

Draft Environmental Assessment

Alamo Dam Master Plan

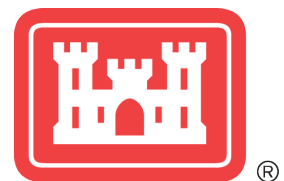
La Paz County and Mohave County, Arizona



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COVER SHEET

Environmental Assessment for The Alamo Dam Master Plan

La Paz County and Mohave County, Arizona

This Environmental Assessment (EA) is an Appendix to the Alamo Dam Master Plan. The EA provides information on the potential environmental effects of the Proposed Action (i.e., the approval and implementation of the Master Plan) and the No Action Alternative (i.e., not approving or implementing a Master Plan).

Located within the Bill Williams River in Western Arizona, Alamo Dam is about 36 miles north of the Community of Wenden. The flood control reservoir or basin behind the dam encompasses various cities and unincorporated areas within La Paz County and Mohave County. The Master Plan focuses on the portions of the reservoir that are owned in fee by the United States Government.

Construction of Alamo Dam was authorized by the Flood Control Act of 1944 (Public Law 78-534). The project was originally authorized for flood control, water conservation, and power development. Construction of the Dam was completed in 1968. The Flood Control Act of 1944 (Public Law 78-534) authorized the United States Army Corps of Engineers (Corps) to construct, maintain, and operate public park and recreation facilities and water resource development projects if such development does not interfere with flood risk management. The law also permits the Corps to authorize local interests to construct, maintain, and operate recreation facilities.

The proposed Master Plan has three primary objectives:

- Examine existing land uses and resources within the Corps management boundary and flood easements lands,
- Describe the needs and desires of community groups,
- Prescribe land use classifications for the Corps fee lands, and
- Identify resource and land use management objectives.

The Proposed Action (i.e., implementation of the new Master Plan) is not anticipated to result in adverse effects to the natural and human resources within the Bill Williams River watershed and Colorado River Basin.

In addition, the No Action Alternative would not result in adverse effects. However, an up-to-date, comprehensive document guiding management of the dam (i.e., the Proposed Action) would provide better support for decision-making that meets the needs of the community and fosters sustainability.

Environmental Assessment Organization

This EA evaluates the potential environmental and socioeconomic effects of the Alamo Dam Master Plan Update. This EA will facilitate the decision-making process regarding the Proposed Action and No Action Alternative.

- 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* describes the Proposed Action, the No Action Alternative, and alternatives considered but eliminated.
- Section 3:** *Affected Environment and Consequences* provides an overview of the natural and human environments of the project and outlines the potential effects associated with the No Action Alternative (Alternative 1) and the Proposed Action (Alternative 2).
- Section 4:** *Cumulative Effects* describes the effects on the environment that result from the incremental effects of the Proposed Action when combined with other past, present, and reasonably foreseeable future effects in the vicinity of the Proposed Action.
- Section 5:** *Compliance* provides a listing of environmental protection statutes and other environmental requirements considered in the evaluation of potential effects resulting from the No Action Alternative or the Proposed Action.
- Section 6:** *Irretrievable and Irreversible Commitment of Resources* identifies any irreversible and irretrievable commitments of resources that would be necessary for the implementation of the Proposed Action.
- Section 7:** *Public and Agency Coordination* provides a listing of individuals and agencies consulted during preparation of this EA.
- Section 8:** *References* provides bibliographical information for cited sources.
- Section 9:** *Acronyms/Abbreviations* defines acronyms and abbreviations used in this EA.
- Section 10:** *List of Preparers* identifies persons who contributed to the preparation of this EA.

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SECTION 1: INTRODUCTION

The U.S. Army Corps of Engineers (Corps) is proposing to develop an updated Master Plan for the Alamo Dam in La Paz and Mohave Counties, Arizona. The Master Plan would be 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 project. It guides the efficient and cost-effective development, management, and use of project lands. This Master Plan is a vital tool for the responsible stewardship and sustainability of the project's resources for the benefit of present and future generations. It guides and articulates Corps responsibilities pursuant to Federal laws to preserve, conserve, restore, maintain, manage, and develop the project area's land, water, and associated resources. The Master Plan is dynamic and flexible enough to accommodate changing conditions, focusing on carefully developed goals and objectives.

A Federal agency's adoption of a Master Plan is considered a "Major Federal Action." As such, the Corps' Proposed Action to adopt and implement the Master Plan is subject to the requirements of the National Environmental Policy Act (NEPA) of 1969, as amended (42 United States Code [U.S.C.] 4321, et seq). This includes the preparation of an Environmental Assessment (EA) to assess the potential effects of the Proposed Action.

1.1 Authorized Project Purpose

The surveying and construction of the project was authorized by acts of Congress. Alamo Dam was authorized under the Flood Control Act of 1944 (Public Law 78-534), which included a number of flood protection projects across the nation. The U.S. Army Corps of Engineers conducted site evaluations and design planning for the Alamo Dam site throughout the 1950s and early 1960s. Subsequent design studies highlighted the urgent need for flood protection in the region and detailed the dam's proposed earthfill structure, which was later formalized in the 1964 General Design Memorandum.

Following these preliminary studies, construction of the dam commenced in July 1963 and was completed in July 1968, with operational status initiated later that same month.

Alamo Dam was designed and authorized as a multipurpose project consistent with the Corps' Civil Works mission, providing (1) effective control and regulation of floodwaters to protect lands, properties, and infrastructure, and (2) supporting additional Congressionally-authorized purposes including water conservation, recreation, and fish and wildlife enhancement. The properties and areas benefiting from this protection included agricultural lands, residential and commercial properties, utilities, highways, and railroads. Although originally proposed for hydroelectric power generation, this purpose was ultimately not pursued due to lack of feasibility. The project serves a broad region within the Bill Williams River watershed and contributes to flood risk reduction in the lower Colorado River Basin.

1.2 Project Location and Setting

The Alamo Dam is in Western Arizona (see **Exhibit 1-1**) and is owned and operated by the Corps, Los Angeles District. Constructed in 1968, Alamo Dam is located on the Bill Williams River on the border of La Paz and Mohave Counties, Arizona. Access is provided by a paved road that extends 36 miles north from U.S. 60 at Wenden and by a graded dirt road that extends 32 miles west from U.S. 93 near Congress. Wenden is the nearest town to the reservoir; the Phoenix metropolitan area is located approximately 148 miles southeast of the project.

Alamo Lake is situated in the upper reaches of the Sonoran Desert. The damsite lies in a steeply-sloped canyon between the Rawhide and Buckskin Mountain Ranges; the Artillery Mountains border the north side of the project near where the Bill Williams River is formed by the confluence of the Sandy and Santa Maria Rivers. The remaining project land is characterized by rolling terrain dissected by numerous arroyos.

Alamo Dam controls flooding in the drainage area of the Bill Williams, Big Sandy, Santa Maria, and Colorado River Basins in Mohave and La Paz Counties, Arizona. Protected properties include cultivated land, irrigation works, highways, railroads, and utilities along the lower Colorado River. Alamo Dam has a drainage area of 4,770 square miles (3,052,800 acres).

Exhibit 1-1: Alamo Dam Location



1.3 Purpose of and Need for the Action

A Master Plan is the document that conceptually establishes and guides the orderly development, administration, maintenance, preservation, enhancement, and management of all natural, cultural, and recreational resources of the Corps property. The original Alamo Dam Master Plan was published by the Corps in January 1975. The purpose of the Proposed Action is to develop and implement an updated Master Plan for the Corps-managed Alamo Dam in La Paz and Mohave Counties, Arizona. This updated Master Plan incorporates changes in Corps regulations and policies, related statutes, and current information regarding various natural resources, demographics and land uses. The updated Master Plan would be a vital tool produced and used by the Corps for present and future generations. It would serve to ensure the conservation and sustainability of these resources in compliance with applicable environmental laws and regulations, while also ensuring the viability of these lands for future public use. The updated Master Plan would also establish the basis for the development of the Operations Maintenance Plan (OMP) for Alamo Dam. The updated Master Plan would reflect ecological, socio-political, and socio-demographic changes that affect the Project Area, as well as those changes anticipated to occur over the next 25 years.

The need for the Proposed Action, as described in Corps Engineer Regulation (ER) 1130-2-550 Change 07 (Recreation Operations and Maintenance Policies), dated 30 January 2013, and Engineer Pamphlet (EP) 1130-2-550 Change 05 (Recreation and Maintenance Guidance and Procedures), dated 30 January 2013, states master plans are required for most Corps water resources development projects that have a federally owned land base. A master plan is considered a living document intended to be reviewed and updated, as appropriate, to reflect changing needs or conditions. Changes in outdoor recreation trends, regional land use, population, current legislative requirements, and Corps management policies reinforce the need to develop a master plan. Additionally, national policies related to the growing demand for recreation resources and protection of natural resources are factors affecting the study area. In response to these continually evolving trends, the Corps determined that an updated master plan is required for these lands.

1.4 Scope of the Action

As part of the NEPA process, the Corps is responsible for establishing the NEPA scope of analysis pursuant to 33 CFR Part 230. The Corps' NEPA scope of analysis encompasses approximately 28,630 acres of the Alamo Dam area (see **Exhibit 1-2**).

This EA was prepared to evaluate existing conditions and potential effects of proposed alternatives associated with implementing the updated Master Plan. The alternative considerations were formulated with special attention given to resource management objectives, including flood management, ecosystem stewardship, recreation, safety, and cultural resources (see **Master Plan Section 3.4**).

1.5 Pertinent Laws and Executive Orders

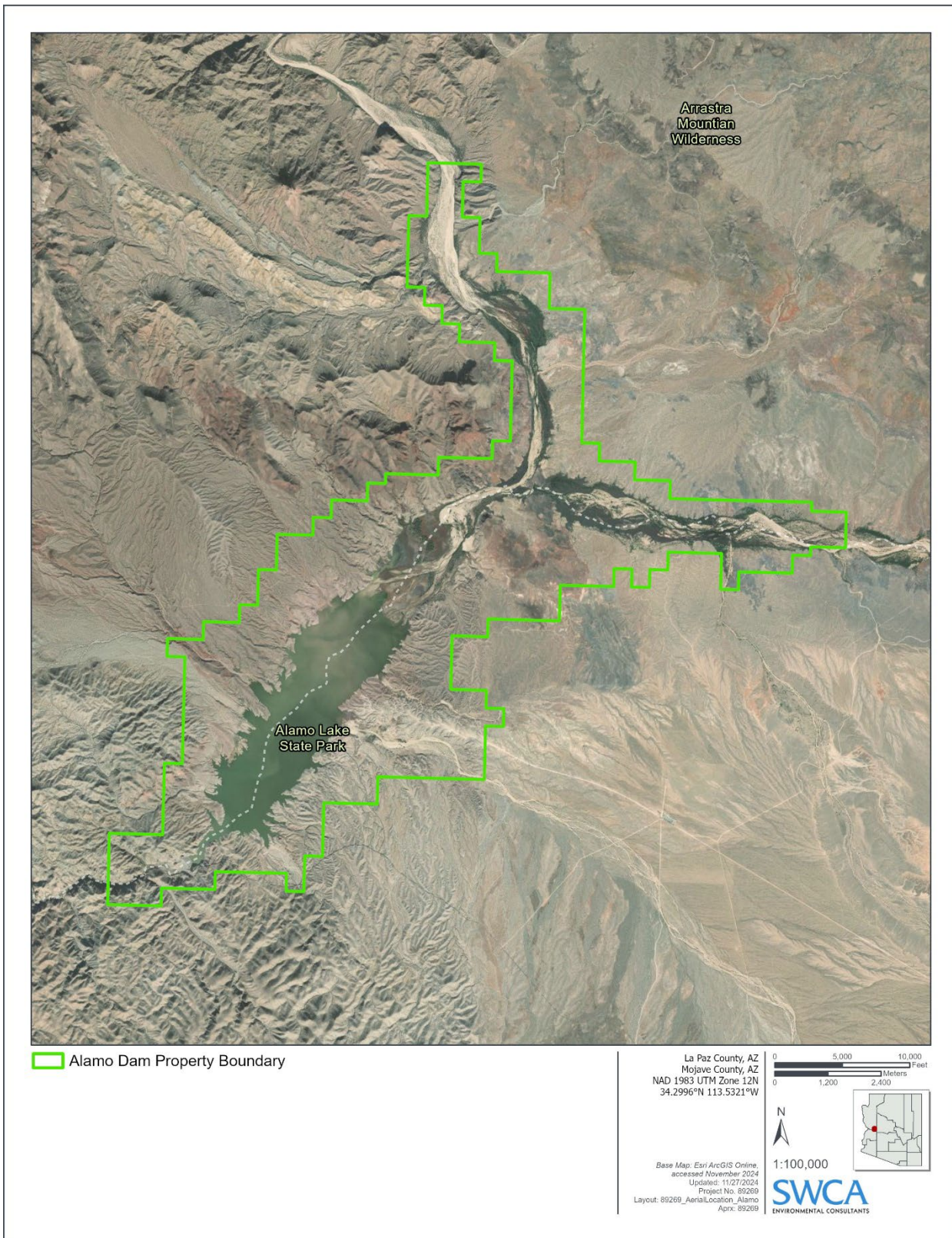
Numerous Federal laws and Executive Orders (EOs) apply directly or indirectly to the management of Federal land at the Alamo Dam Project Area. Listed below are public laws and EOs that are most frequently referenced in planning and operational documents.

