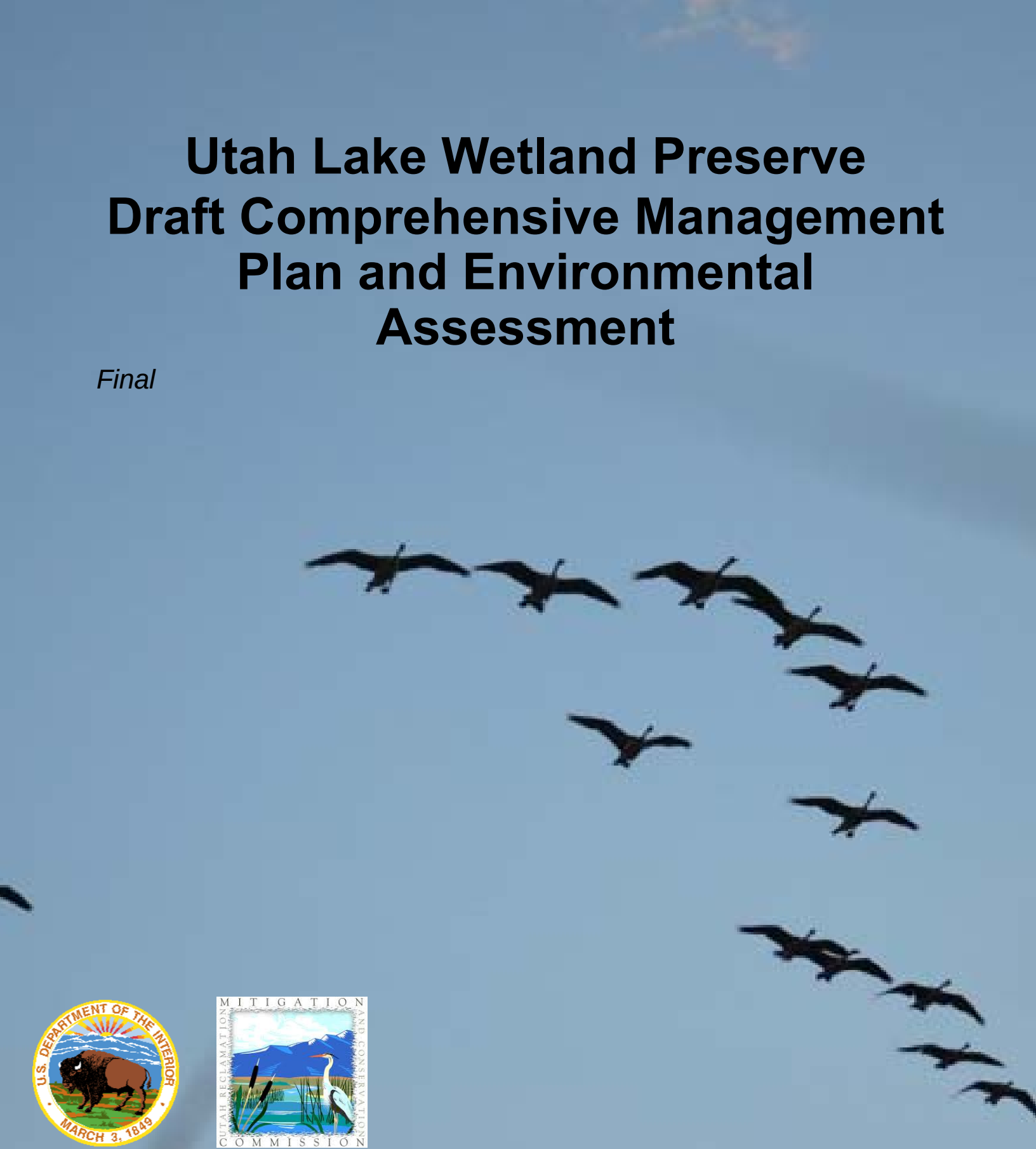
Utah Lake Wetland Preserve Draft Comprehensive Management Plan and Environmental Assessment

Final



U.S. Department of the Interior
Central Utah Project Completion Act Office
Provo, Utah

Utah Reclamation Mitigation and Conservation Commission
Salt Lake City, UT

April 2022

April 2022

Utah Lake Wetland Preserve Comprehensive Management Plan and Environmental Assessment

Utah Reclamation Mitigation and Conservation Commission

Department of the Interior Central Utah Project Completion Act Office

TABLE OF CONTENTS

Chapter Page

TABLES

FIGURES

APPENDICES

ACRONYMS AND ABBREVIATIONS

	Full Phrase
AD	Anno Domini
ADA	Americans with Disabilities Act
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
BP	before present
CMP	comprehensive management plan
COVID-19	coronavirus disease 2019
CUP	Central Utah Project
CUPCA	Central Utah Project Completion Act
DOI	Department of the Interior
EA	environmental assessment
EIS	environmental impact statement
ESA	Endangered Species Act
FFSL	Utah Division of Forestry, Fire, and State Lands
FWS	US Fish and Wildlife Service
HMP	Utah Habitat Management Plan
MBCA	Migratory Bird Conservation Act
MBTA	Migratory Bird Treaty Act
Mitigation Commission	Utah Reclamation Mitigation and Conservation Commission
NEPA	National Environmental Policy Act
NRCS	Natural Resources Conservation Service
NWRSAA	National Wildlife Refuge System Administration Act of 1966
NWRSIA	National Wildlife Refuge System Improvement Act
RMP	resource management plan
SHPO	Utah State Historic Preservation Office
SITLA	State of Utah School and Institutional Trust Lands Administration
SLC	Salt Lake City
SOP	standard operating procedure
UCA	Utah Code Annotated
UDWR	Utah Division of Wildlife Resources
ULWP	Utah Lake Wetland Preserve
WAP	Utah Wildlife Action Plan
WMA	wildlife management area

Chapter 1. General Information and the Planning Process

1.1 History of Preserve Establishment, Acquisition, and Management

The Utah Lake Wetland Preserve (ULWP) was created when Congress passed the Central Utah Project Completion Act (CUPCA) in 1992. The Central Utah Project (CUP) is a water development project identified in the mid-1900's that is intended to deliver Colorado River Basin water to the Wasatch Front. In CUPCA, Congress determined that the wetlands and associated wildlife values of Utah Lake's southern shore deserved protection and enhancement and could help replace values lost due to construction of the CUP and other prior Reclamation projects in Utah.

CUPCA defined the project area and boundary for the ULWP, created the Utah Reclamation Mitigation and Conservation Commission (Mitigation Commission), and authorized the Mitigation Commission to cooperate with the Utah Division of Wildlife Resources (UDWR) and US Fish and Wildlife Service (FWS). The Mitigation Commission began acquiring private lands on a willing-seller basis for the ULWP in 1996. It entered into a series of interim management agreements with the UDWR to manage the federally owned properties, in accordance with the substantive requirements of the National Wildlife Refuge System Administration Act of 1966 (NWRSAA; 16 US Code 668 et seq.).

Congress was sensitive to existing uses in the area and charged the Mitigation Commission to ensure that the ULWP be managed to protect migratory birds[1], wildlife habitat, and wetland values in a manner compatible with the surrounding farmlands, orchards, and agricultural production (CUPCA 306(c)(3)). Following this direction, the Mitigation Commission and UDWR have been working since 1995 to acquire land and water rights in the Benjamin Slough and Goshen Bay area. To date, 7,465 acres – 2,052 acres in the Benjamin Unit and 5,413 acres in the Goshen Unit have been acquired. The Mitigation Commission has also acquired a total of 299 acres contiguous to the ULWP Boundary (129 acres near the Benjamin Unit, 170 acres near the Goshen Unit) that were acquired as remainders from willing-seller purchases in the ULWP boundary proper. The 299 acres are considered as part of the ULWP, and the CMP and EA apply to those remainder properties as well. The Mitigation Commission also acquired 104 acres on two parcels outside the ULWP near Mona Springs (**Figure 1**). The acquired land is not in the ULWP boundary and would not be subject to the ULWP CMP. The UDWR has a separate management plan (operating agreement) in place for these properties.

Current management actions consist of maintaining property boundary fences, installing signs to identify property boundaries, removing unwanted debris and structures on new acquisitions, and controlling noxious weeds, mosquitoes, and nuisance wildlife species. UDWR has identified mule deer and sandhill crane populations can increase to the level where depredation on adjacent croplands may require population reductions through issuance of depredation permits when necessary. All management activities are performed by UDWR personnel, except for mosquito control, which is under the jurisdiction of Utah County. The Mitigation Commission intends to transfer its acquired properties in the ULWP and at Mona

[1] All bird species protected under the Migratory Bird Treaty Act of 1918.

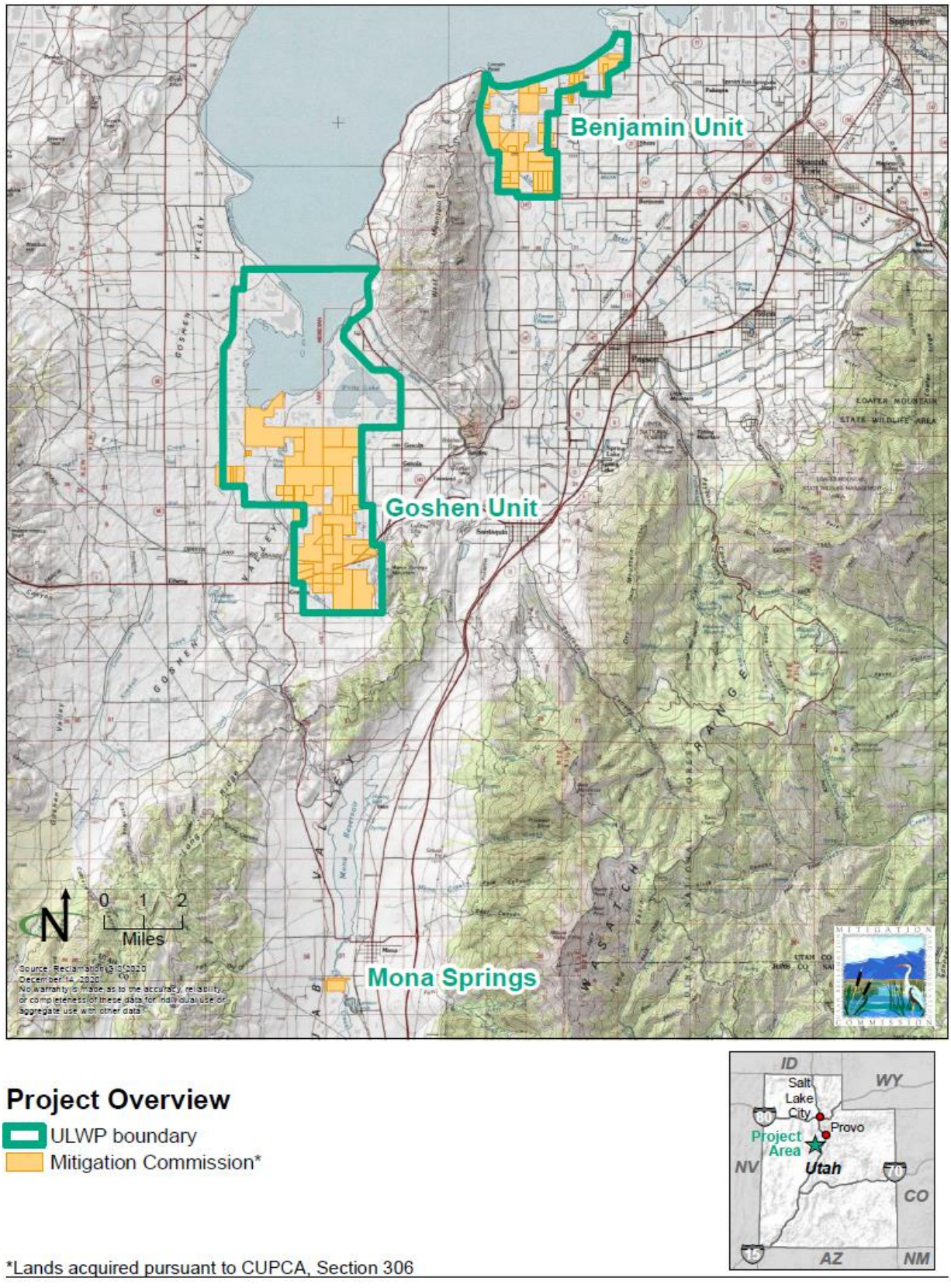


Figure 1. Utah Lake Wetland Preserve

Springs to the UDWR in the near future. Management goals, objectives, and actions identified in the proposed comprehensive management plan (CMP; see **Chapter 2**) are those the UDWR will adhere to for the management of ULWP lands. The CMP accomplishes the goals of CUPCA and complies with the NWRSAA and other pertinent legislation. The ULWP CMP has been jointly prepared by the Mitigation Commission, UDWR, and the Department of the Interior's (DOI) CUPCA Office. It is intended to survive the transfer of properties and to guide ongoing UDWR ownership and management.

