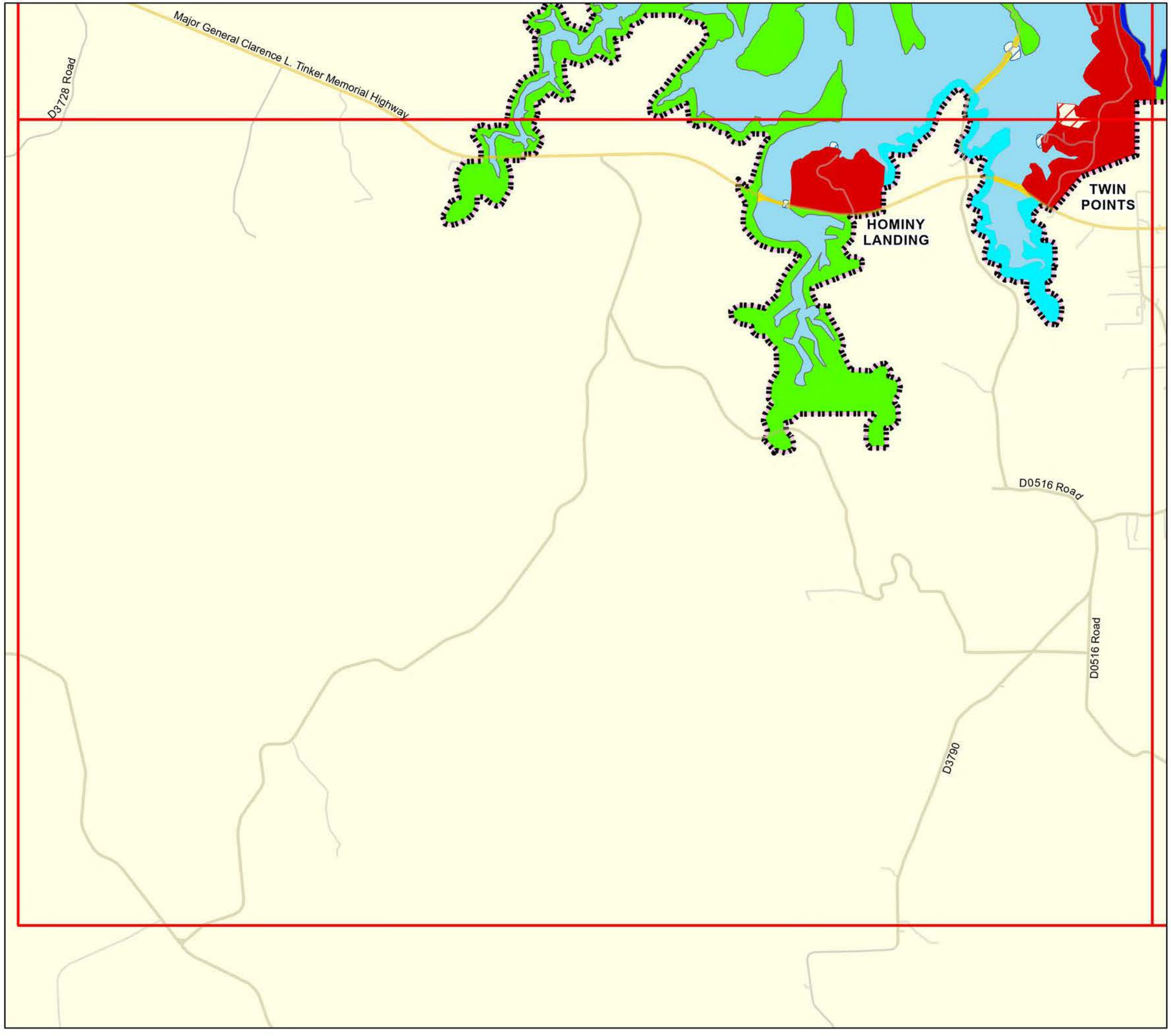
SKIATOOK LAKE MASTER PLAN

LAND AND WATER CLASSIFICATIONS (INDEX SHEET 02)

N

0 2,000 4,000 8,000 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OC-02



- Environmentally Sensitive Area
- High Density Recreation
- Low Density Recreation
- Wildlife Management
- Project Operations
- Water Surface: Open Recreation
- Water Surface: No Wake
- Water Surface: Restricted
- Fee Boundary
- Index Grid

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

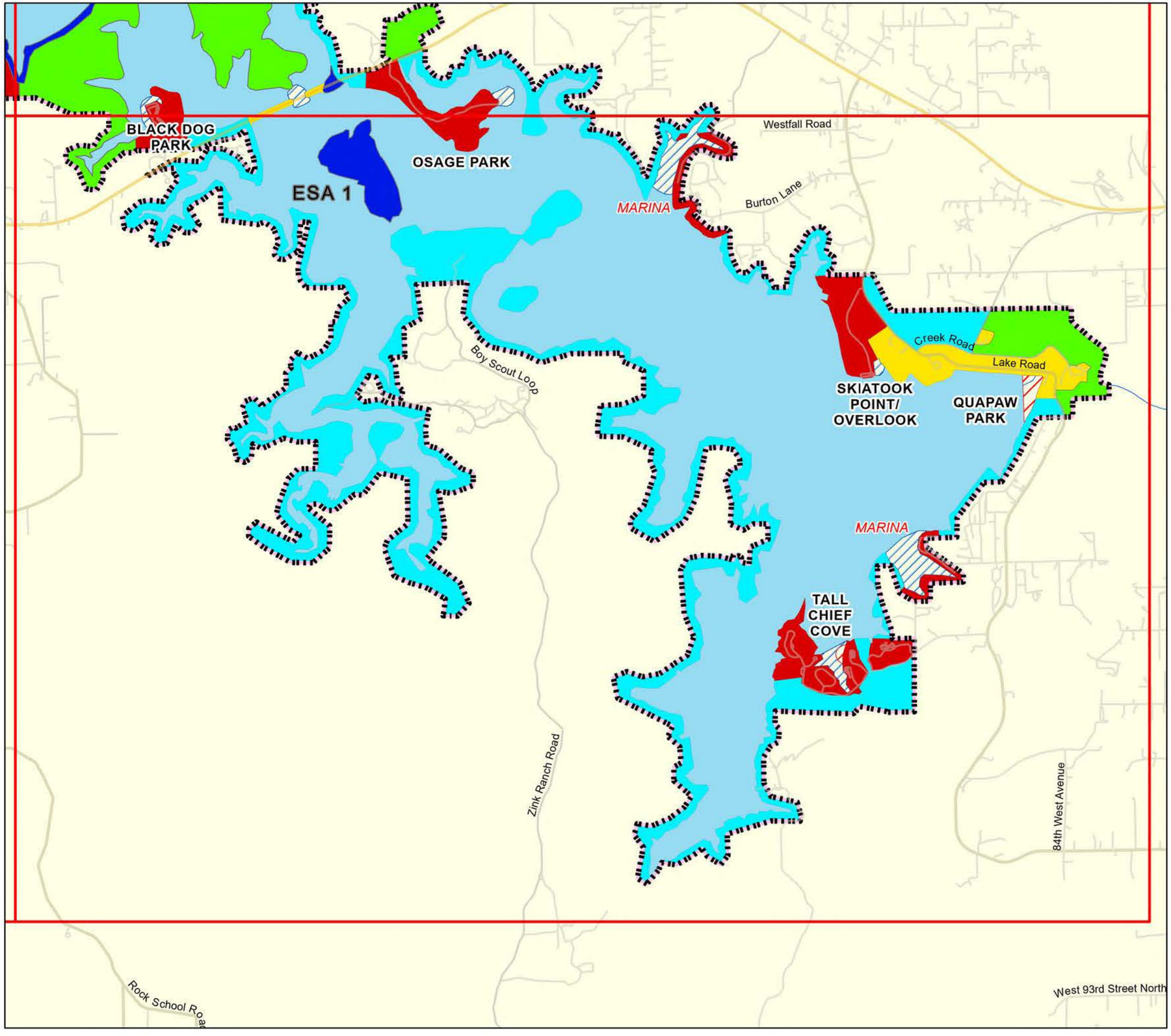
SKIATOOK LAKE MASTER PLAN

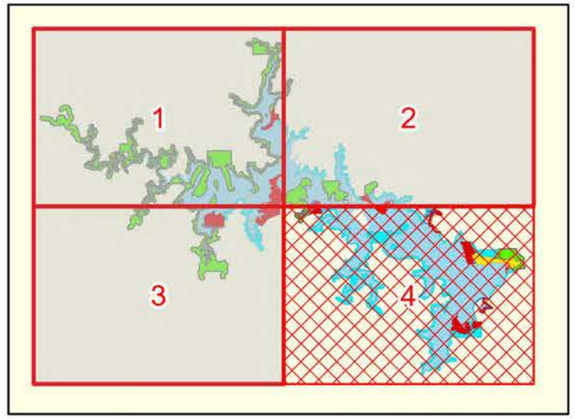
LAND AND WATER CLASSIFICATIONS (INDEX SHEET 03)

N

0 2,000 4,000 8,000 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OC-03





- Environmentally Sensitive Area
- High Density Recreation
- Low Density Recreation
- Wildlife Management
- Project Operations
- Water Surface: Open Recreation
- Water Surface: No Wake
- Water Surface: Restricted
- Fee Boundary
- Index Grid

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

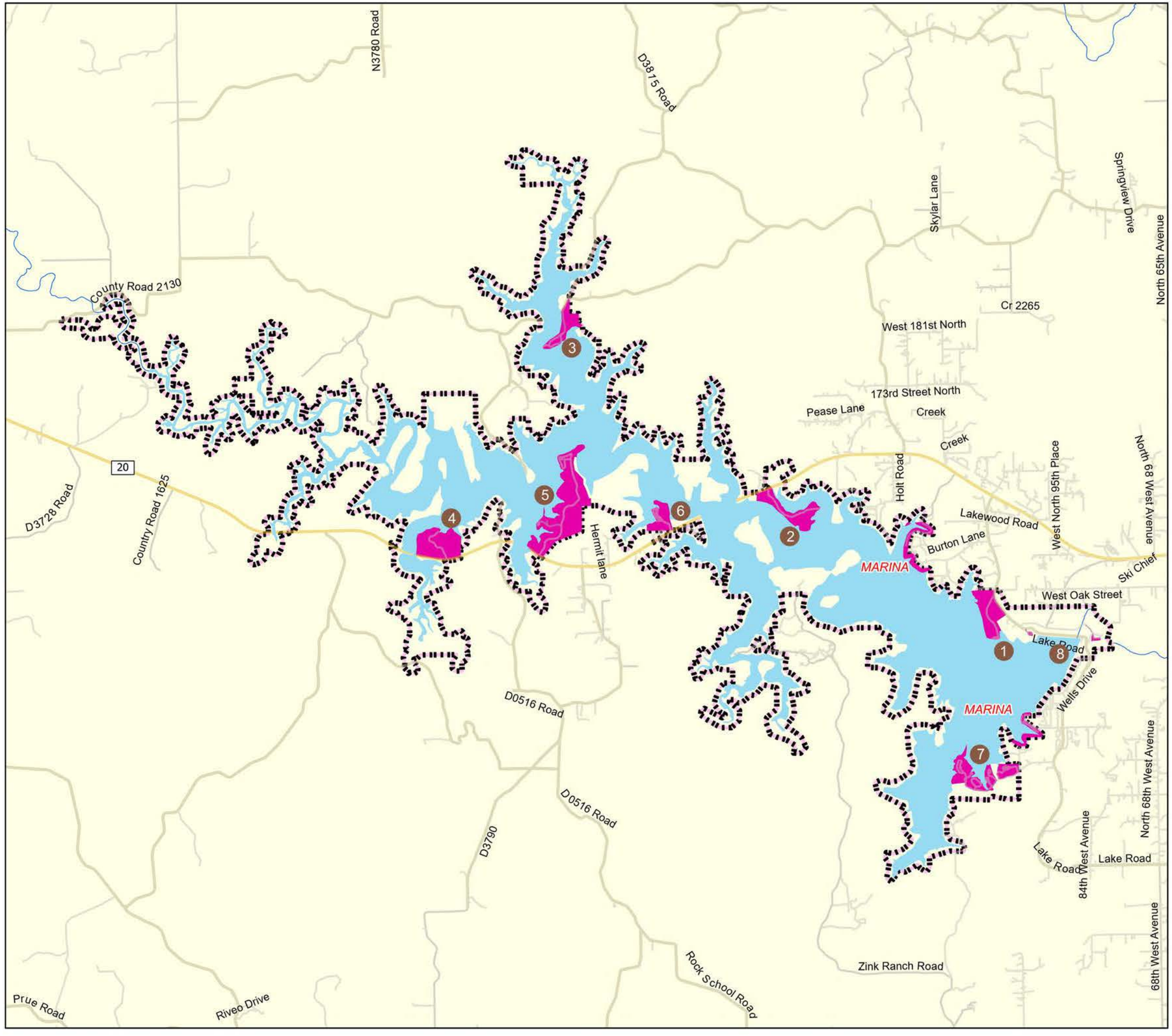
SKIATOOK LAKE MASTER PLAN

LAND AND WATER CLASSIFICATIONS (INDEX SHEET 04)

N

0 2,000 4,000 8,000 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OC-04



U.S. Army Corps of Engineers

Fee Boundary

KEY TO PARKS

1. SKIATOOK POINT/OVERLOOK
2. OSAGE PARK
3. BULL CREEK PENINSULA
4. HOMINY LANDING
5. TWIN POINTS
6. BLACK DOG PARK
7. TALL CHIEF COVE
8. QUAPAW PARK

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

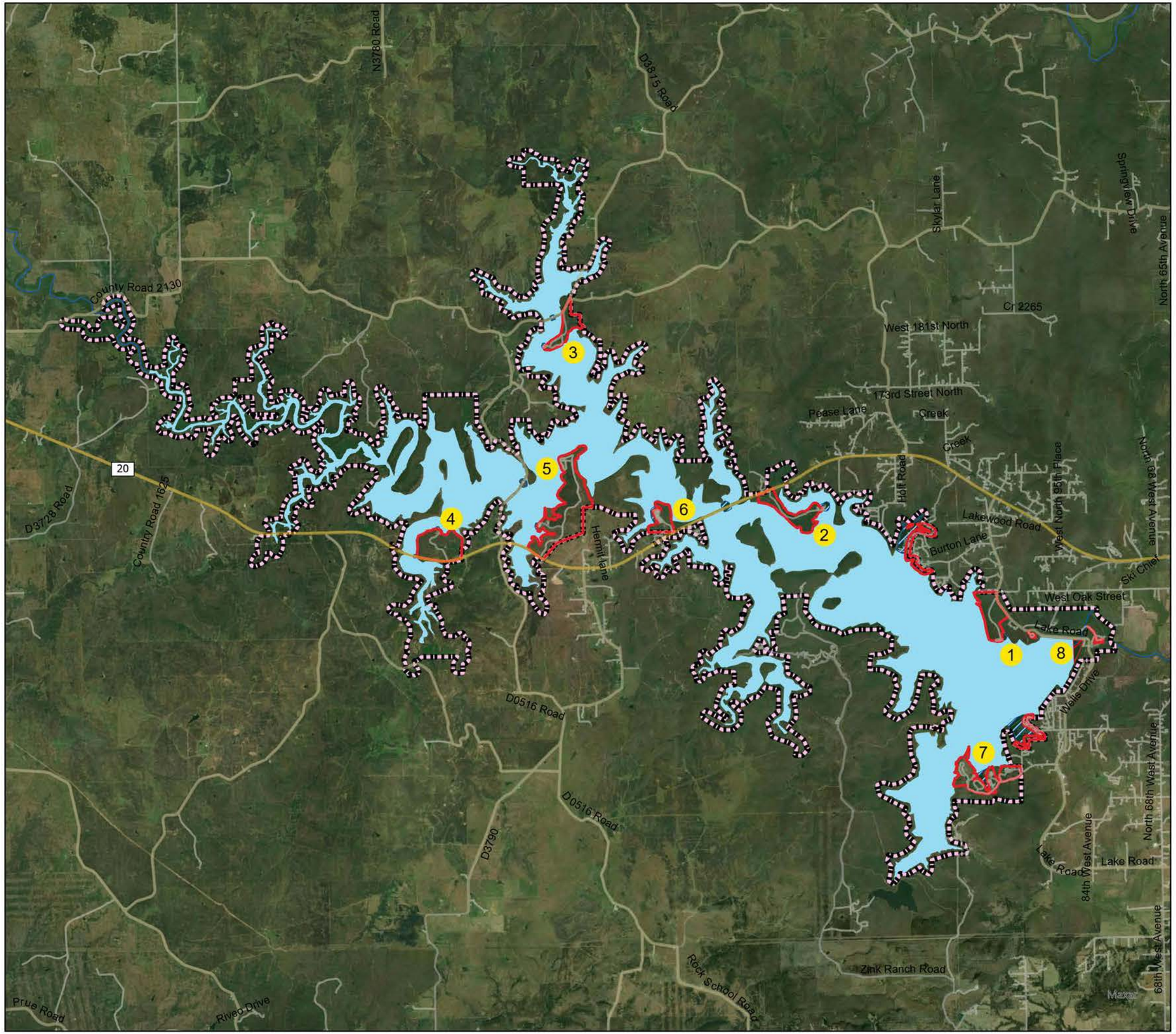
SKIATOOK LAKE MASTER PLAN

MANAGED RECREATIONAL AREAS

N

0 0.75 1.5 3 Miles

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-0A



Fee Boundary

Park Limit

RECREATION AREAS		
ID#	NAME	SHEET#
1	SKIATOOK POINT/OVERLOOK	SKI25MP-OR-01
2	OSAGE PARK	SKI25MP-OR-02
3	BULL CREEK PENINSULA	SKI25MP-OR-03
4	HOMINY CREEK	SKI25MP-OR-04
5	TWIN POINTS	SKI25MP-OR-05 A&B
6	BLACK DOG PARK	SKI25MP-OR-06
7	TALL CHIEF COVE	SKI25MP-OR-07 A&B
8	QUAPAW PARK	SKI25MP-OR-08

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

PARK PLATE INDEX

0 0.75 1.5 3 Miles

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-0B

BOAT RAMP	1
PICNIC SITE	2
HIKING TRAIL/TRAILHEAD	1
VAULT TOILET	1
VISITOR CENTER	1

- Boat Ramp
- Visitor Center
- Picnic Site
- Vault Toilet
- Hiking Trail/Trailhead
- Lake Office
- Park Road
- Parking
- Water Surface: No Wake
- Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (SKIATOOK POINT/OVERLOOK)

N

0 112.5 225 450 675 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-01

ITEM	EXISTING
BOAT RAMP	1
COURTESY DOCK	1
PICNIC SITE	2
HIKING TRAIL/TRAILHEAD	1
VAULT TOILET	1

- Boat Ramp
- Courtesy Dock
- Picnic Site
- Vault Toilet
- Hiking Trail/Trailhead
- Park Road
- Parking
- Water Surface: No Wake
- Fee Boundary
- Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (OSAGE PARK)

N

0 87.5 175 350 525 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-02

ITEM	EXISTING
BOAT RAMP	1
COURTESY DOCK	1
CAMPSITE - PRIMITIVE	39
ENTRANCE GATE	1
PICNIC SITE	3
VAULT TOILET	2

- Boat Ramp
- Courtesy Dock
- Entrance Gate
- Campsite - Primitive
- Park Host/Volunteer
- Picnic Site
- Vault Toilet
- Park Road
- Parking
- Water Surface: No Wake
- Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (BULL CREEK PENINSULA)

N

0 65 130 260 390 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-03

ITEM	EXISTING
BOAT RAMP	1
COURTESY DOCK	1
VAULT TOILET	1

- Boat Ramp
- Courtesy Dock
- Vault Toilet
- Park Road
- Parking
- Water Surface: No Wake
- Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (HOMINY LANDING)

N

0 55 110 220 330 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-04

ITEM	EXISTING
CAMPSITE - IMPROVED	53
ENTRANCE GATE	1
PLAYGROUND	1
RESTROOM W/ SHOWER	1
RV DUMP STATION	1
VAULT TOILET	2

- Campsite - Improved
- Park Host/Volunteer
- Entrance Gate
- Playground
- RV Dump Station
- Restroom W/ Shower
- Vault Toilet
- Park Road
- Parking
- Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (TWIN POINTS A)

N

0 120 240 480 720 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-05A

ITEM	EXISTING
BOAT RAMP	1
COURTESY DOCK	1
PICNIC SITE	3
VAULT TOILET	2
SWIM BEACH	1

Boat Ramp

Courtesy Dock

Picnic Site

Swim Beach

Vault Toilet

Park Road

Parking

Water Surface: No Wake

Water Surface: Restricted

Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (TWIN POINTS B)

N

0 75 150 300 450 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-05B

ITEM	EXISTING
BOAT RAMP	2
COURTESY DOCK	1
GROUP PICNIC SHELTER	1
VAULT TOILET	2

- Boat Ramp
- Courtesy Dock
- Group Picnic Shelter
- Vault Toilet
- Park Road
- Parking
- Water Surface: No Wake
- Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

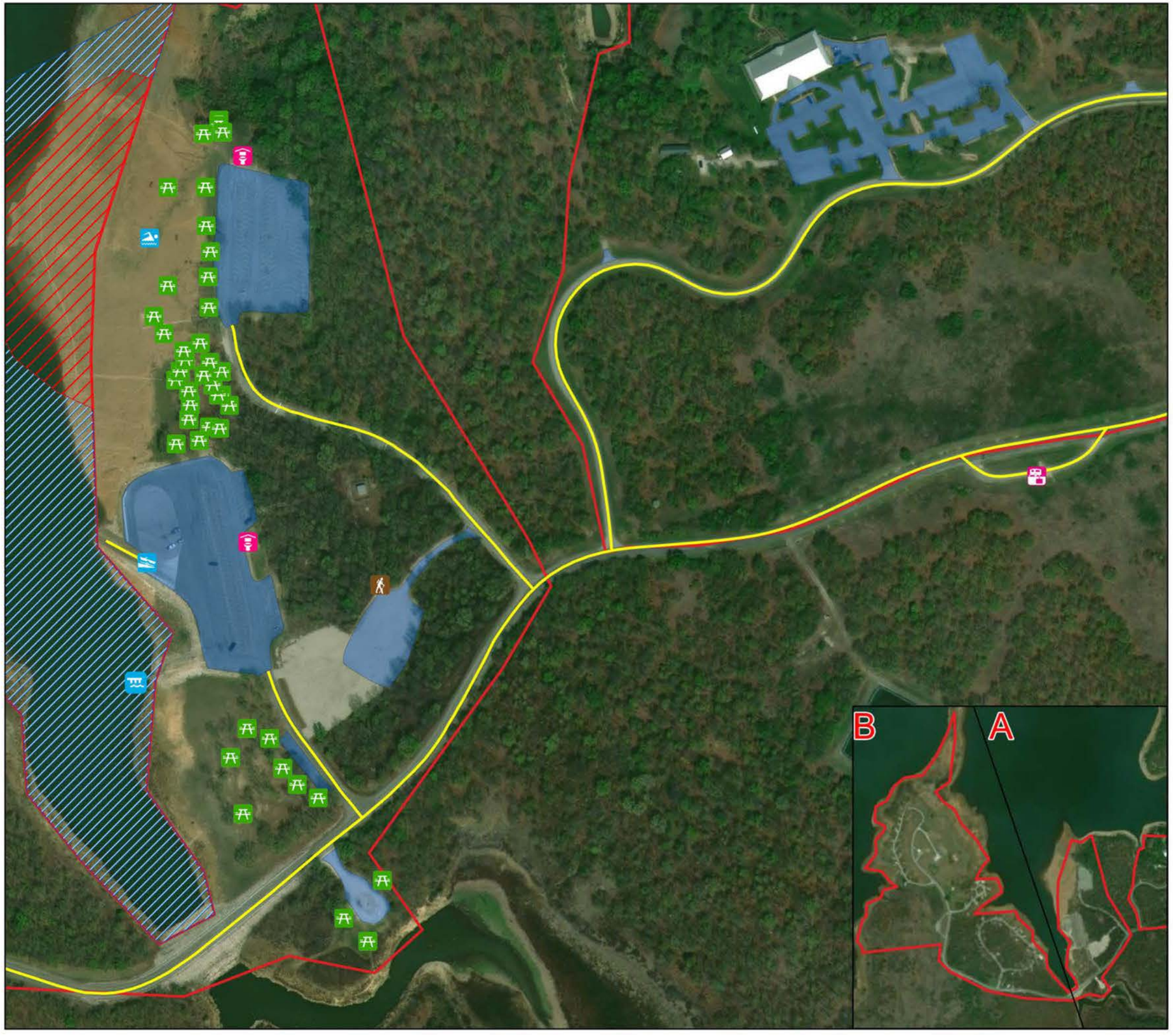
SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (BLACK DOG PARK)

N

0 50 100 200 300 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-06



ITEM	EXISTING
BOAT RAMP	1
COURTESY DOCK	1
HIKING TRAIL/TRAILHEAD	1
PICNIC SITE	42
RV DUMP STATION	1
SWIM BEACH	1
VALUT TOILET	2

- Boat Ramp
- Courtesy Dock
- Hiking Trail/Trailhead
- Picnic Site
- RV Dump Station
- Swim Beach
- Vault Toilet
- Park Road
- Parking
- Water Surface: No Wake
- Water Surface: Restricted
- Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (TALL CHIEF COVE A)

N

0 80 160 320 480 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-07A

ITEM	EXISTING
AMPHITHEATER	1
CAMPSITES - IMPROVED	57
DISC GOLF COURSE	1
ENTRANCE GATE	1
GROUP PICNIC SHELTER	1
HIIKING TRAIL/TRAILHEAD	1
PICNIC SITE	3
PLAYGROUND	1
RESTROOM	3

- Campsite - Improved
- Park Host/ Volunteer
- Hiking Trail/ Trailhead
- Entrance Gate
- Amphitheater
- Disc Golf Course
- Group Picnic Shelter
- Picnic Site
- Playground
- Restroom
- Parking
- Park Road
- Water Surface: No Wake
- Water Surface: Restricted
- Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

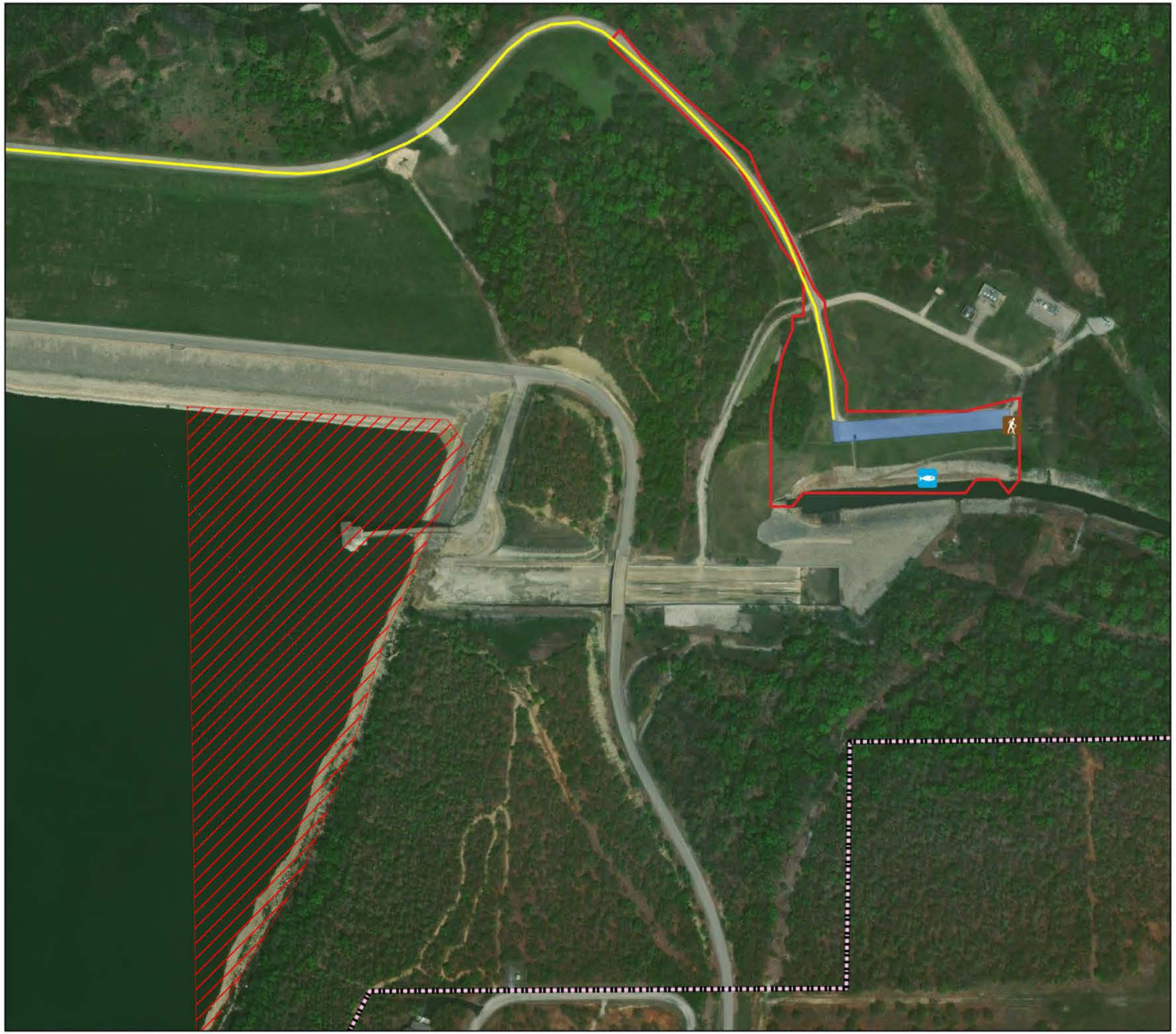
SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (TALL CHIEF COVE B)

N

0 110 220 440 660 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-07B



ITEM	EXISTING
FISHING AREA	1
HIKING TRAIL/TRAILHEAD	1

Fishing Area

Hiking Trail/Trailhead

Park Road

Parking

Water Surface: Restricted

Fee Boundary

Park Limit

U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

VERDIGRIS RIVER BASIN — SKIATOOK, OKLAHOMA

SKIATOOK LAKE MASTER PLAN

RECREATIONAL AREAS (QUAPAW PARK)

N

0 110 220 440 660 Feet

DATE:	MAP NO.
OCTOBER 2025	SKI25MP-OR-08

APPENDIX B – NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) DOCUMENTATION

DRAFT

FINDING OF NO SIGNIFICANT IMPACT ENVIRONMENTAL ASSESSMENT FOR THE 2025 SKIATOOK LAKE MASTER PLAN VERDIGRIS RIVER BASIN OSAGE COUNTY, OKLAHOMA

In accordance with the National Environmental Policy Act of 1969, as amended, including in the Fiscal Responsibility Act of 2023 and U.S. Army Corps of Engineers (USACE) regulations, including 33 CFR Part 230, the Tulsa District and the Regional Planning and Environmental Center (RPEC) of USACE have assessed the potential environmental impacts of the 2025 Skiatook Lake Master Plan (MP) revision.