1.5.1 *Pertinent Laws*

National Environmental Policy Act of 1969 (NEPA), Public Law 91-190: Declares 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 NEPA. 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 that supports diversity and variety of individual choice.
- Achieve a balance between population and resource use that 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.

Exhibit 1-2: Alamo Dam Area



Clean Air Act of 1963 (CAA): The CAA regulates air emissions from stationary and mobile sources and authorizes the Environmental Protection Agency (EPA) to establish air quality standards and set requirements for controlling air pollution from vehicles, industrial plants, and other sources.

Clean Water Act of 1972 (CWA), Public Law 92-500: The CWA sets standards for water quality and regulates discharges of pollutants into waterways in the United States. The policy also gives the EPA authority to implement pollution control programs and set wastewater standards for industries.

Endangered Species Act of 1973 (ESA), Public Law 93-205: The ESA provides a framework for the conservation and protection of endangered and threatened species and their habitats. The ESA aims to prevent extinction, recover imperiled plants and animals, and protect their ecosystems.

Migratory Bird Treaty Act of 1918 (MBTA), Public Law 65-186: The MBTA implements various international treaties for the protection of migratory birds and makes it unlawful to pursue, hunt, capture, kill, or sell birds listed as migratory species.

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

Forest Conservation Act, Public Law 86-717: This act provides for the protection of forest cover for reservoir areas under jurisdiction of the Secretary of the Army and the Chief of Engineers.

National Historic Preservation Act of 1966 (NHPA), Public Law 89-665: Section 106 of this act requires that the Advisory Council on Historic Preservation have an opportunity to comment on any undertaking that adversely affects properties listed, nominated, or considered important enough to be included on the National Register of Historic Places (NRHP).

Archaeological Resources Protection Act of 1979, Public Law 96-95: This act protects archaeological resources and sites that are on public and Tribal lands and fosters increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals. It also establishes requirements for issuance of permits by the Federal land managers to excavate or remove any archaeological resource located on public or Indian lands.

Native American Graves Protection and Repatriation Act (16 November 1990), Public Law 101-601: This act requires museums and Federal agencies to inventory

and repatriate Native American human remains and cultural items, including funerary objects and sacred objects, to their respective peoples.

Flood Control Act of 1938, Public Law 75-761: In addition to authorizing the construction, repair, and preservation of certain public works projects on rivers and harbors, this act authorizes the preliminary examination and surveys of potential areas for flood control development.

Flood Control Act of 1944, Public Law 78-534: Section 4 of this act, as amended, authorizes the Corps 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.

Flood Control Act of 1950, Public Law 81-516: This act authorized the construction repair, and preservation of certain public works on rivers and harbors for navigation, flood risk management, and for other purposes.

Leases – Non-Excess Property of Military Departments and Defense Agencies, as Amended, (10 U.S.C. 2667(a)): Authorizes the Corps to lease Federal land under its control to non-Federal entities when such use will promote the national defense or to be in the public interest. Land considered for lease under this authority must not be necessary for public use and is not considered excess. This leasing authority typically applies to uses that are considered “non-recreational.”

Easements for Rights-of-Way, as Amended (10 U.S.C. 2688): This authorizes the Corps to issue easements for rights-of-way over, in, and upon Federal land controlled by the Corps when such use will not be against the public interest.

1.5.2 Executive Orders

EO 11988, Floodplain Management: This EO identifies the responsibilities of Federal agencies in the role of floodplain management. Federal agencies are required to evaluate the potential effects of actions on the floodplains, including avoiding undertaking actions that directly or indirectly induce growth in the floodplain or adversely affect natural floodplain values. Construction of structures and amenities in the floodplains must consider alternative approaches that avoid adverse effects and incorporate flood proofing and other accepted flood risk management measures.

EO 11990, Protection of Wetlands: Requires Federal agencies to take action to minimize destruction, loss, or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency’s responsibilities. Each agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless the head of the agency finds that (1) there is no practicable alternative to such construction and (2) the Proposed Action includes all practicable measures to minimize harm to wetlands

resulting from such use. Federal agencies shall also provide opportunity for early public review of any plans or proposals for new construction in wetlands.

EO 13112, Invasive Species: To the extent practicable, Federal agencies are required to detect and rapidly respond to and control populations of invasive species, as well as provide for the restoration of native species and habitat conditions in ecosystems that have been invaded. In addition, agencies are not authorized to fund or carry out actions likely to cause or promote the introduction or spread of invasive species.

EO 13166 of August 2000, Improving Access to Services for Persons with Limited English Proficiency (LEP): This EO requires Federal agencies to ensure meaningful access by LEP persons such that they have an adequate opportunity to provide input on proposed plans and actions.

EO 13007 of May 1996, Indian Sacred Sites: This order moves to accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoid affecting the physical integrity of those sites in any adverse way.

EO 13175 of November 2000, Consultation and Coordination with Indian Tribal Governments: This EO requires Federal agencies to establish regular and meaningful consultation and collaboration with Tribal officials in the development of Federal policies that have Tribal implications, to strengthen the United States Government-to-government relationships with Indian tribes, and to reduce the imposition of unfunded mandates upon Indian tribes. This includes timely consultation with Tribal officials on agency actions with potential Tribal implications.

1.6 Pertinent Publications

Exhibit 1-3: Design Memoranda for Alamo Dam

No	Title	Year
1	Preliminary Master Plan, Part of Master Plan for Planning and Administration of Project Land and Water Areas, Alamo Reservoir, Bill Williams River, Arizona	1962
2	Real Estate, Alamo Reservoir, Bill Williams River, Arizona	1966
3	General Design for Alamo Reservoir, Bill Williams River, Arizona	1965

SECTION 2: PROPOSED ACTION AND ALTERNATIVES

This section describes the No Action Alternative, the Proposed Action, and alternatives considered but eliminated. The Proposed Action is the preferred alternative.

2.1 Alternative 1: No Action Alternative

The No Action Alternative serves as a basis for comparison to the anticipated effects of the action alternatives. Under the No Action Alternative, the Corps would not approve the adoption and implementation of the updated Master Plan. Instead, the Corps would continue to manage the Alamo Dam's natural, cultural, and recreational resources according to the guidance of the existing 1975 Master Plan. The No Action Alternative, while it does not meet the purpose of, or need for, the Proposed Action, serves as a benchmark of existing conditions against which Federal actions can be evaluated. Its consideration in this EA is required by NEPA (NEPA 42 U.S.C. § 4332), and as such, the No Action Alternative is carried forward for further evaluation in this EA.

2.2 Alternative 2: Proposed Action

Under the Proposed Action, the updated Master Plan would be adopted and implemented in coordination with public comments and in accordance with the Corps' land management and usage goals, objectives, guidance, and regulations. The updated Master Plan utilizes land use classifications that do not substantively alter the existing conditions but rather define how project lands are classified and resources are managed. The Proposed Action formalizes the land use and management approach that is already in place. **Exhibit 2-1** provides a summary of the Corps' resource goals and objectives relative to the development and implementation of a Master Plan (see **Master Plan Chapter 3** for additional information). The Proposed Action is consistent with resource management objectives that reflect current and projected needs that are compatible with regional goals in the Alamo Dam area for the next 25 years.

Exhibit 2-1: Master Planning Resource Goals and Objectives

Management Goal	Management Objective
Resource Management	<ul style="list-style-type: none">• Goal A: Flood Management• Goal B: Ecosystem Stewardship• Goal C: Recreation• Goal D: Safety• Goal E: Cultural Resources

The proposed land classification categories are defined as follows:

- **Project Operations:** Lands managed for the operation of the dam, dam embankments, outlet works, spillways, dikes, service roads, reservoirs, and other areas that support the operation of the facility, all of which must be maintained to carry out the authorized purpose of the dam (flood risk management).
- **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. These include:
 - **MRML Low Density Recreation (MRML-LDR):** Lands with minimal development or infrastructure that support passive recreational use (e.g., primitive camping, fishing, hunting, trails, wildlife viewing).
 - **MRML Wildlife Management/Vegetative Management (MRML-WM/VM):** Lands designated for stewardship of fish, wildlife, and vegetative resources.
- **Project Easement Lands (PEL):** PEL are lands for which the Corps holds an easement interest but does not own the fee title. Project easement lands have easement interests that were acquired to convey to the Federal Government the right to manage lands according to a specific purpose. Corps easements fall into three categories: Operations Easements, Flowage Easements, and/or Conservation Easements.
- **Environmentally Sensitive Areas (ESAs):** Lands where scientific, ecological, cultural, or aesthetic features have been identified.
- **High Density Recreation:** Lands developed for intensive recreational activities for the visiting public including day-use areas and/or campgrounds.

Exhibit 2-2 presents the recommended land classifications, their acreages, and the justification for the land classifications at the dam. **Exhibit 2-3** shows the allocation and land use classification for the dam area. The benefits and consequences of these recommendations are discussed throughout this document. Justifications are based on an analysis of data, public and agency input, and professional knowledge.

Exhibit 2-2: Proposed Alamo Dam Land Classifications and Acreages

Alamo Dam 2024 Land Class	2024 Acreage ¹
Project Operations	132
Wildlife/Vegetation Management - MRML	17,836
High Density Recreation	2,000

¹ Values may not total to precise acreages on real estate documents due to rounding.

Environmentally Sensitive Areas (ESAs)	5,000
Pending Acquisition Area ²	1
Water Surface ³	3,661
Project Area Totals	28,630

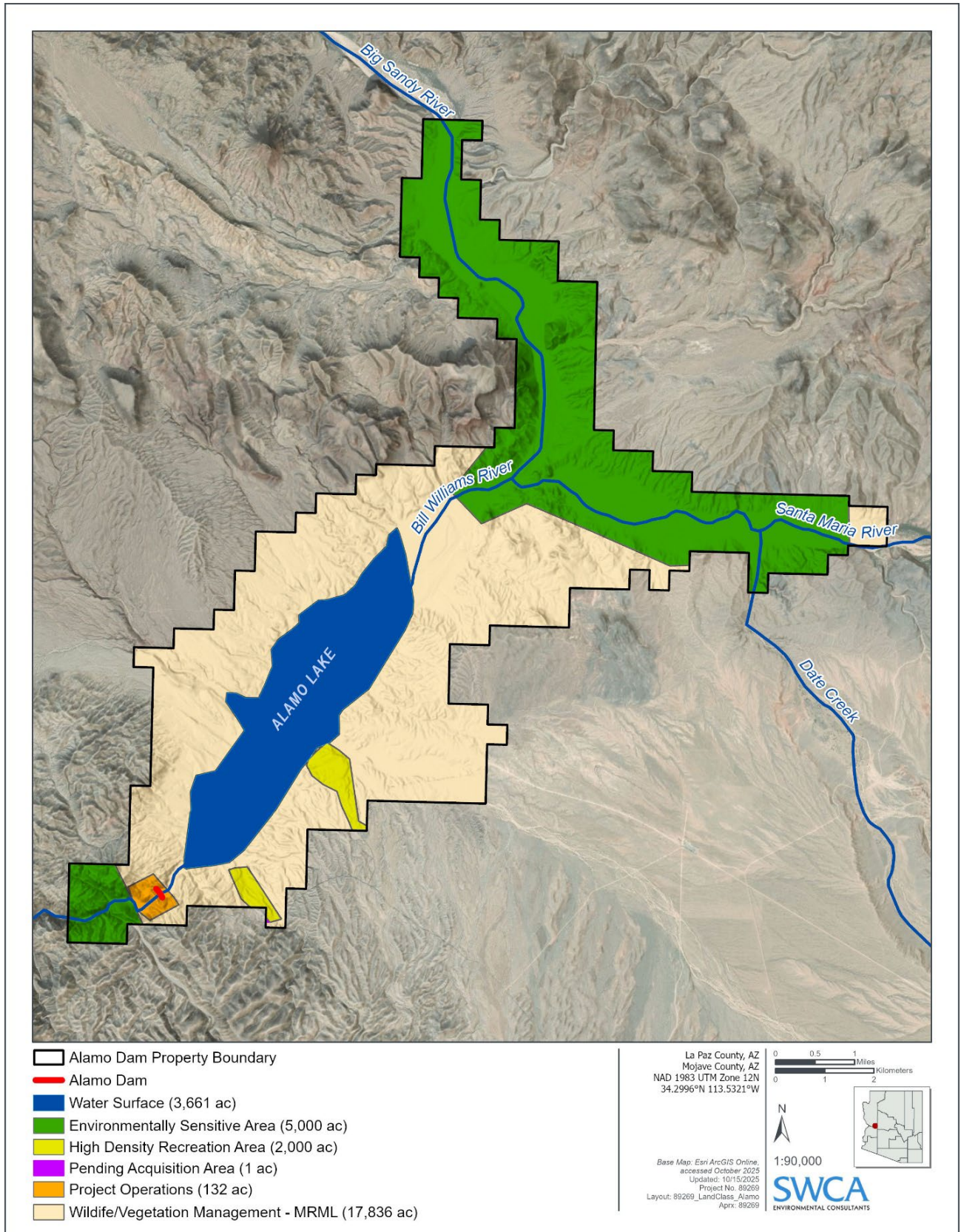
2.3 Alternatives Considered but Eliminated from Further Consideration