1.2 PURPOSE OF AND NEED FOR THE COMPREHENSIVE MANAGEMENT PLAN AND ENVIRONMENTAL ASSESSMENT

The need for the CMP and associated environmental assessment (EA) is to satisfy CUPCA Section 306(c)(2), which requires the United States to enter into an agreement under which the UDWR will manage the ULWP pursuant to a plan that meets the substantive requirements of the NWRSAA, as amended. The plan must be developed in consultation with the UDWR and the Secretary of the Interior. The need for transferring federal lands acquired in accordance with CUPCA Section 306(c)(1) to the UDWR is to fulfill CUPCA objectives in Section 301(k). Development of the CMP and transfer of lands needs to be carried out in a planned manner with public involvement.

The purpose of the CMP and associated EA is to guide the management of acquired lands in the ULWP, by describing the goals, objectives, and management actions for establishing and administering the ULWP. While the ULWP is not a National Wildlife Refuge, the ULWP's mission and usage priorities are modeled after the National Wildlife Refuge System. The CMP would not apply to private lands or other federally managed lands within the ULWP boundary. Management of private lands within the ULWP boundary would revert to the local government master plan, and BLM-administered lands within the ULWP boundary would be managed under the BLM's Pony Express Resource Management Plan (RMP; BLM 1990). The CMP would ensure compliance with state regulations and provide the UDWR with a 15-year management plan for the conservation of plant resources, upland and aquatic wildlife, including migratory birds and their related habitats, and public access for compatible wildlife-dependent recreation. The CMP would also establish the nature and types of vegetation management actions, restoration activities, potential locations for administrative sites, and compatible wildlife-dependent recreation opportunities.

This CMP and associated EA are programmatic in nature, meaning that they describe a broad proposal that may include a wide range of individual projects over the 15-year timeframe. The detail of the CMP and programmatic EA is intended to allow an informed choice among planning-level alternatives and to develop broad mitigation strategies. This programmatic EA does not evaluate project-level issues such as specific design features or project footprints because they are not ready for decision at the planning level. A supplemental analysis would therefore be required for certain site-specific projects in the form of subsequent EAs or environmental impact statements (EISs).

1.3 PRESERVE PURPOSE

CUPCA states that the purpose of the ULWP is "the protection of migratory birds, wildlife habitat, and wetland values in a manner compatible with the surrounding farmlands, orchards, and agricultural production area" (CUPCA 306(c)(3)). Management actions will be focused on the preservation and protection of the wetlands and wildlife habitat values associated with Utah Lake's south shore and replacing habitat values lost incidental to the construction of the CUP and other Reclamation projects in Utah. Additionally, the ULWP provides limited nonmotorized wildlife-dependent recreation opportunities and experiences.

1.4 LEGAL, REGULATORY, AND POLICY GUIDANCE

The National Wildlife Refuge System was founded in 1903 when President Theodore Roosevelt signed an executive order to create the first unit of the refuge system, the Pelican Island National Wildlife Refuge in Florida. In 1997, the mission and administrative policy for all refuges in the system was established with the passage of the National Wildlife Refuge System Improvement Act (NWRSIA). The act also outlined the importance of the six priority uses of refuge lands—hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation—and how they should be promoted, except where incompatible with the purpose of the individual refuge or the refuge system as a whole. The act also established a formal process for determining compatibility. From the first executive order to the most recent act, the overriding principle that guides the Refuge System is that wildlife comes first.

The FWS, which administers the refuge system, is the only federal agency whose primary national responsibility is fish, wildlife, and plant conservation. The National Wildlife Refuge System is the world's largest and most diverse collection of lands set aside specifically for wildlife. The mission of the National Wildlife Refuge System is "to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

Goals of the refuge system are aimed at fulfilling this mission. Some major goals include providing for specific classes of wildlife species for which the federal government is ultimately responsible. These "trust resources" are defined by the purpose of the refuge and may include threatened and endangered species, migratory birds, and anadromous fish.[2] Most refuges provide breeding, migration, or wintering habitat for these species. Nearly all refuges also supply habitat for big game species and resident or nonmigratory wildlife.

Pursuant to CUPCA, the establishment of the ULWP, the proposed ULWP CMP (see **Section 2.4**), and UDWR's administration of the ULWP pursuant to the proposed CMP fulfills the substantive requirements of the refuge system through the:

1. Conservation, management, and protection of the fish, wildlife (including migratory birds), and plant resources and their habitats to ensure the water quality and quantity, biological integrity, diversity, and environmental health;
2. Contribution to the conservation of the ecosystems of Utah by complementing efforts of State and other Federal agencies to conserve fish and wildlife and their habitats;
3. Ensuring that compatible wildlife-dependent recreational use, which is a legitimate and appropriate general use of the ULWP, is the priority general public use and shall receive priority consideration in ULWP planning and management.

Administration duties in the DOI, the FWS, the UDWR, and the National Wildlife Refuge System are guided by international treaties, federal laws, state laws, and presidential executive orders. Refuge management options are further refined by administrative guidelines established by the Secretary of the Interior and policy guidelines established by the Director of the FWS.

[2] A fish, such as a salmon, that migrates up rivers from the sea to spawn.

Treaties, laws, administrative guidelines, and policy guidelines assist the preserve manager in making decisions pertaining to soil, water, air, flora, fauna, and other natural resources, historic and cultural resources, research, and recreation on ULWP lands.

Other key legislative policies that direct management of refuges are the Endangered Species Act (ESA) (1973), Clean Water Act (1977), Land and Water Conservation Fund Act (1965), Migratory Bird Treaty Act (1918), and Executive Order 12996, Management and General Public Use of the National Wildlife Refuge System (1996).

1.5 PRESERVE AND MONA SPRINGS BACKGROUND

The ULWP is located along the southern shore of Utah Lake in Utah County, Utah. The Mona Springs parcels are south of the ULWP near the community of Mona (see **Figure 1**). Major population centers near the preserve include Provo, Orem, and Spanish Fork. The ULWP is composed of two discrete management units along the south shore of Utah Lake. The two units are geographically separated by West Mountain and are in two distinct water drainages. The mean elevation of the preserve is 4,500 feet above sea level.

The ULWP encompasses much of the floodplain at the southern end of Utah Lake at the mouth of Benjamin Slough and the area known as Goshen Bay. The westernmost (Goshen) unit contains approximately 18,109 acres, 73 percent of which are public lands managed by state and federal agencies; the remaining acreage is privately owned. The Benjamin Unit comprises 4,175 acres, approximately 50 percent of which are in public ownership (see **Table 1-1**). The Utah Division of Forestry, Fire, and State Lands (FFSL) owns the bottom of Utah Lake below the adjudicated meander line (3,963 acres).

Table 1-1. Acres of Surface Administration within the ULWP Boundary by Unit

Surface Administration	Acres
Benjamin Unit Total	**4,046**
Federal (BLM)	120
Federal (Mitigation Commission)	2,181
Private	1,771
State (FFSL)	103
Goshen Unit Total	**17,810**
Federal (BLM)	4,298
Federal (Reclamation)	223
Federal (Mitigation Commission)	5,583
Private	3,798
State (FFSL)	3,819
State (School and Institutional Trust Lands Administration [SITLA])	3
UDWR	256
Grand Total	**21,856**

Source: Utah Reclamation Mitigation and Conservation Commission GIS 2021
Note: Acreages are rounded to the nearest whole acre.

Utah Valley has a long and diverse history of human habitation. The mild climate is a function of the location of Utah Lake, in relation to the desert regions of the Great Basin and the Wasatch Mountains, allowing for abundant resources in an otherwise arid and harsh region. The Utah Lake area has been a focal point for human activities dating back to prehistoric times. Modern history of the area around the preserve begins with journal entries of the Dominguez and Velez de Escalante expedition in 1776.

1.6 PRESERVE VISION STATEMENT

Water and a diversity of habitats will be available to migratory birds and other indigenous wildlife as a component of the Great Salt Lake wetland ecosystem. The ULWP is vital to the conservation of migratory birds, nonmigratory fish and wildlife, special status species, and the habitats on which these species depend. The ULWP will continue to be managed in accordance with sound management principles to provide a wide range of wildlife-dependent recreation and learning opportunities, including hunting, fishing, wildlife observation and photography, and environmental education and interpretation. The preservation and sharing of the cultural past of the area, both on a local and national scale, is an added benefit of the ULWP. The Mitigation Commission and/or the UDWR will continue to acquire lands for the ULWP on a willing-seller basis to conserve native fish, wildlife, plants and their habitats.

1.7 DESCRIPTION OF PLANNING PROCESS

CMPs provide a clear and comprehensive statement of desired future conditions for each refuge or planning unit. Although the ULWP is not a National Wildlife Refuge, the Mitigation Commission and UDWR adopted the CMP planning process laid out in the NWRSAA due to its suitability for this project and purpose. CMPs provide long-range guidance and management direction to achieve refuge purposes, help fulfill the refuge system mission, and maintain or restore the ecological integrity of each refuge and the refuge system. Additional goals of the CMP process include using science and sound professional judgment to support management decisions, ensuring the six priority public uses receive consideration during the preparation of the CMP, providing a public forum for stakeholders and interested parties to have input into refuge management decisions, and providing a uniform basis for funding.

The CMP planning process consists of the following eight steps. Although the steps are listed sequentially, CMP planning and National Environmental Policy Act (NEPA) documentation can be repetitive. Some of the steps may be repeated, or more than one step can occur simultaneously.

1. Preplanning—Form core team, identify needs
2. Identify issues and develop vision—Gather public input on issues
3. Develop goals and objectives from issues, resource relationships, legal responsibilities
4. Develop and analyze alternatives, including the proposed action
5. Prepare draft plan and NEPA document—Assess environmental effects, gather public comment on the draft plan
6. Prepare and adopt the final plan
7. Implement the plan, monitor and evaluate
8. Review and revise the plan

Comprehensive management planning for the ULWP began in 1998 with the designation of a core planning team, consisting of representatives from the Mitigation Commission, UDWR, FWS, and Bureau of Land Management (BLM). However, work was discontinued in 2006 due to personnel changes at the Mitigation Commission and the UDWR. The CMP planning process resumed in 2019. The Mitigation Commission's Executive Director, the CUPCA Office's Program Director, and the UDWR's Director will sign this final CMP, thus providing direction to the preserve manager and staff. Copies of the CMP will be provided to all interested parties on request.