Engineering Regulation (ER) 1130-2-550 and Engineering Pamphlet (EP) 1130-2-550 require Master Plans for USACE water resources development projects having a federally owned land base. The proposed revision of the 1976 Skiatook Lake MP and 1993 Supplement was conducted pursuant to this ER and EP, and is necessary 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 2025 to 2050. The recommendation is contained in Chapter 8 of the 2025 Skiatook Lake MP.

The proposed revision of the 1976 Skiatook Lake MP is a framework built collaboratively to serve as a guide toward appropriate stewardship of USACE administered resources at Skiatook Lake over the next 25 years.

The Environmental Assessment (EA) for the draft 2025 Skiatook Lake MP evaluated two alternatives. In addition to a “No Action” Alternative, one alternative (Proposed Action) was evaluated that fully meets the project purposes and current USACE policies. A summary of potential effects of the Proposed Action are included in Table 1.

Section 2 of the draft EA discusses the alternative formulation and selection, as well as a summary of the new goals and objectives. Chapter 8, Tables 8-1, and 8-2 of the Master Plan summarize the changes to the land classifications. The Proposed Action 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 and 1993 supplement to the Master Plan. 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 Proposed Plan

Resource	Insignificant effects	Insignificant effects as a result of mitigation*	Resource unaffected by action
Aesthetics	☒	☐	☐
Air quality	☐	☐	☒
Aquatic resources/wetlands	☒	☐	☐
Climate	☐	☐	☒
Cultural resources	☒	☐	☐
Invasive species	☒	☐	☐
Fish and wildlife habitat	☒	☐	☐
Threatened/Endangered species/critical habitat	☒	☐	☐
Historic properties	☐	☐	☒
Other cultural resources	☒	☐	☐
Floodplains	☒	☐	☐
Hazardous, toxic & radioactive waste	☐	☐	☒
Health & Safety	☒	☐	☐
Hydrology	☐	☐	☒
Land use	☒	☐	☐
Socio-economics	☐	☐	☒
Soils	☒	☐	☐
Water quality	☒	☐	☐
Recreation	☒	☐	☐
Topography, Geology, and Soils	☒	☐	☐

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

No compensatory mitigation is required as part of the Proposed Action.

Public review of the Draft Master Plan, Environmental Assessment, and FONSI will begin on December 17th, 2025. 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 USACE 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 USACE determined that the proposed plan will have no potential to effect on historic properties.

All applicable environmental laws were 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 will not cause significant adverse impacts on the quality of the human environment, therefore, preparation of an Environmental Impact Statement is not required.

DRAFT

Date

JESSICA D. GOFFENA
Colonel, EN
Commanding

Environmental Assessment for the 2025 Skiatook Lake Master Plan

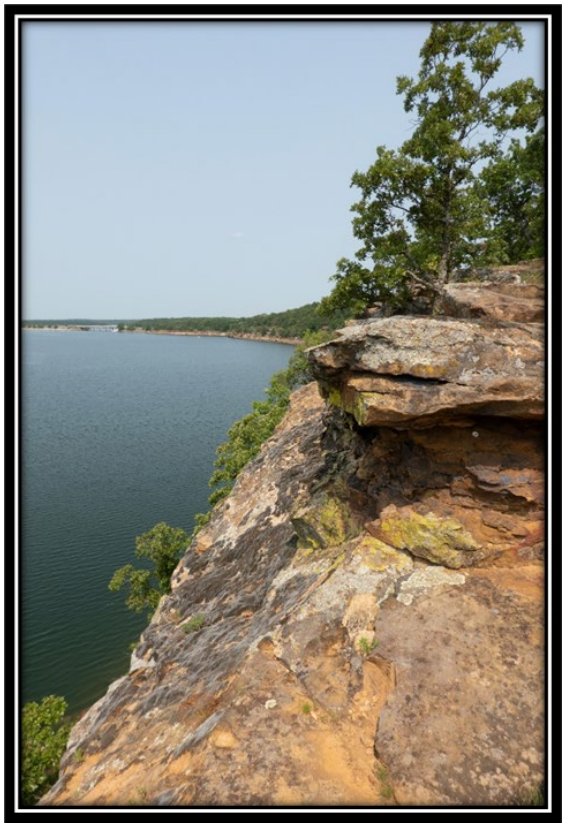
DRAFT REPORT

Verdigris River Basin

Osage County, Oklahoma

December 2025

EAXX-202-00-M5O-1760956914



US Army Corps of Engineers
Tulsa District

ENVIRONMENTAL ASSESSMENT ORGANIZATION

This Environmental Assessment (EA) evaluates the potential environmental and socioeconomic impacts of the 2025 Skiatook Lake and Dam Master Plan Revision. This EA would 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.
SECTION 7	*PUBLIC AND AGENCY COORDINATION* provides a listing of individuals and agencies consulted during preparation of the EA.
SECTION 8	*ACRONYMS/ABBREVIATIONS*
SECTION 9	*LIST OF PREPARERS* identifies persons who prepared the document and their areas of expertise.
ATTACHMENT A	National Environmental Policy Act (NEPA) Coordination and Scoping

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ENVIRONMENTAL ASSESSMENT

2025 Skiatook Lake Master Plan Revision
Skiatook Lake and Dam
Osage County, Oklahoma

SECTION 1: INTRODUCTION

This Environmental Assessment (EA) has been prepared by the United States Army Corps of Engineers (USACE) to evaluate the 2025 Skiatook Lake Master Plan (MP). The 2025 MP is a programmatic document that is subject to evaluation under the National Environmental Policy Act (NEPA) of 1969, (42 U.S. Code [U.S.C.] 4321 et seq.). This document provides an assessment of potential impacts that could result with the implementation of either the No Action or Proposed Action and has been prepared in accordance with the National Environmental Policy Act (42 U.S.C. 4321 et seq.) as amended, including in the Fiscal Responsibility Act of 2023, and USACE regulations, including 33 CFR Part 230: Procedures for Implementing NEPA (1988). This EA was prepared prior to the new NEPA implementation guidance issued on 30 June 2025 by the Department of Defense, and follows the previous Army and USACE NEPA implementation guidance.

The 2025 MP is a strategic land use management plan that provides direction to the orderly development, administration, maintenance, preservation, enhancement, and management of all natural, cultural and recreational resources of a USACE water resource project, which includes all government-owned lands in and around a reservoir. 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 lands associated with Skiatook Lake for the benefit of present and future generations. The 2025 MP identifies conceptual types and levels of activities, but does not include designs, project sites, or estimated costs. All actions carried out by the USACE, other agencies, and individuals granted leases to USACE lands must be consistent with the 2025 MP. Therefore, the MP must be revised in order to provide effective guidance in USACE decision-making.

1.1 PROJECT LOCATION AND SETTING

The Skiatook damsite is located at stream mile 14.3 on Hominy Creek in Osage County, approximately 5 miles west of Skiatook, Oklahoma. It is one of five projects in the Bird Creek Basin plan recommended to meet the comprehensive water resources needs of the area. Skiatook Dam and Lake was authorized for construction by the Flood Control Act approved October 23, 1962 (Public Law 87-874, 87th Congress, House Resolution 13273), in accordance with the plan outlined in House Document No. 563 (87th Congress, 2nd session).

The Hominy Creek watershed is roughly elliptical in shape, with a maximum length of about 33 miles and a maximum width of about 16 miles. The drainage area above the Skiatook dam site is 354 square miles, all of which is considered to contribute to runoff. The total drainage area of Hominy Creek is 415 square miles. The basin ranges in elevation from about 610 feet to 1,050 feet. The vegetation consists of pasture,

cultivated crops and considerable woodlands. The stream pattern consists of one principal stream with several major left bank tributaries. Slopes may vary from 3 feet per mile to above 100 feet per mile on some of the tributaries.

The existing Land Classifications from the 1976 Skiatook Lake MP are presented alongside the proposed Land Classifications for the 2025 Skiatook Lake and Dam MP in Table 1. Descriptions of each Land Classification type are included at the beginning of Section 2 of this EA.

Table 1 - Existing and Proposed Land Classifications

Prior Land Classifications (1976)	Acres		Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations (PO)	353		Project Operations (PO)	232	-(121)
			Environmentally Sensitive Areas (ESA)	384	384
Operations Recreation – Intensive Use (OR/IU)	1,883		High Density Recreation (HDR)	1,147	-(736)
Operations Recreation – Low Density (OR/LD)	2,895		Multiple Resource Management – Low Density Recreation (LDR)	2,801	-(94)
Natural Area (NA)	3,569		Wildlife Management	4,172	603
TOTAL LAND ACRES	**8,700**		**TOTAL LAND ACRES**	**8,736**	**36**
Prior Water Surface Classifications (1976)	**Acres**		**Water Surface Classifications (2025)**	**Acres**	**Net Difference**
Water	10,383		Open Recreation (WS/OR)	10,154	-(229)
----	----		Restricted (WS/OR)	34	34
----	----		No Wake (WS/NW)	160	**160**
TOTAL WATER SURFACE ACRES	**10,383**		**TOTAL WATER SURFACE ACRES**	**10,348**	**-(35)**
TOTAL FEE	**19,083**		**TOTAL FEE**	**19,084**	**1**

* Total Acreage differences from the 1976 total to the 2025 totals are due to improvements in measurement technology, real estate actions, deposition/siltation, and erosion.

1.2 PURPOSE 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 at Skiatook Lake comply with applicable environmental laws and regulations and to maintain quality lands for future public use. The 2025 MP is intended to serve as a comprehensive land and recreation management plan with an effective life of approximately 25 years.

The Skiatook Lake Master Plan must be kept current in order to provide effective guidance in decision-making that responds to changing regional and local needs, resource capabilities and suitability, and expressed public interests consistent with authorized project purposes and pertinent legislation and regulations. The current 1976 Skiatook Lake Master Plan is over 50 years old and does not currently reflect ecological, socio-political, and socio-demographic changes that are currently affecting Skiatook Lake, or those changes anticipated to occur through 2050. Changes in outdoor recreation trends, regional land use, population, current legislative requirements and USACE management policy have indicated the need to revise the plan. Additionally, increasing fragmentation of wildlife habitat, national policies related to changing conditions, a growing demand for recreational access, and protection of natural resources are all factors impacting public lands both nationwide and regionally, and have the potential to affect the Skiatook Lake Project. In response to these continually evolving trends, the USACE determined that a full revision of the 1976 MP is needed.

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 the following four primary components:

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

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 2025 Master Plan (MP). The alternative considerations were formulated with special attention given to revised land reclassifications, new resource management objectives, and a conceptual resource plan for each land reclassification category. The proposed 2025 MP is currently available and is incorporated into this EA by reference. This EA was prepared pursuant to the National Environmental Policy Act (NEPA), (42 U.S.C 4321 et seq.) as amended. The application of NEPA to more strategic decisions not only meets the Fiscal Responsibility Act of 2023 and USACE regulations for implementing NEPA (USACE 1988) but also allows the USACE to consider the environmental consequences

of its actions long before any physical activity is implemented. Multiple benefits can be derived from such early consideration. Effective and early NEPA integration with the master planning process can significantly increase the usefulness of the 2025 MP to the decision maker.

SECTION 2: PROPOSED ACTION AND ALTERNATIVES

During the alternative development process, the Project Delivery Team (PDT) utilized an iterative process to evaluate different land classes for each parcel of USACE land. This evaluation included consideration of the multiple Congressionally authorized missions of the Project, public and agency comments, USACE staff knowledge, and potential impacts to the social, cultural, and environmental resources, to determine the primary use for each parcel (i.e. land classification). USACE regulations specify five possible categories of land reclassification: Project Operations (PO), High Density Recreation (HDR), Mitigation, Environmentally Sensitive Areas (ESA), and Multiple Resource Managed Lands (MRML). MRML are divided into four subcategories: Low Density Recreation (MRML-LDR), Wildlife Management (MRML-WM), Vegetation Management (MRML-VM), and Inactive/Future Recreation (MRML-IFR) Areas.

Two alternatives were developed in detail and brought forward for evaluation, including a No Action Alternative and a Proposed Action Alternative. The Proposed Action Alternative is the culmination of the iterative evaluation process described above and best meets the Purpose and Need identified in Section 1.2 of this document and Section 1.4 of the 2025 MP revision. The No Action Alternative, while it does not meet the purpose and need, serves as a benchmark of existing conditions against which Federal actions can be evaluated, and, therefore, is included in this EA.

The goals for the 2025 MP include the following:

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 the project's 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 the project's natural resources.

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

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 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; bringing 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 of the 2025 MP.

The USACE will not address the flood risk management or water supply authorized purposes of Skiatook Lake under either the No Action or Proposed Action alternatives.

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. Under the No Action Alternative, the USACE would not revise the 1976 MP or adopt the implementation of the 2025 MP. Instead, the USACE would continue to manage Skiatook Lake’s natural resources as set forth in the 1976 MP. The 1976 MP would continue to provide the only source of comprehensive management guidelines and philosophy.

2.2 ALTERNATIVE 2: PROPOSED ACTION

Under the Proposed Action, the USACE will adopt and implement the 2025 MP, which guides and articulates USACE responsibilities pursuant to Federal laws to preserve, conserve, restore, maintain, manage, and develop the land, water, and associated resources. The 2025 MP will replace the 1976 MP and provide an up-to-date management plan that follows current Federal laws and regulations while sustaining the project’s natural resources and providing recreational opportunities for the next 25 years through the planning horizon of 2050. The Proposed Action will meet regional goals associated with good stewardship of land, water, and recreational resources; address identified recreational trends; and allow for continued use and development of project lands without violating national policies or public laws.

The 2025 MP will classify all Federal land lying above elevation 714.0 feet NGVD29 into management reclassification categories. These management reclassification categories will allow uses of Federal property that meet the definition of the assigned category and ensure the protection of natural resources and environmental stewardship while allowing maximum public enjoyment of the lake's resources.

The land reclassification categories to be used are defined as follows:

- Project Operations: Lands required for the dam, spillway, switchyard, levees, dikes, offices, maintenance facilities, and other areas used solely for the operation of Skiatook Lake.
- High Density Recreation: 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: 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: Lands with minimal development or infrastructure that support passive recreational use (primitive camping, fishing, hunting, trails, wildlife viewing, etc.)
    - MRML Wildlife Management: Lands designated for stewardship of fish and wildlife resources.
    - MRML Vegetation Management: Lands designated for stewardship of vegetative resources.
    - MRML Inactive/Future Recreation: Areas with site characteristics compatible with potential future recreational development or recreation areas that are closed. Until there is an opportunity to develop or reopen these areas, they will be managed for multiple resources.
- Not In Fee Boundary (NULL): Lands that are not within the Skiatook Lake Fee Boundary
- Surface Water: Allows for surface water zones.
    - Restricted: Water areas restricted for Skiatook Lake operations, safety, and security.
    - Designated No-Wake: Water areas to protect environmentally sensitive shoreline areas and 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. **Table 2** shows the prior land classifications from the 1976 MP, the proposed land classifications from the 2025 MP, and the net difference between the two.

Table 2 - Changes from 1976 Land and Water Surface Classifications to Proposed 2025 Land and Water Surface Classifications

Prior Land Classifications (1976)	Acres	Proposed Land Classifications (2025)	Acres	Net Difference
Project Operations (PO)	353	Project Operations (PO)	232	-(121)
----	----	Environmentally Sensitive Areas (ESA)	384	384
Operations Recreation – Intensive Use (OR/IU)	1,883	High Density Recreation (HDR)	1,147	-(736)
Operations Recreation – Low Density (OR/LD)	2,895	Multiple Resource Management – Low Density Recreation (MRML-LDR)	2,801	-(94)
Natural (NA)	3,569	Multiple Resource Management - Wildlife Management (MRML-WM)	4,172	603
TOTAL LAND ACRES	**8,700**	**TOTAL LAND ACRES**	**8,736**	**36**
Prior Water Surface Classifications (1976)	**Acres**	**Water Surface Classifications (2025)**	**Acres**	**Net Difference**
Water	10,383	Open Recreation (WS/OR)	10,154	-(229)
----	----	Restricted (WS/R)	34	34
----	----	No Wake (WS/NW)	160	**160**
TOTAL WATER SURFACE ACRES	**10,383**	**TOTAL WATER SURFACE ACRES**	**10,348**	**-(35)**

Table 3 catalogs each change proposed by the 2025 MP and the associated justification for that change.

Table 3 - Changes and Justifications for Proposed Land Classifications

Land Classification	Description of Changes (2)	Justification
Project Operations (PO)	The net decrease in Project Operations lands from 353 to 232 acres is due to the following: • 180 acres to WM • 74 acres to LDR • 4 acres from NA • 93 acres from OR/IU • 36 acres from water	All lands classified as PO are managed and used primarily in support of critical operational requirements related to the primary missions of flood risk management and water conservation, including lands that were previously classified as public use area.
High Density Recreation (HDR)	The net decrease in High Density Recreation lands from 1,883 to 1,147 acres is due to the following: • 92 acres from OR/LD • 470 acres to WM • 226 acres to LDR • 93 acres to PO • 40 acres to ESA	The net decrease in HDR lands is due to OR/IU lands being reclassified to WM, LDR, and PO to indicate current uses.

Land Classification	Description of Changes (2)	Justification
Low Density Recreation (LDR)	The net decrease in Low Density Recreation Lands from 2,895 to 2,801 acres resulted from the following: • 187 acres to ESA • 115 acres to WM • 92 acres to HDR • 74 acres from PO • 226 acres from OR/LD	The net decrease in LDR is due OR/LD lands being reclassified to WM and HDR to indicate current uses as well as acreage being classified as ESA.
Wildlife Management (WM)	The net increase in Wildlife Management from 3,569 to 4,172 acres resulted from the following: • 470 acres from OR/IU • 115 acres from OR/LD • 180 acres from PO • 157 acres to ESA • 4 acres to PO	The net increase in WM lands is primarily due to lands being reclassified from OR.
Environmentally Sensitive Areas (ESA)	The classification of 384 acres as Environmentally Sensitive Areas resulted from the following: • 157 acres of NA • 40 acres of OR/IU • 187 acres of OR/LD	Reclassification of 384 acres was determined by the study team to be necessary to provide a high level of protection for those areas supporting significant habitat, views, or cultural sites. Classifying these areas as ESA will afford these areas with the highest level of protection from disturbance.

(1) The land classification changes described in this table are the result of changes to individual parcels of land ranging from a few acres to several hundred acres. New acreages were measured using more accurate GIS technology, thus total changes will not equal individual changes. The acreage numbers provided are approximate

2.3 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER CONSIDERATION

As previously discussed in this Section, other alternatives to the Proposed Action were initially considered as part of the alternative development process for the MP revision. However, none met the Purpose and Need for the Proposed Action, current USACE regulations and guidance, or addressed public and agency comments or 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 potential impacts of the No Action and Proposed Action alternatives on the natural, cultural, and social resources found within the USACE Skiatook Lake Fee Boundary. A description of the existing conditions of resources can be found in Chapter 2 of the 2025 MP. Only those resources that have the potential to be affected by implementation of either alternative will be analyzed in this 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. Indirect effects are caused by the action and are later in time or further removed in distance but are still reasonably foreseeable. As discussed in this section, the alternatives may create temporary (less than 1 year), short-term (up to 3 years), long-term (3 to 10 years following the master plan revision), or permanent effects.

In considering whether the effects of the Proposed Action are significant, agencies shall analyze the potentially affected environment and degree of the effects of the action. In considering the potentially affected environment, agencies should consider, as appropriate to the specific action, the affected area (national, regional, or local) and its resources, such as listed species and designated critical habitat under the Endangered Species Act. In considering the degree of the effects, agencies should consider the following, as appropriate to the specific action: both short-and long-term effects, both beneficial and adverse effects, effects on public health and safety, effects that will violate Federal, State, Tribal, or local law protecting the environment. For the purpose of this analysis, the intensity of impacts will 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

Please refer to Chapter 2 of the 2025 MP for existing land and water use information in and around Skiatook Lake and Dam.

3.1.1 Alternative 1: No Action Alternative

Under the No Action Alternative, USACE would not implement the 2025 MP, and existing land use management would not be updated to reflect current and projected future needs and demands. The operation and maintenance of USACE lands at Skiatook Lake would continue as outlined in the 1976 MP to the extent that current and future laws and regulations would permit. Management would have difficulty meeting the current and future recreational needs identified through scoping efforts and USACE Project staff experience and recommendations. If the 1976 MP is kept and implemented, this would not align with current and future operations and recreation trends or needs for the Lake. This divergence would create a patchwork of management requirements that would be inefficient for Skiatook Lake staff to implement. The management would also increasingly lack transparency to the public or alternately create more of a burden to staff to communicate how the lake management differs from that in the 1976 MP. Implementation of the No Action Alternative would have moderate, adverse, long-term impacts on land use within and on fee-owned Skiatook Lake project lands due to conflicting guidance and management of USACE lands.

3.1.2 Alternative 2: Proposed Action

The objectives for revising the 1976 MP describe current and foreseeable land uses while considering expressed public opinion, regional trends, and USACE policies that have evolved to meet day-to-day operational needs. The reclassifications in the 2025 MP were developed to help fulfill regional goals associated with good stewardship of land and water resources that will allow for continued use and development of project lands.

The 1976 MP classified 353 acres as Project Operations, the Proposed Action would reduce PO from 353 acres to 232 acres for Project Operations, with a net decrease of 121 acres. The net decrease of Project Operation lands for Skiatook Lake reflects the current need for acres to be allocated to wildlife management and low-density recreation areas.

Operations Recreation – Intensive Use (OR/IU) is now classified as HDR. The 1976 MP classified 1,883 acres of OR/IU and the Proposed Action would establish 1,147 acres of HDR, with a net decrease of 736 acres. The reclassification of OR/IU is because it is not used as a land classification under the current EP. The primary reason for the net decrease in HDR lands reflects current and foreseeable recreational trends for the area. A portion of land originally classified as OR/LD was needed to capture additional HDR.

Operations Recreation – Low Density (OR/LD) is now classified as LDR. The 1976 MP classified 2,895 acres of OR/LD and the Proposed Action would establish 2,801 acres of LDR, with a net decrease of 94 acres. The primary reason for the net decrease

in LDR lands reflects the current usage of the land areas. Additionally, 226 acres from OR/IU and 74 acres from PO were added to OR/LD.

Natural Area (NA) is now classified as MRML-WM. The 1976 MP established 3,569 acres of NA, which has been reclassified into MRML-WM. The Proposed Action establishes 4,172 acres of MRML-WM reflecting a net increase of 603 acres. The net increase in WM reflects NA no longer being used as a land classification under the current EP, as well as the proposed reclassification better conserving fish and wildlife habitat utilized by the public via trails, hunting, or fishing. The reclassification of these acres will have no effect on current or projected public use. Additionally, 470 acres from OR/IU, 115 acres from OR/LD, and 180 acres from PO were added to MRML-WM.

The Proposed Action would establish 384 acres of ESA. The 1976 MP did not establish a comparable land classification. It was determined by the study team to be necessary to provide a high level of protection for those areas supporting unique or valuable habitat, aesthetic views, or cultural sites. Classifying these areas as ESA will afford these areas with the highest level of protection from disturbance. One-hundred-fifty-seven acres of NA, 40 acres of OR/IU, and 187 acres of OR/LD were added to ESA.