During the scoping process, the Corps solicited input from other agencies, tribes, and the public on any additional alternatives or land use categories that would align with the purpose, need, and current regulations and guidance. Stakeholders were invited to a virtual scoping meeting held on February 20, 2025, and a public meeting was held at the Corps Rangers Office at Alamo Lake, Arizona on February 28, 2025. For those who could not attend, public scoping materials were made available by request. No additional alternatives were proposed. Consequently, no other alternatives were identified and considered for analysis.

² Pending Acquisition Area classification to be determined.

³ At WSE 1,125 [NGVD] the target WSE

Exhibit 2-3: Alamo Dam Allocation and Land Classifications



SECTION 3: AFFECTED ENVIRONMENT AND CONSEQUENCES

This section of the EA provides an overview of the natural and human environments of the project and outlines the potential impacts associated with the No Action Alternative (Alternative 1) and the Proposed Action (Alternative 2). The description is limited to issues that may be affected by these alternatives. Some topics have restricted scope either due to the absence of a direct or indirect effect from the Proposed Action on the resource or because the specific resource is located outside the Project Area. For instance, no body of water within the Project Area's watershed holds a Federal wild or scenic river designation, and, therefore, these resources are not discussed in this EA (Wild and Scenic Rivers Act, 1968; Public Law 90-542, 16 U.S.C. 1271 et seq.).

Impacts, which can be beneficial or adverse, may result directly or indirectly from an action or alternative. Direct effects occur simultaneously with the action at the same time and place, while indirect effects, though caused by the action, happen later in time or at a distance, but are reasonably foreseeable. An implemented alternative may lead to temporary (less than one year), short-term (up to three years), long-term (three to 10 years post-Master Plan implementation), or permanent impacts.

Determining the significance of an adverse effect depends on the context and intensity of the Proposed Action.

The context of the effect takes into consideration the setting, encompassing society, the affected region, interests, and locality. The effects on a resource can range in magnitude from a slightly noticeable change to a complete environmental transformation. For analysis purposes, the intensity of an effect is classified as negligible, minor, moderate, or major and are defined as follows:

- **Negligible:** No effect or no measurable consequence, below the level of detection.
- **Minor:** Detectable effects that are localized and small, with little consequence. Mitigation measures, if needed, would be simple and achievable.
- **Moderate:** Readily detectable, long-term, localized, and measurable effects. Extensive mitigation measures may be necessary and are likely to be achievable.
- **Major:** Obvious and long-term effects with substantial regional consequences. Extensive mitigation measures are required, with no guaranteed success.

3.1 Land Use

The Alamo Dam was constructed in 1968 for the purpose of flood risk management. The land classifications were determined for the Alamo Dam during the development of

the original Master Plan by considering land ownership, wildlife habitat values, surrounding land use, regional recreation trends, and other resources. It should be noted that the original Master Plan did not contain acreages or maps of the land classifications, only basic descriptions. **Exhibit 3-1** provides a summary of land classifications at the Alamo Dam.

Exhibit 3-1: Proposed Alamo Dam Land Classifications and Acreages

Alamo Dam 2024 Land Class	2024 Acreage⁴
Project Operations	132
Wildlife/Vegetative Management – MRML	17,8369
High Density Recreation	2,000
Environmentally Sensitive Areas (ESAs)	5,000
Pending Acquisition Area ⁵	1
Water Surface ⁶	3,661
Project Area Totals	28,630

There are currently no easement lands (e.g., flowage, operations, conservation) associated with Alamo Dam. The Corps owns and manages all project lands in fee title. Any future easement acquisitions or dedications would be evaluated under applicable Corps real estate authorities.

3.1.1 Thresholds of Significance

Impacts to land use may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Physically divide an established community; or
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project that was adopted for avoiding or mitigating an environmental effect.

3.1.2 Alternative 1: No Action

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the 1975 Master Plan. Without an updated Master Plan, existing land uses at the dam would remain unchanged and are consistent with existing conditions. Therefore, foreseeable direct and indirect impacts associated with the No Action Alternative to land use are negligible.

⁴ Values may not total to precise acreages on real estate documents due to rounding.

⁵ Pending Acquisition Area classification to be determined.

⁶ Water Surface at WSE 1,125 ft (NGVD), the target water surface elevation (WSE)

3.1.3 *Alternative 2: Proposed Action*

Under the Proposed Action, the Corps would manage the land owned in title fee in accordance with the guidance of the updated Master Plan. Land classifications proposed within the updated Master Plan were developed to align with regional goals associated with good stewardship of the land and with how the land is currently managed.

Under the Proposed Action, 132 acres would be classified as Project Operations and includes the dam and supporting infrastructure. 2,000 acres would be classified as High Density Recreation, which includes the existing recreational areas. 5,000 acres would be classified as Environmentally Sensitive Areas (ESAs). 17,836 acres would be These land classifications reflect existing conditions.

Because the Proposed Action results in land classifications that reflect existing conditions as well regional goals, foreseeable direct and indirect impacts associated with the Proposed Action to land use are negligible.

3.2 Water Resources

3.2.1 *Thresholds of Significance*

Impacts to water resources may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Causes substantial interference with groundwater supplies, recharge, or direction and rate of groundwater flow;
- Substantially alters the existing drainage pattern of the site or area, including the alteration of the course of a stream or river, in a manner that would result in substantial increase in erosion or siltation on or off site; or
- Impacts causing the loss of waters and/or wetlands.

3.2.2 *Non-Wetland and Wetlands*

Section 404 of the CWA establishes a program in which the Corps regulates the discharge of dredged or fill material into waters of the United States, including wetlands (EPA, 2025a). The Corps and the EPA currently define wetlands as “those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions” (EPA, 2025a).

The USFWS National Wetlands Inventory (NWI) provides a wetlands geospatial dataset and online tool, the Wetlands Mapper (USFWS, 2025a). According to these maps, there are wetland habitats within the Alamo Dam boundary, including riverine (985 acres), freshwater emergent (142 acres), and freshwater forested/ shrub wetlands (2,574

acres), as well as lakes (2,996 acres) and freshwater ponds (58 acres). The wetland habitats are concentrated around the confluence of the Big Sandy and Santa Maria Rivers.

A field delineation of aquatic resources has not been conducted in the project sites; therefore, the actual extent of aquatic resources, including wetlands, is not known.

3.2.3 Water Quality

The Alamo Lake August 2025 Water Quality Report states that the USFWS takes monthly water quality measurements at four sites: upstream of Alamo Dam (ALP-1), mid-lake (ALP-2), the upstream inflow into Alamo Lake (ALP-3), and below Alamo Dam (ALP-4) (Arizona Fish and Wildlife Conservation Office, 2025). These measurements include water temperature (°C), dissolved oxygen (mg/L), conductivity, pH, oxidation reduction potential (ORP), and secchi disk (m). According to the report, mean dissolved oxygen was 3.1 mg/L, mean temperature was 21.64°C, mean pH was 8.85, mean conductivity was 649.76 uS/cm, and mean ORP was -66.44. **Exhibit 3-2** summarizes the water quality parameters at these four sites located at Alamo Lake.

Exhibit 3-2. Summary of Water Quality Parameters at Alamo Lake

Site	DO (mg/L; range)	Temp (°C; range)	pH (range)	Cond (uS/cm; range)	ORP (range)
ALP-1	1.5 (0 – 7.5)	18.9 (14.5 - 29.9)	8.7 (8.3 - 9.4)	638.9 (624.7 - 670.2)	-79 (-151 - -53)
ALP-2	2.9 (0 – 7.3)	23.1 (15.1 - 30.5)	8.9 (8.4 - 9.4)	650.8 (626 – 671.6)	-62.2 (-111 - -42)
ALP-3	5.6 (5.6 - 5.6)	31 (31 – 31)	9.3 (9.3 - 9.3)	690.5 (690.5 - 690.5)	-32 (-32 - -32)
ALP-4	13.5 (13.5 - 13.5)	18.1 (18.1 - 18.1)	9.2 (9.2 - 9.2)	675.8 (675.8 - 675.8)	-51 (-51 - -51)

Under Section 303(d) of the Clean Water Act, the EPA is authorized to assist states, territories and authorized Tribes in listing impaired waters and developing Total Maximum Daily Loads (TMDLs) for these waterbodies (EPA, 2025b). Water quality is monitored for physical, chemical and biological factors. The EPA's Assessment and TMDL Tracking System (ATTAINS) lists Alamo Dam, and associated waterbodies (reservoir and lake), as impaired for aquatic life, wildlife, and warmwater fisheries, fish consumption, full body contact (swimming), and agricultural livestock watering. Other identified water quality issues at Alamo Dam are acidity, ammonia, and mercury.

3.2.4 Alternative 1: No Action

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the existing 1975 Master Plan. Land use management under the No Action Alternative is consistent with existing conditions and would not alter existing water resources. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to water resources are negligible.

3.2.5 Alternative 2: Proposed Action

Under the Proposed Action, the Corps would adopt and implement the updated Master Plan. The proposed land classifications (see **Exhibit 2-2**) or resource goals and objectives (see **Exhibit 2-1** or **Master Plan Chapter 3**) would not alter existing water resources. As such, foreseeable direct and indirect impacts associated with the Proposed Action to water resources are negligible.

3.3 Climate

The Alamo Dam Project is located in an arid region of the eastern Basin and Range Province, with climate conditions shaped by global weather patterns, regional topography, and its desert setting. According to the Köppen climate classification, the area surrounding the dam exhibits a Hot Desert Climate (BWh), while upstream contributing areas in the Central Highlands experience a Hot Summer Mediterranean Climate (Csa).

Precipitation and Temperature Patterns:

The climate is typified by hot summers and mild winters, with a bimodal precipitation pattern driven by both winter Pacific storms and late summer monsoonal events. Average annual precipitation at the project site is approximately 8.6 inches, with peak rainfall typically occurring in February and August (Arizona Dept. of Water Resources, 2009).

The region's monthly average high temperatures range from 66°F in January to 108°F in July, while average nighttime lows vary from 36°F in winter to 76°F in summer (see **Exhibit 3-3**). Higher elevations in the upstream watershed (e.g., Santa Maria River headwaters) receive up to 18 inches of precipitation annually due to orographic effects. See **Exhibit 3-4** for summary precipitation data for National Climate Data Center Station AZ 020100 (NCDC).

Long-Term Climate Trends:

Paleoclimatic data from tree-ring analysis indicate significant decadal variability in precipitation since 1000 CE. More recent trends, based on NOAA Climate Division 1 data for Mohave County, show multi-decade precipitation cycles influenced by the El Niño Southern Oscillation (ENSO) and Pacific Decadal Oscillation (PDO).

El Niño years tend to bring increased winter rainfall.

La Niña years are typically drier than average.