1.8 PUBLIC INVOLVEMENT AND PLANNING ISSUES

As part of an early information gathering phase of the project, the Mitigation Commission held two workshops with potentially interested federal, state, and local government agencies, including the BLM, the Bureau of Reclamation (BOR), the DOI CUPCA Office, the FWS, the UDWR, Juab County, and Utah County. The purpose of the workshops was to share details of the proposed CMP with the agencies and solicit early input on planning issues.

For public scoping, the Mitigation Commission's consultant developed an interactive virtual public meeting website to share information, solicit input to prepare the draft EA, and provide a forum to answer relevant questions. This website was used in lieu of in-person public meetings, which were not possible because of the coronavirus (COVID-19) pandemic in the United States and the Centers for Disease Control and Prevention's recommendations for social distancing and avoiding public gatherings. The 30-day public scoping period for the EA was initiated with the publication of the virtual public meeting website on February 19, 2021, and concluded on March 22, 2021. Concurrent with the virtual public meeting website, the Mitigation Commission distributed postcards announcing the public comment period to 708 property owners in the ULWP and within a half-mile buffer of the ULWP boundary. A legal advertisement was published in the *Provo Daily Herald* on February 22, 2021.

Numerous issues were raised during the review of the ULWP's original 1996 EA and public comment phase. Key environmental issues directly associated with the potential acquisition of land by the Mitigation Commission were identified and included in the EA. Other issues associated with the management of acquired land are discussed in **Chapter 2**. These issues raised by the public and agency stakeholders are categorized below. Please see **Appendix B** for the summary report for public comments received during scoping.

Additionally, before releasing the public draft plan, the Mitigation Commission, UDWR, and the DOI CUPCA Office distributed a draft management plan and EA to agency stakeholders for review and comment. Feedback from that review is reflected in this document.

The draft EA was posted on the virtual public meeting website and on the Mitigation Commission website. Notification of the availability of the draft EA was distributed electronically and via postcard to agencies, organizations, and individuals on the Mitigation Commission mailing list. The Public Draft EA comment period extended from January 14, 2022 to February 22, 2022. During the Public Draft EA comment period, the interactive virtual public meeting website was used to share information, solicit input on the draft EA, and provide a forum to answer relevant questions. The Ute Tribe Business Committee submitted a late comment letter requesting further information on water rights used for the ULWP. The DOI CUPCA Office provided the requested information to the Ute Tribe Business Committee and their consultant. The information on water rights and shares was added to the CMP and EA in **Section 4.8.1**. The Mitigation Commission did not receive any other substantive comments on the draft CMP or EA. Public comments on the draft CMP and EA are included in **Appendix B**.

1.8.1 Wildlife/Land Management

Concerns raised during public involvement relating to wildlife and land management were as follows:

- The need for the government to own more land
- Wildlife protections on the ULWP

- Whether additional protections are needed, and if so, who is most capable of providing that protection, for example, the federal government, state government, or private landowners
- If predator management will be permitted on the ULWP and, if so, in what form

1.8.2 Local and Regional Economics

Considering that land purchased by the Mitigation Commission will be removed from the tax base, there are concerns about what effect this will have on Utah County government. There are also general questions about the types of uses that will be allowed on acquired lands.

1.8.3 Tourism and Recreation

As ULWP lands are acquired and developed, tourism and recreation may increase. Stakeholders are interested in what opportunities will exist for recreation, such as hunting, fishing, hiking, horseback riding, all-terrain vehicle riding, and bird-watching; what limitations will be imposed; the types of facilities that will be available; and the provisions that will be made for disabled individuals.

1.8.4 Agricultural Practices

Concerns relating to agricultural practices are as follows:

- The need to acquire agricultural land and how many farmers/ranchers will be displaced as a result
- What effect, if any, management activities, groundwater manipulation in particular, will have on adjacent private farmland
- Potential crop depredation on private lands resulting from increased wildlife
- Whether croplands will be leased back to former owners or others who can keep the land productive
- Pesticide restrictions that will be placed on adjacent landowners
- If endangered species will be introduced that may affect the agricultural programs on adjacent lands

1.8.5 Water Resources and Water Rights

Questions posed during public involvement pertaining to water resources and rights are as follows:

- If the Mitigation Commission will acquire additional water rights
- Whether irrigation water purchased by the Mitigation Commission may have a better use than for wildlife and wetlands
- If additional water can meaningfully enhance or restore wildlife populations in the project area
- Whether water rights used on the ULWP will adversely impact water rights of the Ute Indian Tribe

Some of these concerns lack basis when viewed in the context of CUPCA. For example, further limiting pesticide use on adjacent private lands or introducing endangered species are not explicitly authorized or prohibited by CUPCA and could not occur using funds or authorization provided by the act. Concerns over the potential impacts of agricultural drainage modification, increased traffic/visitation in rural communities, or increased agricultural crop depredation warrants further discussion. Such discussion of

the conditions under each management alternative will focus on these major groupings, in addition to the proposed management activity. Discussion of consequences will also focus on these issues.

Table 1-2. Summary of Planning Considerations Identified During Scoping

Issue Topic	Planning Considerations
Land and water acquisition	Land transfers; water rights acquisitions and transfers
Land and water acquisition and management	Vegetation management; coordinated state/federal planning; stakeholder collaboration; cultural resources; fire; grazing, haying, seeding; chemical, mechanical, and manual treatments; water management and irrigation; monitoring and adaptive management; habitat restoration and enhancement; native species; upland and wetland habitat; pollinators; seasonal management; diverse aquatic habitats; partnerships; ecosystem services; agriculture; adjacent land uses; sensitive species; unit specific goals; vector control (mosquitoes)
Public services (recreation, access, and education)	Education and outreach; access and closures; motorized and nonmotorized use; Americans with Disabilities Act (ADA) requirements; wildlife dependent recreation; recreation infrastructure (parking, trails, viewing stands, boardwalks); interpretive signs; hunting; trespassing and law enforcement; research; volunteer opportunities; fencing
Wildlife management	Invasive species; monitoring and adaptive management; native species; habitat structures; seasonal management; sensitive species; target species

1.9 CONSISTENCY WITH OTHER PLANS AND PROGRAMS

The management of the ULWP considers the goals, objectives, and management actions of other Mitigation Commission and UDWR planning, as well as state and county resource management plans. These plans include the UDWR Strategic Plan, the Utah Wildlife Action Plan (WAP), BLM RMPs, and UDWR habitat management plans (HMPs). Some of these plans are briefly discussed below. (Please note that this is not a comprehensive review of the listed plans, but rather a summary of relevant objectives and management actions contained within those plans.)

1.9.1 UDWR Strategic Plan

The management of the ULWP has relevance to the following goals and objectives of the UDWR Strategic Plan:

- Constituency goal—Strengthen support for wildlife management by demonstrating the value and importance of wildlife to all Utahns
  - Objective C6—Increase hunting and fishing opportunities
- Resource goal—Conserve, enhance and actively manage Utah's protected wildlife populations
  - Objective R1—Increase, decrease, or maintain wildlife populations, as needed, to meet the objectives in management plans
  - Objective R2—Maintain existing wildlife habitat and increase the quality of critical habitats and watersheds throughout the state
  - Objective R4—Decrease risks to species and their habitats through integrated implementation of the WAP, species recovery plans, conservation agreements and other management plans

- Objective R7—Decrease the number of wildlife-related incidents, including property damage, crop depredation, and threatened or endangered species listings, that negatively impact private property owners

1.9.2 Wildlife Action Plan

The 2015–2025 Utah WAP was developed with the aim to "manage native wildlife species and their habitats, sufficient to prevent the need for additional listings under the ESA." The WAP establishes a list of 141 species of greatest conservation need in the state and the key habitats they require for survival. The ULWP potentially contains 17 of these species (6 mammals and 11 avian). Management activities on the ULWP will attempt, to the extent possible, to address threats to these species and habitats and will use the suggested strategies for management described in the WAP.

1.9.3 UDWR Habitat Management Plans

The UDWR's HMPs provide management direction to UDWR personnel for wildlife management areas (WMAs) in the state. HMPs contain the following sections: background information, such as the purpose of division ownership and public recreation opportunities; property information, such as descriptions and encumbrances; property inventory, such as capital improvements and existing habitats; management goals and objectives; strategies for property management; and strategies for habitat management. This CMP is an HMP for the ULWP, and as such, this document contains all of the essential elements of an HMP.

1.9.4 Local Resource Management Plans

In 2015, the Utah State Legislature updated state code H. B. 323, requiring all counties to address environmental resources on federal public lands within a county in an RMP. The State of Utah then combined the land use directions of all county RMPs into a statewide RMP, which it published in 2018. The purposes of these local resource management plans are to better align local land use needs with federal land use planning and to provide a basis for coordinating with the federal government.

Utah State Code 63L-10-104 provides "State agencies and political subdivisions shall refer to and substantially conform with the statewide resource management plan when making plans for public lands or other public resources in the state."

Local RMPs applicable to the ULWP are the statewide RMP and Utah County's RMP. Management of the ULWP will be consistent with these local RMPs to the fullest extent possible.

1.9.5 BLM Resource Management Plan

There are 4,418 acres of BLM-administered lands in the ULWP boundary. The BLM manages these lands in accordance with the Pony Express RMP (BLM 1990). No changes to the BLM's RMP, landownership status, or administration of withdrawn lands are proposed as part of this CMP. A cooperative agreement between the BLM and UDWR could define opportunities for a cooperative approach for each agency to use when implementing its respective management direction. The specifics of any cooperative agreement would be subject to future coordination between the BLM and UDWR and consistency with the applicable regulations governing BLM and UDWR actions.

1.10 PLAN AMENDMENT AND REVISIONS

The preserve manager will use the CMP to ensure that ULWP priorities and work are consistent with the plan's goals, objectives, and management actions. Appropriate staff members will be assigned tasks and projects to accomplish the objectives stated in the CMP. ULWP staff will review the CMP at least annually to decide if it requires any revisions as new information becomes available, ecological conditions change, or major ULWP expansion occurs. At a minimum, the CMP will be revised every 15 years.

This page intentionally left blank.

Chapter 2. Proposed Management Plan

2.1 INTRODUCTION

ULWP management focuses on protecting migratory birds, wildlife habitat, and wetland values in a manner compatible with surrounding farmlands, orchards, and agricultural production. As such, management takes a comprehensive approach, consisting of ongoing land and water acquisition, land and water management, visitor services, and wildlife management. Contained in these broader management directions are management goals, objectives, and actions. These pertain to vegetation community enhancement, weed treatment, irrigation, resource inventory and monitoring, stakeholder engagement, partnership development, access, and nuisance wildlife, among other issues of concern.

This management plan builds on management actions implemented and refined since the establishment of the ULWP and on existing management guidance, such as an integrated pest management plan. It focuses on maintaining and enhancing a mosaic of habitat types important for migratory birds, including marsh, wet meadow, saline wet meadow, xeric and mesic shrublands, saline playa, and cropland. Management actions take into consideration the landscape context, specifically ecosystem processes, land use, and disturbance. For example, nonnative species may be used to achieve habitat objectives. Allowing both native and nonnative species would improve the likelihood of successful vegetation restoration by providing a diversity of options.

Utah Lake elevation, fire, weed treatment, drought, grazing, agricultural activities, and trespassing can have positive and negative effects on these habitat types. For example, the proximity of the ULWP to Utah Lake makes lake elevation an important consideration for management. According to lake level data, Utah Lake can fluctuate 2 to 5 feet on an annual basis around compromise level (4,489.05 feet). At the compromise level, the lake is considered full and measures need to be taken to reduce lake volume when in excess of this level (Utah Lake Commission 2021). Over the past 30 years lake levels are periodically as much as 5 feet below the compromise level. For such a flat basin, the average depth of Utah Lake is 10 feet; 5 feet of lake level variation changes the extent of inundation and depth to groundwater, which directly affects other biological processes and indirectly affects ULWP management.