On the waters of Skiatook Lake, the 2025 MP will add established surface water use categories in addition to the current ad hoc management of the lake. The establishment of 34 acres as Restricted, 160 acres as No Wake, and 10,154 acres as Open Recreation to the water surface, respectively, will allow for a delineated and safer management of the lake's waters when the lake is at conservation pool. These reclassifications will help to improve safety of those recreating on and around Skiatook Lake by restricting boat access and speeds around certain parts of the lake, as well as establishing areas that boating can occur in. The Skiatook Lake office will still maintain the authority to make ad hoc adjustments as needed by lake level, which will prevent the reclassifications from being overly rigid or even ineffectual in various lake level conditions. This 35-acre difference is a result of changes in measuring technology, real estate actions, and sediment deposition and erosion.

The current and foreseeable land use demand and patterns for Skiatook Lake does not entail the need of utility corridors, therefore, none will be implemented in the 2025 MP. However, if needed, current USACE policy dictates that all utilities must go around USACE property unless no other feasible alternative exists. If a feasible alternative does not exist, then the utility must go through the NEPA review process prior to approval and implementation.

The majority of the land use reclassifications in the 2025 MP will maintain and improve the functional management that is currently occurring. While the terminology updates appear substantial, they have been implemented after considerable public input and seek to maintain the values the public holds highest at Skiatook Lake. Additionally, the land reclassifications provide a balance between public use, both intensive and passive, and natural resources conservation. Therefore, the implementation of the proposed action will have moderate, long-term, beneficial impacts to land use as the

land reclassifications further refine areas for appropriate activities and provide more efficient land management.

3.2 WATER RESOURCES

Please refer to Section 2.5 in the 2025 MP for more information on existing conditions for hydrology (including surface and ground water), water quality, and wetlands, respectively.

3.2.1 Alternative 1: No Action Alternative

There would be no impacts to any water resources as a result of implementing the No Action Alternative, since there would be no changes or additions to the existing 1976 MP that would affect any of these resources.

3.2.2 Alternative 2: Proposed Action

The 2025 MP would increase MRML-WM by 603 acres and ESA lands by 384 acres which would help to conserve, protect, and manage habitat and vegetation that help to reduce erosion due to shoreline stabilization. Increased shoreline stabilization and decreased erosion may also help improve water clarity and therefore quality, resulting in minor, long-term benefits to water resources, including wetland areas. Additionally, the 736 acre decrease in HDR lands would contribute to the benefits provided by MRML-WM and ESA, as the decreased anthropogenic presence in recreation areas may reduce erosion issues affecting water quality.

3.3 CLIMATE

For more information on existing conditions for Climate and Changing Conditions, please refer to section 2.2 and 2.3 of the 2025 MP.

3.3.1 Alternative 1: No Action Alternative

The No Action Alternative would not result in any changes in climate or changing conditions at Skiatook Lake. Implementation of the 1976 MP would have no impact (beneficial or adverse) on existing or future climate conditions. Current policy (Executive Orders [EO] 13834 and 13783, and related USACE policy) requires project lands and recreational programs be managed in a way that advances broad national changing conditions mitigation goals including, but not limited to, changing conditions resilience and carbon sequestration. Changing conditions were not evaluated in the 1976 MP, as such the 1976 MP does not align with current laws and regulations. This non-compliance has no impact on climate or changing conditions because the 1976 MP does not have any action that impacts existing conditions.

3.3.2 Alternative 2: Proposed Action

The 2025 MP will have no effect to climate in the region. Management under the 2025 MP will follow current USACE policy to meet changing conditions goals as described for the No Action Alternative. Any ground disturbing activities considered

under the 2025 MP will be evaluated and analyzed for impacts to climate under NEPA and design processes prior to implementation.

3.4 AIR QUALITY

For more information on existing conditions for Air Quality at Skiatook Lake and the surrounding area, please refer to Section 2.3 in the 2025 MP.

3.4.1 Alternative 1: No Action Alternative

The continued implementation of the 1976 MP would not result in any changes to current and reasonably foreseeable future air quality in the region. No new increase in vehicular traffic, mass permanent vegetation removal, or large construction activities would occur as result of implementing this alternative. The No Action Alternative would remain compliant with the Clean Air Act because the 1976 MP only includes guidelines and does not incorporate actions which produce or contribute to criteria pollutants or Greenhouse Gases (GHG). The No Action Alternative will not produce any impacts on air quality.

3.4.2 Alternative 2: Proposed Action

Similar to the No Action Alternative, the 2025 MP will not result in any change to current and reasonably foreseeable air quality in the region. The Proposed Action will not implement any actions (i.e. ground disturbing activities) that directly or indirectly produce criteria pollutants or regulated pollutants such as GHGs (i.e. total emissions are 0); therefore, implementation of the Proposed Action will remain compliant with the Clean Air Act and State Implementation Plan and is not subject to a conformity determination.

3.5 TOPOGRAPHY, GEOLOGY, AND SOILS

Please refer to Section 2.4 of the 2025 MP for more information on existing conditions for topography, geology, and soils at Skiatook Lake.

3.5.1 Alternative 1: No Action Alternative

The No Action Alternative would have minor, adverse, long-term impacts to topography, geology, or soils since the 1976 MP would not be revised. Continued implementation of the 1976 MP would not provide any benefits to topography, geology, and soils such as increased habitat protection, reduced erosion, or shoreline stabilization, since there would be no land reclassifications that could potentially benefit these resources.

3.5.2 Alternative 2: Proposed Action

The Proposed Action takes into consideration the various topographical, geological, and soils aspects of USACE Skiatook Lake project lands. The 384 acre increase in ESA land 603 acres increase in MRML-WM lands will help to increase the long-term preservation and stabilization of soils within USACE Skiatook Lake project lands. Additionally, the reductions in HDR and LDR lands will result in less ground-disturbing

activities in the future from recreation development, thereby contributing to the benefits described for topography, geology, and soils. Implementation of the Proposed Action will have minor, beneficial, long-term impacts on soil conservation and topography, and geology at Skiatook Lake.

3.6 NATURAL RESOURCES

For more information on the existing conditions for natural resources (including fish and wildlife resources and vegetation resources), please refer to Section 2.8 of the 2025 MP.

3.6.1 Alternative 1: No Action Alternative

The No Action Alternative would not update land management policies, as well as not provide any updated land classifications that could affect natural resources at Skiatook Lake. The No Action Alternative would cause minor, long-term adverse impacts to natural resources since they would not be managed by current policies and needs at Skiatook Lake.

3.6.2 Alternative 2: Proposed Action

The Proposed Action would bring land management policies up to date with current needs and natural resource requirements at Skiatook Lake. The implementation of the proposed land classifications will allow project lands to further support the USACE and Oklahoma Department of Wildlife Conservation (ODWC) missions for wildlife conservation, as well as implementation of operational procedures that will protect and enhance wildlife and fishery populations and habitat. The 2025 MP resource goals and objectives aim to further enhance, conserve, and protect natural resources at Skiatook Lake, including Species of Greatest Conservation Need (SGCN) and State and Federally Listed species. The establishment of ESA lands (+384 acres) and increase in MRML-WM lands (+603 acres) will help protect and conserve natural resources from various types of adverse impacts such as disturbance and habitat fragmentation. Therefore, the Proposed Action would provide moderate short and long-term benefits to natural resources.

3.7 THREATENED AND ENDANGERED SPECIES

The Endangered Species Act of 1973 (16 U.S.C. § 1531 et seq., as amended) defines an endangered species as a species “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.” Proposed species are those that have been proposed in the Federal Register (FR) to be listed under Section 4 of the Endangered Species Act. Species may be considered endangered or threatened “because of any of the following factors: (1) the present or threatened destruction, modification, or curtailment of its habitat or range; (2) overutilization for commercial, recreational, scientific, or educational purpose; (3) disease or predation; (4) the inadequacy of existing regulatory mechanisms; and (5) other natural or human-induced factors affecting continued existence.” USFWS has identified species that are candidates for listing as a result of identified threats to their

continued existence. The candidate designation includes those species for which the USFWS has sufficient information to support proposals to list as endangered or threatened under the Endangered Species Act.

Section 7(a)(2) of the Endangered Species Act requires Federal agencies to ensure that any action authorized, funded, or carried out by such agency is not likely to 1) jeopardize the continued existence of any endangered or threatened species, or 2) result in the destruction or adverse modification of critical habitat. The term "jeopardize the continued existence of" means to appreciably reduce the likelihood of both the survival and recovery of listed species in the wild by reducing the species' reproduction, numbers, or distribution. Jeopardy opinions must present reasonable evidence that the project will jeopardize the continued existence of the listed species or result in destruction or adverse modification of critical habitat.

Using the Information for Planning and Consultation tool (IPaC), an official species list was obtained on September 16, 2025 from the USFWS Oklahoma Ecological Services Field Office. A copy of this list is available in Appendix C. All Federally listed Threatened and Endangered species as well as Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA) species reported on the official USFWS species are described in Table 3.

Table 4 - Federal and State Listed Conservation Species Potentially Occurring at the Skiatook Lake and Dam Project Area (USFWS, 2025)

Species	Federal Status	State Status
Tricolored Bat (*Perimyotis subflavus*)	Proposed Endangered	None
Piping Plover (*Charadrius melodus*)	Threatened	None
Rufa Red Knot (*Calidris canutus rufa*)	Threatened	None
Alligator Snapping Turtle (*Macrochelys temminckii*)	Proposed Threatened	None
American Burying Beetle (*Nicrophorus americanus*)	Threatened	None
Monarch Butterfly (*Danaus plexippus*)	Proposed Threatened	None
Western Regal Fritillary (*Argynnis idalia occidentalis*)	Proposed Threatened	None
Geocarpon (*Geocarpon minimum*)	Threatened	None
Bald Eagle (*Haliaeetus leucocephalus*)	MBTA / BGEPA Protected	None

Species	Federal Status	State Status
Chimney Swift (*Chaetura pelagica)*	MBTA Bird of Conservation Concern	None
Henslow's Sparrow (*Centronyx henslowii*)	MBTA Bird of Conservation Concern	None
Kentucky Warbler (*Geothlypis formosa*)	MBTA Bird of Conservation Concern	None
Lesser Yellowlegs (*Tringa flavipes*)	MBTA Bird of Conservation Concern	None
Little Blue Heron (*Egretta caerula*)	MBTA Bird of Conservation Concern	None
Prairie Loggerhead Shrike (*Lanius ludovicianus excubitordes*)	MBTA Bird of Conservation Concern	None
Prothonotary Warbler (*Protonotaria citrea)*	MBTA Bird of Conservation Concern	None
Red-headed Woodpecker (*Melanerpes erythrocephalus)*	MBTA Bird of Conservation Concern	None

3.7.1 Alternative 1: No Action Alternative

The No Action Alternative would have no effect on any Threatened and Endangered species, that may occur at Skiatook Lake. Migratory bird species protected under the MBTA as well as the Bald and Golden Eagle Act protected species would not be adversely affected. Threatened and Endangered species would continue to be managed with existing USACE guidelines established under the 1976 MP, Section 7 of the ESA, the MBTA, the BGEPA, and Oklahoma State Law.

3.7.2 Alternative 2: Proposed Action

The implementation of the 2025 MP will allow for better cooperative management plans with the USFWS and Oklahoma Department of Wildlife Conservation that will help to preserve, enhance, and protect vegetation and wildlife habitat resources that are essential to various endangered and threatened species that may be found within USACE Skiatook Lake federal project lands. To strengthen management opportunities and beneficially impact habitat diversity, the reclassifications in the 2025 MP include a 603-acre net increase for MRML-WM lands, as well as the classification of 384 acres as ESA lands**.** The net increase in MRML-WM and establishment of ESA lands may provide suitable habitat for any federally listed species that may occur in the area.

New resource objectives will require that threatened and endangered species are managed by various ecosystem management principles**,** which will further help those species. Any future activities that could potentially result in impacts to Federally listed species will be coordinated with USFWS through Section 7 of the Endangered Species

Act (ESA). Within the context of the ESA, the USACE has determined that the implementation of the Proposed Action will have No Effect on any federally listed or proposed threatened, endangered, or candidate species that may occur within the Skiatook Lake federal fee boundary.

3.8 INVASIVE SPECIES

Please refer to Section 2.8.6 for information on the existing condition of invasive species at Skiatook Lake in the 2025 MP.

3.8.1 Alternative 1: No Action Alternative

The No Action Alternative would have no effect on invasive species. The 1976 MP would not be updated. No changes to policies or guidelines at Skiatook Lake concerning invasive species management would occur as a result of the No Action Alternative.

3.8.2 Alternative 2: Proposed Action

The reclassifications of land classes, improvement of resource management objectives, and the overall improvement of the 2025 MP will allow invasive species within USACE Skiatook Lake federal project lands to be better managed. The establishment of ESA land (384 acres) and classification of 4,172 acres as WM lands helps to protect natural resources from various types of adverse impacts such as habitat fragmentation which increases the opportunity for the spread of invasive species. These areas will also receive updated invasive species management efforts. The resource goals and objectives will require monitoring and reporting of invasive species, as well as action items to prevent and/or reduce the spread of these species. Therefore, under the Proposed Action, there will be long-term minor, beneficial impacts on invasive species management as a result of implementing the 2025 MP.

3.9 CULTURAL, HISTORICAL, AND ARCHAEOLOGICAL RESOURCES

Cultural resources preservation and management is an equal and integral part of all resource management at USACE-administered water resources projects. The term “cultural resources” is a broad term that includes but is not limited to historic and prehistoric archaeological sites, deposits, and features; burials and cemeteries; historic and prehistoric districts comprised of groups of structures or sites; cultural landscapes; built environment resources such as buildings, structures (such as bridges), and objects; Traditional Cultural Properties (TCP) and sacred sites. These property types may be listed on the National Register of Historic Places (NRHP) if they meet the criteria specified by 36 CFR 60.4 as authorized by the NHPA, reflecting significance in architecture, history, archaeology, engineering, and culture. Cultural resources that are identified as eligible for listing in the NRHP are referred to as “historic properties,” regardless of category. A TCP is a property that is eligible for inclusion in the NRHP based on its associations with the cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions of a living community. Ceremonies, hunting practices, plant-gathering, and social practices which are part of a culture’s traditional lifeways, are also cultural resources.

Stewardship of cultural resources on USACE Civil Works water resources projects is an important part of the overall Federal responsibility. Numerous laws pertaining to identification, evaluation, and protection of cultural resources, Native American Indian rights, curation and collections management, and the protection of resources from looting and vandalism establish the importance of cultural resources to our Nation's heritage. With the passage of these laws, the historical intent of Congress has been to ensure that the Federal government protects cultural resources. Guidance is derived from a number of cultural resources laws and regulations, including but not limited to Sections 106 and 110 of the National Historic Preservation Act (NHPA) of 1966 (as amended); Archaeological Resources Protection Act (ARPA) of 1979; Native American Graves Protection and Repatriation Act (NAGPRA); and 36 CFR Part 79, Curation of Federally Owned and Administered Archeological Collections. Implementing regulations for Section 106 of the NHPA and NAGPRA are 36 CFR Part 800 and 43 CFR Part 10, respectively. All cultural resources laws and regulations should be addressed under the requirements of the National Environmental Policy Act (NEPA) of 1969 (as amended), as applicable. USACE summarizes the guidance provided in these laws in ER and EP 1130-2-540.

For information on the existing conditions of Cultural, Historical, and Archaeological Resources at Skiatook Lake, please refer to Section 2.10 of the 2025 MP.

3.9.1 Alternative 1: No Action Alternative

The No Action Alternative would not have any impacts to Cultural Resources identified in Section 2.14 of the 2025 MP. No changes to Cultural Resources Management at Skiatook Lake would occur.

3.9.2 Alternative 2: Proposed Action

The Proposed Action would provide long-term protection measures for Cultural Resources Management efforts at Skiatook Lake and Dam. The 2025 MP will not have an adverse effect on historic properties eligible or listed on the NRHP, but instead would provide updated monitoring and protection for historic properties over the next 25 years. As a result, the 2025 MP would provide minor, long-term benefits to Cultural Resources over the planning horizon of 25 years.

3.10 SOCIOECONOMICS AND DEMOGRAPHICS

For more information on the existing conditions of socioeconomics and demographics, please refer to Section 2.11 of the 2025 MP.

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.

3.10.1 Alternative 1: No Action Alternative

The No Action Alternative would not have any impacts on socioeconomics or demographics. The 2025 MP would not be implemented, and Skiatook Lake would continue to be managed based on the 1976 MP and subsequent updates. The No Action alternative would not disproportionately affect children.

3.10.2 Alternative 2: Proposed Action

The Proposed Action would implement the 2025 MP and would not have any impacts on socioeconomics or demographics since no construction or changes that could affect local socioeconomic/demographic factors would occur; the changes proposed in the 2025 MP would not affect the local economy or local populations in any perceivable way. The Proposed Action would not disproportionately affect children.

3.11 RECREATION

For information on the existing conditions of recreation and the zone of influence for Skiatook Lake, please refer to Section 2.12 of the 2025 MP.

3.11.1 Alternative 1: No Action Alternative

The No Action Alternative would keep the 1976 MP in place, which would cause moderate, long-term adverse impacts to recreation. These impacts would result from lack of updates in land management as well as land classifications related to recreation that would not reflect current recreation needs at Skiatook Lake.

3.11.2 Alternative 2: Proposed Action

The Proposed Action would implement the 2025 MP, which provides updates to both recreation policies and goals, as well as large-scale changes to recreation land classifications. The 2025 MP would cause a 736-acre decrease in HDR lands and a 94 acre decrease in LDR lands. These land classification changes reflect current recreation needs, as well as the reclassification and reduction of HDR lands that were never developed or are currently unused and ultimately provide updated and more effective recreation land management. The recreation land classification changes also provide more effective recreational access to the public, as well as more streamlined and current recreation management opportunities for the USACE. The overall updates and land classification changes presented by the 2025 MP would provide moderate, long-term benefits to recreation at Skiatook Lake.

3.12 AESTHETIC RESOURCES

For information on the existing conditions of aesthetic resources at Skiatook Lake, please refer to Section 2.9 of the 2025 MP.

3.12.1 Alternative 1: No Action Alternative

There would be no impacts on aesthetic resources as a result of the No Action Alternative, as there would be no changes to the existing 1976 MP.

3.12.2 Alternative 2: Proposed Action

The Proposed Action may have negligible, long-term, positive impacts to aesthetic resources due to a net increase in MRML-WM lands and establishment of ESA lands. Benefits to aesthetic resources may occur due to overall less disturbance of aesthetic nature areas in ESA and MRML-WM lands.

3.13 HAZARDOUS, TOXIC, AND RADIOLOGICAL (HTRW)

For information on the existing conditions of HTRW at Skiatook Lake, please refer to Section 2.6 of the 2025 MP.

3.13.1 Alternative 1: No Action Alternative

There would be no impacts to HTRW resources as a result of the No Action Alternative, as there would be no changes to the existing 1976 MP, and no known HTRW resources or facilities in the immediate vicinity of Skiatook Lake would be affected by keeping the 1976 MP implemented.

3.13.2 Alternative 2: Proposed Action

The Proposed Action seeks to implement the 2025 MP which is a land management document that does not involve construction or ground-disturbing activities. There would be no impacts to any HTRW facilities or resources identified in the vicinity of Skiatook Lake.

3.14 HEALTH AND SAFETY

For information on the existing conditions of health and safety at Skiatook Lake, please refer to Section 2.7 of the 2025 MP.

3.14.1 Alternative 1: No Action Alternative

There would be no impacts to health and safety as a result of implementing the No Action Alternative, as there would be no changes made to the 1976 MP. Health and safety would continue to be managed and follow guidelines from the 1976 MP.

3.14.2 Alternative 2: Proposed Action

The Proposed Action would adopt and implement the 2025 MP which would change land management policies and land classifications at Skiatook Lake. The Proposed Action does not involve any construction or ground-disturbing activities. The addition of 34 acres of Restricted and 160 acres of Designated No-wake water surface classifications could allow future projects to provide minor, long-term, benefits to health and safety since they enhance public safety near the dam and the swimming beach.

3.15 SUMMARY OF CONSEQUENCES AND BENEFITS

Table 4 provides a tabular summary of the consequences and benefits for the No Action and Proposed Action alternatives for each of the assessed resource categories in Section 3.

Table 5 - Summary of Consequences and Benefits

Resource	Change Resulting from 2025 MP (Proposed Action)	Environmental Consequences: No Action Alternative	Environmental Consequences: Proposed Action	Benefits Summary
Land Use	Updates to land management policies and land reclassifications: • Project Operations: 232 acres (-121) • High Density Recreation: 1,147 acres (-736) • Low Density Recreation: 2,801 acres (-94) • Wildlife Management: 4,172 acres (+603) • Environmentally Sensitive Areas: 384 acres (+384)	Moderate, long-term, adverse impacts due to outdated land management policies and land classifications.	Moderate, long-term beneficial impacts due to updated land management policies, updated land classifications, and updated resource goals and objectives.	Benefits caused by updated land management policies, land classifications, and updated resource goals and objectives that better align land management at Skiatook Lake with current needs and trends, allowing for more effective and appropriate Land Use.
Water Resources Including Groundwater, Wetlands, and Water Quality	Updates to water resource reclassifications: • Restricted: 34 (+34) • Open Recreation 10,154 (-229) • No Wake (+160)	No effect.	Minor, long-term, beneficial impacts due to increased soil stabilization and reduced erosion that may enhance water quality.	Benefits caused by increases in WM and ESA lands that may enhance or preserve shoreline habitat that may reduce erosion by stabilizing soils, which reduces sediment runoff into the aquatic environment.
Climate	No change.	No effect.	No effect.	N/A
Air Quality	No change.	No effect.	No effect.	N/A
Topography, Geology and Soils	No change.	Minor, long-term, adverse impacts due to soil destabilization and erosion continuing.	Minor, long-term benefits due to decreased erosion and soil disturbance.	Benefits occur from decreased erosion and soil disturbance due to increases in ESA and MRML-WM lands, as well as decreases in HDR and LDR. Soil erosion is also decreased by the conservation and enhancement of vegetation that further stabilizes soils.

Resource	Change Resulting from 2025 MP (Proposed Action)	Environmental Consequences: No Action Alternative	Environmental Consequences: Proposed Action	Benefits Summary
Natural Resources	Establishment of 384 acres of ESA (+384 acres) and 4,172 acres of MRML-WM lands (+603).	Minor, long-term adverse impacts due to outdated land management policies and land classifications that do not reflect current needs for Natural Resources.	Moderate, short and long-term benefits due to updated land management policies and land classifications that align with current needs for Natural Resources.	Benefits occur due to updated land management policies and land classifications that would enhance and preserve wildlife habitat. Increase ESA lands and increased WM lands would provide more managed wildlife habitat and less habitat disturbance due to anthropogenic activities.
Threatened and Endangered Species, including SGCN species.	The implementation of the 2025 MP will allow for better cooperative management plans with the USFWS and Oklahoma Department of Wildlife Conservation that will help to preserve, enhance, and protect vegetation and wildlife habitat resources that are essential to various endangered and threatened species that may be found within USACE Skiatook Lake federal project lands.	No effect.	Minor, long-term beneficial impacts on T&E species habitat, no effects on T&E species within the context of Section 7 of the Endangered Species Act.	Benefits would occur due to updated land management policies and land classifications that would enhance and conserve wildlife habitat, including potential T&E and SGCN species' habitat. Establishing ESA lands and increased WM lands provides less potential disturbance to any of the listed species and their habitat.
Invasive Species	No change.	No effect.	Minor, long-term beneficial impacts due to update land management policies and land classifications allowing for updated and more effective invasive species management.	Benefits occur from updated land management and land classifications allowing invasive species to be more effectively managed based on current needs at Skiatook Lake.
Cultural Resources	Updated long-term goals and objectives for Cultural Resources.	No effect.	Minor, long-term benefits due to updated goals and objectives.	Benefits would occur due to updated long-term goals and objectives that would provide updates to Cultural Resource management at Skiatook Lake.
Socioeconomics and Demographics	No change.	No effect.	No effect.	No added benefit.

Resource	Change Resulting from 2025 MP (Proposed Action)	Environmental Consequences: No Action Alternative	Environmental Consequences: Proposed Action	Benefits Summary
Recreation	Establishment of 1,147 acres of HDR lands (-736 acres) and 2,801 acres of LDR lands (-94 acres).	Moderate, long-term adverse impacts since there would be no updates to reflect current recreation trends and needs at Skiatook Lake.	Moderate, long-term benefits since the 2025 MP would update land classifications to reflect current needs and trends in recreation at Skiatook Lake.	Benefits occur from updates to land classifications that reflect current recreation trends and needs at Skiatook Lake. These changes allow recreation to be more effectively managed.
Aesthetic Resources	No change.	No effect.	Negligible, long-term benefits due to increased MRML-WM lands and ESA lands that may enhance aesthetic areas.	Benefits occur from increased MRML-WM lands and ESA lands that may provide more opportunities for less disturbed natural areas to become aesthetic.
Hazardous, Toxic, and Radioactive Waste	No change.	No effect.	No effect.	No added benefit.
Health and Safety	Establishment of 34 acres of Restricted and 160 acres of No-Wake water surface classifications at Skiatook Lake.	No effect.	Minor, long-term, benefits due to enhanced public water safety.	Benefits occur from establishment of Restricted and No-Wake water surface classifications that enhance public safety on the waters of Skiatook Lake.

SECTION 4: CUMULATIVE IMPACTS

Federal agencies are required to analyze the reasonably foreseeable effects of the proposed action consistent with Section 102 of NEPA. In accordance with CEQ guidance on the implementation of Section 102 of NEPA (seen below), the USACE also evaluates cumulative impacts. Cumulative impacts are defined as an impact on the environment that results from the incremental effects of the action when added to the effects of other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative effects can result from actions with individually minor but collectively significant effects taking place over a period of time. Impacts can be adverse or beneficial.

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.” CEQ guidance also recommends narrowing the focus of cumulative impacts analysis to important issues of national, regional, or local significance.

The initial step of the cumulative impact analysis uses information from the evaluation of direct and indirect impacts in the selection of environmental resources that should be evaluated for cumulative impacts. A Proposed Action would not contribute to a cumulative impact if it would not have a direct or indirect effect on the resource.

Based on a review of the likely environmental impacts analyzed in Section 3 (Affected Environment and Consequences) the USACE determined that the analysis of cumulative impacts will not include the following resources: socioeconomics and demographics and HTRW. With respect to these resource topics in Section 3, both the No Action and Proposed Action alternatives will either:

1. Not result in any direct or indirect impacts and therefore will not contribute to a cumulative impact; or,

2. That the nature of the resource is such that impacts do not have the potential to cumulate. For example, impacts related to geology are site specific and do not cumulate; or,

3. That the future with or future without project condition analysis is a cumulative analysis and no further evaluation is required. For example, because changing conditions are global in nature, the future without project condition and future with project condition analysis is inherently a cumulative impact assessment.

For each resource topic carried forward for cumulative impact analysis, the timeframe for analysis is the time since the 1976 MP and 50 years following the revised

MP (2025-2050). The zone of interest for all resources are the 48 counties in a 50-mile radius of Skiatook Lake defined in Section 2.15.1 of the 2025 MP.

4.1 PAST IMPACTS WITHIN THE ZONE OF INTEREST

Construction of Skiatook Lake was authorized by the Flood Control Act of 1962 and is currently managed by the Tulsa District of USACE for the authorized purposes of flood control, water supply, water quality, recreation, and fish and wildlife along the Hominy Creek. Skiatook Lake has a water surface of 10,348 acres total at a conservation pool of 714.0 feet NGVD29 and is approximately 8,736 acres of federal land lie above the conservation pool with a shoreline of approximately 164.39 miles at the top of the conservation pool.