Additionally, average annual temperatures have risen over recent decades, consistent with broader global warming trends. This warming is partially attributed to changing global weather patterns and regional land cover changes, including urbanization and vegetation shifts. (ADWR, 2009).

Implications for Resource Management:

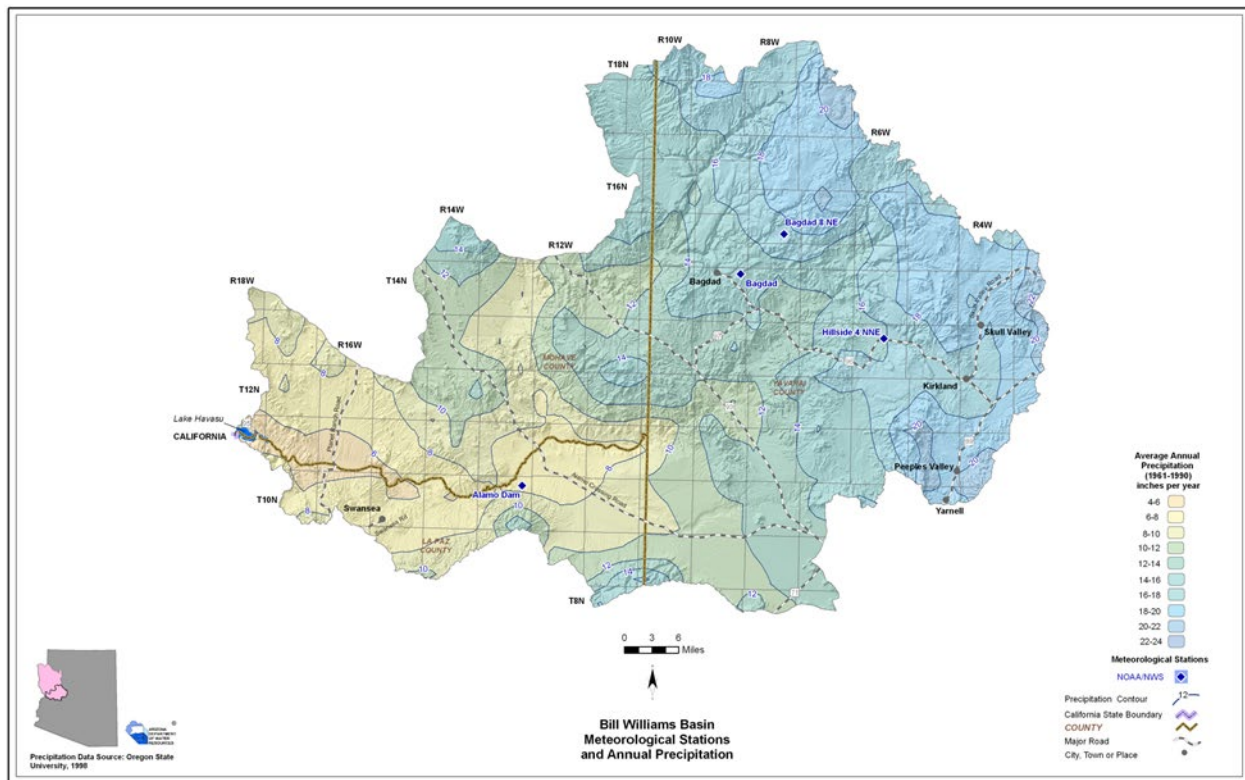
These climate conditions—particularly high summer heat, variable precipitation, and extreme storm events—pose both constraints and opportunities for recreation development, ecological restoration, and infrastructure siting. Prolonged droughts and increasing temperatures may impact riparian habitat health, recreation demand patterns, and water availability for downstream users.

Future land use decisions should incorporate adaptive strategies for drought resilience, habitat sensitivity, and visitor safety, especially during extreme heat and flash flood conditions. This climate context also informs environmental stewardship planning under ER 1130-2-540 and the scheduling of maintenance activities during lower-risk weather windows.

Exhibit 3-3: Summary Climate Data for Alamo Dam (WRCC Station 020100)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Avg. Max Temp (°F)	66.1	70.2	77.2	85.4	95.3	104.6	108.3	106.3	100.7	89.3	73.3	65.7	87.1
Avg. Min Temp (°F)	36.0	39.8	45.1	51.7	60.9	69.3	76.8	76.0	67.8	55.4	42.1	36.0	54.9
Avg. Total Precip. (in)	0.99	1.13	0.82	0.29	0.10	0.11	0.67	1.45	0.87	0.65	0.73	0.76	8.56

Exhibit 3-4: Precipitation Map for Bill Williams River Basin (ADWR, 2009)



3.3.1 Alternative 1: No Action

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the existing 1975 Master Plan. Land use management under the No Action Alternative is consistent with existing conditions and does not result in a change in conditions that may contribute to an effect on climate. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to climate are negligible.

3.3.2 Alternative 2: Proposed Action

Under the Proposed Action, the Corps would adopt and implement the update Master Plan. The proposed land classifications (see **Exhibit 2-2**) or resource goals and objectives (see **Exhibit 2-1** or **Master Plan Chapter 3**) would not result in a change in conditions that may contribute to an effect on climate. As such, foreseeable direct and indirect impacts associated with the Proposed Action to climate are negligible.

3.4 Air Quality

The Arizona Department of Environmental Quality (ADEQ) oversees the stewardship of the State's natural resources, including air quality. The quality of the air can affect human health, plant and animal life, and the aesthetic beauty of Arizona. Neither La Paz County nor Mohave County is listed as a nonattainment area for criteria pollutants (EPA, 2025c). In conducting routine O&M activities at Alamo Dam, the Corps complies with all Federal, State, and local laws governing air quality and implements Best Management Practices (BMPs) to protect air quality.

3.4.1 Thresholds of Significance

Impacts to air quality may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Cause or contribute to any new violation of any National Ambient Air Quality Standards (NAAQS) in any area.
- Increase the frequency or severity of any existing violation of any NAAQS in any area.
- Delay timely attainment of any NAAQS or any required interim emissions reductions or other milestones in any area.

3.4.2 Alternative 1: No Action

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the 1975 Master Plan. Land use management associated with the No Action Alternative is consistent with existing conditions and does not result in a change of criteria for air pollutants production. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to air quality are negligible.

3.4.3 Alternative 2: Proposed Action

Under the Proposed Action, the Corps would adopt and implement the updated Master Plan. The proposed land classifications (see **Exhibit 2-2**) or resource goals and objectives (see **Exhibit 2-1** or **Master Plan Chapter 3**) would not introduce new source criteria for pollutants. Because the Project Area is not within designated air quality nonattainment or maintenance areas, a General Air Conformity Analysis and Determination is not required. Additionally, the new Master Plan complies with the Clean Air Act. As such, foreseeable direct and indirect impacts associated with the Proposed Action to air quality are negligible.

3.5 Topography, Geology, and Soils

Alamo Dam is within the Basin and Range physiographic province and within Arizona's Sonoran Basin and Range Ecoregion, which is dominated by scattered low mountains. The general trend of topography in this area consists of north-south trending mountain ranges and broad alluvial valleys. Most of the mountains were formed as uplifted fault blocks and have steep slopes. Alamo Dam ranges in elevation from 1617 feet to 1941 feet as shown by relative digital elevation model (DEM) relief ft (**Exhibit 3-5**).

The drainage area of Alamo Dam consists largely of broad desert valleys and ranges of rugged mountains, with elevations ranging from 990 feet at the base of the dam, to 8,226 feet at Hualpai Peak on the northwest boundary (USACE, 2003). The relief in this area is moderate to high. Alamo Dam is within a narrow section of a deep narrow canyon created by the Bill Williams River between the Buckskin Mountains in the south and the Rawhide Mountains in the north. The basin is bound by many mountains including the Juniper, Santa Maria, and Santa Prieta Mountains in the east, the Peacock Mountains and Cottonwood Cliffs in the north, the Weaver, Date Creek, and Harcurver Mountains in the south, and the Buckskin, Rawhide, and Hualpai Mountains in the west. Rock formations in the vicinity of the dam consist of metamorphic rocks of Precambrian age and younger, sedimentary strata (rock beds) of Tertiary age or older, and volcanic rocks of Tertiary age. Alluvium in the region is Recent and older.

The U.S. Geological Survey (USGS) Quaternary Fault Interactive Map, a database and map on faults and associated folds in the United States that are believed to be sources of $M > 6$ earthquakes during the Quaternary Period, does not have any mapped faults at Alamo Dam. The database is intended to be the USGS's archive for historic and ancient earthquake sources used in current and future probabilistic seismic-hazard analyses (USGS, 2025b).

The Natural Resources Conservation Service (NRCS) groups soils into a Land Capability Classification system to demonstrate the suitability of soils for most field crops. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management (USDA, 2019). Soils at Alamo Dam are mainly classified as Class 7c, soils that have very severe

limitations that make them unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat, and then Class 8, soils and miscellaneous areas which have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or aesthetic purposes. Subclasses are designated by the lower-case letter attached to the class number such that, “c” denotes the soil is limited mainly because the climate is very cold or very dry (**Exhibit 3-6**).

Additionally, the NRCS created four hydrologic soil groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. Soils at Alamo Dam are largely Group A, soils that have low runoff potential and high infiltration rates even when thoroughly wetted, and then Group D, soils that have the highest runoff potential and low infiltration rates when thoroughly wetted, and then Group B, soils that have moderate infiltration rates when thoroughly wetted. Soils in Group A consist mainly of deep, well drained sands or gravelly sands, whereas soils in Group D consist of clays with a high shrink-swell potential or a high water table.

3.5.1 *Thresholds of Significance*

Impacts to topography, geology, and soils may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Changes to soil stability or permeability will occur.

3.5.2 *Alternative 1: No Action*

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the existing 1975 Master Plan. Land use management associated with the No Action Alternative is consistent with existing conditions and does not result in a change to topography, geology, or soils. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to topography, geology, and soils are negligible.