Common reed (*Phragmites australis*), an invasive species, is established along the Utah Lake shoreline. This plant spreads via rhizomes and seed. Rhizomes penetrate the soil to a depth of more than 6 feet, which allows this species to tolerate a variety of upland and wetland conditions (Michigan Department of Environmental Quality 2014), unlike desirable and native wetland species. High water levels can bring in phragmites seeds that are deposited on moist soils as inundation recedes. Due to annual fluctuations in water levels, common reed would persist regardless of whether Utah Lake is managed at compromise level. Common reed management is a priority for the ULWP; however, since common reed occurs in large stands along the shoreline, regardless of landownership, treatment benefits from a coordinated effort between the UDWR and private landowners are needed. In 2020, localized treatment of common reed using prescribed fire to clear thick, dead stems expanded onto the ULWP. This illustrates the importance of coordinated management at the landscape level.

2.2 ORGANIZATION OF THE PLAN

The Mitigation Commission, UDWR, and DOI CUPCA Office staff used input gathered during the scoping process (see **Section 1.8**) to develop the initial themes of the management plan. These themes correspond with the plan's four management categories, which are as follows:

Land and Water Acquisition—includes management direction for acquiring land and water rights from willing sellers and regularly coordinating with the public and stakeholders regarding the status of those acquisitions.

Land and Water Management—includes management direction for the establishment and maintenance of vegetation, hydrologic regimes, and associated habitats and ecosystems, including habitat for migratory and nesting birds, and the protection of cultural resources.

Public Services/Visitor Services (Public Recreation, Access, and Education)—includes management direction for providing diverse nonmotorized wildlife-dependent recreation opportunities and experiences, public access, and stakeholder and public education.

Wildlife Management—includes management direction for increasing migratory bird abundance and biodiversity, and coordinating with partners on nuisance wildlife management.

For each management category, there are management goals, objectives, and actions. Management goals articulate the fundamental management direction to satisfy the CUPCA and the ULWP purpose and vision. Objectives are measurable and provide greater detail and guidance for the subsequent management actions. **Table 2-1** lists the management goals and objectives in each management category; the full management plan is in **Section 2.4**. The order of the management categories and the goals, objectives, and actions within them are random; they are not in priority order.

Table 2-1. ULWP Management Plan Goals and Objectives

Land and Water Acquisition (Section 2.4.1)
Goal LWA 1: Subject to available funding, continue to acquire additional land and water rights within the ULWP boundary from willing sellers.
Objective LWA 1.1: Maintain an open presence in the community that encourages dialogue with landowners regarding land and water acquisition.
Objective LWA 1.2: Coordinate at least annually with the Mitigation Commission during budget development to ensure there are adequate funds available for land acquisition.
Objective LWA 1.3: Integrate new parcels into the ULWP management system, based on a condition assessment.
Objective LWA 1.4: Actively search for and pursue strategically important water rights and review existing water rights for best use.
Land and Water Management (Section 2.4.2)
Goal LWM 1: Provide conditions for establishment and maintenance of native-functioning/favoring vegetation and plant communities.
Objective LWM 1.1: Implement a vegetation monitoring program based on ULWP ecosystems/habitat types to improve vegetation management and assess invasive weed treatment.
Objective LWM 1.2: Maintain conditions that reduce potential for catastrophic wildfires.
Objective LWM 1.3: Update the weed section of the integrated pest management plan.
Objective LWM 1.4: Annually treat the ULWP for invasive species on a seasonal rotation.
Objective LWM 1.5: Maintain areas of the ULWP with native vegetation for pollinators.

Land and Water Management (Section 2.4.2)
Goal LWM 2: Establish and maintain naturally functioning hydrologic regimes, to the extent practicable, to achieve habitat and wildlife management objectives.
Objective LWM 2.1: Regularly monitor changes in hydrologic condition.
Objective LWM 2.2: Ensure all existing and acquired water rights stay current.
Objective LWM 2.3: Restore hydrological processes at specific locations.
Objective LWM 2.4: Evaluate opportunities to augment surface water.
Goal LWM 3: Conserve, restore, and enhance diverse ecosystems present on ULWP.
Objective LWM 3.1: Protect and enhance riparian zones to maintain water quality.
Objective LWM 3.2: Map ecosystems/habitats present on the ULWP.
Objective LWM 3.3: Design and fund ecosystem restoration or enhancement projects.
Objective LWM 3.4: Apply adaptive management approaches to ecosystems within the ULWP.
Goal LWM 4: Conserve, restore, and enhance habitat for nesting and migrating birds of the Utah Lake Basin.
Objective LWM 4.1: Apply adaptive management approaches to enhance migratory bird habitat based on monitoring data.
Objective LWM 4.2: Provide productive foraging habitat for migratory birds in spring and fall by maintaining diverse vegetation structure, hydrology, and food sources.
Goal LWM 5: Preserve, protect, and promote an understanding of cultural resources on ULWP.
Objective LWM 5.1: Develop cultural and historic interpretation materials.
Public Services/Visitor Services (Public Recreation, Access, and Education) (Section 2.4.3)
Goal PS 1: Promote public understanding of the natural and cultural history of lands and water in the ULWP.
Objective PS 1.1: Facilitate annual outreach events.
Objective PS 1.2: Develop an interpretation plan with signage at key locations around the ULWP.
Goal PS 2: Facilitate an understanding of ULWP management goals and objectives among stakeholders and adjacent landowners.
Objective PS 2.1: Provide volunteer opportunities to implement management goals and objectives.
Objective PS 2.2: Engage with partners, stakeholder groups, or adjacent landowners on coordinated management activities.
Objective PS 2.3: Integrate the ULWP into national and international partnerships.
Goal PS 3: Provide diverse nonmotorized wildlife-dependent recreation opportunities and experiences.
Objective PS 3.1: Provide waterfowl and upland game bird hunting opportunities for ULWP visitors.
Objective PS 3.2: Provide fishing opportunities.
Objective PS 3.3: Enhance wildlife viewing opportunities.
Goal PS 4: Provide access to areas of the ULWP while minimizing disturbances to wildlife and riparian areas.
Objective PS 4.1: Provide visitor access at existing access points.
Objective PS 4.2: Establish two or more designated parking areas, one in each unit.
Objective PS 4.3: Limit the amount of trespassing and illegal dumping in the ULWP.
Objective PS 4.4: Incorporate opportunities for people with disabilities.
Wildlife Management (Section 2.4.4)
Goal WM 1: Increase migratory bird abundance and biodiversity.
Objective WM 1.1: Implement a migratory bird monitoring program.
Objective WM 1.2: Ensure management actions in the ULWP are consistent with the UDWR Strategic Plan, WAP, and other agency policies.
Objective WM 1.3: Support migratory bird-related and other research on the ULWP.
Goal WM 2: Coordinate with partners on nuisance wildlife management (wildlife damage control).
Objective WM 2.1: Conduct ongoing human-wildlife conflict assessment focusing on mule deer, raccoons, and sandhill cranes, which ULWP staff identifies as the primary species of concern.
Objective WM 2.2: Facilitate ongoing integration of the ULWP into the Utah County Mosquito Abatement Program.

Wildlife Management (Section 2.4.4)
Objective WM 3.3: Maintain ULWP boundaries so that the public understands the interface of public and private areas.

2.3 MANAGEMENT CONSTRAINTS

The proposed management direction in **Section 2.4** considers and addresses potential constraints associated with implementing the ULWP CMP. **Table 2-2** summarizes the issues and management constraints and identified approaches for addressing the constraints.

Table 2-2. Management Constraints

Issue	Management Constraint	Management Approach
Mission-driven guidance and regulations	Manage ULWP in accordance with substantive requirements of the NWRSAA, with a focus on wetland and associated wildlife values.	ULWP managers work to secure the future of Utah's wildlife, especially migratory birds, and to maintain wildlife-related recreation. Other species benefit by association.
Interagency coordination	ULWP management must comply with the requirements and constraints of multiple agencies; therefore, it cannot be managed simply as a UDWR management area or FWS refuge.	The ULWP is managed in a manner that conforms with regulations and guidance of the various agencies.
Land and water acquisition	The only acceptable way to acquire land and water is via willing sellers. No condemnation or eminent domain is allowed.	Land and water are acquired on a willing-seller basis.
Public access	In general, the UDWR promotes public access, especially related to recreation. Due to the patchwork nature of the ULWP, there are many miles of paved road frontage, which facilitates recreational access but also trespassing. The accessibility of the ULWP also allows the public to observe ongoing management activities.	The ULWP prioritizes walk-in access and regularly installs and maintains fencing as a management tool. The ULWP manager regularly responds to calls from the public regarding management activities, to the extent practicable.
Funding	Funding is limited and much of it is set aside for land and water acquisition. The Mitigation Commission typically supports management needs for the ULWP but does not contribute to programmatic costs, such as monitoring. Supplemental funding beyond what is provided by the Mitigation Commission comes from the UDWR.	Implementing proposed management direction is subject to available funding from the Mitigation Commission. The UDWR would also seek funding or in-kind support from partner organizations.
Landownership mosaic	Fragmentated ownership can make comprehensive management difficult.	ULWP personnel work to clearly identify ULWP property, using fencing and signage. The ULWP strongly encourages coordinating with adjacent private landowners on prescribed burns, weed treatment, and other activities that have potential to affect the ULWP.

2.4 MANAGEMENT GOALS, OBJECTIVES, AND ACTIONS

The Mitigation Commission is responsible for designing, funding, and implementing projects to offset the impacts on fish, wildlife, and related recreation resources caused by the CUP and other federal Reclamation projects in Utah. To ensure successful and sustainable projects, the Mitigation Commission and partners, such as the UDWR, will prioritize restoration of ecosystems processes. Unless otherwise noted, the UDWR will be the agency responsible for implementing the management goals, objectives, and management actions in this plan.

Other important guiding management principles applied at the ULWP are the following:

- Integrate spatial and temporal variation, including variation resulting from climate change
- Imitate natural disturbance regimes
- Acknowledge the realities of ecologically disturbed landscapes
- Use an ecosystem-level approach to foster comprehensive wildlife habitat restoration and enhancement
- Understand the legal requirements and economic considerations of project design and implementation to ensure success and realize economic value
- Balance public perceptions and expectations with resource sustainability to ensure that fundamental wildlife habitat requirements remain a priority management consideration

Equally important is the application of adaptive management on the ULWP. This is an iterative decision-making approach that is informed by best management practices that reflect current understanding of resources and their response to management actions (US Army Corps of Engineers 2013). Key components of adaptive management are monitoring to track changes, assessing monitoring data, comparing management options, and devising a framework for decision-makers to discuss, identify, and approve management actions. In the case of the ULWP, adaptive management is an approach that allows for flexible, proactive, and interactive management decisions and implementation. Monitoring and adaptive management actions are included in the proposed plan and described in further detail in **Sections 5.4** and **5.5**.

2.4.1 Land and Water Acquisition

The primary method for creating and expanding the ULWP is acquiring land and water from willing sellers. This management direction centers on coordinating with surrounding landowners and the Mitigation Commission so that when parcels or water become available, they can be incorporated efficiently into the ULWP.

Goal LWA 1: Subject to available funding, continue to acquire additional land and water rights within the ULWP boundary from willing sellers.

Objective LWA 1.1: Maintain an open presence in the community that encourages dialogue with landowners regarding land and water acquisition.