4.2 CURRENT AND REASONABLY FORESEEABLE PROJECTS WITHIN AND NEAR THE ZONE OF INTEREST

Potential future development or material placement on Flowage Easement Lands at Skiatook Lake may result in cumulative impacts. Future management of the Flowage Easement Lands at Skiatook 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.

At the time of this publication, there are many foreseeable road projects within the zone of interest by the Oklahoma Department of Transportation.

National USACE policy set forth in ER 1130-2-550, Appendix H, states that USACE lands will, in most cases, only be made available for roads that are regional arterials or freeways (as defined in ER 1130-2-550). All other types of proposed roads, including driveways and alleys, are generally not permitted on USACE lands. Any proposed expansion or widening of existing roadways on USACE lands will be considered on a case-by-case basis.

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 Skiatook Lake and cumulative adverse impacts on resources will 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 were inconsistent with adopted land use plans or if an action would substantially alter those resources required for, supporting, or benefiting the current use. Land use around Skiatook Lake and within the Hominy Creek is primarily agricultural with mixed urban areas, forests, and open spaces. Under the No Action Alternative, land use would not change. The Proposed Action will result in the reclassification of project lands, the reclassifications were developed to help fulfill regional goals associated with good stewardship of land resources that would allow for continued use of project lands.

Therefore, cumulative impacts on land use within the area surrounding Skiatook Lake, when combined with past and future actions in the region, are anticipated to be negligible.

4.3.2 Water Resources

A major impact would occur if any action were 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. Skiatook Lake was developed for water supply, flood control, and low flow augmentation purposes and is secondarily authorized for recreation and water quality control. The reclassifications and resource objectives required to revise the 1976 MP are compatible with water use plans and surface water classification; further, they were developed to help fulfill regional goals associated with good stewardship of water resources that will allow for continued use of water resources associated with Skiatook Lake. Therefore, cumulative impacts on water resources within the area surrounding Skiatook Lake, when combined with past and proposed actions in the region, are anticipated to be negligible.

4.3.3 Climate

Under the Proposed Action, current Skiatook Lake project management plans and monitoring programs will not be changed. In the event that GHG emission issues become significant enough to impact the current operations at Skiatook Lake, the 2025 MP and all associated documents will be reviewed and revised as necessary. Therefore, implementation of the 2025 MP, when combined with other existing and proposed projects in the region, will result in negligible reasonably foreseeable future impacts on climate and changing conditions.

4.3.4 Air Quality

There are many highway projects in the zone of interest for Skiatook Lake and many potential proposed projects that may contribute to the amount of new emissions that could potentially affect air quality within the region. The Proposed Action will only have negligible, beneficial impacts to air quality localized to Skiatook Lake. Vehicle traffic along park and area roadways and routine daily activities in nearby communities contribute to current and future emission sources; however, the impacts associated with the Proposed Action will be negligible in comparison. The use of gas-powered equipment by the USACE to manage vegetation already occurs at Skiatook Lake, and

the Proposed Action would not contribute to a regional increase in criteria pollutant or regulated pollutant emissions that would degrade air quality. Therefore, there would be negligible cumulative impacts to air quality resulting from the Proposed Action when combined with past and future proposed action in the area.

4.3.5 Topography, Geology, and Soils

A major impact could occur if a proposed future 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. The Proposed Action does not include any construction or ground-disturbing activities. The potential repeated removal or mowing of vegetation at Skiatook Lake consistent with current use and as a result of the Proposed Action may contribute to negligible amounts of soil loss in the forecasted 25-year period of analysis. The Proposed Action is also expected to provide minor, long-term benefits to these resources by stabilizing the soil and reducing erosion due to enhanced vegetative habitat. Cumulative impacts on topography, geology, and soils within the area surrounding Skiatook Lake, when combined with past and proposed actions in the region, are anticipated to be negligible.

4.3.6 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 Proposed Action is expected to have moderate, short and long-term impacts due to enhanced preservation and conservation of natural resources. The Proposed Action would not threaten viability of any natural resources or contribute to any substantial losses of communities. Therefore, there would be negligible cumulative impacts as a result of the Proposed Action when combined with past and future proposed actions in the area.

4.3.7 Threatened and Endangered Species

The Proposed Action is not expected to affect any Threatened and Endangered species within the context of Section 7 of the ESA. The Proposed Action is expected to provide minor, long-term benefits to wildlife habitat that Threatened and Endangered species may utilize at Skiatook Lake.

Should Federally listed species change in the future (delisting of species or listing of new species), associated requirements will be reflected in revised land management practices in coordination with the USFWS. The USACE will continue cooperative management plans with the USFWS and ODWC to preserve, enhance, and protect critical wildlife resources. Therefore, there would be negligible cumulative impacts as a result of the Proposed Action when combined with past and future proposed actions in the area.

4.3.8 Invasive Species

The land reclassifications required to revise the 1976 MP are compatible with Skiatook Lake invasive species management practices. Therefore, there will be minor long-term beneficial impacts on reducing and preventing invasive species within the area surrounding Skiatook Lake, resulting in negligible cumulative impacts when combined with past and future actions in the area.

4.3.9 Cultural Resources

Impacts could occur if a future proposed action would exacerbate the loss or degradation of cultural, historical, or archaeological resources at Skiatook Lake. The Proposed Action is expected to provide minor, long-term, beneficial impacts to cultural, historical, and archaeological resources at Skiatook Lake due to updated long-term goals and objectives that would modernize cultural resource management for Skiatook Lake. The Proposed Action also does not involve any ground-disturbing activities that may affect cultural, historical, or archaeological resources and the 2025 MP takes into consideration the issue of artifact looting at Skiatook Lake. Therefore, the Proposed Action, when combined with other past and future actions in the area, is expected to have negligible cumulative impacts when combined with past and future actions in the area.

4.3.10 Recreation

Skiatook Lake provides regionally significant outdoor recreation benefits including a variety of recreation opportunities. The Proposed Action is expected to provide moderate, long-term benefits to recreation due to updated land classifications that reflect current recreation trends and needs at Skiatook Lake. Cumulative impacts to recreation are expected to be negligible as a result of the Proposed Action combined with past and future actions in the area.

4.3.11 Aesthetic Resources

The Proposed Action is expected to have negligible, long-term benefits to aesthetic resources due to conservation and enhancement of natural environments across Skiatook Lake as a result of increase ESA lands and increased WM lands. Cumulative impacts to aesthetic resources are expected to be negligible as a result of the Proposed Action combined with past and future actions in the area.

4.3.12 Health and Safety

The Proposed Action is expected to have minor, local, beneficial impacts to health and safety at Skiatook Lake due to the establishment of No-Wake and Restricted water surface classifications that would improve public safety. Cumulative impacts to health and safety are expected to be negligible as a result of the Proposed Action combined with past and future actions in the area.

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 NEPA, the Fiscal Responsibility Act of 2023, and the USACE NEPA procedures. The proposed revision of the 1976 MP 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:

Bald and Golden Eagle Protection Act (BGEPA), as amended – Consultation under the BGEPA is not necessary for the proposed action because it would have no impact to preferred nesting, rearing, or foraging habitat and no "take" of bald or golden eagles. USACE would follow the USFWS National Bald Eagle Management Guidelines (May 2007) prior to implementing any future action prescribed by this Master Plan. Therefore, the 2025 MP is compliant with the BGEPA.

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 will not impact Prime Farmland present on Skiatook Lake project lands.

Clean Air Act of 1977, as amended – The USEPA 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 2025 MP. A General Conformity Determination is not required since the emissions of either alternative are negligible at best and are otherwise de minimis.

CWA of 1977, as amended – The Proposed Action will comply with all state and Federal CWA regulations and requirements and is regularly monitored by the USACE and the Oklahoma Department of Environmental Quality for water quality. A state water quality certification pursuant to Section 401 of the CWA is not required for the 2025 MP. There will be no change in the existing management of the reservoir that will impact water quality, but minor, long-term benefits to water quality are expected from the Proposed Action.

Endangered Species Act of 1973, as amended – Current lists of threatened or endangered species were compiled for the 2025 MP. The USACE has determined that no Federally Listed Species, State Listed Species or Species of Greatest Conservation Need would be affected by either the No Action Alternative or The Proposed Action.

Executive Order 11988, Floodplain Management, as amended – This EO directs Federal agencies to evaluate the potential impacts of proposed actions in floodplains. Both alternatives comply with EO 11988, as neither will have impacts to the existing floodplain at Skiatook Lake.

Executive Order 11990, Protection of Wetlands, as amended – 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 Proposed Action complies with EO 11990.

Executive Order 13045, Protection of Children From Environmental Health Risk and Safety Risk – The proposed land classifications would not impact environmental health or safety in a way that disproportionately affects children. Therefore, the proposed action is compliant with EO 13045.

Executive Order 13186 (Migratory Bird Habitat Protection) – Sections 3a and 3e of EO 13186 direct 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 2025 MP would not result in adverse impacts on migratory birds or their habitat.

Farmland Protection Policy Act (FPPA) of 1980 and 1995 – 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. There are Prime Farmland and farmland of state importance on Skiatook Lake project lands, but these will not be impacted.

Fish and Wildlife Coordination Act of 1958, as amended – The USACE initiated public involvement and agency scoping activities to solicit input on the 2025 MP EA, and to identify significant issues related to the Proposed Action. Information provided by USFWS and ODWC on fish and wildlife resources has been utilized in the development of the 2025 MP.

Migratory Bird Treaty Act, as amended – 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 at Skiatook Lake would be coordinated to avoid impacts on migratory and nesting birds.

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, site testing, and excavations will be coordinated with the Oklahoma State Historic Preservation Officer and Native American Tribes with interest in the project area. Known sites are mapped and avoided by maintenance activities with review and approval from District Archeologist. Areas that have not undergone cultural resources surveys or evaluations will need to do so prior to any earthmoving or other potentially impacting activities, as determined by the District Archeologist during review of the project.

Native American Graves Protection and Repatriation Act (NAGPRA) – Consultation under NAGPRA is not needed for the proposed action as the updates would not adversely affect resources protected under this regulation. The USACE would coordinate with the relevant Tribes if any Native American remains, or cultural items are

discovered during future actions that may be implemented under this Master Plan. Therefore, the 2025 MP is compliant with the NAGPRA.

SECTION 6: IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES

NEPA requires that Federal agencies identify “any irreversible and irretrievable commitments of resources which will 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 regenerate. 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 the 2025 MP.

SECTION 7: PUBLIC AND AGENCY COORDINATION

In accordance with NEPA, the USACE initiated public involvement and agency scoping activities to solicit input on the proposed revision of the 1976 MP, as well as identifying any issues related to the Proposed Action. The initial scoping meeting was a public open house held at the Skiatook Public Library in Skiatook, OK to inform the public of the intent to revise the master plan. The public input period remained open for 30 days from July 25, 2024 to August 24, 2024. An extension of the comment period for Skiatook remained open from August 24, 2024 to August 30, 2024. The public input period resulted in 3 comments, which can be found in Chapter 7 of the 2025 MP.

A public open house was held for the Skiatook Lake Master Plan revision at the Skiatook Public Library, 316 WC Rogers Boulevard, Skiatook, OK 74070 on July 25, 2024 from 4-6 p.m. The purpose of this open house was to provide attendees with information regarding the proposed Master Plan revision as well as to provide them with the opportunity to review the 1976 MP . The open house included the following topics:

- What is a Master Plan?
- What a Master Plan is Not;
- Why Revise a Master Plan?
- Overview of the National Environmental Policy Act (NEPA) process;
- Master Planning process;
- Proposed Changes to the Master Plan; and
- Instructions for submitting comments.

PLACEHOLDER FOR DRAFT RELEASE INFORMATION

Attachment A to this EA includes the news release, agency coordination letters, and the distribution list for all coordination letters. The EA has been coordinated with agencies having legislative and administrative responsibilities for environmental protection.

SECTION 8: ACRONYMS AND ABBREVIATIONS

%	Percent
°	Degrees
§	Section
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO_2	Carbon Dioxide
CO2e	CO2-equivalent
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
DOE	Department of Energy
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EP	Engineer Pamphlet
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ER	Engineer Regulation
F	Fahrenheit
Ft	Feet
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection and Policy Act
FY	Fiscal Year
GHG	Greenhouse Gas
GPM	Gallons Per Minute
HPMP	Historic Properties Management Plan
HTRW	Hazardous, Toxic, Radioactive Wastes
IPaC	Information for Planning and Consultation (USFWS)
LDA	Limited Development Area
LDR	Low Density Recreation
MBTA	Migratory Bird Treaty Act
MP	Master Plan
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NEPA	National Environmental Policy Act
NGVD	National Geodetic Vertical Datum
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NOX	Nitrogen Oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NRM	Natural Resources Management tool
NWI	National Wetlands Inventory (USFWS)
NWS	National Weather Service
Pb	Lead

PBO	Programmatic Biological Opinion
PL	Public Law
$PM_{2.5}$	Particulate Matter Less than 2.5 Microns
PM_{10}	Particulate Matter Less than 10 Microns
RPEC	Regional Planning and Environmental Center
SGCN	Species of Greatest Conservation Need
SO_2	Sulfur Dioxide
TCP	Traditional Cultural Properties
TDS	Total Dissolved Solids
TSI	Trophic State Index
TMDL	Total Maximum Daily Load
U.S.	United States
U.S.C.	U.S. Code
USCB	United States Census Bureau
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Service
VOC	Volatile Organic Compound
WMA	Wildlife Management Area
WSST	Web Soil Survey Tool

SECTION 9: LIST OF PREPARERS

Sylvester Rodriguez: USACE Regional Planning and Environmental Center, 5 Years of Experience

Attachment A: Public and Agency Coordination

APPENDIX C – WILDLIFE DOCUMENTS

TRUST RESOURCES REPORT – USFWS

OFFICIAL SPECIES LIST – USFWS

LIST OF SGCN SPECIES

WHAP REPORT

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
2488 EAST 81st STREET
TULSA, OKLAHOMA 74137-4290

July 11th, 2024

PUBLIC NOTICE

OPEN HOUSE FOR SKIATOOK LAKE MASTER PLAN REVISION
SKIATOOK LAKE, OKLAHOMA

The Tulsa District, U.S. Army Corps of Engineers (USACE), is revising the Skiatook Lake Master Plan. The USACE defines the master plan (MP) as the strategic land use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the water resource development project. It defines "how" the resources will be managed for public use and resource conservation. The current MP, last approved in 1976, needs revision to address changes in regional land use, population, outdoor recreation trends, and the USACE management policy.

Revision of the MP will not detail the technical or operational aspects of the lake related to flood risk management, the water conservation missions of the project, or the shoreline management program, which specifies what private uses are permitted along the shoreline. The MP study area will include Skiatook Lake proper and all adjacent recreational and natural resources in USACE fee-owned property.

An open house will be held from 4:00 pm to 6:00 pm on July 25, 2024, at the Skiatook Public Library, located at 316 WC Rogers Boulevard, Skiatook, Oklahoma 74070. The open house will provide attendees with information regarding the revision content and process and a general schedule. Attendees can view current land use classification maps and ask USACE staff questions.

Key topics to be discussed in the revised MP include revised land use classifications, new natural and recreational resource management objectives, recreation facility needs, and special issues such as invasive species management and threatened and endangered species habitat. A 30-day public comment period will begin July 25, 2024, and end August 24, 2024. During this time, the public can send comments, suggestions, and concerns. Public participation is critical to the successful revision of the MP. Information provided at the open house, including the existing MP, may be viewed on the Tulsa District website at the following link.

https://www.swt.usace.army.mil/Missions/Recreation/Master-Plans/

Written comments can be submitted in writing at the scheduled open house or mailed to the USACE, Lake Manager, 14004 Lake Road, OK 74070. Comments can also be emailed to CESWT-OD-NS@usace.army.mil.

Sincerely,

Robert Morrow, PMP
Chief, Environmental Branch
Regional Planning and Environmental Center

NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS BUILDING STRONG®

For Immediate Release: NR ##-###

USACE to host in-person public open house review of the Skiatook Lake Master Plan revision

Skiatook, Oklahoma – The Tulsa District, U.S. Army Corps of Engineers will host a public open house from 4 p.m. – 6 p.m., July 2, 2024, at the Skiatook Public Library 316 WC Rogers Boulevard, Skiatook, OK 74070 to provide information and receive public input on the Skiatook Lake Master Plan and Environmental Assessment.

The meeting will be an open house format for the public to view the current land use maps, ask questions, and provide comments about the project. If unable to attend the in-person meeting, documents will be available for comment at https://www.swt.usace.army.mil/Missions/Recreation/Master-Plans/

Documents posted for online public review include:

- 1988 Master Plan for Canton Lake
- 1988 Land Classification Map
- Comment Form
- Downloadable Presentation

USACE defines the Master Plan as the strategic land use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the water resource development project. Public participation is critical to the successful revision of the Master Plan.

The Master Plan study area includes Skiatook Lake proper and all adjacent recreational and natural resource properties under USACE administration. Skiatook Lake is a multi-purpose reservoir constructed and managed for flood control, water supply, water quality control, recreation and fish and wildlife. The current Master Plan for Skiatook Lake is dated 1988. The revision is needed to address changes in regional land use, population, outdoor recreation trends, and USACE management policy.

Key topics addressed in the Master Plan include updated land and water classifications, new natural and recreational resource management objectives, recreation facility needs, and special topics such as public hunting. The Master Plan **does not** address in detail the technical operational aspects of the lake related to the flood risk management of the project.

Comments may be submitted online by filling out the Comment Form and emailing or mailing comments to the address below. Only written comments will be accepted. The comment period begins July 25, 2024 and ends August 23, 2024.

Questions pertaining to the Master Plan or public meeting can be addressed to: USACE, Lake Manager, 14004 Lake Road, Skiatook, OK 74070 or sent via email to CESWT-OD-NS@usace.army.mil.

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SKIATOOK LAKE MASTER PLAN REVISION:

PUBLIC INVOLVEMENT PRESENTATION

U.S. Army Corps of Engineers
Tulsa Worth District

US Army Corps of Engineers®

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Purpose of Presentation

- Inform the public and stakeholders that a master plan revision has started
- **Define** a master plan
- **Describe** the master plan **revision process**
- **Provide instructions** on how to participate in the revision process
- **Encourage** participation
- **Provide links** to documents

The Corps defines a Master Plan as…

> "The strategic land use management document that guides the comprehensive management and development of all project recreational, natural and cultural resources throughout the life of the water resource development project."

Source: Chapter 3 of EP 1130-2-550 available at www.usace.army.mil/library/publications

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Presentation Topics

- What is a master plan?
- Why do a revision?
- What is the revision process?
- What is not part of a master plan?
- What is changing in the plan?
- How can I participate?
- Who can I talk to about the plan?
- When will the master plan be done?

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What is a master plan?

- The master plan is a **25 year comprehensive land use management guide** for recreational, natural, and cultural resources

- **Adheres to Federal laws** to preserve, conserve, restore, maintain, manage, and develop project lands, waters, and associated resources, including the National Environmental Policy Act (NEPA) for environmental stewardship and outdoor recreation

- Provides **land classifications** and **resource management objectives** that are broad and adaptive over time

- Requires and encourages **public involvement**

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Why do a revision?

- The current master plan is **out of date** and is **no longer compliant** with new regulations
- **Substantial changes in** environmental, cultural, social, and recreational **conditions have occurred** since the current master plan was approved
- **Re-examine land classification** due to these substantial changes
- The master plan **provides long-term goals** and **consistent management objectives** to guide balanced management of resources and public recreation

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What is the revision process?

The process is a cover-to-cover **review and revision of the entire plan** and is accomplished by:

- **A team of Corps employees** including Operations, Real Estate, Master Planning, and Environmental Compliance subject matter experts
- **Receive input from** and **collaboration with** partners, neighbors, stakeholders, elected officials, resource agencies, and the public
- A thorough review and update of **land and water surface classifications**
- Developing appropriate **NEPA compliance** documents

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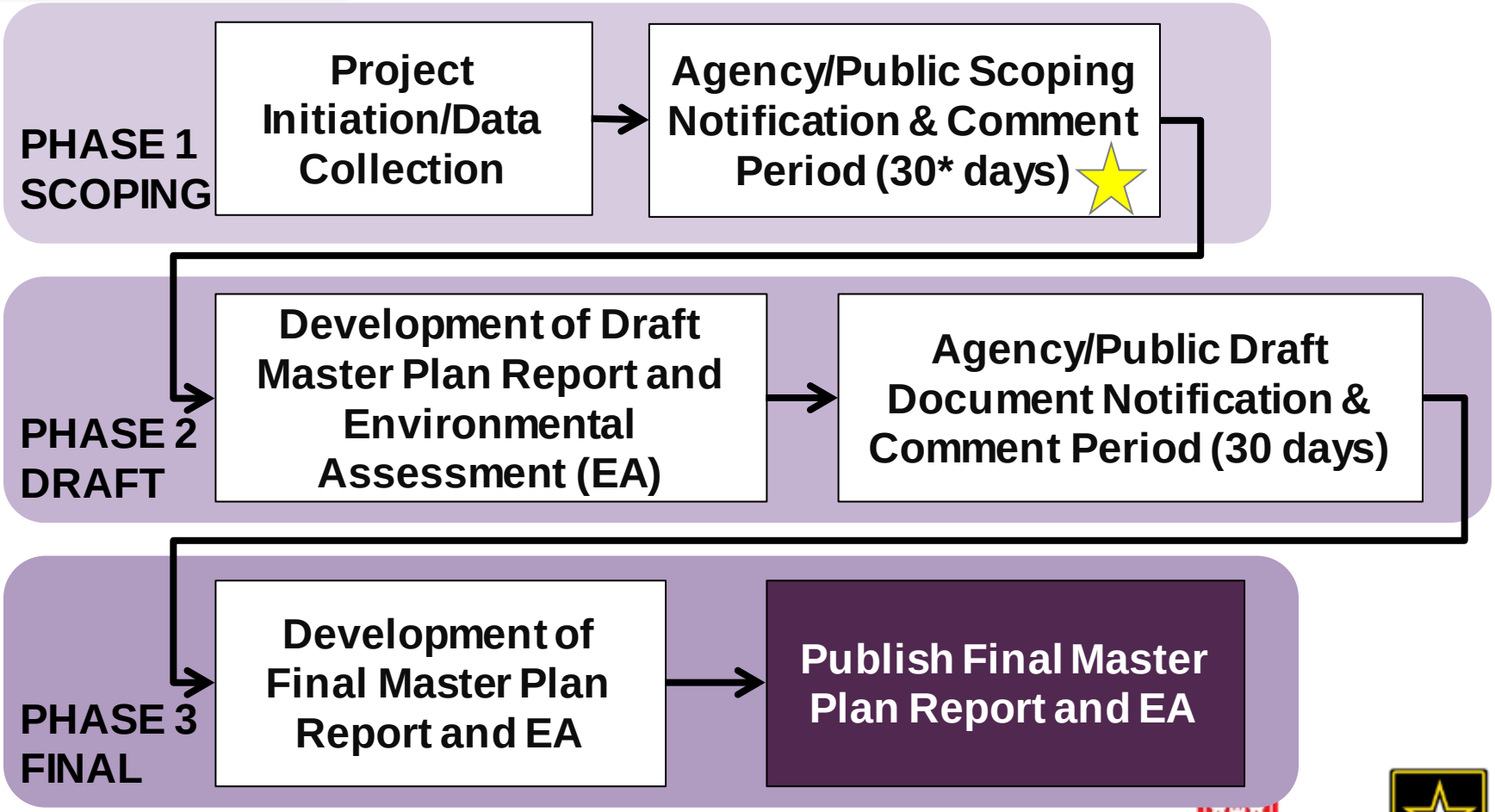
What is the revision process?



Where we are today

What is the revision process?

Land Classifications

Source: Engineering Pamphlet (EP) 1130-2-550

Land Classification	Definition
Project Operations	Lands required for the dam, spillway, levees, office, maintenance facilities and other areas that are used solely for project operations.
High Density Recreation	Land developed for intensive recreational activities for the visiting public, including day use areas and campground areas for commercial concessions, and quasi-public development.
Multiple Resource Management Lands	**Low Density Recreation**: Lands with minimal development or infrastructure that support passive public recreational use (e.g., trails, primitive camping, wildlife observation, fishing and hunting).
	Wildlife Management: Lands designated for the stewardship of fish and wildlife resources.
	Vegetative Management: Lands designated for the stewardship of forest, prairie, and other native vegetative cover.
	Inactive and/or Future Recreation Areas: Recreation areas planned for the future or that have been temporarily closed.
Environmentally Sensitive Areas	Areas where scientific, ecological, cultural or aesthetic features have been identified. These areas must be considered by management to ensure they are not adversely impacted.
Mitigation	Lands acquired or designated specifically for offsetting losses ciated wi development of the project. Lands allocated as separable mitig lands c be given this classification.

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What is the revision process?

Water Surface Classifications

Source: Engineering Pamphlet (EP) 1130-2-550

Water Surface Classification	Definition
Open Recreation	Those waters available for year-round or seasonal water-based recreational use.
Restricted	Water areas restricted for project operations, safety, and security purposes.
Designated No-Wake	To protect environmentally sensitive shoreline areas, recreational water access areas from disturbance, and for public safety.
Fish and Wildlife Sanctuary	Annual or seasonal restrictions on areas to protect fish and wildlife species during periods of migration, resting, feeding, nesting, and/or spawning.

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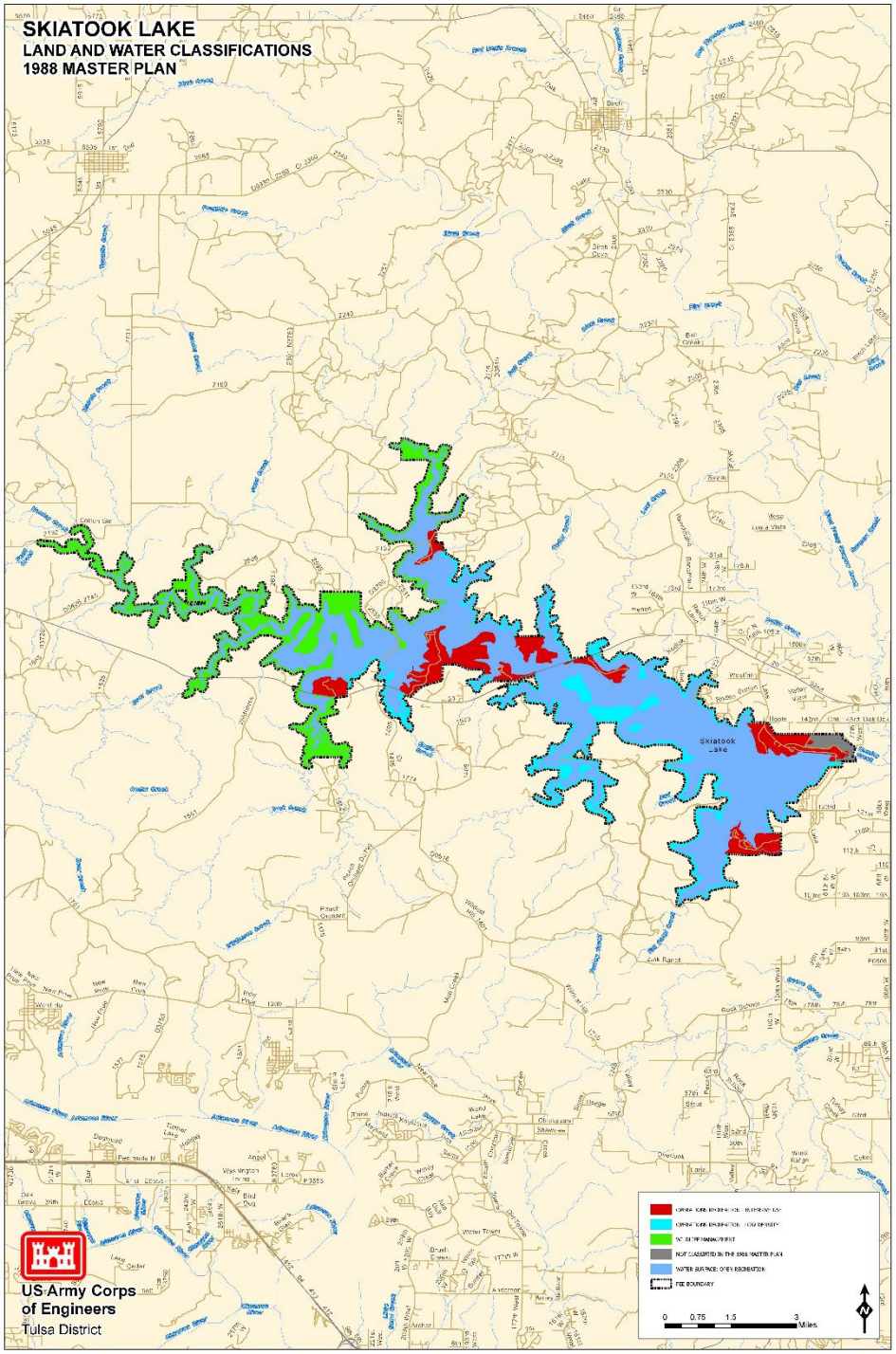
What is the revision process?