Exhibit 3-5: Alamo Dam Topography

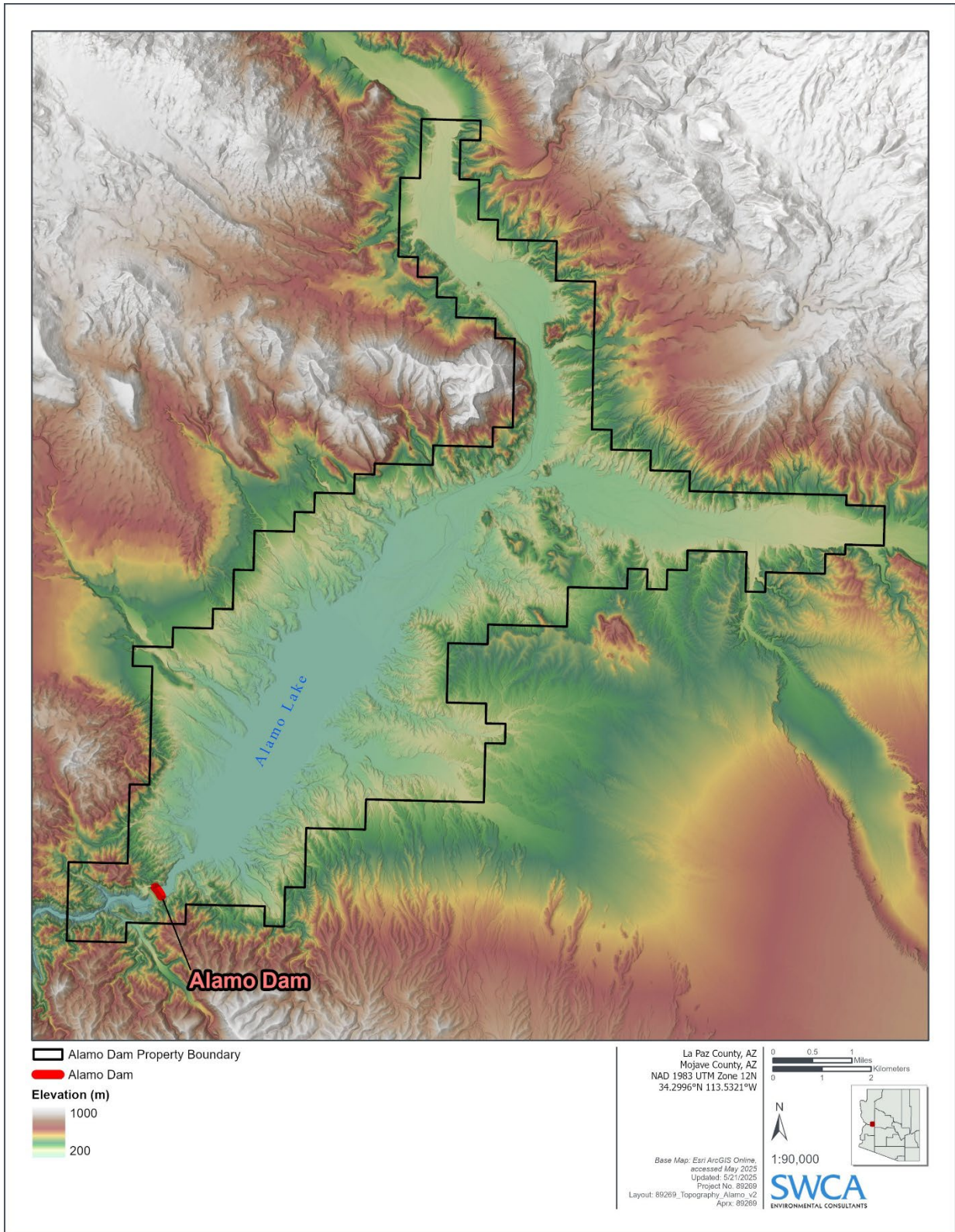
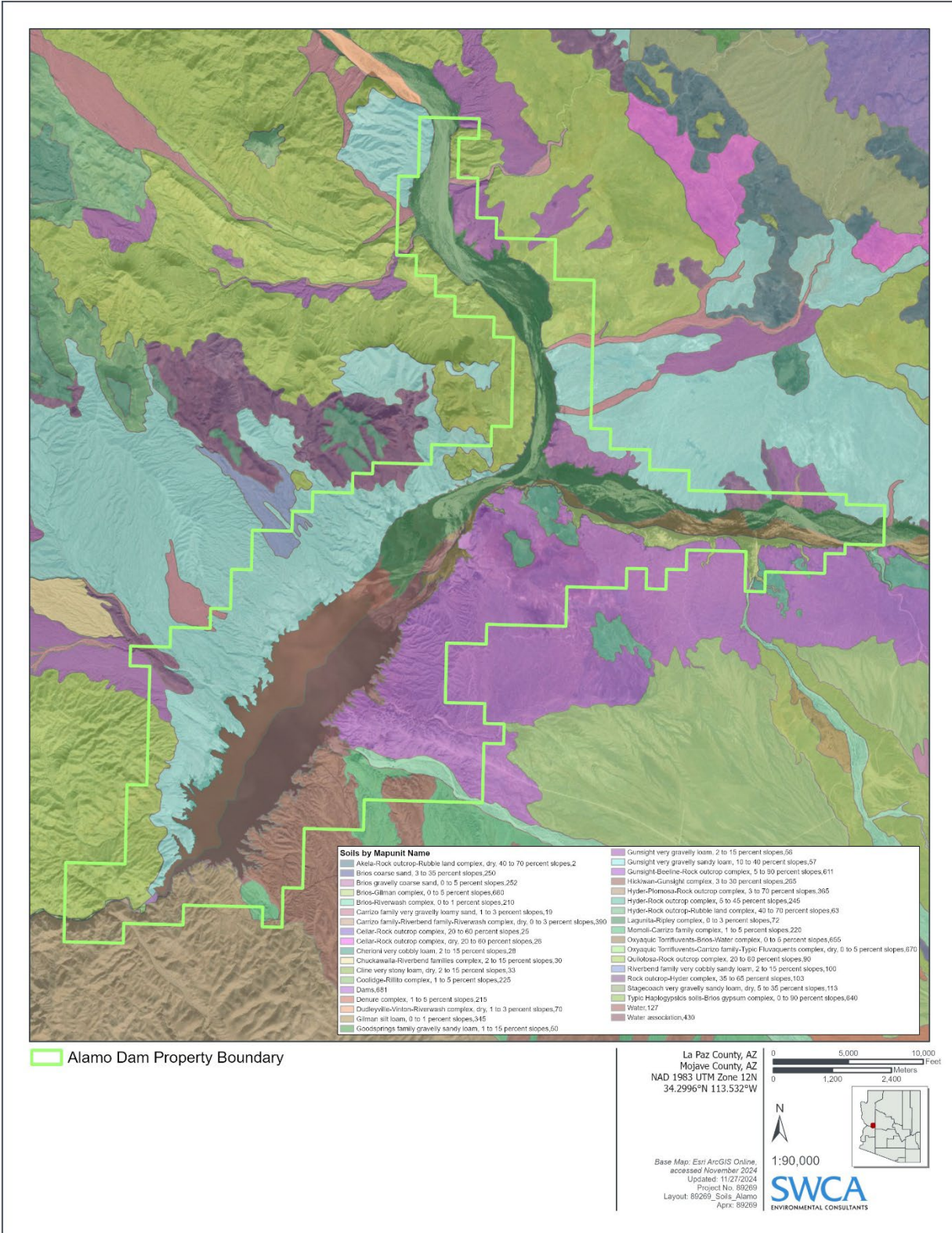


Exhibit 3-6: Alamo Dam Soils



3.5.3 Alternative 2: Proposed Action

Under the Proposed Action, the Corps would adopt and implement the updated Master Plan. The proposed land classifications (see **Exhibit 2-2**) or resource goals and objectives (see **Exhibit 2-1** or **Master Plan Chapter 3**) would not alter existing topographic, geologic, or soil conditions. As such, foreseeable direct and indirect impacts associated with the Proposed Action to topography, geography, and soils are negligible.

3.6 Natural Resources

The umbrella of natural resources includes vegetation, wildlife, and habitat, with the exception of resources federally listed as threatened and endangered (T&E) or those resources identified as invasive. Those two sets of natural resources are discussed separately in **Section 3.7** and **Section 3.8**, respectively.

The Corps' environmental stewardship policies, regulations, and general ecosystem management principles are established in ER 1130-2-540 and EP 1130-2-540, respectively, as well as its Army Regulation (AR) 200-3 for Natural Resources – Land, Forest, and Wildlife Management. The Alamo Dam was constructed by the Corps to control floods in the drainage areas of the Bill Williams, Big Sandy, Santa Maria and Colorado Yuma Counties, Arizona that damage property and take lives, to establish water conservation storage, and to provide recreational areas. The Dam was constructed through grading, heavy earthwork, and placement of rock and concrete structures. The Dam collects upstream flows, which support plants, fish, and wildlife. Per regulations ER and EP 1130-2-540, it is the Corps policy to be effective stewards and preserve and maintain natural resources on managed lands and waters.

3.6.1 Thresholds of Significance

Impacts to natural resources may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Results in substantial adverse effects to vegetation, wildlife, and habitat, excluding federally listed T&E species.

3.6.1 Alternative 1: No Action

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the existing 1975 Master Plan. Land use management associated with the No Action Alternative is consistent with existing conditions and does not result in a change to natural resources. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to natural resources are negligible.

3.6.2 **Alternative 2: Proposed Action**

Under the Proposed Action, the Corps would adopt and implement the updated Master Plan. The proposed land classifications (see **Exhibit 2-2**) or resource goals and objectives (see **Exhibit 2-1** or **Master Plan Chapter 3**) would not alter existing natural resources. As such, foreseeable direct and indirect impacts associated with the Proposed Action to natural resources are negligible.

3.7 **Threatened and Endangered Species**

The U.S. Congress passed the Endangered Species Act of 1973, as amended (16 U.S. Code 1531 et seq.) to protect both endangered species and species threatened with extinction (federally listed species). The ESA operates in conjunction with NEPA reviews to regulate and protect the ecosystems upon which T&E species depend.

All Federal agencies, or non-Federal projects with a Federal nexus, must ensure that any actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of a listed species or destroy or adversely modify its designated Critical Habitat. The ESA also defines Critical Habitat as habitat determined essential to the survival of a federally listed species. The Federal Government is required to designate Critical Habitat for any species it lists under the ESA regulations. Designated Critical Habitat have specific biological and physical elements, and the designation applies only when Federal funding, permits, or projects are involved.

Federally Listed Plant and Animal Species: The USFWS Information for Planning and Consultation (IPaC) online tool identified four species listed as threatened, endangered, or as T&E candidate species that could potentially be found at or near the project sites:

- Yellow-billed cuckoo (*Coccyzus americanus*) – Threatened
- Southwestern willow flycatcher (*Empidonax traillii extimus*) – Endangered
- California least tern (*Sternula antillarum browni*) – Endangered
- Northern Mexican gartersnake (*Thamnophis eques megalops*) - Threatened
- Monarch butterfly (*Danaus plexippus*) – Proposed Threatened

These species were identified in the IPaC Reports generated for this EA (USFWS, 2025b). Designated Critical Habitat for the northern Mexican gartersnake and the southwestern willow flycatcher occurs at Alamo Dam (USFWS, 2025b). The Critical Habitat for the Southwestern willow flycatcher runs along the Bill Williams River National Wildlife Refuge and to the north and west of the dam site. There is also critical habitat for the yellow-billed cuckoo approximately six miles north of Alamo Dam, along the Big Sandy River.

Yellow-billed cuckoos use wooded habitat with dense cover and water nearby, including woodlands with low, scrubby vegetation, overgrown orchards, abandoned farmland and

dense thickets along streams and marshes (USFWS, 2025c). While the dam site is within the range of this species, it is not likely to reside or nest within the project area due to the lack of suitable mature riparian and understory habitat.

California least terns nest on open, sandy dunes along the coast, and feed on small fish like anchovy and smelt in shallow coastal waters, lagoons and estuaries (San Diego Bird Alliance, 2025). There is a possibility this species occurs within the project area, as it contains suitable habitat.

The proposed threatened species, monarch butterfly, is transitory and requires milkweed plants to sustain its caterpillars (USFWS, 2025d). Milkweed is the sole host plant on which monarch butterflies lay their eggs and upon which the monarch caterpillars feed. Milkweed is not known to occur in the Project Area (USDA, 2025), so it is unlikely monarch butterflies occur in the project area.

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. The IPaC tool identifies bald eagles within Alamo Dam, and a population of bald eagles was recognized in the Alamo Dam Water Control Manual (USACE, 2003).

The Migratory Birds Treaty Act of 1918 protects certain birds with the intent to ensure the sustainability of populations of all protected migratory bird species. The Migratory Bird Treaty Act (MBTA) 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. The IPaC tool lists eleven protected migratory birds at Alamo Dam (**Exhibit 3-7**).

State-Listed Plant and Animal Species: A review of AZDGF state-listed species within 1 mile of the Project Area resulted in occurrences of two species: the Clark’s grebe (*Aechmophorus clarkii*) and the Gila woodpecker (*Melanerpes uropygialis*). All threatened, endangered, or candidate species that could potentially be found at or near Alamo Dam are listed in **Exhibit 3-7**.

Exhibit 3-7: Potentially Present Threatened and Endangered Species

Common Name	Scientific Name	Status
Reptiles		
Northern Mexican garter snake	<i>Thamnophis eques megalops</i>	T
Birds		
Clark’s grebe	<i>Aechmophorus clarki</i>	SL; BCC
Western grebe	<i>Aechmophorus occidentalis</i>	BCC
Costa’s hummingbird	<i>Calypte costae</i>	BCC
yellow-billed cuckoo	<i>Coccyzus americanus</i>	T
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	E
bald eagle	<i>Haliaeetus leucocephalus</i>	*
marbled godwit	<i>Limosa fedoa</i>	BCC

Common Name	Scientific Name	Status
Gila woodpecker	<i>Melanerpes uropygialis</i>	SL; BCC
American avocet	<i>Recurvirostra americana</i>	BCC
Lawrence's goldfinch	<i>Spinus lawrencei</i>	BCC
black-chinned sparrow	<i>Spizella atrogularis</i>	BCC
California least tern	<i>Sternula antillarum browni</i>	E
Bendire's thrasher	<i>Toxostoma bendirei</i>	BCC
Leconte's thrasher	<i>Toxostoma lecontei</i>	BCC
willet	<i>Tringa semipalmata</i>	BCC
Insects		
monarch butterfly	<i>Danaus plexippus</i>	PT

Note: E = Endangered; T = Threatened; PT = Proposed Threatened; SL = AZDGF Listed; BCC = USFWS Birds of Conservation Concern

* Protected by the Bald Eagle Protection Act

3.7.1 **Thresholds of Significance**

Impacts to T&E species may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Adverse effects to or take of the species listed as threatened, endangered, or as T&E candidate species.
- A substantial increase in the ambient noise levels for adjoining areas that interfere with breeding behavior of listed species.
- The loss of breeding areas of listed T&E species.
- A significant disruption of wildlife corridors.