Management actions

LWA 1.1.1: Encourage active ULWP staff engagement with stakeholders by attending irrigation company meetings and other community events

LWA 1.1.2: Update the ULWP website to highlight recent acquisitions and accomplishments

LWA 1.1.3: Integrate story maps and other multimedia into public relation materials

LWA 1.1.4: Apply criteria for parcel prioritization, such as proximity to surface water or other factors

LWA 1.1.5: Once a year, encourage UDWR staff to visit with county commissioners or public works divisions to discuss the status of land and water acquisitions in the ULWP

Objective LWA 1.2: Coordinate at least annually with the Mitigation Commission during budget development to ensure there are adequate funds available for land acquisition.

Management actions

LWA 1.2.1: Ensure UDWR staff provides the Mitigation Commission with periodic updates on potential purchases and funding needs related to the ULWP, and attends an annual CUP coordination meeting with the Mitigation Commission

Objective LWA 1.3: Integrate new parcels into the ULWP management system, based on a condition assessment.

Management actions

LWA 1.3.1: Ensure UDWR staff develops a standard operating procedure (SOP) manual or parcel integration checklist that includes information such as Environmental Site Assessment Phase I evaluation, waste removal, fencing, and signage, and updates the SOP manual following new acquisitions

Objective LWA 1.4: Actively search for and pursue strategically important water rights and review existing water rights for best use.

LWA 1.4.1: Continue to participate in local and regional water planning to determine opportunities for additional water acquisitions that would benefit the ULWP

LWA 1.4.2: Identify available water rights, prioritize for acquisition, and coordinate with owners to determine interest for future sale

2.4.2 Land and Water Management

Many of the management actions on the ULWP pertain to land and water conservation. This management direction includes recommendations on establishing healthy vegetation communities, creating naturally functioning hydrologic regimes, maintaining ecosystem diversity, enhancing migratory bird habitat, and protecting cultural resources.

Goal LWM 1: Provide conditions for establishment and maintenance of native-functioning/ favoring vegetation and plant communities.

Objective LWM 1.1: Implement a vegetation monitoring program based on ULWP ecosystems/habitat types to improve vegetation management and assess invasive weed treatment.

Management actions

LWM 1.1.1: Establish baseline vegetation community composition

LWM 1.1.2: Map vegetation communities

LWM 1.1.3: Conduct vegetation monitoring as needed to track changes and treatments on the ULWP

Objective LWM 1.2: Maintain conditions that reduce potential for catastrophic wildfires.

Management actions

LWM 1.2.1: Conduct condition assessments to identify fire-resistant/fire-prone vegetation communities and to identify resources that would be threatened by fire (e.g., infrastructure, habitat resources)

LWM 1.2.2: Practice fuel reduction using grazing, fire, mechanical, and chemical treatments

LWM 1.2.3: Evaluate the use of prescribed fire on native plants

Objective LWM 1.3: Update the weed section of the integrated pest management plan.

Management actions

LWM 1.3.1: Coordinate with weed experts, partners, and local universities to update the weed section of the ULWP's integrated pest management plan

Objective LWM 1.4: Annually treat the ULWP for invasive species on a seasonal rotation.

Management actions

LWM 1.4.1: Map and quantify existing coverage of invasive species

LWM 1.4.2: Treat noxious and invasive weed species using grazing, mechanical, and chemical methods; this could include using fire and reseeding

LWM 1.4.3: Apply seasonal treatments based on control targets

LWM 1.4.4: Establish study plots to evaluate the efficacy of noxious weed treatment

LWM 1.4.5: Coordinate with Great Basin Research Center to develop multiple seed mixes for use when conducting weed treatments

LWM 1.4.6: Conduct annual review of manufactures' recommendations to ensure compliance with standards for use of chemicals in aquatic system

LWM 1.4.7: Manage weeds using the State of Utah weed classification system

LWM 1.4.8: Set future targets for weed reduction by species using vegetation monitoring data

LWM 1.4.9: Review and issue permits for herbicide application by partners, as appropriate

Objective LWM 1.5: Maintain areas of the ULWP with native vegetation for pollinators.

Management actions

LWM 1.5.1: Identify and map areas with pollinator-supporting plants

LWM 1.5.2: Identify areas that could provide pollinator-supporting plants, or plant species that could be present or added

LWM 1.5.3: Work with partners to collect and disperse desirable seeds to new areas as appropriate

Goal LWM 2: Establish and maintain naturally functioning hydrologic regimes, to the extent practicable, to achieve habitat and wildlife management objectives.

Objective LWM 2.1: Regularly monitor changes in hydrologic condition.

Management actions

LWM 2.1.1: Use existing data (USGS), field monitor artesian wells, field verify surface water conditions

Objective LWM 2.2: Ensure all existing and acquired water rights stay current.

Management actions

LWM 2.2.1: Record water use as part of water rights management and documentation

LWM 2.2.2: Review opportunities to change place of use or to combine water rights; follow up with applicable proof

LWM 2.2.3: Explore opportunities to extend water rights, such as through water banking or leasing

Objective LWM 2.3: Restore hydrological processes at specific locations.

Management actions

LWM 2.3.1: Remove dikes, drains, and other hydrologic modifications, as appropriate

LWM 2.3.2: Remove phragmites, tamarisk, and other undesired phreatophytes to raise groundwater levels and restore hydrological processes

LWM 2.3.3: Evaluate flood potential of areas targeted for inundation

LWM 2.3.4: Remove obstructions that may contribute to flooding on adjacent private land

LWM 2.3.5: Maintain stable water levels in spring to support migratory bird nesting

LWM 2.3.6: Maintain stable, water levels in fall to enhance food production for migratory birds

LWM 2.3.7: Contract with a hydrologist or hydrologic engineer to develop a ULWP water budget, if and when pursuing additional water shares and rights for restoration or enhancement

LWM 2.3.8: Determine baseline water shares and rights available for use in restoration projects

LWM 2.3.9: Coordinate with the state engineer and water users regarding return of water to natural drainages during non-irrigation season[4] in the Goshen Unit

Objective LWM 2.4: Evaluate opportunities to augment surface water.

Management actions

LWM 2.4.1: Consider opportunities to develop artesian water source in the Goshen Unit for supplemental irrigation

LWM 2.4.2: Stay current on annual assessments with irrigation companies

LWM 2.4.3: Continue irrigating sections of the ULWP with existing water shares

Goal LWM 3: Conserve, restore, and enhance diverse ecosystems present on ULWP.

Objective LWM 3.1: Protect and enhance riparian zones to maintain water quality.

Management actions

LWM 3.1.1: Plant willows, cottonwoods, and other suitable riparian species along creeks and other surface waters

LWM 3.1.2: Create exclosures to protect riparian vegetation from herbivory, as needed

Objective 3.2: Map ecosystems/habitats present on the ULWP.

Management actions

LWM 3.2.1: Maintain and augment existing spatial data with locally available data

LWM 3.2.2: Gather baseline vegetation community composition data

LWM 3.2.3: Map vegetation communities on the ULWP

Objective 3.3: Design and fund ecosystem restoration or enhancement projects.

Management actions

LWM 3.3.1: Based on inventories and monitoring activities, draft restoration or enhancement plans that can be used for funding proposals

LWM 3.3.2: Identify and apply for restoration or enhancement funding (not through the Mitigation Commission)

LWM 3.3.3: Coordinate with partners of restoration or enhancement activities

LWM 3.3.4: Compare current and historical aerial imagery to identify potential restoration or enhancement projects

Objective 3.4: Apply adaptive management approaches to ecosystems within the ULWP.

Management actions

LWM 3.4.1: Evaluate ecosystem response to depth, duration, timing, and frequency of flooding or irrigation

LWM 3.4.2: Manage surface water to restore seasonal mudflats

LWM 3.4.3: Compare current vegetation composition to desired vegetation composition to develop restoration and enhancement initiatives

LWM 3.4.4: Conduct baseline wildlife inventories

LWM 3.4.5: Coordinate with soil scientists or partners, such as Natural Resources Conservation Service (NRCS), to characterize soil conditions (constraints of saline soils and moist soil management)

Goal LWM 4: Conserve, restore, and enhance habitat for nesting and migrating birds of the Utah Lake Basin.

Objective LWM 4.1: Apply adaptive management approaches to enhance migratory bird habitat based on monitoring data.

Management actions

LWM 4.1.1: Map high-quality nesting habitat

LWM 4.1.2: Establish seasonal closures or use limitations, such as for haying operations, as needed to minimize nesting disturbance

LWM 4.1.3: Construct additional nesting structures, such as goose nest or kestrel platforms, or perform nest maintenance for waterfowl, raptors, and other species as part of the volunteer program

LWM 4.1.4: Consider constructing bat houses as part of the volunteer program

LWM 4.1.5: Utilize fencing to manage vegetation communities

Objective LWM 4.2: Provide productive foraging habitat for migratory birds in spring and fall by maintaining diverse vegetation structure, hydrology, and food sources.

Management actions

LWM 4.2.1: Protect sensitive nesting areas from fire and other disturbances

LWM 4.2.2: Manage habitat to avoid circumstances that contribute to avian botulism and other diseases

LWM 4.2.3: Maintain stable, optimal water levels in spring to support migratory bird nesting

LWM 4.2.4: Maintain stable, optimal water levels in fall to enhance food production for migratory birds

LWM 4.2.5: Restore vegetation structure and food sources by replanting with native (functioning) species, such as saltmarsh club-rush (*Schoenoplectus maritimus*)

LWM 4.2.6: Implement seasonal closures and limit certain uses to protect breeding and nesting migratory birds

Goal LWM 5: Preserve, protect, and promote an understanding of cultural resources on ULWP.

Objective LWM 5.1: Develop cultural and historic interpretation materials.

Management actions

LWM 5.1.1: Inventory, catalogue, and map known cultural resources

LWM 5.1.2: Consult with the State Historic Preservation Office (SHPO) and Native American tribes on appropriate interpretation

LWM 5.1.3: Follow Utah Code 9-8-404 regarding cultural resource protection before ground-disturbing activities

LWM 5.1.4: Design and install interpretive signage

2.4.3 Public Services/Visitor Services (Public Recreation, Access, and Education)

Based on overarching guidance to develop and maintain wildlife-dependent recreation, this management direction consists of goals that promote the ULWP in the local community, that facilitate an understanding of ULWP management, that provide recreation opportunities, and that guide development of access points and recreation infrastructure.

Goal PS 1: Promote public understanding of the natural and cultural history of lands and water in the ULWP.

Objective PS 1.1: Facilitate annual outreach events.

Management actions

PS 1.1.1: Develop and maintain a list of volunteers to assist with outreach

PS 1.1.2: Support creation of a partner-led stakeholder group focused on the ULWP composed of various users, such as birders, landowners, irrigators, and upland game hunters

PS 1.1.3: Allocate time for ULWP staff to participate in outreach events

PS 1.1.4: Host a ULWP open house or similar public event corresponding to World Migratory Bird Day or preceding the annual waterfowl hunt

PS 1.1.5: Host school and community events and tours

PS 1.1.6: Write press releases and post information on the UDWR website announcing outreach events

PS 1.1.7: Coordinate with state and regional UDWR outreach staff

Objective PS 1.2: Develop an interpretation plan with signage at key locations around the ULWP.

Management actions

PS 1.2.1: Create and install interpretive signs providing information about the ULWP, migratory birds, and habitat

PS 1.2.2: Develop a self-guided tour of the ULWP, using signage, audio, a website, or computer applications

PS 1.2.3: Install trail and nest cameras at strategic locations to obtain video of ULWP wildlife for use in interpretation

Goal PS 2: Facilitate an understanding of ULWP management goals and objectives among stakeholders and adjacent landowners.

Objective PS 2.1: Provide volunteer opportunities to implement management goals and objectives.