Land Use Map from 1988 Master Plan



What is the revision process?

NEPA Compliance

National Environmental Policy Act (NEPA)

Purpose of NEPA is to:

- Ensure federal agencies give proper **consideration to the environment** prior to undertaking a federal action
- **Involve the Public** (scoping) in the decision-making process
- **Document the process** by which agencies make informed decisions

NEPA Scoping Process:

- Opportunity for **public comments and questions** on the potential impacts of proposed federal actions
- Includes comments from other federal, state, and local governments, and Tribal Nations

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What is not part of a master plan?

- Facility **design details**
- Details of **daily project administration**
- Technical aspects of:
  - Water management for **flood risk management**
  - Regional **water quality**
  - **Water supply**
  - **Shoreline management**
  - **Water level management**
  - **Hydropower**
  - **Navigation**

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What is changing in the plan?

At this point in the revision process **there are no proposed changes**

The Corps is **requesting written comments for RECOMMENDED changes** to the existing master plan

Possible Changes to the Revised Mater Plan Could Include:

- Change Land and Water Classification
- Change Resource Goals and Objectives
- Create Utility Corridors

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Submit written comments!

Review all documents available on the USACE website:

https://www.swt.usace.army.mil/Missions/Recreation/Master-Plans/

Documents available on the website include:

- Project maps
- Comment form
- Presentation

Spread the word by telling your colleagues, friends and neighbors to participate

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How can I participate?

Comments will be accepted only **in writing**, some of the methods for submitting a comment include:

- You may **download the comment form** provided on the website, fill it out electronically, and email it to the Corps
- Or you may **print the comment form** provided on the website, fill it out by hand, and mail it to the Corps at the address on the comment form
- Or you may **write a comment or send an email** without using the comment form, and mail or email it to the Corps at the address provided on the website
- Comments are due by close of business on **August 24, 2024**

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Who can I talk to about the plan?

Talk to anyone from the USACE
at the meeting to answer your questions.

- Call the Lake Office at:
  (918)396-3170
- Visit the Lake Office at:
  14004 Lake Road

Skiatook, Ok 74070

- Email us your questions at:
  ceswt-od-ns@usace.army.mil

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- The master plan will take **18-24 months** to complete
- Projected milestones/schedule

Public Notification for Scoping	**25 July**
Public Comment Period (30 days)	**25 July– 24 August 2024**
Draft Master Plan/EA Public Notification	**October 2025***
Public Comment Period (30 days)	**November 2025***
Final Master Plan/EA Approved	**May 2026***

* Projected

Thank you for viewing this presentation and participating in the master plan revision process at Kaw Lake.

Website address:

https://www.swt.usace.army.mil/Missions/Recreation/Master-Plans/

Email:

ceswt-od-ns@usace.army.mil

Mail:

USACE
Lake Manager
14004 Lake Road
Skiatook, Ok 74070

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Comment	Response
Comments from the EPA	
The region 6 office of the U.S. Environmental Protection Agency (EPA) has reviewed the Tulsa District, U.S. Army Corps of Engineers (USACE), project requesting comments on environmental issues for the proposed revision of the Skiatook Lake Master Plan. The USACE defines the master plan (MP) as the strategic land use management document that guides the comprehensive management and development of all recreational, natural, and cultural resources throughout the life of the water resource development project. It defines “how” the resources will be managed for public use and resource conservation. The current MP for Skiatook Lake was approved in 1966 and needs revision to address changes in regional land use, population, outdoor recreation trends, and the USACE management policy. The MP study area will include Skiatook Lake proper and all adjacent recreational and natural resources in USACE fee-owned property. To assist in the scoping process for the Project, EPA has identified significant areas for your attention. We offer the following comments for your consideration: **Air Quality Comments** EPA asks that the environmental document provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS) and non-NAAQS pollutants, criteria pollutant nonattainment areas, and potential air quality impacts of the proposed project. Such an evaluation is necessary to understand the potential impacts from temporary, long-term, or cumulative degradation of air quality. EPA recommends the environmental document describe and estimate air emissions from potential construction, maintenance, and operation activities, as well as proposed mitigation measures to minimize those emissions. We recommend an evaluation of the following measures to reduce emissions of criteria air pollutants and hazardous air pollutants (air toxics):	Noted. USACE seeks to address this comment through the Environmental Assessment section on Air Quality. Currently there are no anticipated construction activities within the Master Plan. Any future construction would be required to complete necessary NEPA analysis.

Comment	Response
For existing conditions, EPA recommends the environmental document provide a detailed discussion of ambient air conditions, NAAQS, and criteria pollutant nonattainment areas in the vicinity of the project. EPA recommends the environmental document estimate emissions of criteria and hazardous air pollutants (air toxics) from the proposed project and discuss the timeframe for release of these emissions over the lifespan of the project and describe and estimate emissions from potential construction activities, as well as proposed mitigation measures to minimize these emissions. The environmental document should also consider any expected air quality and visibility impacts to Class I Federal Areas identified in 40 CFR Part 81, Subpart D. EPA recommends the environmental document specify all emission sources by pollutant from mobile sources (on and off-road), stationary sources (including portable and temporary emission units), fugitive emission sources, area sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention. EPA recommends the environmental document include a draft Construction Emissions Mitigation Plan and ultimately adopt this plan in the Record of Decision. We recommend all applicable local, state (e.g., coordination of land-clearing activities with the state air quality agency to determine air quality conditions such as atmospheric inversions prior to performing open burning activities), or Federal requirements (e.g., certification of non-road engines as in compliance with the EPA Tier 4 regulations found at 40 CFR Parts 89 and 1039) be included in the Construction Emissions Mitigation Plan in order to reduce impacts associated with emissions of particulate matter and other toxics from any potential construction-related activities. **National Pollutant Discharge Elimination System (NPDES) Comments**	

Comment	Response
EPA comments are specific to Clean Water Act (CWA) Section 402, 40 CFR § 122.26(b)(14)(x) and 40 CFR § 122.26(b)(15)(i) National Pollutant Discharge Elimination System (NPDES) permitting regulations which authorize the discharge of stormwater from large and small construction activities in areas upland from a waterbody and not considered a jurisdictional wetland area, regardless of the land's designation as federal, state, Indian country or private. The USACE's Skiatook Lake Master Plan Public Involvement presentation identified construction-related land classification definitions within the revision process including: Project Operations lands required for office, maintenance facilities and other areas used solely for project operations; High Density Recreation land developed for intensive recreational activities for the visiting public, including day use areas and campground areas for commercial concessions, and quasi-public development; and, Multiple Resource Management Lands - Low Density Recreation lands with minimal development or infrastructure that support passive public recreational use (e.g., trails, primitive camping, wildlife observation, fishing and hunting). Additionally, the 1984-86 Amendments of the Skiatook Lake Master Plan Design Memorandum identified development of an RV park with campsites, picnic sites, group shelter, sanitary facilities, boat ramp parking, roads, and a gate station, as well as development of 3 recreational areas. The recreational area proposals identified county development of residential housing, public recreational areas, and concessionaire commercial, including a golf course building and golf course facility center, a motel, an additional golf course, private residential and other developments. I realize it is unclear at this time whether the Skiatook Lake Master Plan Revisions will include construction-related activities included in, or similar to, the previous iterations of the master plan. Therefore, it is important to clarify that stormwater discharges from earth disturbances related to construction activities for buildings/shelters, roads, parking, housing, RV	

Comment	Response
parks and other traditional construction activities identified in the presentation and master plan do fall under Section 402 of the CWA and NPDES permitting program. For 40 CFR § 122.26(b)(14)(x) and 40 CFR § 122.26(b)(15)(i) NPDES regulations (applicable to State NPDES programs, see § 123.25) which authorize the discharge of stormwater from large and small construction activities, all entities associated with a construction project who: 1) meet the NPDES permitting authority's definition of "operator," 2) cause an earth disturbance of 1 acre or greater, or less than one acre if part of a larger common plan of development or sale that ultimately disturbs 1 acre or greater, and 3) discharge stormwater from their construction activities (including any on- and off-site construction support activities), are required to obtain NPDES permit coverage via the Construction General Permit (CGP) or other NPDES permit from the NPDES permitting authority prior to beginning construction activities and/or construction support activities. EPA's 2022 CGP definition of construction activities refer to "earth-disturbing activities, such as the clearing, grading, and excavation of land, and other construction-related activities (e.g., grubbing; stockpiling of fill material; placement of raw materials at the site) that could lead to the generation of pollutants. Some of the types of pollutants that are typically found at construction sites are: sediment; nutrients; heavy metals; pesticides and herbicides; oil and grease; bacteria and viruses; trash, debris, and solids; treatment polymers; and any other toxic chemicals." Therefore, demolition, building additions, renovations and new construction on existing pavement that results in earth disturbance and/or construction support activities (e.g., equipment staging yards, materials storage areas, excavated material disposal areas, etc.) that involve earth disturbance or pollutant-generating activities of its own, are considered construction-related activities that require NPDES permit coverage.	

Comment	Response
Additionally, because it appears that the overall earth disturbance of this Skiatook Lake Master Plan project will be greater than 1 acre, the larger common plan of development or sale will be triggered, therefore stormwater discharges from all construction activities and all -site or off-site construction support activities (i.e., borrow pits, staging areas, material storage areas, temporary batch plants, laydown areas, etc.) will be required to obtain NPDES permit coverage via the CGP or individual NPDES permit (except any portion of the project's construction activities that is covered by a CWA 404 permit or waived from permit coverage) regardless if the smaller project's earth disturbance in areas upland from the waterbody and not considered a jurisdictional wetland area is less than 1 acre. . In Oklahoma, the Oklahoma Commission on Environmental Quality (ODEQ) is the NPDES permitting authority, except discharges in the State of Oklahoma 1) in areas under the authority of the Oklahoma Department of Agriculture and Forestry and 2) areas of Indian country covered by an extension of state program authority pursuant to Section 10211 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA) and 3) areas associated with oil and gas exploration, drilling, operations, and pipelines (includes SIC Groups 13 and 46, and SIC codes 492 and 5171) of which EPA is the NPDES permitting authority. EPA appreciates the opportunity to review the environmental issues and are available to discuss EPA's comments.	
Comments from the Public	
Corps of Engineers - I am writing to express my passion and concern for protecting Lake Skiatook from any future private or commercial development as you do a Skiatook Master Plan Revision. I have lived five minutes from Skiatook Point Boat Ramp for 25 years, hold a Masters in Fisheries, and have been richly blessed to spend a lot of time	Noted. As part of the Master Plan revision process, the study team considered the vast recreational opportunities offered at Skiatook Lake. A resource objective was created to consider existing and future potential recreational opportunities for multiple user

Comment	Response
at many well-known reservoirs across America, as part of my career. In my opinion, we are at capacity here at Lake Skiatook — in terms of marina boat slip space — and we certainly don't want new marinas allowed at Skiatook in the future. Our lake is a rare gem — but it's only 10,000 surface acres — 1/5 the size of places like Lake of the Ozarks — that through improper management have become Chaotic! So please, as you plan for our future — promise me that not only will there be No more marinas permitted beyond the two in existence — but also that you'll work with private developers to discourage over-development of residential properties on our hillsides. Please discourage the clear-cutting of critical rainwater straining trees and native vegetation, that help prevent our treasured clear waters from becoming turbid — as I've unfortunately witnessed an increase of in recent years. Keep Lake Skiatook Natural NOT Commercial!!	groups while ensuring visitor safety. Resource goals and objectives can be found in Chapter 3 of the Skiatook Lake Master Plan. The consideration of recreational opportunities for multiple user groups is also addressed in Chapter 6 of the Master Plan. The fee lands associated with the shoreline of Skiatook Lake are owned by the USACE and not in private ownership. USACE is committed to keeping the shoreline of Skiatook in its natural undeveloped state. USACE has no control over development off of fee lands to include residential development. New marinas are not in USACE interest. USACE policy regarding evaluation of new marinas.
I believe a beneficial and important addition to the master plan would be multi-use trails for hiking and mountain biking. Recent significant development of both hiking and mountain biking trails in the general Tulsa area (as well as NW Arkansas) has shown the interest is ready and waiting for locations to use! (Look at usage stats at Turkey Mountain for evidence that 'if you build it they will come'). I believe these sorts of activities fit very well in the Skiatook Lake area. It would encourage visitation during seasons where swimming and other lake activities are lower, and provide healthy outdoor activities for nearby residents. There are numerous examples, both in Oklahoma and Arkansas of very successful implementation of trails on Army Corps of Engineers land. Our family's personal favorite is Springhill in Barling, AR, where we attend a yearly NICA race (National Interscholastic Cycling Association - youth mountain biking - arkansasmtb.org	Noted. As part of the Master Plan revision process, the study team considered the vast recreational opportunities offered at Skiatook. A resource objective was created to consider existing and future potential recreational opportunities for multiple user groups while ensuring visitor safety. Resource goals and objectives can be found in Chapter 3 of the Skiatook Master Plan. The consideration of recreational opportunities for multiple user groups is also addressed in Chapter 6 of the Master Plan. Add a statement regarding trails: Trails fit recreation activities that USACE is interested in supporting but will need to be in

Comment	Response
I hope this will be considered during the rewriting of the Skiatook Lake Master Plan. Thank you for your consideration.	partnership with a non-profit entity for their development.

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, TULSA DISTRICT
2488 EAST 81st STREET
TULSA, OKLAHOMA 74137-4290

July 30th, 2024

PUBLIC NOTICE

EXTENSION OF THE COMMENT PERIOD FOR CANTON, KAW, AND SKIATOOK LAKES MASTER PLAN REVISION

The Tulsa District, U.S. Army Corps of Engineers (USACE), is revising the Canton, Kaw, and Skiatook Lake Master Plans. Due to a server error the information posted on our website about the Master Plan update for each of these lakes was temporarily unavailable. The issue began on July 23rd and was resolved before close of business on July 24th. We want to ensure that all members of the public can access the Master Plan update materials. To ensure this we will be extending the public comment period for all three lakes until 5:00 P.M. on August 30th.

During this time, the public can send comments, suggestions, and concerns. Public participation is critical to the successful revision of the Master Plans. Information provided at the open houses for each of the lakes, including the existing Master Plans, can be viewed on the Tulsa District website at the following link.

https://www.swt.usace.army.mil/Missions/Recreation/Master-Plans/

Sincerely,

Brandon Perry
Acting Chief, Natural Resources and
Recreation Branch
Operations Division
U.S. Army Corps of Engineers
Tulsa District

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
Phone: (918) 581-7458 Fax: (918) 581-7467

In Reply Refer To: 11/24/2025 16:43:24 UTC
Project Code: 2025-0103768
Project Name: Skiatook Master Plan Revision

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:

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

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

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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

Attachment(s):

- Official Species List

- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

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:

Oklahoma Ecological Services Field Office
9014 East 21st Street
Tulsa, OK 74129-1428
(918) 581-7458

PROJECT SUMMARY

Project Code: 2025-0103768
Project Name: Skiatook Master Plan Revision
Project Type: Land Management Plans - NWR
Project Description: 2025 Master Plan Revision area for Skiatook Lake, Oklahoma
Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@36.3781642,-96.17168756964514,14z

Counties: Osage County, Oklahoma

ENDANGERED SPECIES ACT SPECIES

There is a total of 8 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
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

BIRDS

NAME	STATUS
Piping Plover *Charadrius melodus* Population: [Atlantic Coast and Northern Great Plains populations] - Wherever found, except those areas where listed as endangered. There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot *Calidris canutus rufa* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1864	Threatened

REPTILES

NAME	STATUS
Alligator Snapping Turtle *Macrochelys temminckii* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

INSECTS

NAME	STATUS
American Burying Beetle *Nicrophorus americanus* Population: Wherever found, except where listed as an experimental population No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/66	Threatened
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Western Regal Fritillary *Argynnis idalia occidentalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/12017	Proposed Threatened

FLOWERING PLANTS

NAME	STATUS
Geocarpon minimum	Threatened

NAME	STATUS

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/7699

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles 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 Sep 1 to Jul 31

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

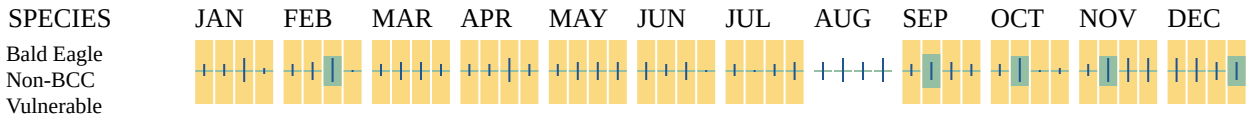
Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

probability of presence | breeding season | survey effort | no data



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

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)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below 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 Sep 1 to Jul 31

NAME	BREEDING SEASON
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Henslow's Sparrow *Centronyx henslowii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds elsewhere
Kentucky Warbler *Geothlypis formosa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9443	Breeds Apr 20 to Aug 20
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Little Blue Heron *Egretta caerulea* 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/9477	Breeds Mar 10 to Oct 15
Prairie Loggerhead Shrike *Lanius ludovicianus excubitorides* 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/8833	Breeds Feb 1 to Jul 31
Prothonotary Warbler *Protonotaria citrea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9439	Breeds Apr 1 to Jul 31
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (▪)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

RIVERINE

- R5UBF
- R4SBA
- R2UBH
- R4SBC
- R2UBHx

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PSS1C
- PSS1A

FRESHWATER POND

- PUSC
- PUBHh
- PUBFh
- PUSAh
- PUBF
- PUSA
- PUSCx
- PUBFx

- PUBHx
- PUSAx
- PUSCh

LAKE

- L1UBHh

FRESHWATER EMERGENT WETLAND

- PEM1F
- PEM1Ah
- PEM1Fh
- PEM1Ch
- PEM1Ax
- PEM1Cx
- PEM1A
- PEM1C

IPAC USER CONTACT INFORMATION

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Phone: 8178861486

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Project information

NAME

Skiatook Master Plan Revision

LOCATION

Osage County, Oklahoma

DESCRIPTION

Some(2025 Master Plan Revision area for Skiatook Lake, Oklahoma)

Local office

Oklahoma Ecological Services Field Office

(918) 581-7458
(918) 581-7467

9014 East 21st Street
Tulsa, OK 74129-1428

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Log in to IPaC.
2. Go to your My Projects list.
3. Click PROJECT HOME for this project.
4. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

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1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. 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.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Tricolored Bat Perimyotis subflavus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Birds

NAME	STATUS
Piping Plover Charadrius melodus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/6039	Threatened
Rufa Red Knot Calidris canutus rufa Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/1864	Threatened

Reptiles

NAME	STATUS
Alligator Snapping Turtle Macrochelys temminckii Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/4658	Proposed Threatened

Insects

NAME	STATUS
American Burying Beetle Nicrophorus americanus No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/66	Threatened
Monarch Butterfly Danaus plexippus Wherever found There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/9743	Proposed Threatened
Western Regal Fritillary Argynnis idalia occidentalis Wherever found No critical habitat has been designated for this species.	Proposed Threatened

Flowering Plants

NAME	STATUS
Geocarpon minimum Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/7699	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

Bald & Golden Eagles

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts

For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

Review the FAQs
The FAQs below provide important additional information and resources.

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 Sep 1 to Jul 31

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "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.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

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.

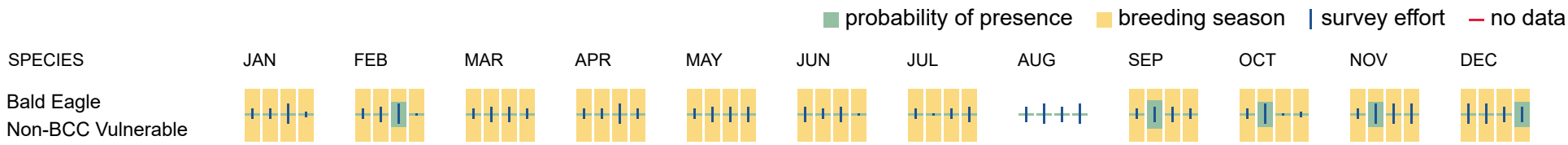
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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.



Bald & Golden Eagles FAQs

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence 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 an eagle (Bald and Golden Eagle Protection Act requirements may apply).

Proper interpretation and use of your eagle report
On the graphs provided, please look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 line or no data line (red horizontal) 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 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 and associated information help you know what to look for to confirm presence and helps guide you in knowing when to implement avoidance and minimization measures to eliminate or reduce potential impacts from your project activities or get the appropriate permits should presence be confirmed.

How do I know if eagles are breeding, wintering, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If an eagle on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), 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.

Interpreting the Probability of Presence Graphs

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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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.

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.

Migratory birds

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Measures for Proactively Minimizing Migratory Bird Impacts

Your IPaC Migratory Bird list showcases birds of concern, including Birds of Conservation Concern (BCC), in your project location. This is not a comprehensive list of all birds found in your project area. However, you can help proactively minimize significant impacts to all birds at your project location by implementing the measures in the Nationwide avoidance and minimization measures for birds document, and any other project-specific avoidance and minimization measures suggested at the link Measures for avoiding and minimizing impacts to birds for the birds of concern on your list below.

Ensure Your Migratory Bird List is Accurate and Complete

If your project area is in a poorly surveyed area, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles document, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

Review the FAQs

The FAQs below provide important additional information and resources.

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 Sep 1 to Jul 31
Chimney Swift Chaetura pelagica This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 25
Henslow's Sparrow Centronyx henslowii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3941	Breeds elsewhere
Kentucky Warbler Geothlypis formosa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 20 to Aug 20
Lesser Yellowlegs Tringa flavipes This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Little Blue Heron Egretta caerulea This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA	Breeds Mar 10 to Oct 15
Prairie Loggerhead Shrike Lanius ludovicianus excubitorides 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/8833	Breeds Feb 1 to Jul 31

Prothonotary Warbler Protonotaria citrea This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Apr 1 to Jul 31
Red-headed Woodpecker Melanerpes erythrocephalus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 10 to Sep 10

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 "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "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.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

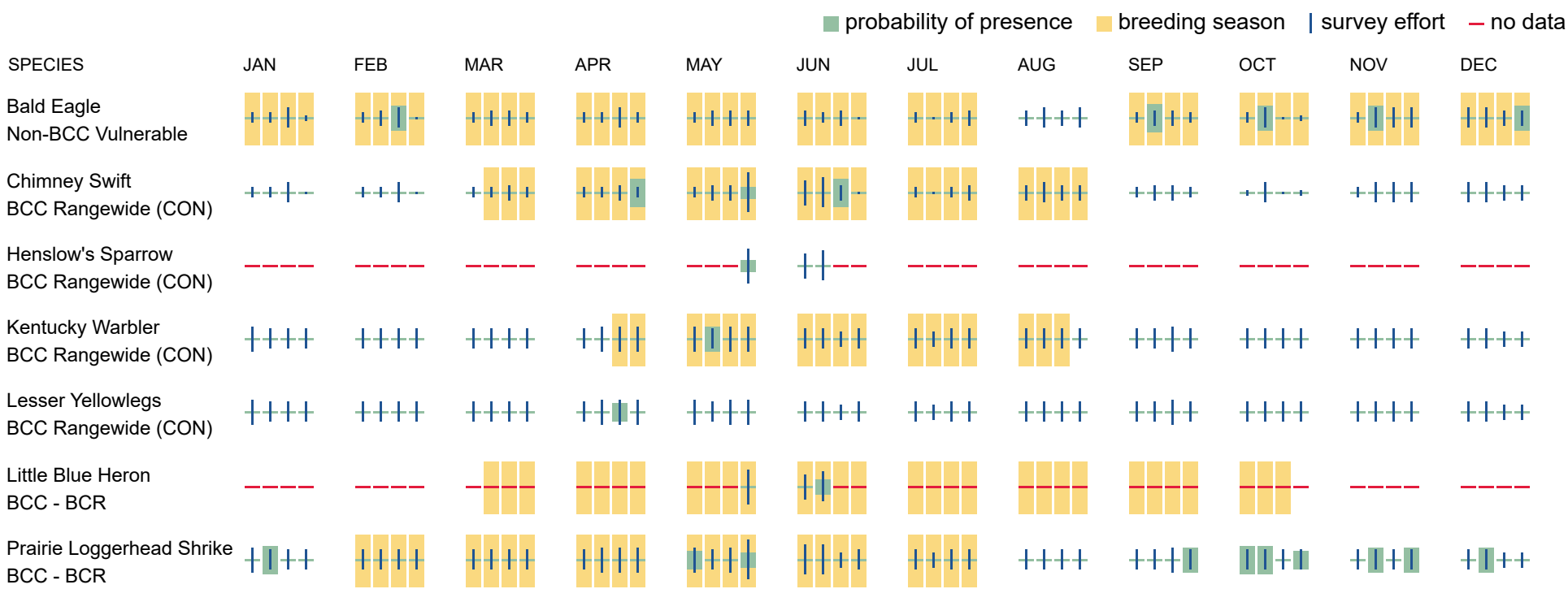
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

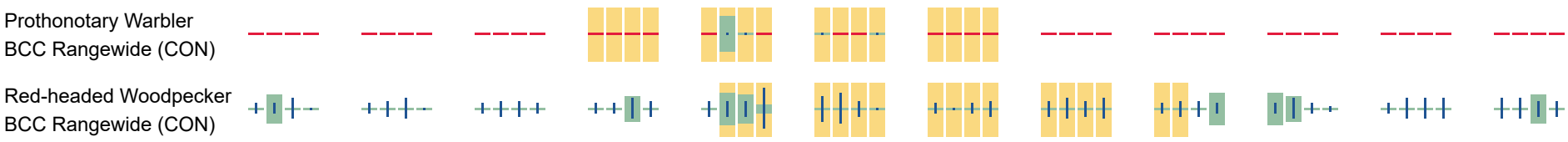
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

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.