3.7.2 **Alternative 1: No Action**

The No Action Alternative includes continuing existing facility O&M using clean excavation methods. The continued O&M activities of the No Action Alternative show no likelihood of adversely affecting any of the listed species in **Exhibit 3-7**. Thus, the No Action Alternative's impact is anticipated to be negligible.

3.7.3 **Alternative 2: Proposed Action**

The Proposed Action does not involve changes to the existing conditions. As with the No Action Alternative, the continued O&M activities of the Proposed Action show no likelihood of adversely affecting any of the listed species in **Exhibit 3-7**. The Proposed Action includes the continuation of current O&M activities that have previously demonstrated a negligible impact on protected species. Thus, in the absence of updated wildlife and habitat surveys, it is reasonably foreseeable that impacts associated with the Proposed Action would be negligible.

3.8 Invasive Species

Invasive species are described as non-native organisms to the ecosystem whose introduction and spread may result in economic damage and harm to the native environment and human health (EO 13112 of February 3, 1999). Non-native species, whether introduced intentionally or unintentionally, can outcompete native species and alter the ecosystem.

The Corps Invasive Species Strategic Plan was most recently updated in 2023 and references Section 104 of the Rivers and Harbors Act of 1958 (Public Law 85-500), the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (as amended, Public Law 106-580), and EO 13112 provided by Section 501 of the Water Resources Development Act of 2020. The strategic plan applies to all Corps divisions, districts, and field offices with civil works responsibilities. The policy describes the intent to employ measures to either prevent or reduce establishment of invasive and non-native species in the execution of all civil works programs to effectively and efficiently manage invasive and nonnative species. In addition, operating projects are to include invasive species management in O&M responsibilities and address those strategies in master plans as appropriate.

The CalFlora What Grows Here online database lists plant species that are likely to grow in a selected area and includes one invasive species found at Alamo Dam: Saharan mustard (*Brassica tournefortii*).

There are currently no recorded aquatic invasive species (AIS) in Alamo Lake, however, Northern crayfish (*Orconectes virilis*) and red swamp crayfish (*Procambarus clarkia*) were observed on the Bill Williams River near Alamo Dam (AZDGF, 2022; Baker, 2020). Tamarisk beetles (*Diorhabda carinulata*) were introduced on the Bill Williams River to control the invasive plant species Tamarisk (*Tamarix ramosissima*); they are both invasive species at Alamo Dam (McLeod, 2003). An AIS voluntary boat inspection protocol has been adopted and implemented at Alamo Dam.

The 1975 Alamo Lake Master Plan documented that the lowland communities were dominated by cattails (*Typha spp.*), which were found along the shoreline and north of Alamo Crossing.

Exhibit 3-8 lists invasive native and non-native species that may occur at Alamo Dam. More information about invasive species can be found on the U.S. Department of Agriculture National Invasive Species Information Center online and the Integrated Taxonomic Information System database (ITIS.gov).

Exhibit 3-8: Potentially Present Invasive Species

Common Name	Scientific Name
Plants	

Saharan mustard	<i>Brassica tournefortii</i>
cattails	<i>Typha spp.</i>
Crustaceans	
Northern crayfish	<i>Orconectes virilis</i>
red swamp crayfish	<i>Procambarus clarkia</i>

3.8.1 **Thresholds of Significance**

Effects from invasive species may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Increased frequency and introduction of invasive species affecting native habitats or wildlife.
- Direct or indirect introduction of invasive species, especially aquatic invasive species.

3.8.2 **Alternative 1: No Action**

The No Action Alternative includes continuing existing facility O&M using clean excavation methods. Use of heavy equipment operating at the Alamo Dam has the potential to introduce, spread, or affect the amount and type of invasive species at the facilities. BMPs include working when conditions are dry, conducting fueling and maintenance work on equipment outside regulated aquatic resources and outside the reservoir. Even through use of BMPs, the No Action Alternative is not presumed to support the Corps' beneficial policy of eradication and minimization of invasive species in the area. Therefore, benefits are assessed as negligible at this time.

3.8.3 **Alternative 2: Proposed Action**

The Proposed Action does not involve changes to the existing conditions and continues implementation of BMPs for controlling and eradicating invasive species, as is currently carried out under the No Action Alternative. Therefore, the reasonably foreseeable impacts of the Proposed Action would be similar to the No Action Alternative with beneficial results to the control of invasive species.

3.9 **Cultural, Historical, and Archaeological Resources**

Cultural resources are the material and intangible elements that reflect the cultures, societies, and traditions of an area throughout time. They are evidence for people's daily activities, use of an area, or settlement. Physical cultural resources include artifacts in the form of tools, art, buildings, plants, and animal remains left behind by humans, jewelry, and pottery, among others. Cultural resources may include burial grounds, landscapes, complexes, districts, entire sites, and other areas of human activity at various scales. In addition to these material forms, cultural resources may include the intangible, such as traditions, languages, oral histories, or beliefs. Groups of people have left their impressions in the form of artifacts, structures, buildings, or intangible

traditions, and for which these cultural resources may signify important events, individuals, or other qualities that contribute or are significant to the history of the United States.

Laws and regulations require procedures to protect and manage cultural resources, namely NEPA and the NHPA (16 U.S.C. 470). NEPA requires that Federal agencies consider “important historic, cultural, and natural aspects of our natural heritage” by identifying and implementing strategies toward the protection of cultural resources in undertakings and programs. More specifically, Section 110 of the NHPA requires Federal agencies be proactive in identifying, evaluating, nominating, and protecting historic properties that may be eligible for listing on the NRHP by meeting various criteria for significance. Furthermore, Section 106 of the NHPA (36 CFR 60 and 800) outlines the processes for identifying and evaluating historic properties, including the determination of effects by Federal undertakings or actions upon such properties, and requires consultation with the State Historic Preservation Officer (SHPO), Tribal entities, or other public entities that may have a vested interest to avoid or mitigate any adverse effects.

3.9.1 History of the Alamo Dam Area

The cultural background of the areas encompassing Alamo Dam is presented here to convey the historical context and potential significance of the region to ensure compliance with the laws and regulations that exist to protect cultural resources.

3.9.2 National Historic Preservation Act

There has been one documented cultural resource investigation within the boundaries of Alamo Dam, which resulted in the discovery of cultural resources. During July and August of 1987, Statistical Research, Inc. conducted a cultural resources survey of approximately 2,400 acres in and around Alamo Dam and Reservoir and within the property administered by the Los Angeles District, USACE (Gregory, 1987). The survey discovered 44 archaeological sites and 8 isolated, non-site occurrences of cultural materials.

3.9.3 Thresholds of Significance

Impacts to cultural, historical, and archaeological resources may be significant if the following were to result from the No Action Alternative or Proposed Action:

- A substantial adverse effect to a historic property such that the implementation of the alternative would result in the destruction of a historic property or the loss of a property’s eligibility.

3.9.4 Alternative 1: No Action

Under the No Action Alternative, the Corps would continue to manage according to the guidance of the existing 1975 Master Plan. Land use management associated with the

No Action Alternative is consistent with existing conditions and does not affect cultural, historic, or archaeological resources. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to cultural, historic, and archaeological resources are negligible.

3.9.5 Alternative 2: Proposed Action

The Proposed Action results in the categorization of 449 acres of land as High Density Recreation and 5,000 acres of land as Environmentally Sensitive Areas (ESAs) at Alamo Dam. These classifications protect the areas from future development outside of their designated uses, which minimizes the potential of cultural resource discovery or disturbance. This potential benefit is not measurable. As such, the foreseeable impacts associated with the Proposed Action to cultural, historical, and archaeological resources are negligible. The Corps will continue to operate Alamo Dam in accordance with the National Historic Preservation Act and the Archaeological Resources Act.

3.10 Demographic and Economic Analysis

The Alamo Dam is located on the border of La Paz and Mohave Counties in western Arizona. The zone of interest for the socioeconomic analysis of the project includes La Paz County and Mohave County, with additional contextual information provided for the nearby community of Wenden, as well as the State of Arizona as a whole. Due to the small population size of Wenden, percentage estimates presented for the community are associated with significant margins of error. As such, these figures should be regarded as indicative rather than definitive and interpreted in the broader context of county and state-level trends.

Detailed demographic information on population, education level, employment rates, income, and household characteristics for La Paz County, Mohave County, the community of Wenden, and the state of Arizona is provided in **Section 2.4** of the **Master Plan** and are incorporated here by reference.

3.10.1 Protection of Children

EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, 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.

3.10.2 Thresholds of Significance

Impacts to socioeconomics may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Disproportionately high and adverse impacts on minorities, low-income residents, Tribal populations, children, or vulnerable communities.

As part of understanding the social and economic characteristics of the region, publicly available federal screening tools were used to identify census tracts with elevated indicators related to public health, economic vulnerability, and environmental conditions.

Two census tracts within the project vicinity—Census Tract 04012020100 in La Paz County and Census Tract 04015954800 in Mohave County—were identified through these screening tools as meeting multiple thresholds for factors such as income, health, and environmental indicators. The Alamo Dam is located at the boundary of these two census tracts, with its area of influence overlapping both jurisdictions. These characteristics suggest a higher degree of cumulative exposure to socioeconomic and environmental stressors in comparison to other areas.

3.10.3 Alternative 1: No Action

Under the No Action Alternative, there would be no changes to the existing O&M of Alamo Dam with the Corps continuing to manage resources under current means and methods. As such, there would be no major adverse long-term impacts on socioeconomic resources. Socioeconomic benefits existing under the status quo would continue, as visitors would continue to come to the dam from surrounding areas. In addition, area businesses offering groceries, fuel, camping supplies, and lodging would continue to benefit from visitors via local sales revenue and jobs for area residents, as well as the generation of local and State tax revenues. There would be no disproportionately high or adverse impacts on minority or low-income populations or children with the implementation of the No Action Alternative.

3.10.4 Alternative 2: Proposed Action

Under the Proposed Action, Alamo Dam would continue to serve as a beneficial resource to the area economies through indirect job creation and local spending by visitors. In addition, the dam offers a variety of recreation opportunities to populations near and far. The Proposed Action would have no disproportionately high or adverse impacts on minority or low-income populations or children with the implementation of the Proposed Action.

3.11 Recreation

Alamo Lake's public recreation facilities are currently managed by Arizona State Parks (ASP) and Arizona Game and Fish Department. These include campgrounds and shower/restroom facilities, rental cabins, and boat launches. The lake is stocked with

warm-water game fish, and the lake hosts several sport fishing tournaments annually. The lake’s fisheries include largemouth bass, black crappie, and catfish.

Areas of above Alamo Dam as well as below the dam along the Bill Williams River are popular destinations for off-highway vehicle recreation. This includes the recent development of the multi-purpose Arizona Peace Trail.

No additional recreation infrastructure is planned to be built by the Corps around the dam at this time. **Section 2.5** of the **Master Plan**, incorporated here by reference, provides detailed information and photographs of the recreation facilities and activities provided at the dam.

Arizona State Parks tracks visitation to Alamo Dam Site through collection of fees for site visits (see **Exhibit 3-9**). The majority of visitors are likely residents of southeastern Arizona who visit Alamo dam for single or multiple days for fishing and boating on the lake. Some visitors seeking solitude and dispersed recreation may also visit the dam campgrounds and picnic areas. Dispersed recreation activities may include amateur astronomy (“stargazing”), off-highway vehicle (OHV) use on park and BLM lands or visiting abandoned mine sites for mineral collecting or viewing mine ruins. The visitation data displayed in **Exhibit 3-9** was reported by the Arizona Board of Tourism from compiled park visitation records.

Exhibit 3-9: Alamo Dam Visitation Data

Fiscal Year	Alamo Dam	Percent Change
2014	31,161	N/A
2015	33,869	7.1%
2016	42,464	25.3%
2017	45,024	6.1%
2018	55,347	22.7%
2019	64,397	16.2%
2020	77,244	12.2%
2021	74,243	2.8%
2022	67,092	-9.7%
2023	65,743	-2.0%
2024	77,604	18.0%

3.11.1 Thresholds of Significance

Impacts to recreational resources may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Eliminated access to designated trails or hunting or fishing areas.
- Eliminated campgrounds and/or associated amenities.