Management actions

PS 2.1.1: Continue to facilitate Dedicated Hunter and other volunteer opportunities

PS 2.1.2: Integrate volunteer opportunities with open houses

PS 2.1.3: Notify partners and stakeholders about volunteer opportunities

Objective PS 2.2: Engage with partners, stakeholder groups, or adjacent landowners on coordinated management activities.

Management actions

PS 2.2.1: Once per year, visit with county commissioners or public works divisions regarding the implementation status of this management plan

PS 2.2.2: Coordinate with local, state, and federal agencies on land use planning matters with the potential to affect the ULWP

PS 2.2.3: Maintain and expand cooperative grazing, haying, and cost-sharing agreements with adjacent landowners and other stakeholders.

Objective PS 2.3: Integrate the ULWP into national and international partnerships.

Management action

PS 2.3.1: Participate in Partners in Flight Avian Conservation Strategy, and Intermountain West Joint Venture Program

Goal PS 3: Provide diverse nonmotorized wildlife-dependent recreation opportunities and experiences.

Objective PS 3.1: Provide waterfowl and upland game bird hunting opportunities for ULWP visitors.

Management actions

PS 3.1.1: Manage wildlife populations and hunting opportunities in coordination with UDWR state and regional managers

PS 3.1.2: Continue to provide pheasant and waterfowl hunting opportunities

PS 3.1.3: Provide safe and legal access to hunting areas by maintaining parking areas, gates, and other infrastructure

PS 3.1.4: Post hunting rules and information at access points

PS 3.1.5: Evaluate the potential for a sandhill crane hunt

PS 3.1.6: Monitor hunting activity on opening day and other high use periods; increase law enforcement/staffing, if necessary

PS 3.1.7: Annually assess the hunting area condition; limit certain activities/uses to allow for recovery, as needed

Objective PS 3.2: Provide fishing opportunities.

Management actions

PS 3.2.1: Manage popular fishing locations to mitigate destruction of vegetation, littering, and vandalism

PS 3.2.2: In coordination with partners, evaluate the need for fish barriers to control nonnative species

Objective PS 3.3: Enhance wildlife viewing opportunities.

Management actions

PS 3.3.1: Identify suitable wildlife viewing trail locations in both the Goshen and Benjamin Units

PS 3.3.2: Construct and maintain wildlife photography/viewing blinds with corresponding interpretive signage

PS 3.3.3: Construct and monitor a wildlife viewing structure in the Goshen Unit

PS 3.3.4: Develop a ULWP wildlife species list and make it available through a mobile application or other means

Goal PS 4: Provide access to areas of the ULWP while minimizing disturbances to wildlife and riparian areas.

Objective PS 4.1: Provide visitor access at existing access points.

Management actions

PS 4.1.1: Develop an access management plan in coordination with the UDOT, Mountainland Association of Governments, Utah County, and other stakeholders

PS 4.1.2: Apply gravel, as needed, to avoid damage to the road shoulder

PS 4.1.3: Maintain fencing to manage access and to conserve sensitive habitat

PS 4.1.4: Install fencing or other barriers to manage parking and access

PS 4.1.5: Coordinate with the Utah Lake Commission and other recreation entities on appropriate access and trail alignments within the ULWP

Objective PS 4.2: Establish two or more designated parking areas, one in each unit.

Management actions

PS 4.2.1: Identify parking area locations and average use to determine lot size

PS 4.2.2: Coordinate with the Utah Department of Transportation and counties as required for design, permitting, and construction

Objective PS 4.3: Limit the amount of trespassing and illegal dumping in the ULWP.

Management actions

PS 4.3.1: Construct and repair boundary fence, as needed

PS 4.3.2: Install ULWP boundary signage, as needed

PS 4.3.3: Install trail cameras in problem areas, as needed

PS 4.3.4: Develop supplemental signage regarding state and county enforcement codes, as appropriate

PS 4.3.5: Coordinate with the UDWR and local law enforcement, as needed

Objective PS 4.4: Incorporate opportunities for people with disabilities.

Management actions

PS 4.4.1: Designate a portion of hunting, fishing, and wildlife viewing areas as universally accessible

PS 4.4.2: Design and construct infrastructure in designated locations in accordance with federal ADA guidelines

2.4.4 Wildlife Management

This management direction focuses on meeting specific wildlife population objectives determined by UDWR planning efforts. These may be for migratory birds and other associated wetland species as well as those that have a perceived negative impact on surrounding agricultural land uses. It includes collaboration with surrounding landowners and coordination with regional UDWR resource managers.

Goal WM 1: Increase migratory bird abundance and biodiversity.

Objective WM 1.1: Implement a migratory bird monitoring program.

Management actions

WM 1.1.1: Provide and train staff to perform monitoring activities

WM 1.1.2: Conduct baseline migratory bird inventories

WM 1.1.3: Conduct annual migratory bird monitoring

WM 1.1.4: Coordinate with UDWR state and regional nongame staff

WM 1.1.5: Implement census, breeding pair counts, and brood counts

WM 1.1.6: Engage regional coordinators in data collection and analysis

WM 1.1.7: Integrate the ULWP into the bald eagle count

WM 1.1.8: Integrate the ULWP into the Audubon Christmas bird count

WM 1.1.9: Analyze monitoring data to assess abundance and biodiversity

Objective WM 1.2: Ensure management actions in the ULWP are consistent with the UDWR Strategic Plan, WAP, and other agency policies.

Management actions

WM 1.2.1: Coordinate with the Mitigation Commission and regional UDWR managers involved in wildlife and habitat planning

WM 1.2.2: Document, collect, and dispose of birds affected by avian botulism

WM 1.2.3: Develop predator management and furbearer trapping programs consistent with agency policies and respectful of adjacent landowners

WM 1.2.4: Identify opportunities to enhance wetland habitat to support sensitive species

Objective WM 1.3: Support migratory bird-related and other research on the ULWP.

Management action

WM 1.3.1: Provide site and operational support for research

Goal WM 2: Coordinate with partners on nuisance wildlife management (wildlife damage control).

Objective WM 2.1: Conduct ongoing human-wildlife conflict assessment focusing on mule deer, raccoons, and sandhill cranes, which ULWP staff identifies as the primary species of concern.

Management actions

WM 2.1.1: Provide adjacent landowners with contact information for the various agencies responsible for wildlife management (including nuisance wildlife) in the ULWP

WM 2.1.2: Enter human-wildlife conflict data into the UDWR database

WM 2.1.3: Coordinate with UDWR regional managers on nuisance wildlife populations and associated issues

WM 2.1.4: Integrate hunting and trapping as a management tool as appropriate to safeguard against agricultural depredation

WM 2.1.5: Host an annual workshop or meeting with partners, stakeholders, and adjacent landowners regarding nuisance wildlife management

Objective WM 2.2: Facilitate ongoing integration of the ULWP into the Utah County Mosquito Abatement Program.

Management actions

WM 2.2.1: Coordinate with the Utah County Health Department on sampling and seasonal treatments that mitigate impacts on wildlife

WM 2.2.2: Review and issue pesticide application permits, as appropriate and considering effects on pollinators and other wildlife

Objective WM 2.3: Maintain ULWP boundaries so that the public understands the interface of public and private areas.

Management action

WM 2.3.1: Use fences and signage to the extent practicable to mitigate the effects of wildlife and wildlife management on agriculture and other land uses

2.5 STEP-DOWN MANAGEMENT PLANS

The following documents require periodic update, revision, or consultation to support this comprehensive management plan.

- Integrated Pest Management Plan
- SOP Manual
- Mitigation Commission water rights database
- Fire management plans of other state and federal agencies
- Utah WAP
- Utah Lake CMP

Chapter 3. Alternatives

3.1 INTRODUCTION

In accordance with CUPCA Section 306(c)(1 and 2), Section 301(h)(4 and 7), and Section 301(k), this EA provides a high-level NEPA review that analyzes the general environmental consequences of transferring Mitigation Commission-managed lands to the UDWR. These lands include those in the ULWP and outside the ULWP near Mona Springs. It also analyzes the environmental consequences of the UDWR's management of the ULWP pursuant to a CMP that meets the substantive requirements of the NWRSAA, as amended. Through management goals, objectives, and actions, the CMP provides general guidance for the UDWR to administer the ULWP.

This EA enables the Mitigation Commission and the UDWR to examine the multi-faceted action in the proposed CMP in the absence of future site or project-specific proposals. This approach combined with subsequent tiered NEPA reviews for site-specific projects allows for a focused review at the proper level and will ultimately lead to greater efficiency in the decision-making process.

The alternatives considered for detailed analysis include the No Action Alternative and three action alternatives. The action alternatives respond to the purpose and need through the use of the management direction described in **Section 2.4**. However, each alternative has a different emphasis that would require the UDWR to focus on certain management goals, objectives, and strategies more than others. No plan would be developed under Alternative A (No Action Alternative), and the acquired parcels would not be transferred to the State of Utah. Alternative B is the proposed plan as described in **Section 2.4**; Alternatives C and D incorporate most aspects of the proposed plan but emphasize some management actions over others. The UDWR would continue managing the ULWP under all alternatives.

3.2 ACTIONS COMMON TO ALL ALTERNATIVES

The following actions are common across all alternatives, including Alternative A, the No Action Alternative:

- Land and water right acquisition in the ULWP would continue on a willing-seller basis in accordance with CUPCA.
- The UDWR would collaborate with other agencies and stakeholders to implement vegetation management projects that benefit the preserve. Vegetation management projects would target invasive species. Tools available for upland vegetation management include prescribed fire, targeted grazing, haying, native seeding, implementing chemical, mechanical, and manual treatments. However, the alternatives differ in which tools would be available for vegetation management and the desired outcome.
- Cultural resources would be protected in accordance with Section 106 of the National Historic Preservation Act.
- The ULWP would be available for wildlife-dependent recreation that is compatible with habitat and wildlife values and closed to motorized access, except for administrative use.
- Nuisance wildlife would be managed to limit human-wildlife conflicts.

- Per existing laws and policies, education and outreach would be used as needed to maintain public health and safety and meet noticing requirements. The UDWR would implement seasonal or permanent closures to protect wildlife and public health and safety. Education and outreach would improve public understanding of the preserve.

3.3 ALTERNATIVE A—NO ACTION ALTERNATIVE

The NEPA requires that a No Action Alternative be considered in the environmental analysis process. The No Action Alternative provides a baseline against which to compare the other alternatives.

Under Alternative A, the No Action Alternative, the UDWR would continue to manage the ULWP without change to current public use and resource protection prescriptions and acquired lands would remain in federal ownership. Nonmotorized public access to acquired lands in the ULWP would be via existing access points. Public use would primarily include nature viewing, hunting, and fishing. Resource protection prescriptions would include prohibiting nonmotorized use, boundary fencing to avoid unauthorized uses, vegetation treatments, and stewardship agreements. Treatments for managing noxious and invasive vegetation species would be implemented as funding allows. Re-establishment of wetland habitat and wildlife populations would be a function of the success of habitat and vegetation restoration alone. No new water conveyance, manipulation, or impoundment structures or systems would be used for wetland habitat restoration, and only existing water rights would be used for wetlands management. No improvements would be made to access or provide recreation infrastructure. No effort would be made to increase funding through partnerships or grants. Education and outreach would be used as needed and as feasible to maintain public health and safety and to meet noticing requirements. Interim stewardship partnerships and agreements would continue, and new partnerships would be pursued on a case-by-case basis.