Migratory Bird FAQs

Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Avoidance & Minimization Measures for Birds describes measures that can help avoid and minimize impacts to all birds at any location year-round. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is one of the most effective ways to minimize impacts. To see when birds are most likely to occur and breed 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 list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location, such as those listed under the Endangered Species Act or the Bald and Golden Eagle Protection Act and those species marked as “Vulnerable”. See the FAQ “What are the levels of concern for migratory birds?” for more information on the levels of concern covered in the IPaC migratory bird species list.

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) with which your project intersects. These species have been identified as warranting special attention because they are BCC species in that area, an eagle (Bald and Golden Eagle Protection 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, and to verify survey effort when no results present, please visit the Rapid Avian Information Locator (RAIL) Tool.

Why are subspecies showing up on my list?

Subspecies profiles are included on the list of species present in your project area because observations in the AKN for **the species** are being detected. If the species are present, that means that the subspecies may also be present. If a subspecies shows up on your list, you may need to rely on other resources to determine if that subspecies may be present (e.g. your local FWS field office, state surveys, your own surveys).

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 to 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, or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating, or resident), you may query your location using the RAIL Tool and view the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your IPaC migratory bird species list has a breeding season associated with it (indicated by yellow vertical bars on the phenology graph in your “IPaC PROBABILITY OF PRESENCE SUMMARY” at the top of your results list), 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 Bald and Golden Eagle Protection 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 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 BCC species. For more information on avoidance and minimization measures you can implement to help avoid and minimize migratory bird impacts, please see the FAQ “Tell me more about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds”.

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.

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 look carefully at the survey effort (indicated by the black vertical line) and for the existence of the "no data" indicator (a red horizontal line). 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 does not represent all birds present in your project area. 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 and associated information help you know what to look for to confirm presence and helps guide implementation of avoidance and minimization measures to eliminate or reduce potential impacts from your project activities, should presence be confirmed. To learn more about avoidance and minimization measures, visit the FAQ "Tell me about avoidance and minimization measures I can implement to avoid or minimize impacts to migratory birds".

Interpreting the Probability of Presence Graphs
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 taller bar indicates a higher probability of species presence. The survey effort can be used to establish a level of confidence in the presence score.

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

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.

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.

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.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1F
- PEM1C
- PEM1Ch
- PEM1A
- PEM1Fh
- PEM1Cx
- PEM1Ah
- PEM1Ax

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1A
- PSS1A
- PSS1C

FRESHWATER POND

- PUBHh
- PUBFh
- PUBFx
- PUSCh
- PUBF
- PUBHx
- PUSAx
- PUSCx
- PUSAh
- PUSC
- PUSA

LAKE

- L1UBHh

RIVERINE

- R2UBH
- R4SBC
- R5UBF
- R4SBA
- R2UBHx

A full description for each wetland code can be found at the National Wetlands Inventory website

NOTE: This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Validated Scientific Name	Validated Common Name	Source State	Source Year	Validated Taxonomic Rank	Validated Taxonomic Category
Ambystoma annulatum	Ringed Salamander	Oklahoma	2016	Species	Amphibians
Ambystoma talpoideum	Mole Salamander	Oklahoma	2016	Species	Amphibians
Amphiuma tridactylum	Three-toed Amphiuma	Oklahoma	2016	Species	Amphibians
Anaxyrus debilis	Green Toad	Oklahoma	2016	Species	Amphibians
Anaxyrus speciosus	Texas Toad	Oklahoma	2016	Species	Amphibians
Desmognathus brimleyorum	Ouachita Salamander	Oklahoma	2016	Species	Amphibians
Dryophytes avivoca	Bird-voiced Treefrog	Oklahoma	2016	Species	Amphibians
Eurycea multiplicata	Many-ribbed Salamander	Oklahoma	2016	Species	Amphibians
Eurycea spelaea	Grotto Salamander	Oklahoma	2016	Species	Amphibians
Eurycea tynerensis	Oklahoma Salamander	Oklahoma	2016	Species	Amphibians
Hemidactylium scutatum	Four-toed Salamander	Oklahoma	2016	Species	Amphibians
Lithobates areolatus	Crawfish Frog	Oklahoma	2016	Species	Amphibians
Plethodon angusticlavius	Ozark Salamander	Oklahoma	2016	Species	Amphibians
Plethodon kiamichi	Kiamichi Slimy Salamander	Oklahoma	2016	Species	Amphibians
Plethodon ouachitae	Rich Mountain Salamander	Oklahoma	2016	Species	Amphibians
Plethodon sequoyah	Sequoyah Slimy Salamander	Oklahoma	2016	Species	Amphibians
Plethodon serratus	Southern Red-backed Salamander	Oklahoma	2016	Species	Amphibians
Scaphiopus hurterii	Hurter's Spadefoot	Oklahoma	2016	Species	Amphibians
Siren intermedia	Lesser Siren	Oklahoma	2016	Species	Amphibians
Crosbyella spinturnix	a cave harvestman *	Oklahoma	2016	Species	Arachnids
Islandiana unicornis	a cave obligate spider *	Oklahoma	2016	Species	Arachnids
Ammospiza leconteii	LeConte's Sparrow	Oklahoma	2016	Species	Birds
Ammospiza nelsoni nelsoni	Nelson's Sparrow	Oklahoma	2016	Subspecies	Birds
Anas acuta	Northern Pintail	Oklahoma	2016	Species	Birds
Anthus spragueii	Sprague's Pipit	Oklahoma	2016	Species	Birds
Antrostomus vociferus	Eastern Whip-poor-will	Oklahoma	2016	Species	Birds
Aquila chrysaetos	Golden Eagle	Oklahoma	2016	Species	Birds
Asio flammeus	Short-eared Owl	Oklahoma	2016	Species	Birds
Athene cunicularia	Burrowing Owl	Oklahoma	2016	Species	Birds
Aythya affinis	Lesser Scaup	Oklahoma	2016	Species	Birds
Aythya valisineria	Canvasback	Oklahoma	2016	Species	Birds
Baeolophus ridgwayi	Juniper Titmouse	Oklahoma	2016	Species	Birds
Bartramia longicauda	Upland Sandpiper	Oklahoma	2016	Species	Birds
Buteo regalis	Ferruginous Hawk	Oklahoma	2016	Species	Birds
Buteo swainsoni	Swainson's Hawk	Oklahoma	2016	Species	Birds
Calcarius ornatus	Chestnut-collared Longspur	Oklahoma	2016	Species	Birds
Calcarius pictus	Smith's Longspur	Oklahoma	2016	Species	Birds
Calidris canutus rufa	Red Knot	Oklahoma	2016	Subspecies	Birds
Calidris mauri	Western Sandpiper	Oklahoma	2016	Species	Birds

Calidris subruficollis	Buff-breasted Sandpiper	Oklahoma	2016	Species	Birds
Callipepla squamata	Scaled Quail	Oklahoma	2016	Species	Birds
Centronyx bairdii	Baird's Sparrow	Oklahoma	2016	Species	Birds
Centronyx henslowii	Henslow's Sparrow	Oklahoma	2016	Species	Birds
Charadrius alexandrinus	Kentish Plover	Oklahoma	2016	Species	Birds
Charadrius melodus	Piping Plover	Oklahoma	2016	Species	Birds
Charadrius montanus	Mountain Plover	Oklahoma	2016	Species	Birds
Colinus virginianus	Northern Bobwhite	Oklahoma	2016	Species	Birds
Coturnicops noveboracensis	Yellow Rail	Oklahoma	2016	Species	Birds
Cygnus buccinator	Trumpeter Swan	Oklahoma	2016	Species	Birds
Egretta caerulea	Little Blue Heron	Oklahoma	2016	Species	Birds
Egretta thula	Snowy Egret	Oklahoma	2016	Species	Birds
Elanoides forficatus	American Swallow-tailed Kite	Oklahoma	2016	Species	Birds
Empidonax traillii	Willow Flycatcher	Oklahoma	2016	Species	Birds
Euphagus carolinus	Rusty Blackbird	Oklahoma	2016	Species	Birds
Falco mexicanus	Prairie Falcon	Oklahoma	2016	Species	Birds
Falco peregrinus	Peregrine Falcon	Oklahoma	2016	Species	Birds
Geothlypis formosa	Kentucky Warbler	Oklahoma	2016	Species	Birds
Grus americana	Whooping Crane	Oklahoma	2016	Species	Birds
Gymnorhinus cyanocephalus	Pinyon Jay	Oklahoma	2016	Species	Birds
Haliaeetus leucocephalus	Bald Eagle	Oklahoma	2016	Species	Birds
Helmitheros vermivorum	Worm-eating Warbler	Oklahoma	2016	Species	Birds
Hylocichla mustelina	Wood Thrush	Oklahoma	2016	Species	Birds
Icterus bullockii	Bullock's Oriole	Oklahoma	2016	Species	Birds
Lanius ludovicianus	Loggerhead Shrike	Oklahoma	2016	Species	Birds
Laterallus jamaicensis	Black Rail	Oklahoma	2016	Species	Birds
Leuconotopicus borealis	Red-cockaded Woodpecker	Oklahoma	2016	Species	Birds
Limnothlypis swainsonii	Swainson's Warbler	Oklahoma	2016	Species	Birds
Limosa haemastica	Hudsonian Godwit	Oklahoma	2016	Species	Birds
Melanerpes aurifrons	Golden-fronted Woodpecker	Oklahoma	2016	Species	Birds
Melanerpes erythrocephalus	Red-headed Woodpecker	Oklahoma	2016	Species	Birds
Mycteria americana	Wood Stork	Oklahoma	2016	Species	Birds
Numenius americanus	Long-billed Curlew	Oklahoma	2016	Species	Birds
Parkesia motacilla	Louisiana Waterthrush	Oklahoma	2016	Species	Birds
Passerina ciris	Painted Bunting	Oklahoma	2016	Species	Birds
Peucaea aestivalis	Bachman's Sparrow	Oklahoma	2016	Species	Birds
Peucaea cassinii	Cassin's Sparrow	Oklahoma	2016	Species	Birds
Phalaropus tricolor	Wilson's Phalarope	Oklahoma	2016	Species	Birds
Pluvialis dominica	Lesser Golden-Plover	Oklahoma	2016	Species	Birds
Protonotaria citrea	Prothonotary Warbler	Oklahoma	2016	Species	Birds

Rallus elegans	King Rail	Oklahoma	2016	Species	Birds
Rhynchophanes mccownii	Thick-billed Longspur	Oklahoma	2016	Species	Birds
Scolopax minor	American Woodcock	Oklahoma	2016	Species	Birds
Setophaga cerulea	Cerulean Warbler	Oklahoma	2016	Species	Birds
Setophaga citrina	Hooded Warbler	Oklahoma	2016	Species	Birds
Setophaga discolor	Prairie Warbler	Oklahoma	2016	Species	Birds
Setophaga pinus	Pine Warbler	Oklahoma	2016	Species	Birds
Sitta pusilla	Brown-headed Nuthatch	Oklahoma	2016	Species	Birds
Sternula antillarum athalassos	Interior Least Tern *	Oklahoma	2016	Subspecies	Birds
Tringa solitaria	Solitary Sandpiper	Oklahoma	2016	Species	Birds
Tympanuchus cupido	Greater Prairie-Chicken	Oklahoma	2016	Species	Birds
Tympanuchus pallidicinctus	Lesser Prairie-Chicken	Oklahoma	2016	Species	Birds
Tyto alba	Common Barn-Owl	Oklahoma	2016	Species	Birds
Vermivora chrysoptera	Golden-winged Warbler	Oklahoma	2016	Species	Birds
Vireo atricapilla	black-capped vireo	Oklahoma	2016	Species	Birds
Vireo bellii	Bell's Vireo	Oklahoma	2016	Species	Birds
Zonotrichia querula	Harris' Sparrow	Oklahoma	2016	Species	Birds
Allocrangonyx pellucidus	Oklahoma cave amphipod	Oklahoma	2016	Species	Crustaceans
Amerigoniscus centralis	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Bactrurus hubrichti	Kansas well bactrurid	Oklahoma	2016	Species	Crustaceans
Caecidotea acuticarpa	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Caecidotea adenta	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Caecidotea ancyla	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Caecidotea antricola	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Caecidotea mackini	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Caecidotea macropropoda	bat cave isopod	Oklahoma	2016	Species	Crustaceans
Caecidotea oculata	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Caecidotea simulator	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Caecidotea stiladactyla	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Cambarus subterraneus	Delaware County cave crayfish	Oklahoma	2016	Species	Crustaceans
Cambarus tartarus	Oklahoma cave crayfish	Oklahoma	2016	Species	Crustaceans
Eubranchipus oregonus	Oregon fairy shrimp	Oklahoma	2016	Species	Crustaceans
Fallicambarus tenuis	Ouachita Mountain Crayfish	Oklahoma	2016	Species	Crustaceans
Faxonella blairi	Blair's Fencing Crayfish	Oklahoma	2016	Species	Crustaceans
Faxonius deanae	Conchas crayfish	Oklahoma	2016	Species	Crustaceans
Faxonius difficilis	painted crayfish	Oklahoma	2016	Species	Crustaceans
Faxonius macrus	Neosho midget crayfish	Oklahoma	2016	Species	Crustaceans
Faxonius meeki	Meek crayfish	Oklahoma	2016	Species	Crustaceans
Faxonius menae	Mena Crayfish	Oklahoma	2016	Species	Crustaceans
Faxonius nana	Midget Crayfish	Oklahoma	2016	Species	Crustaceans

Faxonius saxatilis	Kiamichi crayfish	Oklahoma	2016	Species	Crustaceans
Lirceus trilobus	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Miktoniscus oklahomensis	a cave obligate isopod *	Oklahoma	2016	Species	Crustaceans
Stygobromus bowmani	Bowman's cave amphipod	Oklahoma	2016	Species	Crustaceans
Stygobromus ozarkensis	Ozark cave amphipod	Oklahoma	2016	Species	Crustaceans
Alosa alabamae	Alabama shad	Oklahoma	2016	Species	Fishes
Amblyopsis rosae	Ozark cavefish	Oklahoma	2016	Species	Fishes
Ameiurus nebulosus	Brown Bullhead	Oklahoma	2016	Species	Fishes
Ammocrypta clara	Western Sand Darter	Oklahoma	2016	Species	Fishes
Ammocrypta vivax	Scaly Sand Darter	Oklahoma	2016	Species	Fishes
Anguilla rostrata	American eel	Oklahoma	2016	Species	Fishes
Atractosteus spatula	alligator gar	Oklahoma	2016	Species	Fishes
Crystallaria asprella	crystal darter	Oklahoma	2016	Species	Fishes
Cycleptus elongatus	Blue Sucker	Oklahoma	2016	Species	Fishes
Cyprinella camura	Bluntface Shiner	Oklahoma	2016	Species	Fishes
Cyprinella spiloptera	Spotfin Shiner *	Oklahoma	2016	Species	Fishes
Cyprinodon rubrofluviatilis	Red River pupfish	Oklahoma	2016	Species	Fishes
Etheostoma artesiae	Redspot Darter	Oklahoma	2016	Species	Fishes
Etheostoma collettei	Creole Darter	Oklahoma	2016	Species	Fishes
Etheostoma cragini	Arkansas Darter	Oklahoma	2016	Species	Fishes
Etheostoma histrio	Harlequin Darter	Oklahoma	2016	Species	Fishes
Etheostoma microperca	Least Darter	Oklahoma	2016	Species	Fishes
Etheostoma mihileze	Sunburst Darter	Oklahoma	2016	Species	Fishes
Etheostoma parvipinne	Goldstripe Darter	Oklahoma	2016	Species	Fishes
Etheostoma radiosum	Orangebelly Darter	Oklahoma	2016	Species	Fishes
Etheostoma whipplei	Redfin Darter	Oklahoma	2016	Species	Fishes
Fundulus sciadicus	plains topminnow	Oklahoma	2016	Species	Fishes
Hiodon tergisus	mooneye	Oklahoma	2016	Species	Fishes
Hybognathus hayi	Cypress Minnow	Oklahoma	2016	Species	Fishes
Hybognathus placitus	Plains Minnow	Oklahoma	2016	Species	Fishes
Hybopsis amnis	Pallid Shiner	Oklahoma	2016	Species	Fishes
Ichthyomyzon gagei	southern brook lamprey	Oklahoma	2016	Species	Fishes
Ictiobus niger	Black Buffalo	Oklahoma	2016	Species	Fishes
Luxilus cardinalis	Cardinal Shiner	Oklahoma	2016	Species	Fishes
Lythrurus snelsoni	Ouachita Shiner	Oklahoma	2016	Species	Fishes
Macrhybopsis aestivalis	Speckled Chub	Oklahoma	2016	Species	Fishes
Macrhybopsis australis	Prairie Chub	Oklahoma	2016	Species	Fishes
Moxostoma macrolepidotum	Shorthead Redhorse	Oklahoma	2016	Species	Fishes
Nocomis asper	Redspot Chub	Oklahoma	2016	Species	Fishes
Notropis atrocaudalis	Blackspot Shiner	Oklahoma	2016	Species	Fishes

Notropis bairdi	Red River Shiner	Oklahoma	2016	Species	Fishes
Notropis chalybaeus	Ironcolor Shiner	Oklahoma	2016	Species	Fishes
Notropis girardi	Arkansas River Shiner	Oklahoma	2016	Species	Fishes
Notropis greenei	Wedgespot Shiner	Oklahoma	2016	Species	Fishes
Notropis maculatus	Taillight Shiner	Oklahoma	2016	Species	Fishes
Notropis nubilus	Ozark Minnow	Oklahoma	2016	Species	Fishes
Notropis ortenburgeri	Kiamichi Shiner	Oklahoma	2016	Species	Fishes
Notropis perpallidus	Peppered Shiner	Oklahoma	2016	Species	Fishes
Notropis potteri	Chub Shiner	Oklahoma	2016	Species	Fishes
Notropis shumardi	Silverband Shiner	Oklahoma	2016	Species	Fishes
Notropis suttkusi	Rocky Shiner	Oklahoma	2016	Species	Fishes
Noturus eleutherus	Mountain Madtom	Oklahoma	2016	Species	Fishes
Noturus placidus	Neosho Madtom	Oklahoma	2016	Species	Fishes
Percina maculata	blackside darter	Oklahoma	2016	Species	Fishes
Percina nasuta	longnose darter	Oklahoma	2016	Species	Fishes
Percina pantherina	leopard darter	Oklahoma	2016	Species	Fishes
Percina shumardi	river darter	Oklahoma	2016	Species	Fishes
Platygobio gracilis	Flathead Chub	Oklahoma	2016	Species	Fishes
Polyodon spathula	paddlefish	Oklahoma	2016	Species	Fishes
Pteronotropis hubbsi	Bluehead Shiner	Oklahoma	2016	Species	Fishes
Scaphirhynchus platorynchus	shovelnose sturgeon	Oklahoma	2016	Species	Fishes
Allocapnia jeanae	Osage Snowfly	Oklahoma	2016	Species	Insects
Allocapnia peltoides	Shield Snowfly	Oklahoma	2016	Species	Insects
Amblyscirtes linda	Linda's Roadside-Skipper	Oklahoma	2016	Species	Insects
Apobaetis futilis	a mayfly *	Oklahoma	2016	Species	Insects
Argia bipunctulata	Seepage Dancer	Oklahoma	2016	Species	Insects
Atrytone arogos iowa	Arogos Iowa Skipper *	Oklahoma	2016	Subspecies	Insects
Bombus fraternus	Southern plains bumble bee	Oklahoma	2016	Species	Insects
Bombus pensylvanicus	bumble bee	Oklahoma	2016	Species	Insects
Bombus variabilis	Variable Cuckoo Bumble Bee	Oklahoma	2016	Species	Insects
Cogia outis	Outis Skipper	Oklahoma	2016	Species	Insects
Cordulegaster talaria	Ouachita Spiketail	Oklahoma	2016	Species	Insects
Cylindera celeripes	Swift Tiger Beetle	Oklahoma	2016	Species	Insects
Dromochorus belfragei	Loamy-ground Dromo Tiger Beetle	Oklahoma	2016	Species	Insects
Dubiraphia parva	Little Dubiraphian Riffle Beetle *	Oklahoma	2016	Species	Insects
Ellipsoptera lepida	Ghost Tiger Beetle	Oklahoma	2016	Species	Insects
Eximacris phenax	Big Cedar Grasshopper *	Oklahoma	2016	Species	Insects
Gomphus oklahomensis	Oklahoma Clubtail	Oklahoma	2016	Species	Insects
Gomphus ozarkensis	Ozark Clubtail	Oklahoma	2016	Species	Insects
Gryllotalpa major	Prairie Mole Cricket *	Oklahoma	2016	Species	Insects

Hemileuca slosseri	Slosser's Buckmoth	Oklahoma	2016	Species	Insects
Hesperia attalus	Dotted Skipper	Oklahoma	2016	Species	Insects
Hydroptila protera	a microcaddisfly *	Oklahoma	2016	Species	Insects
Libellula composita	Bleached Skimmer	Oklahoma	2016	Species	Insects
Mayatrichia ponta	a microcaddisfly *	Oklahoma	2016	Species	Insects
Melanoplus oklahomae	Oklahoma Spur-throat Grasshopper *	Oklahoma	2016	Species	Insects
Metrichia nigritta	a spring caddisfly *	Oklahoma	2016	Species	Insects
Nicrophorus americanus	American burying beetle	Oklahoma	2016	Species	Insects
Nixe flowersi	a mayfly *	Oklahoma	2016	Species	Insects
Ochrotrichia weddleae	a microcaddisfly *	Oklahoma	2016	Species	Insects
Papaipema eryngii	Rattlesnake Master Borer	Oklahoma	2016	Species	Insects
Perlesta bolukta	Truncate Stonefly *	Oklahoma	2016	Species	Insects
Perlesta browni	Toothed Stonefly *	Oklahoma	2016	Species	Insects
Problema byssus	Byssus Skipper	Oklahoma	2016	Species	Insects
Somatochlora ozarkensis	Ozark Emerald	Oklahoma	2016	Species	Insects
Speyeria diana	Diana Fritillary	Oklahoma	2016	Species	Insects
Speyeria idalia	Regal Fritillary	Oklahoma	2016	Species	Insects
Triaenodes tridontus	Three-toothed Caddisfly *	Oklahoma	2016	Species	Insects
Tricorythodes curvatus	a mayfly *	Oklahoma	2016	Species	Insects
Zealeuctra cherokee	Cherokee Needlefly *	Oklahoma	2016	Species	Insects
Bassariscus astutus	Ringtail	Oklahoma	2016	Species	Mammals
Conepatus leuconotus leuconotus	Hog-nosed Skunk *	Oklahoma	2016	Subspecies	Mammals
Corynorhinus rafinesquii	Eastern Big-eared Bat	Oklahoma	2016	Species	Mammals
Corynorhinus townsendii ingens	Ozark big-eared bat	Oklahoma	2016	Subspecies	Mammals
Corynorhinus townsendii pallescens	pale Townsend's big-eared bat	Oklahoma	2016	Subspecies	Mammals
Cratogeomys castanops	Yellow-faced Pocket Gopher	Oklahoma	2016	Species	Mammals
Cynomys ludovicianus	Arizona black-tailed prairie dog	Oklahoma	2016	Species	Mammals
Dipodomys elator	Texas Kangaroo Rat	Oklahoma	2016	Species	Mammals
Geomys breviceps	Mer Rouge pocket gopher	Oklahoma	2016	Species	Mammals
Lasiurus seminolus	Seminole Bat	Oklahoma	2016	Species	Mammals
Mustela frenata	Long-tailed Weasel	Oklahoma	2016	Species	Mammals
Myotis austroriparius	Southeastern Myotis	Oklahoma	2016	Species	Mammals
Myotis grisescens	Gray Myotis	Oklahoma	2016	Species	Mammals
Myotis leibii	Small-footed Myotis	Oklahoma	2016	Species	Mammals
Myotis septentrionalis	Northern Long-eared Bat	Oklahoma	2016	Species	Mammals
Myotis sodalis	Indiana Myotis	Oklahoma	2016	Species	Mammals
Neotoma leucodon	White-toothed Woodrat	Oklahoma	2016	Species	Mammals
Notiosorex crawfordi	gray shrew	Oklahoma	2016	Species	Mammals
Ochrotomys nuttalli	Golden Mouse	Oklahoma	2016	Species	Mammals
Oryzomys couesi	Coues's Rice Rat	Oklahoma	2016	Species	Mammals

Perimyotis subflavus	Tricolored Bat	Oklahoma	2016	Species	Mammals
Peromyscus nasutus	Northern Rock Mouse	Oklahoma	2016	Species	Mammals
Peromyscus pectoralis	White-ankled Deermouse	Oklahoma	2016	Species	Mammals
Puma concolor	Cougar	Oklahoma	2016	Species	Mammals
Reithrodontomys humulis	Eastern Harvest Mouse	Oklahoma	2016	Species	Mammals
Spilogale putorius	Eastern Spotted Skunk	Oklahoma	2016	Species	Mammals
Sylvilagus aquaticus	Swamp Rabbit	Oklahoma	2016	Species	Mammals
Tadarida brasiliensis	Brazilian Free-tailed Bat	Oklahoma	2016	Species	Mammals
Tamias quadrivittatus	Colorado Chipmunk	Oklahoma	2016	Species	Mammals
Vulpes velox	Swift Fox	Oklahoma	2016	Species	Mammals
Zapus hudsonius	Meadow Jumping Mouse	Oklahoma	2016	Species	Mammals
Alasmidonta marginata	elktoe	Oklahoma	2016	Species	Mollusks
Arcidens wheeleri	Wheeler's pearly mussel	Oklahoma	2016	Species	Mollusks
Catinella wandae	slope ambersnail	Oklahoma	2016	Species	Mollusks
Cyprogenia aberti	western fanshell	Oklahoma	2016	Species	Mollusks
Ellipsaria lineolata	butterfly mussel	Oklahoma	2016	Species	Mollusks
Euchemotrema wichitorum	Wichita Mountains pillsnail	Oklahoma	2016	Species	Mollusks
Fusconaia ozarkensis	Ozark pigtoe	Oklahoma	2016	Species	Mollusks
Helicodiscus nummus	wax coil	Oklahoma	2016	Species	Mollusks
Helicodiscus tridens	crosstimbers coil	Oklahoma	2016	Species	Mollusks
Inflectarius edentatus	smooth-lip shagreen	Oklahoma	2016	Species	Mollusks
Lampsilis cardium	plain pocketbook	Oklahoma	2016	Species	Mollusks
Lampsilis hydiana	Louisiana fatmucket	Oklahoma	2016	Species	Mollusks
Lampsilis rafinesqueana	Neosho mucket	Oklahoma	2016	Species	Mollusks
Leaunio lienosus	little spectaclecase	Oklahoma	2016	Species	Mollusks
Ligumia recta	black sandshell	Oklahoma	2016	Species	Mollusks
Megalonaias nervosa	washboard	Oklahoma	2016	Species	Mollusks
Megapallifera ragsdalei	Ozark mantleslug	Oklahoma	2016	Species	Mollusks
Millerelix deltoidea	Oklahoma liptooth	Oklahoma	2016	Species	Mollusks
Millerelix simpsoni	Wyandotte liptooth	Oklahoma	2016	Species	Mollusks
Neohelix lioderma	Tulsa whitelip	Oklahoma	2016	Species	Mollusks
Obovaria arkansasensis	Ouachita creekshell	Oklahoma	2016	Species	Mollusks
Obovaria arkansasensis	Ouachita creekshell	Oklahoma	2016	Species	Mollusks
Pallifera tournescalis	Ouachita mantleslug	Oklahoma	2016	Species	Mollusks
Patera indianorum	lidded oval	Oklahoma	2016	Species	Mollusks
Pleurobema rubrum	pyramid pigtoe	Oklahoma	2016	Species	Mollusks
Potamilus leptodon	scaleshell	Oklahoma	2016	Species	Mollusks
Ptychobranchus occidentalis	Ouachita kidneyshell	Oklahoma	2016	Species	Mollusks
Pustulosa nodulata	wartyback	Oklahoma	2016	Species	Mollusks
Quadrula fragosa	winged mapleleaf	Oklahoma	2016	Species	Mollusks