3.11.2 Alternative 1: No Action

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the existing 1975 Master Plan. Land use management associated with the No Action Alternative is consistent with existing conditions and does not result in a change to how recreational resources are managed. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to recreation are negligible.

3.11.3 Alternative 2: Proposed Action

Under the Proposed Action, the Corps would adopt and implement the updated Master Plan. The proposed land classifications would result in the classification of 449 acres of land as High Density Recreation at Alamo Dam, which includes the existing recreational areas. This classification affords protection from development of the land into anything greater than recreational use and is consistent with Resource Management Goal C. Potential benefits associated with this protection are negligible as there is no measurable consequence. As such, foreseeable direct and indirect impacts associated with the Proposed Action to recreation are negligible.

3.12 Aesthetic Resources

The scenery within the Alamo Dam area is composed of typical basin and range topography, which features mountain ranges and valleys. The vegetation communities consist of Upland and Lower Sonoran Desert scrub. The camp sites, rental cabins, boat launch area, concession and store, and picnic areas provide visitors with various opportunities to recreate in the area (USACE, 2025). The human-made infrastructure associated with the dam creates visual contrast to the generally undeveloped vicinity. Alamo Lake State Park receives a large number of visitors, especially during the sport fishing tournaments that occur annually. Current maintenance of the dams would not be expected to modify the existing visual and scenic resources, and intensive development in the area is not planned, so Alamo Dam's overall existing visual and scenic resources are likely to persist in their current condition. Should invasive vegetation become a substantial issue, the quality of the visual and scenic resources could be reduced.

3.12.1 Thresholds of Significance

Impacts to aesthetic resources may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Direct, permanent changes to important existing scenic characteristics of a landscape that is enjoyed by a large number of visitors.

3.12.2 Alternative 1: No Action

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the existing 1975 Master Plan. Land use management

associated with the No Action Alternative is consistent with existing conditions and does not result in a change of aesthetic resources. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to aesthetic resources are negligible.

3.12.3 *Alternative 2: Proposed Action*

Under the Proposed Action, the Corps would adopt and implement the updated Master Plan. The proposed land classifications (see **Exhibit 2-2**) or resource goals and objectives (see **Exhibit 2-1** or **Master Plan Chapter 3**) do not alter how aesthetic resources are currently managed. As such, foreseeable direct and indirect impacts associated with the Proposed Action to aesthetic resources are negligible.

3.13 Hazardous Materials and Solid Waste

A review of the EPA's EnviroMapper and the Arizona Division of Environmental Protection's eMap did not identify any hazardous material or solid waste sites within or adjacent to the Project Area. Neither hazardous materials nor solid wastes are stored nor generated at the dam. Hazardous materials and solid wastes within Alamo Dam area are limited to those associated with maintenance and recreational activities.

Recreationalists may bring propane and butane canisters, batteries, diesel-powered generators, personal care products, or other hazardous materials in household quantities associated with camping and other recreational activities. The solid waste generated by recreationalists is confined to municipal waste, and campsites are equipped with regularly maintained trash bins managed by BLM.

Hazardous materials associated with the routine maintenance of the dams may include herbicides, pesticides, and insecticides. Vehicular traffic associated with both recreation and maintenance may consist of hazardous materials such as diesel fuel, unleaded gasoline, antifreeze, engine oil, or other hazardous materials associated with gas-powered vehicles.

3.13.1 *Thresholds of Significance*

Impacts to hazardous materials and solid waste may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Introduction of hazardous material storage tanks or storage areas for volumes greater than 50 gallons.
- Introduction of a hazardous material, like a pesticide, that prohibits use of recreational amenities.

3.13.2 *Alternative 1: No Action*

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the existing 1975 Master Plan. Land use management associated with the No Action Alternative is consistent with existing conditions and does

not result in a change of hazardous materials and solid waste management. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to hazardous materials and solid waste are negligible. Any unanticipated hazardous materials or solid waste encountered during operation and maintenance activities is handled in accordance with State and local regulations.

3.13.3 *Alternative 2: Proposed Action*

Under the Proposed Action, the Corps would adopt and implement the new Master Plan. The proposed land classifications (see **Exhibit 2-2**) or resource goals and objectives (see **Exhibit 2-1** or **Master Plan Chapter 3**) do not alter how hazardous materials and solid waste are currently managed. As such, foreseeable direct and indirect impacts associated with the Proposed Action to hazardous materials and solid waste are negligible. Any unanticipated hazardous materials or solid waste encountered during operation and maintenance activities are handled in accordance with State and local regulations.

3.14 Health and Safety

The Corps' Dam Safety Program and ER 1110-2-1156, Safety of Dams – Policy and Procedures, seek to ensure that Corps-owned and operated dams do not present unacceptable risks to people, property, or the environment, with the emphasis on people. Ensuring dam safety is an ongoing effort that encompasses activities such as dam monitoring, inspection, training, dam design, performance assessments, consequence evaluations for floods and breaches, risk communication for floods and breaches, and emergency exercises. This approach, informed by risk considerations, is recognized as a best practice. It is employed to create well-rounded and informed dam safety assessments, allowing for effective prioritization and justification of decisions related to dam management and modifications.

Signs at Alamo Dam may be posted to restrict access to operational areas of the dams that may pose a threat to human health. Local law enforcement, Corps staff, and BLM staff may patrol the dams to monitor and enforce all applicable policies, rules, and regulations. In the event of a public health emergency, emergency services may access the dams via graded dirt roads.

3.14.1 *Thresholds of Significance*

Impacts to hazardous materials and solid waste may be significant if the following were to occur from the No Action Alternative or Proposed Action:

- Exceedance of threshold limit values of established workplace exposure standards for hazardous materials.

3.14.2 *Alternative 1: No Action*

Under the No Action Alternative, the Corps would continue to manage the land according to the guidance of the existing 1975 Master Plan. Land use management associated with the No Action Alternative is consistent with existing conditions and does not result in a change to health and safety. As such, foreseeable direct and indirect impacts associated with the No Action Alternative to health and safety are negligible.

3.14.3 *Alternative 2: Proposed Action*

Under the Proposed Action, the Corps would adopt and implement the new Master Plan. The proposed land classifications (see **Exhibit 2-2**) or resource goals and objectives (see **Exhibit 2-1** or **Master Plan Chapter 3**) do not affect health and safety for workforces nor the general public. As such, foreseeable direct and indirect impacts associated with the Proposed Action to health and safety are negligible.

3.15 Summary of Consequences and Benefits

Exhibit 3-10 provides a summary of the consequences and benefits for the No Action Alternative and Proposed Action for each of the assessed resource categories.

Exhibit 3-10: Summary of Consequences and Benefits

Resource	Change From Master Plan Implementation	No Action Alternative Environmental Consequences	Proposed Action Environmental Consequences	Benefits Summary
Land Use	Categorization of 2,000 acres of High Density Recreation, 5,000 acres of Environmentally Sensitive Areas, 17,836 acres of MRML, 3,661 acres of Water Surface, and 132 acres of Project Operations at Alamo Dam	No effect	Negligible benefit	Land classifications provide protections from development and other unauthorized uses but is not measurable.
Water Resources	No change	No effect	No effect	No effect
Climate	No change	No effect	No effect	No effect
Air Quality	No change	No effect	No effect	No effect
Topography, Geology, and Soils	No change	No effect	No effect	No effect
Natural Resources	No change	No effect	Negligible benefit	No effect
Threatened and Endangered Species	No change	No effect	No effect	No effect
Invasive Species	No change	No effect	No effect	No effect
Cultural, Historical, and Archaeological Resources	No change	No effect	No effect	No effect
Recreation	Categorization of 2,000 acres of High Density Recreation at Alamo Dam	No effect	Negligible benefit	High Density Recreation ensures minimal development or infrastructure that support recreational use but is not measurable.
Aesthetic Resources	No change	No effect	No effect	No effect
Hazardous Materials and Solid Waste	No change	No effect	No effect	No effect
Health and Safety	No change	No effect	No effect	No effect

SECTION 4: CUMULATIVE EFFECTS

A cumulative impact refers to an environmental effect that arises from the combined influence of an action when considered alongside other past, ongoing, and reasonably foreseeable future actions. These impacts may result from actions that are individually minor but collectively hold significant implications over time. This section describes the potential combined and long-term effects of the Proposed Action and other known projects near and adjacent to the Project Area.

4.1 Past Impacts Within the Project Area

Past projects that have impacted the Project Area include the construction of the dam, as well as the construction of a number of recreational features including a campground, picnic area, beach area, restrooms, boat ramp, administrative office, and the paved entrance road to the site that came from the small farming community of Wenden 38 miles south of the lake. Together, these impacts have enabled access to and the use of recreational opportunities and amenities that did not previously exist.

4.2 Current and Reasonably Foreseeable Projects

At the initiation of this EA, Federal, State, and local agencies and officials were contacted for information and comments relating to the resources addressed in **Exhibit 3-10** including the existing environment; past, present, and future actions under their purview; as well as input on alternatives, including the No Action, Proposed Action, and other suggested alternatives for consideration. In addition, as part of this EA effort, an independent, online search of available information was conducted as confirmation of past, present, and reasonably foreseeable actions in the Project Area.

Construction is currently in progress on the low-water lot on the main side of Alamo State Park. As such, public access to this area is currently unavailable (Arizona State Parks, 2025).

The Corps is currently working towards the following projects at the dam (statuses as of May 2025):

- repairing the spillway access road (working toward awarding contract)
- fabricating three new service gates and three new emergency gates to go in the conduit (contract awarded, ongoing work)
- refurbishing the hydraulic system within the dam (contract awarded, ongoing work)
- replacing the elevator within the dam (contract awarded, ongoing work)
- Replacing the A-Frame bulkhead gate installation structure (in design phase)

4.3 Analysis of Cumulative Impacts

The analysis of cumulative impacts uses the direct and indirect impacts listed in **Section 3** to evaluate against the impacts associated with past, present, and reasonably foreseeable projects within the Project Area. A Proposed Action is deemed not to contribute to cumulative impacts if it lacks direct or indirect effects on the resource in question. The reasonably foreseeable impacts associated with the resources addressed in **Section 3**, as well as those listed in **Exhibit 3-10**, are all considered negligible; therefore, the Proposed Action would not contribute to a cumulative impact within and near the Project Area.

SECTION 5: COMPLIANCE

This EA was prepared to satisfy the requirements of all applicable environmental laws, regulations, and EOs. The EA was prepared in accordance with the Corps' NEPA implementing procedure (USACE ER 200-2-2). The updated Master Plan is consistent with the Corps' Environmental Operating Procedures. The following identifies the Proposed Action's compliance with applicable environmental laws, regulations, and EOs.

5.1 Compliance with Pertinent Laws

National Environmental Policy Act of 1969 (NEPA), Public Law 91-190: The Draft Master Plan and Draft EA will undergo public review, inviting feedback from Federal, State, and local agencies, Tribal Nations, and the public. All received comments will be considered and integrated into the Final Master Plan and Final EA. A Finding of No Significant Impact (FONSI) will be generated if it is concluded that the project will not substantially affect the quality of the existing environment. The Master Plan and EA have been prepared in accordance with the requirements of NEPA and followed the required NEPA process; thus, the Master Plan is in compliance with NEPA.

Clean Air Act of 1963 (CAA): Because the Proposed Action is limited to the classification of land use within the Alamo Dam area, with no associated planned actions to be physically implemented that could affect air quality, the Master Plan complies with the act. Existing operation and management of the dam are compliant with the CAA and will not change with implementation of the Master Plan.

Clean Water Act of 1972 (CWA), Public Law 92-500: Because the Proposed Action is limited to the classification of land use within the Alamo Dam area, with no associated planned actions to be physically implemented that would impact water quality, the Master Plan complies with the CWA.

Endangered Species Act of 1973 (ESA), Public Law 93-205: The ESA provides a framework for the conservation and protection of endangered and threatened species and their habitats. The ESA aims to prevent extinction, recover imperiled plants and animals, and protect their ecosystems. T&E species lists were reviewed for development of the Master Plan and no protected species or their habitats would be impacted as a result of the Proposed Action. Therefore, implementation of the Master Plan would not adversely affect protected species or their habitats. The Master Plan complies with the ESA.

Migratory Bird Treaty Act of 1918 (MBTA), Public Law 65-186: The MBTA implements various international treaties for the protection of migratory birds and makes it unlawful to pursue, hunt, capture, kill, or sell birds listed as migratory species. Because the Proposed Action is limited to the classification of land use and operations within the Alamo Dam area, the Proposed Action would not entail a physical disturbance

of land that could impact and/or require a take of migratory and nesting birds. Thus, the Master Plan complies with this Act.