3.4 ALTERNATIVE B (THE PROPOSED PLAN)—RESTORATION, HABITAT, AND RECREATIONAL ACCESS ALTERNATIVE

Alternative B, the proposed plan, represents a balance between resource protection and restoration to improve wildlife habitat and emphasizing opportunities for nonmotorized, wildlife-dependent recreation. The overarching management focus of this alternative is enhancing ecosystem processes. Alternative B uses the broadest array of management tools to achieve goals and objectives. The components of the proposed plan are discussed below.

Acquired land and water rights, including those associated with the Mona Springs parcels, would be transferred out of federal ownership to the State of Utah. Additional water rights would be pursued to support wetland habitat management projects. The Benjamin Slough and Goshen Bay units would be managed under a CMP that meets the substantive requirements of NWRSAA and is consistent with the requirements of CUPCA. The CMP would establish and implement a monitoring and adaptive management framework. The UDWR would advance stewardship goals through coordinated collaboration with other agencies and stakeholders to achieve management plan objectives. The Mona Springs parcels would not be managed under the CMP, as a separate management plan (operating agreement) has been developed for these properties.

A full suite of vegetation management tools, including chemical treatment, prescribed burning, targeted grazing, and manual treatments would be available and given equal preference to improve wetland and upland habitat, including vegetation to enhance pollinator species. Re-established vegetation could include

both native and nonnative species. Wetland habitats would be restored through active restoration projects such as channel realignments of Benjamin Slough and the creation of additional ponds, backwater areas, side channels, and bypass canals to keep high water flows from impacting nesting species. Upland habitat management would include options for establishing vegetation that would provide enhanced conditions for cultivating food sources, nesting areas, brood-rearing, and over-winter survival of upland wildlife species that inhabit the ULWP. Wildlife would be managed using new structural features, such as nest boxes. The value of wetland habitats for waterfowl would be increased.

Management would support wildlife-dependent recreation that is compatible with habitat and wildlife values by emphasizing recreation infrastructure and access improvements. The UDWR would allocate management resources toward the development of recreation and visitor use facilities and infrastructure. These would accommodate wildlife-dependent recreation and visitor use demand, ADA-accessible parking and walk-in access infrastructure. Improvements could include trailheads, trails, interpretive signage, boardwalks, and viewing platforms. Education and outreach would emphasize wildlife-dependent recreation, including that for groups and special events. New interpretive signage would be added at access points when new recreation infrastructure is built at key recreation destinations.

The UDWR and the Mitigation Commission would develop new partnerships to help fund the management and implementation of the CMP. Management would focus on formalizing partnerships with stakeholders, including nonprofit wildlife organizations and outdoor recreation and education groups. This would achieve habitat restoration and vegetation management success, while providing expanded opportunities for wildlife-dependent recreation, including supporting visitation by larger groups.

3.5 ALTERNATIVE C—WILDLIFE AND HABITAT ENHANCEMENT ALTERNATIVE

Alternative C is similar to Alternative B but puts less focus on providing opportunities for nonmotorized, wildlife-dependent recreation. Alternative C includes the same components as Alternative B, including those regarding the acquisition and management of land and water rights under a CMP, with modifications to infrastructure/facilities improvements, education and outreach, and partnerships.

Habitat enhancement priorities would be balanced with basic recreation infrastructure and access improvements to accommodate public demand for wildlife-dependent recreation that is compatible with habitat and wildlife values. The UDWR would seek opportunities to develop new ADA-accessible parking and public walk-in access points and infrastructure, such as a trailhead kiosk, boardwalk, and viewing platforms, for future public use. Education and outreach would focus on native ecosystem restoration, while including information about compatible recreation opportunities. New interpretive signage would be added at access points when new recreation infrastructure is built. Partnerships would be formalized with nonprofit wildlife organizations only to achieve greater habitat restoration and vegetation management success.

3.6 ALTERNATIVE D—HABITAT RESTORATION ALTERNATIVE

Alternative D emphasizes managing vegetation to restore native species and only involves vegetative habitat restoration. It focuses on natural processes and manual management methods to re-establish a native landscape, or as close to native as possible. Alternative D's components are discussed below.

Acquired land and water rights, including those associated with the Mona Springs parcels, would be transferred out of federal ownership to the State of Utah. Unlike Alternatives B and C, only existing water

rights would be used for wetland management. Like Alternatives B and C, the Benjamin Slough and Goshen Bay units would be managed under a CMP that meets the same substantive requirements and stewardship goals as described under Alternative B. The Mona Springs parcels would be excluded from the CMP.

Compared to Alternatives B and C, Alternative D uses a more limited range of vegetation methods. Manual vegetation treatment methods would be the primary approach to re-establish native upland and riparian vegetation. To avoid the introduction of nonnative species and restore native vegetation communities, only native seed mixes and plants would be used in vegetation treatments. Habitat restoration would be a function of the success of vegetation management; no additional actions would be taken to enhance wildlife habitat. No new water conveyance, manipulation, or impoundment structures would be used for wetland habitat restoration. Instead, natural drainage patterns would be restored to achieve wetland habitat restoration objectives. Wildlife would be managed similarly to Alternative A.

No improvements would be made to recreation infrastructure. The feasibility of providing additional access to the ULWP that meets the requirements of the ADA for compatible wildlife-dependent recreation would be assessed. Education and outreach would focus on native ecosystem restoration, and new interpretive signage would be added only at key access points. Like Alternatives B and C, the UDWR and the Mitigation Commission would develop new partnerships to help fund the management and implementation of the CMP. Partnerships under Alternative D differ from the other action alternatives in that stewardship agreements with cooperative ranchers and private landowners would continue on a case-by-case basis.

3.7 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

Several alternatives were considered, but eliminated from further study in this EA. These management activities include:

- Certain lands, such as the Mona parcels, would be kept in federal ownership and would not be transferred to the State of Utah.
- Existing federal lands within the ULWP boundary managed by the BLM or BOR would be transferred to the State.
- Motorized or other recreation uses that are not compatible with wildlife-dependent activities would be allowed.
- The types of available vegetation management tools would be restricted.
- The railroad at the southern end of the Goshen Unit would be integrated as part of the wildlife viewing trail system.
- Public access to the ULWP would be closed.

3.8 SUMMARY COMPARISON OF ALTERNATIVES

The primary features of the alternatives are summarized below in **Table 3-1**.

Table 3-1. Summary of the Primary Features of the Action Alternatives

Project Feature	Alternative A (No Action)	Alternative B (Proposed Plan; Restoration, Habitat, and Recreational Access)	Alternative C (Wildlife and Habitat Enhancement)	Alternative D (Habitat Restoration)
Management focus	Focus on management of existing vegetation and habitat of currently acquired lands while supporting existing and future nonmotorized, wildlife dependent recreation.	Actively restore wetland habitat to increase the value of acquired lands for wildlife, pursue additional land and water right acquisitions to expand available habitat, and actively emphasize opportunities for nonmotorized, wildlife-dependent recreation.	Actively restore wetland habitat to increase the value of acquired lands for wildlife, pursue additional land and water right acquisitions to expand available habitat, and maintain opportunities for nonmotorized, wildlife-dependent recreation.	Management of acquired lands would primarily focus on vegetation management, with an emphasis on restoring native species. There would be no improvements to recreational infrastructure, and limited improvements to access.
Vegetation management	The UDWR would use the full suite of available vegetation management tools (chemical treatments, prescribed burning, targeted grazing, and manual treatments)to manage vegetation at baseline conditions.	The UDWR would use the full suite of vegetation management tools available to actively improve wetland and upland habitat; re-established vegetation could include desired native and nonnative species.	Same as Alternative B.	Primarily manual treatments and only native seed mixes and plants would be used to re-establish native wetland vegetation. Habitat restoration would be a function of the success of vegetation management alone.
Wildlife management	Wildlife management would be accomplished through habitat management and structural features, such as nest boxes.	Wildlife would be managed using new structural features, such as nest boxes. Upland habitat management would include options for establishing vegetation that would provide enhanced conditions for cultivating food sources, nesting areas, brood-rearing, and over-winter survival of upland species. Management would also include options for increasing the value of wetland habitat for waterfowl.	Same as Alternative B.	Re-establishing wetland habitat and wildlife populations would be a function of the success of the habitat and vegetation restoration efforts alone.

Project Feature	Alternative A (No Action)	Alternative B (Proposed Plan; Restoration, Habitat, and Recreational Access)	Alternative C (Wildlife and Habitat Enhancement)	Alternative D (Habitat Restoration)
Water	Water conveyances, manipulation, or impoundment structures or systems could be considered on a case-by-case basis. Water right acquisition could be considered on a case-by-case basis.	Water rights and hydrologic improvements would be actively pursued to support wetland habitat restoration projects. Wetland habitats would be restored through such projects as realigning the channels of Benjamin Slough, and creating additional ponds, backwater areas, side channels, and bypass canals to keep high water flows from impacting nesting.	Same as Alternative B.	No new water conveyances, manipulation, or impoundment structures or systems and only existing water rights would be used.
Recreation and access	The ULWP would be available for wildlife-dependent recreation. Access would be through existing public walk-in access points.	Management would support wildlife-dependent recreation that is compatible with habitat and wildlife values by emphasizing recreation infrastructure and access improvements. Recreation and visitor use facilities and infrastructure would be developed, such as ADA-accessible parking, walk-in access infrastructure, trailheads, trails, interpretive signage, boardwalks, and viewing stands.	Management would support wildlife-dependent recreation that is compatible with habitat and wildlife values by maintaining recreation infrastructure and access. Some recreation and visitor use facilities and infrastructure would be considered, including ADA-accessible parking and public walk-in access points and infrastructure, such as trailhead kiosks, a boardwalk, and viewing stands.	Same as Alternative A.

Project Feature	Alternative A (No Action)	Alternative B (Proposed Plan; Restoration, Habitat, and Recreational Access)	Alternative C (Wildlife and Habitat Enhancement)	Alternative D (Habitat Restoration)
Education	Education and outreach would be implemented on a case-by-case basis.	Education and outreach would emphasize wildlife-dependent recreation, including for groups and special events. New interpretive signage would be added at access points when new recreation infrastructure is built, at key recreation destinations in the ULWP.	Education would emphasize the same opportunities as under Alternative B. New interpretive signage would be added at access points when new recreation infrastructure is built.	Education and outreach would focus on native ecosystem restoration. New interpretive signage would be added at key access points only.
Partnerships	Partnerships would be established with other organizations on a case-by case basis.	The UDWR would establish partnerships with nonprofit wildlife organizations to achieve greater habitat restoration and vegetation management success, as well as with outdoor recreation and education groups to support visitation by larger groups. Partnerships would be sought and developed to help fund management and implementation of the CMP.	The UDWR would seek partnerships with nonprofit wildlife organizations. Partnerships would also be sought and developed to help fund management and implementation of the CMP.	Partnerships would be sought and developed to help fund management and implementation of the CMP. Stewardship agreements with cooperative ranchers and private landowners would continue on a case-by-case basis.

This page intentionally left blank.

Chapter 4. Environmental Planning (NEPA)

4.1 INTRODUCTION

This chapter describes the affected environment, which is the existing, or baseline, conditions. Following the affected environment is a description of the effects relative to each alternative. Resource topics the Mitigation Commission and DOI CUPCA Office identified for detailed analysis are vegetation, wetlands, and invasive species; wildlife, including migratory birds; special status species; soil resources; cultural resources; access, recreation, and visitor services; and land use. Other resources were considered but not brought forward for detailed analysis either because the resource does not exist in the ULWP or Mona Springs parcels or because the resource would not have the potential to be impacted. Resources considered but not analyzed in this EA include air quality, climate change, geologic resources, environmental justice, livestock grazing, socioeconomics, and visual resources.