Stenotrema pilsbryi	Rich Mountain slitmouth	Oklahoma	2016	Species	Mollusks
Stenotrema unciferum	Ouachita slitmouth	Oklahoma	2016	Species	Mollusks
Theliderma cylindrica	rabbitsfoot	Oklahoma	2016	Species	Mollusks
Theliderma metanevra	monkeyface	Oklahoma	2016	Species	Mollusks
Toxolasma lividum	purple lilliput	Oklahoma	2016	Species	Mollusks
Toxolasma texasiense	Texas lilliput	Oklahoma	2016	Species	Mollusks
Zonitoides kirbyi	shadow gloss	Oklahoma	2016	Species	Mollusks
Pseudosinella dubia	a cave springtail *	Oklahoma	2016	Species	Other Invertebrates
Pygmarrhopalites jay	a cave springtail	Oklahoma	2016	Species	Other Invertebrates
Trigenotyla blacki	a cave obligate millipede *	Oklahoma	2016	Species	Other Invertebrates
Trigenotyla vaga	a cave obligate millipede *	Oklahoma	2016	Species	Other Invertebrates
Alligator mississippiensis	American Alligator	Oklahoma	2016	Species	Reptiles
Apalone mutica	Smooth Softshell	Oklahoma	2016	Species	Reptiles
Apalone spinifera	Spiny Softshell	Oklahoma	2016	Species	Reptiles
Aspidoscelis tesselatus	Common Checkered Whiptail	Oklahoma	2016	Species	Reptiles
Cemophora coccinea copei	Northern Scarlet Snake	Oklahoma	2016	Subspecies	Reptiles
Crotalus atrox	Western Diamondback Rattlesnake	Oklahoma	2016	Species	Reptiles
Deirochelys reticularia miaria	Western Chicken Turtle	Oklahoma	2016	Subspecies	Reptiles
Farancia abacura reinwardtii	Western Mud Snake	Oklahoma	2016	Subspecies	Reptiles
Graptemys geographica	Northern Map Turtle	Oklahoma	2016	Species	Reptiles
Graptemys ouachitensis ouachitensis	Ouachita Map Turtle	Oklahoma	2016	Subspecies	Reptiles
Graptemys pseudogeographica kohnii	Mississippi Map Turtle	Oklahoma	2016	Subspecies	Reptiles
Holbrookia maculata	Lesser Earless Lizard	Oklahoma	2016	Species	Reptiles
Lampropeltis gentilis	Central Plains Milksnake	Oklahoma	2016	Species	Reptiles
Liodytes rigida sinicola	Gulf Swampsnake	Oklahoma	2016	Subspecies	Reptiles
Macrochelys temminckii	Alligator Snapping Turtle	Oklahoma	2016	Species	Reptiles
Phrynosoma cornutum	Texas Horned Lizard	Oklahoma	2016	Species	Reptiles
Phrynosoma modestum	Round-tailed Horned Lizard	Oklahoma	2016	Species	Reptiles
Pseudemys concinna	River Cooter	Oklahoma	2016	Species	Reptiles
Rhinocheilus lecontei	Long-nosed Snake	Oklahoma	2016	Species	Reptiles
Sistrurus tergeminus tergeminus	Prairie Massasauga	Oklahoma	2016	Subspecies	Reptiles
Sternotherus carinatus	Razor-backed Musk Turtle	Oklahoma	2016	Species	Reptiles
Thamnophis cyrtopsis	Black-necked Garter Snake	Oklahoma	2016	Species	Reptiles
Thamnophis sirtalis annectens	Texas Garter Snake	Oklahoma	2016	Subspecies	Reptiles

WILDLIFE HABITAT APPRAISAL PROCEDURE (WHAP)

SUMMARY REPORT

SKIATOOK LAKE MASTER PLAN

BLAINE AND DEWEY COUNTY, OKLAHOMA

July 17th, 2025

US Army Corps of Engineers®
Tulsa District

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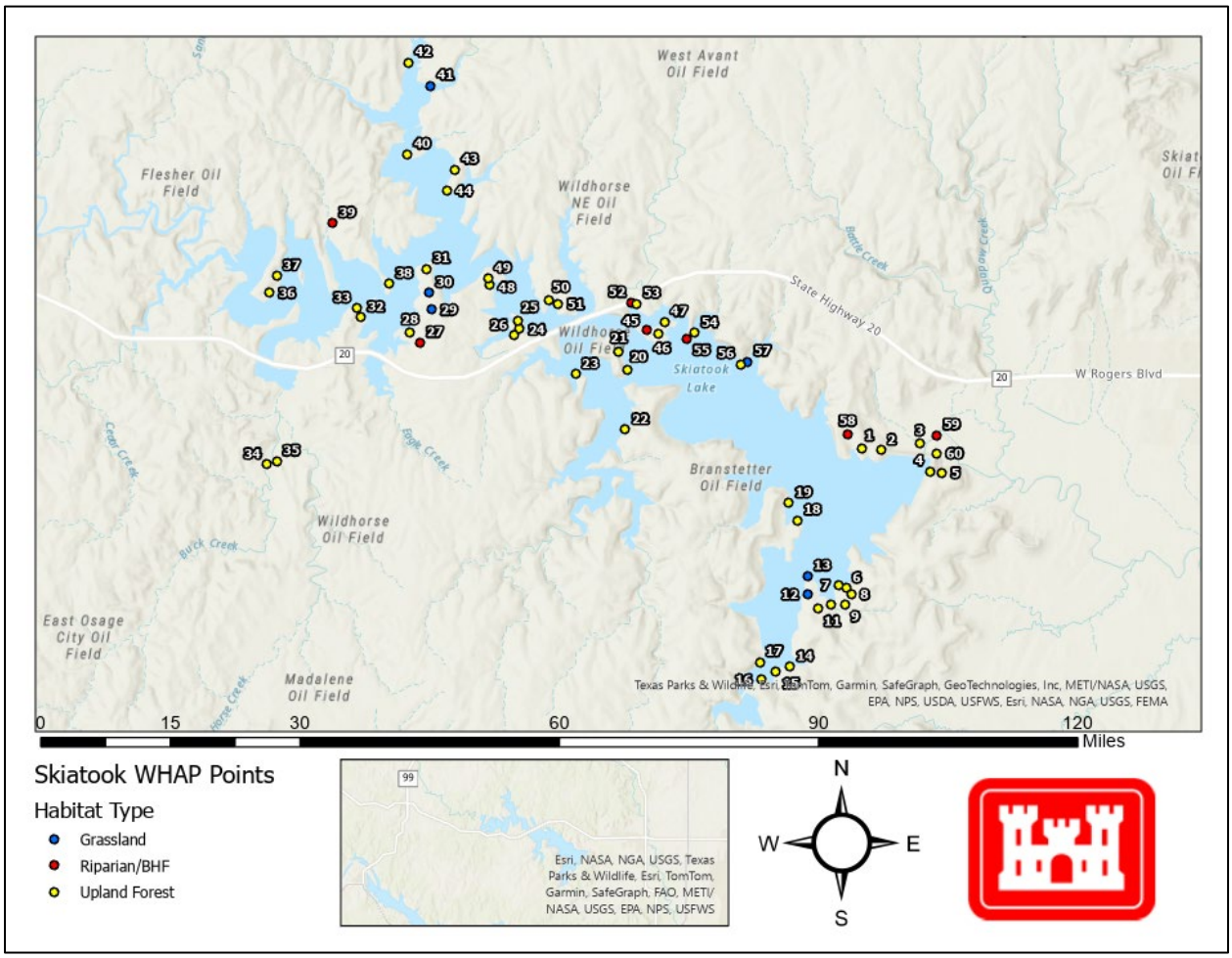
Introduction

Habitat assessments were conducted at Skiatook Lake on June 17-18th, 2024 using Texas Parks and Wildlife Department's (TPWD) Wildlife Habitat Appraisal Procedure (WHAP) (TPWD 1995). WHAP survey point locations were based on points believed or known to have various habitat types and features based on aerial imagery from existing Geographical Information Systems (GIS) data as well as from local knowledge of the area. A total of 60 WHAP points were surveyed, all within U.S. Army Corps of Engineers (USACE) fee boundary (Figures X, X^2, X^3).

The purpose for this report is to describe wildlife habitat quality within the USACE Skiatook Lake fee-owned property in Osage County, Oklahoma. This report is being prepared by the USACE Regional Planning and Environmental Center to provide habitat quality information and inform land classifications as part of the Skiatook Lake Master Plan revision process.

Figure 1. Distribution of WHAP Points within Skiatook Lake with Habitat Types



Study Area

The study area for the WHAP consist of approximately 10,348 acres of USACE fee owned property at Skiatook Lake, located west of Skiatook, Oklahoma and is near to the locations of Tulsa. USACE property at Canton Lake is located within the Crosstimbers as defined by the Environmental Protection Agency (EPA).

Methodology

The WHAP requires evaluating representative sites of each over type present within an area of interest. For this project, a search area of 0.1 acre (circle with radius of 37.2 feet) was used at each WHAP site to compile a list of plant species occurring at each site and to complete the Biological Components Field Evaluation Form (TPWD 1995). Field data collected on the form at each WHAP site included the following components:

1. Site Potential
2. Temporal Development of Existing
3. Uniqueness and Relative Abundance
4. Vegetation Species Diversity
5. Vertical Vegetation Stratification
6. Additional Structural Diversity
7. Condition of Existing Vegetation

The TPWD developed the WHAP to allow qualitative holistic evaluation of wildlife habitat for tracts of land statewide without imposing significant time requirements regarding field work and compilation of data (TPWD 1995). The WHAP was not designed to evaluate habitat quality in relation to specific wildlife species.

The WHAP is based on the following assumptions:

1. Vegetation structure including species composition and physiognomy is itself sufficient to define the habitat suitability for wildlife;
2. A positive relationship exist between vegetation diversity and wildlife species diversity;
3. Vegetation composition and primary productivity directly influence population densities of wildlife species.

As designed, the WHAP is intended to be used for the following applications:

1. Evaluating impacts upon wildlife populations from specific development project alternatives.
2. Establishing baseline data prior to anticipated or proposed changes in habitat conditions for specific areas.
3. Comparing tracts of land that are candidates for land acquisitions or mitigation.
4. Evaluating general habitat quality and wildlife management potential for tracts of land over large geographical areas, including wildlife planning units.

At each site, a $1/10^{th}$ acre plot was evaluated, and points were assigned to all applicable components based on field conditions. A habitat quality score, where values range from 0.0 (low quality) to 1.0 (high quality), was then calculated for each site by adding together all points and multiplying by 0.01. Habitat

quality was then determined for all sites within the same habitat type. The scores for each site can be found in Attachment A. Photographs were taken at each site and are included as Attachment B.

The WHAP protocol can be used to assess a wide range of habitats; however, it was originally developed to assess and develop mitigation requirements for loss of bottomland hardwoods and other aquatic habitats. Scores can yield higher results for these habitats based on how the scoring is allotted to each WHAP habitat component. Upland forest and grassland habitat types cannot reach a score indicative of high-quality habitat, although they may exhibit high quality features. Subsequently, high quality upland habitat may not be identified or can be overlooked.

Grasslands fall into this category. The Site Potential component has a maximum score of 0.25 points and allocates more points based on higher hydrologic connectivity. To receive the highest score for this component, the area must exhibit at least one of the following: periodically support predominately hydrophytic vegetation, have predominately undrained hydric soil and supports or can support hydrophytic vegetation, and/or is saturated with water or covered by shallow water during 1-2 months of the growing season each year. In a grassland setting, when conditions become conducive to hydrophytic plant growth, a successional shift from a grassland to herbaceous wetlands, swamps, or riparian forest is likely to occur. Therefore, grasslands would almost always be limited to a maximum score of 0.12 points (uplands with thick surface layers).

Similarly, grasslands would be limited to a maximum of 0.12 points for the Temporal Development of Existing Successional Stage component, whereas other forested habitats could receive the full 0.25 points.

High value grasslands may not have any woody vegetation, nor vegetation that is more than 12 feet tall, and very little additional structural components. To account for this, total scores for areas categorized as grasslands do not reflect the Vegetation Species Diversity component and makes the maximum score for Vertical Vegetation Stratification component as a value of 4 and Additional Structural Diversity component as 1.

These components regularly exclude grassland habitat from receiving the maximum score of 1.00 on the WHAP point scale. To identify the maximum score each habitat type can receive, USACE environmental staff scored each criteria given ideal conditions for riparian/bottomland hardwood forest (BHF), upland forest (includes all non-riparian/BHF forests), grassland, and marsh habitats. The maximum value scores, shown in Table 1, where then used to normalize scores for habitats that are prevented from reaching the maximum WHAP score. This is primarily due to arbitrary low scores in the two WHAP components described above. Normalizing habitat scores will identify high quality habitat that would otherwise not be detected.

Table 1. Cover Types and Maximum Total Scores

Cover Type	Component 1	Component 2	Component 3	Component 4	Component 5	Component 6	Component 7	Component 8	Maximum Total Value
Marsh	25	20	20	20	N/A	5	10	N/A	1.00
Riparain /BHF	25	20	20	15	5	5	5	5	1.00
Upland Forest	12	20	20	15	5	5	5	5	0.87
Grassland	12	12	20	0	4	1	5	5	0.68

Riparian/BHF habitats can achieve the maximum score, therefore, no normalization of scores were made for that habitat type. Upland forest and grasslands, however, can only reach within 0.13 and 0.41 points of the maximum WHAP score, even in ideal conditions.

To evaluate all habitat types on an even scoring basis, upland forest and grassland scores were normalized by dividing their original scores by the maximum possible score for their respective habitat types. For example, if a grassland site received an initial score of 0.42, it would be divided by the maximum total points a grassland site can receive, 0.68. The normalized total score used for further analysis for the grassland site would be 0.75.

This adjustment allows habitat type scores to be analyzed and compared to their corresponding habitat type maximum total score. Rather than, for instance, a grassland being evaluated on a bottomland hardwood scoring scale.

All WHAP scores analyzed and discussed from here forward reflect the normalized total scores. As mentioned above riparian/BHF habitat was not normalized because it already can achieve the maximum score. Grassland scores were normalized by dividing initial scores by 0.68, while all upland forest scores were normalized by dividing the initial score by 0.87.

Habitat

Skiatook Lake lies within the Cross Timbers ecoregion level III, the Northern Cross Timbers is part of the Cross Timbers ecoregion which starts in north-central Oklahoma and extends into central Texas. The upland forest in the ecoregion are called crosstimbers which consist of short post oaks and blackjacks. Redbud, roughleaf dogwood and several other small trees can be found in the open areas of the environment (ODWC, 25-27).

Riparian/Bottomland Hardwood Forest – Riparian/Bottomland hardwoods are found along rivers and streams, mostly in broad floodplains. They are commonly found in areas where the rivers or streams are flooding beyond their channel confines. Common species found in riparian/bottomland hardwood forest can be made up of different Gum (*Nyssa* sp.) and Oak (*Quercus* sp.) and Bald Cypress (*Taxodium distichum*) (EPA, May 2024). This habitat type acts as a natural buffer between uplands and adjacent water bodies, they act as natural filters of nonpoint source pollutants (EPA, October 2024).

Marsh – Marshes are wetlands that are frequently inundated with water and are characterized by emergent soft-stemmed vegetation that can withstand the saturated soil conditions. Most marshes receive most of their water from surface water, and many marshes are also fed by ground water (EPA, April 2024).

Upland Forest – Post oaks (*Querces stellata*), blackjack oaks (*Quercus marilandica*), and black hickories (*Cary texana*) are found in upland forest in Oklahoma. Low shrubby plants like buckbrush (*Ceanothus cuneatus*) and fragrant sumac (*Rhus aromatica*) provide habitat for wildlife species (Crawford, 2024).

Grassland – Grasslands are found in areas that don't get enough rain to become a forest, but just enough to where deserts can form. Grasslands support a variety of species for animal species to graze and utilize (Nunez, 2024). Some of the common grasses that can be found in Oklahoma are little bluestem (*Schizachyrium scoparium*) and big bluestem (*Andropogon geradii*).

Table 2 displays the number of habitats surveyed and the number of points surveyed within each respective habitat type.

Table 2. Survey Points per Habitat Type

Habitat Type	Points Surveyed
Riparian/BHF	7
Marsh	0
Upland Forest	47
Grassland	6
Total Points Surveyed	60

Results and Discussion

The total habitat scores for each point surveyed is a representation of multiple habitat attributes including vegetative diversity and structure, site soil potential, successional stage, uniqueness of the habitat across the landscape. Data analysis highlights are discussed below, while detailed data for each point surveyed can be found in Attachment A: Skiatook Lake WHAP summary Results of this report.

In Figure 1 and Table 3, the upland forest habitat type occurred 47 times with a score range of 0.59 – 0.85, the riparian/bhf habitat type occurred 7 times with a score range of 0.55 – 0.78, the grassland habitat type occurred 6 times with a score range of 0.74 – 0.84, the marsh habitat type did not occur at all during the survey. Figure 1 displays the locations of where each habitat type was found around Skiatook Lake while Figure 2 shows the score range for all 60 surveyed points. Having a low habitat score doesn't mean that the area is in poor/useless quality but can be improved over time.

Table 3. Average, Minimum, and Maximum Scores per Habitat Type

Habitat Type	Average Total Score	Maximum Total Score	Minimum Total Score
Riparian/BHF	0.55	0.78	0.40
Marsh	None	None	None
Upland Forest	0.59	0.85	0.39
Grassland	0.74	0.84	0.65

Figure 2. Distribution of WHAP Points within Skiatook Lake with Adjusted Total Score

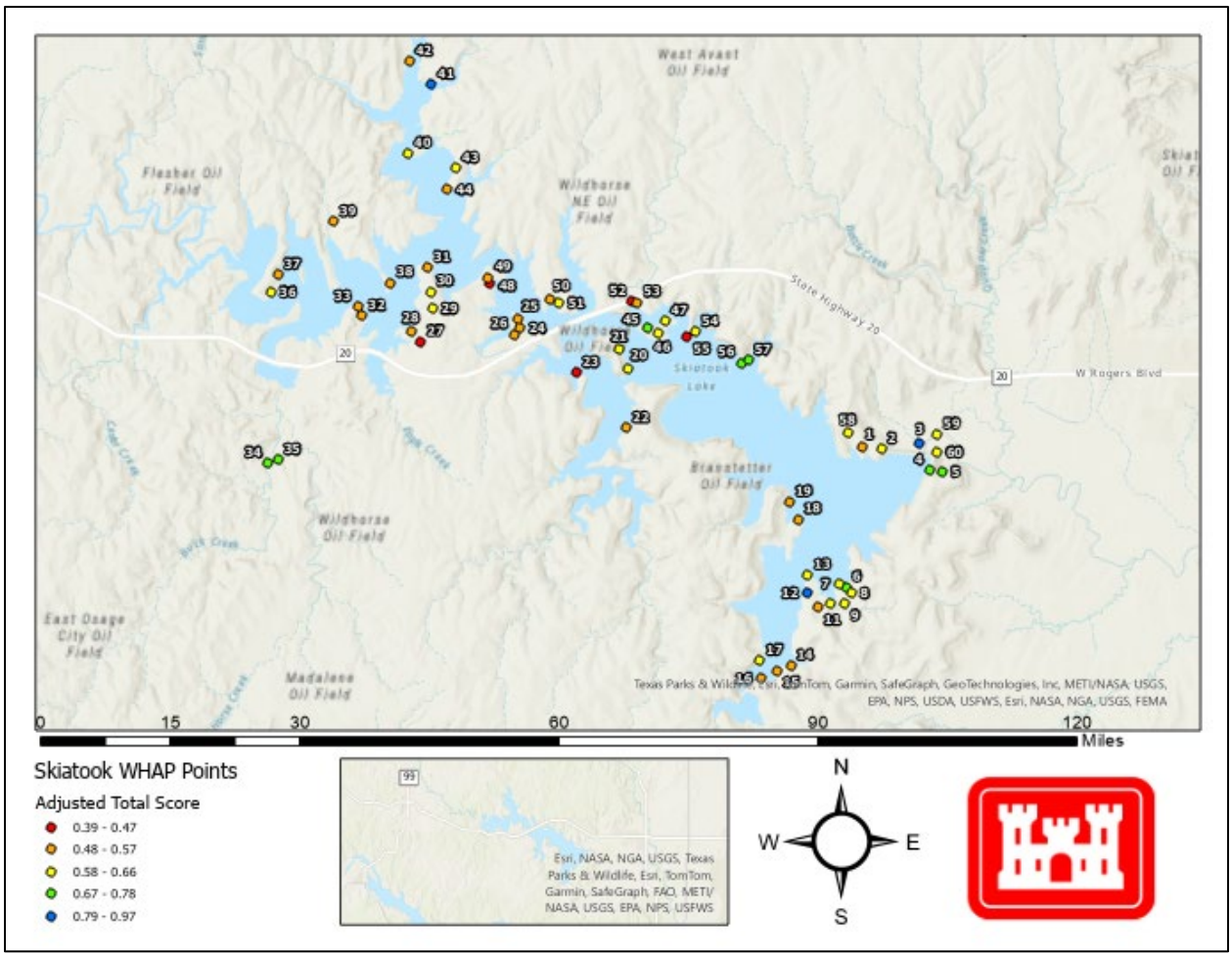


Table 4. Average Site Potential, Successional Stage, and Uniqueness and Relative Abundance Scores per Habitat Type

Habitat Type	Average Site Potential	Average Successional Stage	Average Uniqueness and Relative Abundance
Riparian/BHF	11.00	10.29	7.86
Marsh	None	None	None
Upland Forest	10.04	8.62	8.72
Grassland	12.50	8.67	9.17

Site potential allocates more points based on soil substrates characteristics and hydrologic connectivity that can support hydrophytic habitats, such as marshes, swamps, and bottomland hardwood forests that are often considered to be higher quality, more diverse habitat. This allows areas to score higher even though a recent disturbance, such as fire or flood, may have removed most of the vegetation. Areas scoring high in site potential but low in other metrics can be targeted for management efforts as these

areas' vegetation community response should be favorable, thus increasing habitat value. The predominate thick soil surface layer that is common within Skiatook Lake is the main factor that upland forest and grassland sites scored so high in average site potential.

Successional stage refers to the age of the vegetative community. Older, mature forests and climax prairies, score higher than younger pole stands or disturbed grasslands because they provide more diverse forage, cover, and niche habitats. These scores are expected to increase across the habitats, except in areas that may not have the soil types to support hydrophytic vegetation or are flooded frequently enough to limit upland forest or grassland growth and development.

Uniqueness and Relative Abundance takes into consideration the rarity of a habitat or vegetative community and its abundance in the region. Current and past agricultural and forestry practices have significantly influenced the region's remaining habitat composition.

Recommendations

A majority of the of the data points fall into the 0.48 - 0.57 and 0.58 – 0.66 score range. A way to improve these scores is to continue to monitor and remove invasive species and reintroduce some native species in the locations to improve the habitat within the lake. With time, these habitat areas could be improved for possible wildlife habitat management.