Fish and Wildlife Coordination Act (FWCA), Public Law 85-624: This act, as amended, establishes the general policy that fish and wildlife conservation shall receive equal consideration with other project purposes and be coordinated with other features of water resource development programs. Opportunities for improving fish and wildlife resources, and adverse effects on these resources, shall be examined along with other purposes that might be served by water resources. Information provided by USFWS and State organizations on fish and wildlife resources was referenced in the development of the Master Plan. As the Proposed Action does not involve impoundment, diversion, or other modification to bodies of water at the dam with the classification of land use, no FWCA report is required, and the Proposed Action is in compliance with this act.

Forest Protection Act, Public Law 86-717: This act provides for the protection of forest cover for reservoir areas under jurisdiction of the Secretary of the Army and the Chief of Engineers. Because the Proposed Action is limited to the classification of land use within the Alamo Dam area, with no associated planned actions to be physically implemented that could affect forests, the Master Plan complies with this act.

National Historic Preservation Act of 1966 (NHPA), Public Law 89-665: Section 106 of the NHPA requires that the President's Advisory Council on Historic Preservation have an opportunity to comment on any undertaking that adversely affects properties listed, nominated, or considered important enough to be included on the NRHP. Because the Proposed Action is limited to the classification of land use within the Alamo Dam area, with no associated planned actions to be physically implemented that could affect cultural resources, implementation of the Master Plan does not have the potential to effect historic properties. All applicable previous cultural resource surveys were incorporated in the development of the proposed plan. Future ground disturbing activities would be reviewed under Section 106 of the NHPA. prior to any earthmoving or other potentially impacting activities.

Archaeological Resources Protection Act of 1979, Public Law 96-95: This act protects archaeological resources and sites that are on public and Tribal lands and fosters increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals. It also establishes requirements for issuance of permits by the Federal land managers to excavate or remove any archaeological resource located on public or Indian lands. Because the Proposed Action is limited to the classification of land use within the Alamo Dam area, with no associated planned actions to be physically implemented that could impact cultural resources, no permits are required. The Master Plan complies with the act.

Native American Graves Protection and Repatriation Act (16 November 1990), 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. Because the Proposed Action is limited to the classification of land use within the Alamo Dam area, with no associated planned actions to be physically implemented that impact Native American remains and cultural items, there are no actions required under the act. The Master Plan complies with this act.

Flood Control Act of 1944, Public Law 78-534: Resource Goals C and D of the Proposed Action (see the **Master Plan Chapter 3**) include the maintenance and repair of existing recreational amenities and safety feature, which is compliant with Section 4 of this act.

5.2 Compliance with Executive Orders

EO 11988, Floodplain Management: Given that the Proposed Action is confined to classifying land use within the Alamo Dam area, without any associated physical construction or development actions, it will not lead to further development in the base floodplain. As the Project Area is already established within the floodplain, there is no feasible alternative to implementing the Proposed Action within this area. The Proposed Action entails a land use classification plan solely for the dam area, devoid of any provisions for physical development, alteration, or modification of existing conditions. Consequently, because the Proposed Action must take place on land already within the floodplain and there are no feasible alternatives, it complies with ER 1165-2-26 for implementing EO 11988.

EO 11990, Protection of Wetlands: The Proposed Action is focused on the classification of land use within the Alamo Dam area, with no associated planned actions. The Proposed Action would not affect any wetlands within the footprints of the dams. As such, the Proposed Action adheres to this EO. Any potential recreation and/or restoration projects intended for future development would be required to conform to the EO during both the planning and implementation phases if they were to impact existing wetlands.

EO 13112, Invasive Species: The Proposed Action is limited to the reclassification of land use within the Alamo Dam area, with no associated planned actions to be physically implemented that would introduce or expand the presence of invasive species; therefore, the Master Plan complies with this EO.

EO 13166 of August 2000, Improving Access to Services for Persons with Limited English Proficiency (LEP): No requests for translated materials were received on this project. The Master Plan complies with this EO.

EO 13007 of May 1996, Indian Sacred Sites: During the preparation of this Master Plan, no sacred sites were identified by any of the Tribal Nations although they may

exist within the project area. The master plan does not propose any changes that would limit or prevent access to any potential Sacred Sites or would inhibit the future use of such sites by Indian Tribes. Therefore, the Master Plan complies with this EO.

EO 13175 of November 2000, Consultation and Coordination with Indian Tribal Governments: Efforts to engage and consult with Tribal Nations included sending letters of invitation to participate in the Master Plan and EA and sending notices of the public meeting to area Tribal Nations. The Master Plan complies with this EO.

SECTION 6: IRRETRIEVABLE AND IRREVERSIBLE COMMITMENT OF RESOURCES

NEPA requires Federal agencies to identify "any irreversible and irretrievable commitments of resources" that would arise from the Proposed Action's implementation (42 U.S.C. 4332). An irreversible commitment of resources occurs when the primary or secondary impacts of an action eliminate future options for a resource. This may happen when the action affects the use of a nonrenewable resource or a renewable resource with a lengthy renewal process.

The establishment of new land classifications does not qualify as an irreversible commitment because the direct and indirect impacts associated with the Proposed Action would be negligible for all resources evaluated, including nonrenewable and renewable resources. In addition, subsequent revisions of the Master Plan could potentially reverse land classifications back to a prior, similar classification.

Conversely, an irretrievable commitment of resources is typically tied to the loss of productivity or use of a natural resource, such as production or harvest loss. The Proposed Action would have no direct and indirect impacts on existing grazing allotments that are reasonably foreseeable.

SECTION 7: PUBLIC AND AGENCY COORDINATION

The Corps initiated public involvement and agency scoping activities to seek input on the development of the Master Plan. This process aimed to identify classification proposals and significant issues related to the Proposed Action. To initiate engagement with public and agency stakeholders, the Corps hosted a virtual agency scoping meeting on February 21, 2025, and a public scoping meeting on February 28, 2025, at the Corps Rangers Office at Alamo Lake, Arizona.

The public scoping meeting was hosted outside of traditional working hours, from 4:00 p.m. to 6:00 p.m., to solicit as much participation as possible. The public notice was published on the Corps' Los Angeles District website and social media (Instagram and X) on February 13, 2025. Direct distribution of the public notice extended to public agencies with potential interests in the development of the Master Plan.

Exhibit 7-1 provides a listing of agencies consulted via email, including their title and pertinent notes on their roles in the preparation of the Master Plan and EA:

Exhibit 7-1: Agency Coordination

Agency	Title	Notes
Bureau of Land Management	Wildlife Biologist	No response
Bureau of Land Management	Kingman Field Manager	No response
Bureau of Land Management	Colorado River District Manager	No response
Bureau of Land Management	District Staff	No response
Bureau of Land Management	District Staff	No response
Bureau of Land Management	Assistant Field Manager	Attended Agency Scoping Meeting
Bureau of Land Management	Salt Lake City Program Manager	No response
U.S. Bureau of Reclamation	Restoration Development Group Manager	No response
U.S. Bureau of Reclamation	Civil Engineer	No response
U.S. Bureau of Reclamation	Hydrologist	No response
U.S. Bureau of Reclamation	Engineer	No response
U.S. Bureau of Reclamation	River Operations Manager	Attended Agency Scoping Meeting
U.S. Bureau of Reclamation	Civil Engineer	No response
U.S. Bureau of Reclamation	Hydrologist	No response
U.S. Bureau of Reclamation	Civil Engineer	No response
U.S. Bureau of Reclamation	Civil Engineer	Attended Agency Scoping Meeting
U.S. Bureau of Reclamation	Wildlife Biologist	No response
U.S. Bureau of Reclamation	Multi-Species Conservation Program Manager	No response
U.S. Bureau of Reclamation	Wildlife Group Manager	Attended Agency Scoping Meeting

Agency	Title	Notes
U.S. Bureau of Reclamation	Biologist	Attended Agency Scoping Meeting
Arizona Game and Fish Department	Gartersnakes Project Coordinator	No response
Arizona Game and Fish Department	Wildlife Manager	No response
Arizona Game and Fish Department	Hunting and Shooting Sports Program Manager	No response
Arizona Game and Fish Department	Regional Supervisor	No response
Central Arizona Project	Water Quality and Biology Administrator	No response
La Paz County	District 2 Supervisor	No response
U.S. Fish and Wildlife Service	Program Management Specialist	No response
U.S. Fish and Wildlife Service	Wildlife Biologist	No response
U.S. Fish and Wildlife Service	Wildlife Biologist	No response
U.S. Fish and Wildlife Service	Hydrologist	No response
U.S. Fish and Wildlife Service	Colorado River Coordinator	No response
U.S. Fish and Wildlife Service	Complex Project Leader	No response
U.S. Fish and Wildlife Service	Biological Science Aid	No response
U.S. Fish and Wildlife Service	Supervisory Fish and Wildlife Biologist	No response
U.S. Fish and Wildlife Service	ESA Branch Biologist	Attended Agency Scoping Meeting
U.S. Fish and Wildlife Service	Assistant Refuge Manager	No response
U.S. Fish and Wildlife Service	Hydrologist	No response
U.S. Fish and Wildlife Service	Biologist	No response
U.S. Fish and Wildlife Service	Environmental Scientist	No response
U.S. Fish and Wildlife Service	Research Fish Biologist	No response
U.S. Fish and Wildlife Service	GPLCC Coordinator	No response
U.S. Geological Survey	, Scientist Emeritus	No response

The public meeting notice was distributed to Tribal Nation contacts listed in **Exhibit 7-2**.

Exhibit 7-2: Tribal Coordination

Tribe	Contact	Notes
Kaibab Band of Paiute Indians	Chairperson	No response
Kaibab Band of Paiute Indians	Cultural Resources Director	No response
Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada	Chairperson	No response
Lovelock Paiute Tribe of the Lovelock Indian Colony, Nevada	Chairperson	No response
Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada	Chairperson	No response
Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada	Tribal Historic Preservation Officer	No response
Paiute Indian Tribe of Las Vegas	Chairman, Cultural Committee	No response
Paiute Indian Tribe of Las Vegas	Chairman	No response
Paiute Indian Tribe of Las Vegas	Member, Cultural Committee	No response
Paiute Shoshone Tribe of the Fallon Reservation and Colony, Nevada	Chairperson	No response
Paiute Shoshone Tribe of the Fallon Reservation and Colony, Nevada	N/A	No response
Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation, Nevada	Chairperson	No response
Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation, Nevada	Tribal Historic Preservation Officer	No response
Pyramid Lake Paiute Tribe of the Pyramid Lake Reservation, Nevada	Chairman	No response
Reno-Sparks Indian Colony, Nevada	Chairperson	No response
Reno-Sparks Indian Colony, Nevada	Tribal Historic Preservation Officer	No response

The public comment window was open for 30 days, from February 6, 2025, to March 7, 2025. Public meeting materials were made available, by request, for those unable to attend. Written public comments were accepted via the public comment form or by email. The public scoping meeting garnered participation from two attendees and yielded no comments.

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SECTION 9: ACRONYMS/ABBREVIATIONS

Exhibit 9-1: List of Acronyms

Term	Definition
ADEQ	Arizona Department of Environmental Quality
AR	Army Regulation
ASP	Arizona State Parks
AZDGF	Arizona Game and Fish Department
BLM	Bureau of Land Management
BMP	Best Management Practice
CAA	Clean Air Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
DEM	Digital Elevation Model
DOI	Department of the Interior
EA	Environmental Assessment
EO	Executive Order
EP	Engineer Pamphlet
EPA	Environmental Protection Agency
ER	Engineer Regulation
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FWCA	Fish and Wildlife Coordination Act
GP	GreenPoint Engineering
IPaC	Information for Planning and Consultation
LEP	Limited English Proficiency
MBTA	Migratory Bird Treaty Act
MRML	Multiple Resource Management Lands
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
OHV	Off-highway vehicle
O&M	Operations and Maintenance
OMP	Operations Maintenance Plan
SHPO	State Historic Preservation Officer

Term	Definition
SWCA	SWCA, Inc.
T&E	Threatened and Endangered
TMDL	Total Maximum Daily Load
U.S.C.	United States Code
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

SECTION 10: LIST OF PREPARERS

Persons who contributed to the preparation of this EA are identified in **Exhibit 10-1**.

Exhibit 10-1: List of Preparers

Name	Title	Preparation Role
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