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Attachment A: Skiatook Lake WHAP Results Summary

Point_Number	Point X	Point Y	Habitat	Habitat Group	Adjusted Total Score	Total Score	Site Potential	Successional Stage	Marsh_Successional Stage	Uniqueness and Relative Abundance	Diversity of Woody Species	Number of Woody Species	Swamp_ Diversity of Veg	Marsh_ Diversity of Veg	Vertical Stratification	Additional Structural Diversity	Condition of Woody Vegetation	Herbaceous_ Vegetation	Cropland_ Condition	Marsh_Condition	Berry_Drupe	Legume_Pod	Acorn	Nut_Nutlike	Samara	Cone	Achene	All_Others	Herbaceous_Species
1	36.353349	-96.104652	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.52	45	12	6		5	3	1			5	5	5	3			Coralberry	Lespedeza	Post oak, Blackjack oak						Prairie onion, Stiff hair sunflower, Blazing star, Unknown grass
2	36.352914	-96.099646	Crosstimbers: Post Oak - Blackjack Oak Slope Foreststimbers	Upland Forest	0.61	53	12	12		5	5	5			4	5	5	0			Poison ivy, Coralberry, Virginia creeper		Post oak, Blackjack oak	Bitternut Hickory	White ash	Eastern redcedar			Cordgrass, Western ironweed
3	36.354242	-96.089558	South Central Interior: Bottomland Hardwood Forest	Upland Forest	0.85	74	20	12		15	4	3			5	5	5	5			Coralberry, Autumn olive				Green ash, American elm		Sycamore	Buttonbush	Wild carrot, Verbena, White clover, Northern sea oat, Johnson grass, Cordgrass, Plain coreopsis, Horseweed
4	36.348457	-96.086971	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.71	62	12	12		10	6	5			4	5	5	3			Poison ivy, Sumac, Virginia creeper, Common serviceberry	Lespedeza	Blackjack oak, Post oak		White ash	Eastern redcedar	Sycamore		Cordgrass, Parlin's pussytoes, Rough goldenrod, Stiffhair sunflower, Aromatic aster, Lamb's ear
5	36.348218	-96.083726	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.69	60	12	12		10	3	5			5	5	5	3			Poison ivy, Greenbriar, Coralberry, Virginia creeper, Sumac, Serviceberry, American persimmon, Summer grape	Redbud, Lespedeza	Red oak, Post oak						Western ironweed, Cordgrass, Coneflower, Pickly lettuce
6	36.323939	-96.108726	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.70	61	12	12		10	4	3			5	5	5	5			Greenbriar, Coralberry, Sumac, Virginia creeper	Lespedeza	Shumard oak, Blackjack oak	Pignut hickory					Fleabane, Cordgrass, Stiff hair sunflower, Rough goldenrod, Johnson grass, Western ironweed, Panicgrass, Snakeroot
7	36.324664	-96.110666	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.61	53	12	12		10	4	3			4	3	5	0			Greenbriar, Coralberry, Hackberry, Virginia creeper	Redbud	Shumard oak, Chinkapin oak	Bitternut Hickory					
8	36.322841	-96.107387	Ruderal Deciduous Woodland	Upland Forest	0.59	51	12	6		10	2	1			5	5	5	5			Persimmon, Coralberry		Post oak						Western ironweed, Johnson grass, Big bluestem, Fleabane, Ragweed, Goldenrod, Panicgrass, Verbena
9	36.320471	-96.109147	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.63	55	7	12		10	4	3			4	5	5	5			Greenbriar, Poison ivy, Roughleaf dogwood	Lespedeza, Redbud	Post oak, Blackjack oak	Pignut hickory					Hairy ruellia, Big bluestem, Green milkweed, False boneset
10	36.320444	-96.112774	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.66	57	12	6		10	5	5			4	5	5	5			Virginia creeper, Coralberry, Greenbriar, Dewberry	Partridge pea, Lespedeza	Post oak	Pignut hickory	White ash, American ash				Sedge sp., Wild carrot, Cordgrass, Western lettuce, Rosette grass, Horseweed, Fleabane, Verbena
11	36.319616	-96.116069	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.56	49	12	6		5	4	5			4	5	5	3			Greenbriar, American persimmon, Virginia creeper, Poison ivy, Coralberry, Dewberry	Redbud, Black locust	Post oak, Chestnut oak, Red oak		American elm				Frostweed, Western ironweed, Rosette grass
12	36.322756	-96.118845	Crosstimbers: Pasture/Prairie	Grassland	0.84	57	12	12		10	3	3			4	5	5	3			Blackberry, Purple passionflower		Post oak, Red oak		Green ash				American germander, Johnson grass, Western ragweed, Virginia rye, Big bluestem
13	36.326487	-96.118793	Crosstimbers: Pasture/Prairie	Grassland	0.66	45	12	6		10	3	`			3	3	5	3			Persimmon	Partridge pea						Willow	Boneset, Fleabane, Meadow Pink, Winged loosestrife, American germander, Buttonweed
14	36.307496	-96.123315	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.55	48	12	3		15	2	1			4	3	3	5			Persimmon	Partridge pea, Mimosa, Lespedeza						Cottonwood, Buttonbush	Aster, Tickseed, Asters, Sedge sp., Fleabane, Hemlock, Mistflower, Little bluestem, Canyon grass
15	36.306443	-96.126956	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.56	49	12	3		15	3	1			4	3	3	5			Greenbriar, Persimmon	Lespedeza			Green ash				Bramble, Hemlock, Mountain mint, Little bluestem, Ragweed, Dogbane, Sedge sp.
16	36.304810	-96.130912	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.54	47	12	3		10	4	3			4	3	3	5			Dewberry, Trumpet vine, Brambles	Partridge pea, Lespedeza	Chinkapin oak, Post oak					Sycamore, Buttonbush	Sedge sp., Yellow bluestem, Mint, Fleabane, Horseweed, Woodsedge, Vervane, Primose willow, Horseweed, Woodsedge, False aster, Boneset, Little blue stem
17	36.308511	-96.131306	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.61	53	7	12		10	4	3			4	5	3	5			Greenbriar	Lespedeza	Blackjack oak, Post oak					Buttonbush	American germander, Sedge sp., Panicum, Stiff hairy sunflower, Johnson grass, Mint, Horsetail, Milkweed, Lemongrass, Pencil flower
18	36.338206	-96.121367	Ruderal Deciduous Woodland	Upland Forest	0.55	48	7	6		10	5	3			4	5	5	3			Persimmon, Greenbriar	Lespedeza	Post oak	Pecan				Buttonbush	Sedge sp., Johnson grass, Passionflower
19	36.341843	-96.123659	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.55	48	7	12		10	3	3			4	1	3	5			Coralberry	Lespedeza, False Indigo	Blackjack oak, Post oak						Aster, Carex sp., Sedge sp., Scribner's panicum, Poaceae, Boneset, Vervane, St. John's wort
20	36.369858	-96.165884	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.63	55	12	12		10	4	3			5	3	3	3			Persimmons	Partridge pea, Lespedeza	Post oak					Sycamore, Button bush	Panicum, Sedge sp., Bonset, Broomsedge, Bluestem, Purple Passionflower
21	36.373670	-96.167966	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.60	52	7	12		10	5	3			4	5	3	3			Virginia creeper, Greenbriar, Poison ivy	Lespedeza	Post oak	Hickory		Eastern red cedar			True sedge, Canadian rye, Woodland oats, Panicum
22	36.357245	-96.166238	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.53	46	7	12		5	4	3			4	5	3	3			Poison ivy, Greenbriar	Lespedeza	Post oak	Hickory					Panicum, Pussyfoot, Woodland oats, Sedge sp.
23	36.368857	-96.179303	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.44	38	7	6		10	3	1			4	3	3	1			Greenbriar		Post oak	Hickory					True sedge, Cordgrass, Panicum
24	36.378307	-96.193897	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.56	49	12	6		5	5	5			5	3	3	5			Coralberry. Virginia creeper, Wild grape, Dogwood, Callery pear, American persimmon, Green briar	Lespedeza, Mimosa	Blackjack oak, Post oak	Hickory		Eastern red cedar			Milkweed, Panicgrass, Common yarrow, Sedge sp., Texas crotin, Wild onion, Fleabane, Cherokee sedge, Ragweed, Black eyed susan, Cudweed, Cordgrass, Dewberry, Meadow pink, Woodland oats
25	36.380177	-96.194291	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.52	45	7	6		5	7	5			4	3	3	5			Coralberry, Virginia creeper, Greenbriar, Blackbery, Poison ivy, Mulberry	Lespedeza	Blackjack oak, Post oak, Pin oak	Hickory	Texas ash	Eastern red cedar		Prickly pear	Panicgrass, Sedge sp., Muhlenberg's sedge, White aster, Pokeweed, Trailing Lespedeza, Golden rod
26	36.376947	-96.195439	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.56	49	12	12		5	4	3			4	1	3	5			Virginia creeper, Greenbriar, Coralberry, Poison ivy		Blackjack oak, Post oak	Hickory	Eastern red cedar				Goldenrod, Panicgrass, Parlins' pussytoes, Sedge sp., Woodland oats, Goldenrods, Wood aster, Aster
27	36.375446	-96.219820	South Central Interior: Riparian Hardwood Woodland	Riparian/BHF	0.47	47	12	6		5	4	5			4	1	5	5			Coralberry, Dewbery, American persimmon, Poison ivy, Virginia creeper, Smooth sumac	Mimosa, Lespedeza	Blackjack oak, Post oak	Hickory					Golden rod, Cherokee sedge, White aster, Wood aster, Trailing lespedeza, Stiff sunflower, Parlin's pussytoes
28	36.377542	-96.222397	Ruderal Deciduous Woodland	Upland Forest	0.55	48	12	6		5	5	5			4	1	5	5			Coralberry, Virginia creeper, Grape, Dewberry, Poison ivy, Mulberry	Mimosa, Lespedeza	Blackjack oak, Post oak	Hickory	Texas ash				Snailseed, Panicgrass, Wild rye, Trailing lespedeza, Sedge sp., Ironweed, Ticktrefoil, White aster, Tall thistle, Wood aster, Whitegrass, Nightshade
29	36.382411	-96.216799	Crosstimbers: Pasture/Prairie	Grassland	0.65	44	12	5		10	2	1			3	1	5	5			Winged sumac	Wild indigo, Mimosa, Lespedeza							White aster, Lead plant, Milkweed, Broomsedge, Bluestem, Spiderwort, Panicgrass, Prairie clovers, Sedge sp., Ragweed, Fleabane
30	36.385913	-96.217343	Crosstimbers: Pasture/Prairie	Grassland	0.65	44	12	5		10	2	1			3	1	5	5			Smooth sumac, Winged sumac	Wild indigo, Mimosa, Lespedeza, Neptunia							Hairy ruellia, Prairie clover, Ragweed, Milkweed, Broom sedge, Blue stem, White aster, Panicgrass, Meadow Pink

31	36.390978	-96.218023	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.57	50	12	12		5	4	3			5	1	3	5			Coralberry, Winged sumac, Virginia creeper, Wild grape	Lespedeza	Post oak, Red oak	Hickory					Panicgrass, Bluestem, Lead plants, Stiff hairy sunflower, Virginia wild rye, Woodland oats, Whitegrass, Ticktrefoil, Sedge sp., Goldenrod
32	36.380868	-96.235252	Ruderal Deciduous Shrubland and Young Woodland	Upland Forest	0.55	48	12	6		5	4	5			5	5	3	3			Blackberry, Purple passionflower, Poison ivy, Greenbriar, Hackberry, Coralberry	Lespedeza			American elm, Texas ash			Buttonbush	Golden rod, Bee balm, Johnson grass, Switchgrass, Stiffhair sunflower, Sagebrush
33	36.382681	-96.236280	Ruderal Deciduous Woodland	Upland Forest	0.56	49	7	12		5	5	3			4	3	5	5			Coralberry	Lespedeza, False indigo	Post oak		White ash			Prickly pear	Stiff hair sunflower, Golden rod, Western ironweed, Illnois bundleflower, Fleabane, Beebalm, Switchgrass
34	36.349939	-96.259614	South Central Interior: Bottomland Hardwood Forest	Upland Forest	0.69	60	12	12		10	3	3			5	5	5	5			Virginia creeper, Sumac, Summar grape, Coralberry, Poison ivy	Lespedeza	Post oak						Rosette grass, Fish on a fishing pole, Tall thistle, Virginia rye, Panicled Ticktrefoil, Hairy lettuce, Horse nightshade, Vervain
35	36.350576	-96.257174	South Central Interior: Bottomland Hardwood Forest	Upland Forest	0.70	61	12	12		10	4	3			5	5	5	5			Poison ivy, Purple passion flower, Sumac, Greenbriar, Muscadine grape	Lespedeza, Partridge pea	Bitternut hickory		Green ash				Fish on a fishing pole, False aster, Fleabane, Rosette grass, Western ironweed, Tall thistle, Cordgrass, Rough avens
36	36.385912	-96.258989	Ruderal Deciduous Shrubland and Young Woodland	Upland Forest	0.59	51	7	6		10	5	7			5	3	5	3			Poison ivy, Coralberry, Persimmon, Dogwood, Hackberry, Virginia creeper, Greenbriar, Gum bumelia	Redbud, Purple vetch, Prairie acacia, Lespedeza	Chinkapin oak, Red oak, Post oak		Texas ash	Red cedar			Goldenrod, White avens, Mock vervain, Purple cliff break, Wild bergamont, Ironweed, Cloakfern
37	36.389470	-96.257130	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.54	47	7	6		10	5	7			5	1	3	3			Greenbriar, Gum bumelia, Grape, Dogwood, Coralberry, Hackberry, Gooseberry	Redbud, Mimosa, Lespedeza, Indigo bush	Chinkapin oak, Red oak		Cedar elm, White ash	Red cedar			Ticktrefoil, Hemp dogbane, Sedge sp., White aster, Hairy ruelia, Beardtongue
38	36.3878040	-96.227789	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.52	45	7	6		5	5	5			4	5	5	3			Poison ivy, Virginia creeper, Greenbriar, Coralberry, Dewberry, Sumac, Gum bumelia	Redbud	Post oak	Pignut hickory, Black walnut		Eastern redcedar			Lichen, Panicgrass, Ebony spleenwort, Rosette grass
39	36.400529	-96.242598	South Central Interior: Bottomland Hardwood Forest	Riparian/BHF	0.56	56	7	12		10	4	5			5	5	5	3			Coralberry, Greenbriar, Virginia creeper, Summer grape, Poison ivy, Hackberry	Lespedeza, Redbud	White oak	Pignut hickory					Fish on a fishing pole, Ragweed, Panicgrass, Western ironweed
40	36.414936	-96.223081	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.66	57	7	12		10	5	5			5	5	5	3			Blackberry, Purple passionflower, Red mulberry, Carolina snailseed, American persimmon, Sumac	Lespedeza, Partridge pea	Post oak				American sycamore	Buttonbush	Virginia rye, Golden rod, Boneset, Winged loosestrife, Johnson grass, Wood sorrel, Pink smartweed
41	36.429335	-96.216980	Crosstimbers: Pasture/Prairie	Grassland	0.84	57	20	12		5	4	3			4	3	3	3			Passionflower	Lespedeza	Willow oak					Buttonbush	Boneset, Flat sedge, Goldenrod, Sweet Everlastings, Sedge sp., Cudweed, Panicgrass
42	36.434212	-96.222797	Ruderal Deciduous Woodland	Upland Forest	0.55	48	7	6		10	5	5			4	3	3	5			Coralberry, Hackberry, Blackberry, Greenbriar	Mimosa, Wild indigo, Lespedeza	Post oak, Blackjack oak		Texas ash			Prickly pear	Wild rye, Panicled ticktrefoil, Venus' Looking Glass, Hedge parsley, Golden rod, Cudweed, Panicgrass, Blue aster, Spiderwort
43	36.411730	-96.210670	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.59	51	7	6		10	5	5			5	3	5	5			Dewberry, Coralberry, Greenbriar, Virginia creeper, Saw Greenbriar, Persimmon, Dogwood	Redbud, Mimosa	Post oak, Blackjack oak	Hickory	American elm				Sedge sp., Panicgrass, Cordgrass, Woodland oats, Inland Seaoats, Sunflower, Violet bushclover, Cudweed
44	36.407342	-96.212904	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.56	49	7	6		10	5	5			5	3	5	3			Coralberry, Dogwood, Plum. Greenbriar, Dewberry, Grape, Virginia creeper	Mimosa, Wild indigo	Post oak, Pin oak, Blackjack oak	Hickory					Cordgrass, Stiff hair sunflower, Sedge sp., White aster
45	36.378283	-96.160590	South Central Interior: Bottomland Herbaceous Wetland	Riparian/BHF	0.78	78	20	12		15	8	7			5	3	3	5			Greenbiar, Poison ivy, Blackberry, Passionflower, Coralberry, American Persimmon, Grape, Virginia Creeper	Honey Locust, Lespedeza, Hog peanut	Post oak	Hickory	American elm	Eastern Red Cedar	Sycamore	Buttonbush	White avens, Flatsedge, Geranium, Pokeweed, Spleenwort, Snakeroot, False nettle, Jack in the pulpit, Frostweed
46	36.377329	-96.157790	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.61	53	12	6		10	7	5			4	1	3	5			Osage orange, Greenbriar, Poison ivy, Virginia creeper, Coralberry, Hackberry	Lespedeza, Eastern milk pea, Hog peanut	Post oak, Blackjack oak	Hickory	White ash	Eastern red cedar		Prickly pear	Parlin's pussytoes, Golden rods, Sedge sp., Stiff hairy sunflower, Panicgrass, Woodland oats, Green onion, Ragweed
47	36.379780	-96.156128	Crosstimbers: Pasture/Prairie	Upland Forest	0.62	54	12	12		5	5	5			4	3	3	5			Winged sumac, Blackberry, Coralberry, Virginia creeper	Mimosa, Lespedeza	Post oak, Blackjack oak	Hickory		Eastern red cedar			Golden rod, Panicgrass, Parlin's pussytoes, Sedge sp., Aster, Woodland oats, Goldenrods, Wood aster
48	36.387662	-96.20175	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.39	34	7	6	NA	5	2	1			4	1	3	5				Lespedeza	Post oak						Green onion, Black eyed susan, Meadow pink, Gold aster, Cordgrass, Plantain, Ticktrefoil, Yellow flax, Hedge parsley, Crotons, Broomsedge, Lanceleaf, Ragweed, Yellowstar, Mock vervain
49	36.388927	-96.202077	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.55	48	12	6	NA	10	4	3			4	1	3	5			Winged sumac, Coralberry, Persimmon, Dewberry	Lespedeza	Post oak, Blackjack oak	Hickory					Slender bushclover, Cordgrass, Goldenrods, Sunflowers, Sedge sp., Stiff hairy sunflower, Panicgrass, Venus' looking grass
50	36.384434	-96.186149	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.55	48	12	6	NA	10	4	3			4	1	3	5			Dewberry, Greenbriar, Winged sumac	Eastern milk pea, Lespedeza	Post oak, Blackjack oak	Hickory					Sedge sp., Panicgrass, Snailseed, White avens, Cordgrass, Lettuce, Wild onion, Bush clover, Milkweed
51	36.383627	-96.183724	Crosstimbers: Post Oak - Blackjack Oak Forest and Woodland	Upland Forest	0.62	54	12	6	NA	10	5	5			5	3	3	5			Dewberry, Persimmon, Winged sumac, Coralberry, Passionfruit, Greenbriar	Mimosa, Lespedeza	Post oak, Blackjack oak	Hickory				Willow	Virginia creeper, Broom sedge, Panicgrass, Tall thistle, Nightshade, Cordgrass, American germander, Thistle, Ragweed
52	36.383842	-96.164563	South Central Interior: Bottomland Hardwood Forest	Riparian/BHF	0.44	44	7	6	NA	5	5	3			5	5	5	3			Passionflower, Greenbriar, American persimmon, Blackberry	Lespedeza		Pignut hickory	White ash		Sycamore		Johnson grass, Fleabane, American germander, Virginia rye, Horsement
53	36.383664	-96.163236	Crosstimbers: Young Post Oak - Blackjack Oak Woodland	Upland Forest	0.53	46	7	6	NA	5	5	3			5	5	5	5			Greenbriar, Blackberry	Redbud	Post oak		River birch		Sycamore		Lamb's ear, Sea oats, Rosette grass, Black eyed susan, Little bluestem, Johnson grass, Panicgrass, Fleabane
54	36.377491	-96.148163	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.61	53	7	12	NA	10	5	5			5	3	3	3			Roughleaf dogwood, Poison ivy, Virginia creeper, Brambles	Partridge pea, Lespedeza	Blackjack oak, Post oak	Pignut hickory, Hog peanut	Winged elm, White ash				Sedge sp., Carex
55	36.376350	-96.150241	South Central Interior: Bottomland Hardwood Forest	Riparian/BHF	0.40	40	7	12	NA	5	3	3			3	3	3	1			Greenbriar, Grape, Smooth sumac, Poison ivy, Persimmons		Blackjack oak, Post oak					Buttonbush	Bluestem, Sedge sp., Carex
56	36.370994	-96.13619	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.69	60	7	12	NA	15	5	3			5	3	5	5			Fragrant sumac, Gum bumelia	Lespedeza	Blackjack oak, White oak	Hickory		Eastern redcedar			Petunia, Prairie clover, Sedge, Panicum, Ragweed, Fescuegrass, Goldenrod, Aster sp.

57	36.371502	-96.134376	Crosstimbers: Pasture/Prairie	Grassland	0.78	53	7	12	NA	10	4	3			4	5	3	5			Virginia creeper, Persimmons	Lespedeza	Post oak					Buttonbush	Asters, Goldenrod, Oats, Horseweed, Thistle, True sedge, Rabbit Tobacco, Scribner's panicum, American germander, Green milkweed, False aster, Japanese clover, Canadian rye, Bluestem, Flatsedge, Poaceae, Nightshade
58	36.356205	-96.108397	South Central Interior: Riparian Hardwood Woodland	Riparian/BHF	0.61	61	12	12	NA	5	7	5			5	5	5	5			Sumac, Greenbriar, Virginia creeper, Coralbery	Redbud, Lespedeza	Blackjack oak, Post oak	Pignut hickory	White ash	Eastern redcedar		Prickly pear	Goldenrod, Allium, Fleabane, Cordgrass, Horsemint
59	36.356036	-96.085067	South Central Interior: Bottomland Hardwood Forest	Riparian/BHF	0.60	60	12	12	NA	10	3	5			5	5	5	3			Virginia creeper, Coralberry, Mulberry, Poison ivy, Greenbriar		Post oak, Bur oak		Box elder, American elm, Slippery elm				Johnson grass, Panicgrass, Switchgrass, Verbena, Virginia wild rye, Cordgrass
60	36.352334	-96.085013	Crosstimbers: Post Oak - Blackjack Oak Slope Forest	Upland Forest	0.61	53	12	12	NA	5	5	5			4	5	5	0			Poison ivy, Coralberry, Virginia creeper, Hackberry, Greenbriar	American hog peanut	Post oak	Bitternut hickory, Mockernut hickory				Trumpet vine	

Attachment B: Skiatook Lake WHAP Points

WHAP POINT 16 (N, E, S, W)

WHAP POINT 17 (N, E, S, W)

WHAP POINT 18 (N, E, S, W)

WHAP POINT 19 (N, E, S, W)

WHAP POINT 20 (N, E, S, W)

WHAP POINT 21 (N, E, S, W)

WHAP POINT 22 (N, E, S, W)

WHAP POINT 23 (N, E, S, W)

WHAP POINT 50 (N, E, S, W)

WHAP POINT 54 (N, E, S, W)

WHAP POINT 55 (N, E, S, W)

WHAP POINT 56 (N, E, S, W)

WHAP POINT 57 (N, E, S, W)

APPENDIX D - PERTINENT LAWS

- Antiquities Act of 1906, Public Law 59-209, 34 Stat. 225, 54 U.S.C. Sections 320301-320303: 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.
- Historic Sites Act of 1935, Public Law 74-292, 49 Stat. 666, 16 U.S.C. Sections 461-467: 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".
- Flood Control Act of 1938, Public Law 75-761: 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, as amended, 16 U.S.C. Sections 668-668d: 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.
- Flood Control Act of 1944, Public Law 78-534: 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.
- River and Harbor Act of 1946, Public Law 79-525: This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.
- Flood Control Act of 1946, PL 79-526: This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and other purposes. This law amends PL 78-534 to include authority to grant leases to non-profit organizations at recreational facilities in reservoir areas at reduced or nominal fees.
- Flood Control Act of 1954, Public Law 83-780: 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.

- Fish and Wildlife Coordination Act, Public Law 85-624: 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.
- River and Harbor Act of 1962, Public Law 87-874: This act authorizes the construction, repair, and preservation of certain public works on rivers and harbors for navigation, flood control, and for other purposes.
- Land and Water Conservation Fund Act of 1965, Public Law 88-578: 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: 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.
- Federal Water Project Recreation Act, Public Law 89-72: 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.
- Water Resources Planning Act, Public Law 89-80: 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.
- Solid Waste Disposal Act, as amended, Public Law 89-272, 42 U.S.C. Sections 6901 et seq.: 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.

- National Historic Preservation Act of 1966, Public Law 89-665, 54 U.S.C. Sections 300101 et seq.: 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.
- Flood Control Act of 1968, Section 210, Public Law 90-483: Restricted collection of entrance fee at USACE lakes and reservoirs to users of highly developed facilities requiring continuous presence of personnel.
- National Environmental Policy Act of 1969 (NEPA), Public Law 91-190, 42 U.S.C. Sections 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 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

- River and Harbor Act of 1970 and Flood Control Act of 1970, Public Law 91-611: 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.
- Federal Water Pollution Control Act Amendments of 1972, Public Law 92-500: 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."
- Federal Environmental Pesticide Control Act of 1972, Public Law 92-516, 86 Stat. 973, 7 U.S.C. Sections 136 et seq.: 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 law 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.
- Endangered Species Act of 1973, Public Law 93-205, 16 U.S.C. Sections 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.
- Water Resources Development Act of 1974, Public Law 93-251: 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.
- Archeological and Historic Preservation Act of 1974, Public Law 93-291: 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. This amends the Reserve Salvage Act of 1960 (PL-86-523).
- Public Law 93-303: This law 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.

- Safe Drinking Water Act, Public Law 93-523: 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.
- Clean Water Act of 1977, as amended, Public Law 95-217: This Act amends the Federal Water Pollution Control Act Amendments of 1972 and 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.
- American Indian Religious Freedom Act, Public Law 95-341: 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.
- Endangered Species Act Amendments of 1978, Public Law 95-632: 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.
- Archeological Resources Protection Act of 1979, Public Law 96-95: 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.
- Supplemental Appropriations Act, 1983, Public Law 98-63: 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.
- Water Resources Development Act of 1986, Public Law 99-662: Provides for the conservation and development of water and related resources and the improvement and rehabilitation of the Nation's water resources infrastructure.
- North American Wetland Conservation Act of 1989, Public Law 101-233: This act directs the conservation of North American wetland ecosystems and requires

agencies to manage their lands for wetland/waterfowl purposes to the extent consistent with missions.

- Americans with Disabilities Act of 1990 (ADA), PL101-336, as amended by the ADA Amendments Act of 2008 (PL110-325): This law prohibits discrimination based on disabilities in, among others, the area of public accommodations and requires reasonable accommodations for persons with disabilities.
- Native American Graves Protection and Repatriation Act, Public Law 101-601: This act requires Federal agencies to return Native American human remains and cultural items, including funerary objects and sacred objects, to their respective peoples.
- Water Resources Development Act (WRDA) of 1992 PL 102-580: This act authorizes the USACE to accept contributions of funds, materials and services from non-Federal public and private entities to be used for managing recreational sites and facilities and natural resources.
- Omnibus Reconciliation Act of 1993, Public Law 103-66: Day use fees - authorizes the USACE to collect fees for the use of developed recreational sites and facilities, including campsites, swimming beaches and boat ramps.
- WRDA 1996, PL 104-303: authorizes recreation and fish and wildlife mitigation as purposes of a project, to the extent that the additional purposes do not adversely affect flood control, power generation, or other authorized purposes of a project.
- Omnibus Parks and Public Lands Management Act of 1996, Public Law 104-333: This act created an advisory commission to review the current and anticipated demand for recreational opportunities at lakes or reservoirs managed by the Federal Government and to develop alternatives to enhance such opportunities for such use by the public.
- Neo-tropical Migratory Bird Conservation Act of 2000, Public Law106-147: This act promotes the conservation of habitat for neo-tropical migratory birds.

APPENDIX E – ACRONYMS

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AQI	Air Quality Index
BMP	Best Management Practices
CAP	Climate Action Plan
CRMP	Cultural Resources Management Plan
CWA	Clean Water Act
DC	District Commander
DF	Deciduous Forest
DQC	District Quality Control
DQCB	District Quality Control Board
DM	Design Memorandum
EA	Environmental Assessment, NEPA Document
EMS	Ecological Mapping System
EOP	Environmental Operating Principles
EP	Engineering Pamphlet
EPA	United States Environmental Protection Agency
ER	Engineering Regulation
ESA	Environmentally Sensitive Area
°F	Degrees Fahrenheit
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination act of 1958
GIS	Geographical Information Systems
HDR	High Density Recreation
HQ	USACE Headquarters (also HQUSACE)
IH	Interstate Highway
IPaC	Information for Planning and Consultation
KR	King Ranch (also King Ranch Bluestem)
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 Standards
NEPA	National Environmental Policy Act, 1970
NGVD/NGVD29	National Geodetic Vertical Datum (1929)
NHPA	National Historic Prevention Act
NRHP	National Register of Historic Places
NOA	Notice of Availability
NRCS	Natural Resource Conservation Service
NRHP	National Registry of Historic Places
NVCS	National Vegetation Classification System
NWI	National Wetland Inventory
ODWC	Oklahoma Department of Wildlife Conservation
O&M	Operations and Maintenance
OK	Oklahoma

OMB	Office of Management and Budget
OMBIL	Operations and Maintenance Business Information
OMP	Operations Management Plan for a specific lake Project
OPM	Operations Project Manager
PDT	Project Development Team
PL	Public Law
PM	Project Management or Project Manager
PMP	Project Management Plan
PO	Project Operations
RBS	Recreational Boating Survey
RIFA	Red Imported Fire Ant
RPEC	Regional Planning and Environmental Center
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SGCN	Species of Greatest Conservation Need
SH	State Highway
SHPO	State Historical Preservation Office
SMPS	Shoreline Management Policy Statement
U.S.	United States (also US)
USACE	United States Army Corps of Engineers
USFWS	U. S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VM	Vegetative Management Area
WDA	Workforce Development Area
WHAP	Wildlife Habitat Appraisal Procedure
WM	Wildlife Management Area