4.2 VEGETATION, WETLANDS, AND INVASIVE SPECIES

4.2.1 Affected Environment

Vegetation in the Mona Springs, Goshen Bay, and Benjamin Slough areas consists of both wetland and upland communities that provide diverse plant and wildlife habitat. The Utah WAP includes terrestrial and aquatic key habitat types required to support species of conservation concern. Of these, terrestrial lowland sagebrush and aquatic emergent, riverine, and open water habitats occur in the project area. The vegetation communities of the Goshen Bay and Benjamin Slough areas have been mapped and described in detail by Brotherson and Evenson (1982) and are summarized in **Table 4-1**, below. These data are not available for the Mona Springs parcels.

Table 4-1. Vegetation Cover Types for the Benjamin Slough and Goshen Bay Areas

Cover Type	Benjamin Slough		Goshen Bay	
	Area (Acres)	Proportion (%)	Area (Acres)	Proportion (%)
Marsh	246	5.9	542	3
Spikerush meadow	94	2.3	103	0.6
Saline meadow	2,009	48.5	5,396	30.4
Saline playa	308	7.4	4,956	27.9
Grass-sedge meadow	33	0.8	291	0.5
Tamarisk	428	10.3	535	3
Greasewood	87	2.1	1,522	8.6
Russian olive	Unknown	—	20	0.1
Shadscale	Unknown	—	106	0.6
Sagebrush	50	1.2	391	2.2
Agricultural crops	326	7.9	355	2
Annual weeds	70	1.7	187	1
Open water	—	—	2,968	16.7
Unclassified	493	11.9	382	2.2

Source: Adapted from Utah Reclamation Mitigation and Conservation Commission 1996

Upland Vegetation

Upland plant communities are primarily located along the southern peripheries of the project areas. In the Benjamin Slough and Goshen Bay areas, common species are salt grass (*Distichlis spicata*), alkali sacaton (*Sporobolus airoides*), greasewood (*Sarcobatus vermiculatus*), shadscale (*Atriplex confertifolia*), sagebrush

(*Artemisia* sp.), and agricultural crops, such as alfalfa (*Medicago sativa*), barley (*Hordeum* sp.), oats (*Avena sativa*), and corn (*Zea mays*) (Utah Reclamation Mitigation and Conservation Commission 1996). The Mona Springs upland vegetation component mainly consists of upland grasses (UDWR 2001). These communities serve an important role as ecological buffers that help protect wetlands from surrounding human activities as well as providing habitat for a variety of wildlife species.

Wetlands

Approximately 40 percent, 44 percent, and 88 percent, respectively, of the Mona Springs, Benjamin Slough, and Goshen Bay Units are comprised of wetlands (UDWR 2001; Utah Reclamation Mitigation and Conservation Commission 1996). Most of these wetlands are temporary, in that they provide abundant habitat in the spring that is reduced in area in the summer and fall (Utah Reclamation Mitigation and Conservation Commission 1996). The temporal variation is largely due to demand for irrigation water, which results in restricted availability of surface water. This restricted availability creates a substantial habitat limitation for wetland-associated wildlife species in the late summer and sharply reduces the value of the area as breeding, brooding, and feeding habitat for birds during this time.

The project area contains wetlands that are lacustrine (lake like), palustrine (pond or marsh like), and riverine (river or stream associated). Most of the wetlands in the project are palustrine and include marsh cover types, dominated by hardstem bulrush (*Scirpus acutus)*, meadows dominated by common spikerush (*Eleocharis macrostachya*), grass-sedge meadows dominated by Baltic rush (*Juncus balticus*) and *Carex* species, and saline meadows dominated by saltgrass.

Lacustrine wetlands are found along the shorelines of Utah Lake. These wetlands are directly affected by the water levels of Utah Lake and are dominated by submersed aquatic vegetation species and tamarisk (*Tamarix ramosissima*).

Riverine wetlands are located along intermittent streambeds and irrigation ditches and are the least abundant wetland type in the project area, with habitat provided by woody vegetation such as cottonwood (*Populus fremontii*) and willows (*Salix spp.*). Playas (periodically flooded small, shallow, saline basins) are also found in both the Goshen Bay and Benjamin Slough units (Utah Reclamation Mitigation and Conservation Commission 1996). A complete description of the Goshen Bay and Benjamin Slough communities and extent of wetlands and other surface waters in these units can be found in Utah Reclamation Mitigation and Conservation Commission 1996.

Invasive Species

Small areas of annual weed communities dominated by cheatgrass (*Bromus tectorum*), buttercup (*Ranunculus testiculatus*), and summer cypress (*Bassia scoparia*) occur on sloping sites in both the Goshen Bay and Benjamin Slough units. Invasive, nonnative species are also found throughout the project area. There are 34 Utah State noxious weeds in Utah County (Lowry et al. n.d.). The Utah Noxious Weed Act categorizes noxious weeds into four classes, based on preventative or management measures (see https://extension.usu.edu/fieldguides/ou-files/Noxious-Weed-Field-Guide-for-Utah.pdf).

Tamarisk, a Class II noxious weed, occurs in bands along Utah Lake and in the Mona Springs area (Utah Reclamation Mitigation and Conservation Commission 1996; UDWR 2001). Class II weeds are species that are widely distributed in Utah and that are considered controllable. Increased invasion has been noted following flooding in the mid-1980s. Russian olive (*Elaegnus angustifolia*), a Class IV species, also occurs in

this community and in pockets across the project area (Utah Reclamation Mitigation and Conservation Commission 1996). Class IV weeds are species that are not native but present in Utah, and are prohibited from retail sale or propagation in the nursery and greenhouse industry due to the threat they pose to the state. Populations of phragmites (*Phragmites australis*), a Class III weed, occur on surrounding lands including the margins of wet areas such as oxbows, ponds, and Utah Lake, and pose an increasing threat. Class III weeds are species that are widely distributed in Utah, but the current populations of these plants should be contained to halt their spread, and they should not be allowed to enter commercial channels.

Fire and Fuels

In late summer and fall, upland vegetation in the project area dries out and becomes a wildfire concern. The UDWR implements fuels reduction treatments, such as mowing and targeted grazing, to maintain healthy vegetation communities and to reduce fuel loading in the project area. These treatments help prevent unplanned wildfires. The UDWR establishes cooperative agreements with private livestock owners to help manage vegetation on the preserve.

4.2.2 Environmental Consequences

Alternative A (No Action)

Under Alternative A, upland vegetation habitats in the ULWP would likely be enhanced by continuing to remove invasive species and decrease the risk of wildfire. Integrated weed management that targets invasive species would promote native species diversity, resulting in enhanced habitat for wildlife (see Section 3.3), pollinators, and special status species (see Section 3.2). Treatments would not be applied under the direction of a CMP, and impacts may be hard to quantify due to the lack of monitoring and adaptive management.

Although all treatment options would be available, restoration success in some cases would be limited because treatments would be applied on a case-by-case basis without the benefit of a coordinated management approach. Treatments would remove invasive species, reduce fuel loading, and improve upland habitat function.

Wetland habitat conditions may improve as a result of invasive species management, but no actions would be taken to directly improve or restore wetlands, and there would be no major changes to water delivery. The seasonal nature of most wetlands in the project area would not change, and there would continue to be a habitat limitation for wetland-dependent or wetland-associated wildlife, particularly migratory birds.

Prescribed fire may kill native vegetation in the short term but also would create disturbed areas where invasive species typically thrive, thus increasing invasion potential. These effects would likely be only temporary, when combined with other management tools, such as native seeding and chemical, mechanical, and manual treatments. Together, the use of a suite of vegetation management tools would help shift vegetation toward a fire-adapted native species complex and may improve the likelihood for successful revegetation.

Grazing and haying would be targeted for management purposes and would reduce threats associated with wildfire, overgrazing, and invasive species. There would be no new disturbances to vegetation from facility or infrastructure development.

Increasing demand for access would lead to more visitors recreating in the ULWP. Without new trails or other infrastructure to accommodate the demand, dispersed visitor use would trample vegetation and increase the potential for the spread of invasive species.

Alternative B (Proposed Plan)

Impacts on upland vegetation and invasive species would be similar to those described under Alternative A; however, the CMP would provide a comprehensive framework for managing vegetation consistent with other habitat management goals and objectives. An enhanced focus on vegetation restoration under this alternative would expand the amount and type of vegetation available for pollinators, wildlife habitat, and wetland conditions, as compared with Alternative A.

Allowing the use of both native and nonnative species may improve the likelihood of successful vegetation restoration by providing a diversity of options. In some situations, native species may not compete well with invasive annual grasses; in these instances, nonnative species may be more likely than native species to persist (Miller et al. 2015; Schlaepfer et al. 2011). The use of nonnative species, however, may decrease the potential habitat value because nonnative plants did not evolve with the native flora and fauna and have less abundant and diverse insect communities than native plants (Narango et al. 2018). This could negatively impact such factors as insect numbers. Reduced insect numbers lead to reduced food availability and habitat quality for invertebrate feeders, particularly insectivorous birds (Narango et al. 2018). The UDWR would apply best available science and applied knowledge of the site to determine when and where to use nonnative species.

Wetland habitat would be enhanced through acquiring additional water rights and implementing restoration projects. This could increase the availability of surface water during the summer and fall and help to restore the historical condition of wetlands that have been heavily affected by irrigation demands. Longer seasonal water availability may also help reduce the fuel loading that occurs when vegetation dries outs in the summer and fall.

Development and improvements such as trails, viewing platforms, and bypass canals would remove vegetation and increase pathways and opportunity for invasive species spread; however, the impacts would likely be largely offset by invasive species management and the added value to overall wildlife habitat and visitor engagement (see Section 3.6). Improved access areas may also help minimize any effects on vegetation from visitors going off the trails.

Formalizing partnerships with stakeholders, including nonprofit wildlife organizations and outdoor recreation groups, to achieve greater habitat restoration and vegetation management success may move plant communities toward desired conditions at a faster rate, as those organizations could leverage additional funding and staffing to implement treatment projects.

Alternative C

Impacts on upland vegetation, invasive species, and wetlands would be similar to those described under Alternative B; however, decreased focus on providing nonmotorized recreation opportunities would reduce the likelihood for vegetation removal associated with new trails. Impacts from dispersed recreation use would be the same as Alternative A.

Management that focuses on formalizing partnerships with nonprofit wildlife organizations to achieve habitat restoration and vegetation management success would result in similar impacts as Alternative B. However, by not focusing on partnerships with recreation groups or constructing any new recreation or access improvements, there would be limited options to accommodate recreation demand in a manner that avoids or minimizes impacts on vegetation.

Alternative D

Impacts on upland vegetation and invasive species would be similar to those described under Alternative B; however, planting and seeding with only native species could lower the likelihood of successful revegetation, since native species may not compete well with invasive annual grasses (Miller et al. 2015). Conversely, the sole use of native species would remove the adverse impacts on the potential habitat value associated with nonnative species, as described for Alternative B. Under Alternative D, there would be no new disturbances to vegetation from facility or infrastructure development. Vegetation treatments would be focused mainly on manual treatments, which consist of using hand tools to directly remove or modify vegetation. This method allows for selective removal of target species and has a low potential to damage or kill nontarget vegetation, as opposed to other methods, such as prescribed fire. The focus on manual methods may limit restoration success since other treatments, such as chemical methods, may be more effective and efficient to control invasive species.

Restoring natural drainage patterns would involve removing canals and irrigation systems. This could temporarily disturb vegetation by using construction equipment. If the work is conducted in wetland areas, permitting under Section 404 of the Clean Water Act would likely be required. Adhering to permit conditions would further ensure that any impacts would be minimal and temporary.

Wetland habitat conditions may improve as a result of invasive species management, primarily through manual vegetation methods and restoration of natural drainage patterns. No additional water rights would be acquired for wetland restoration; however, the seasonal nature of most wetlands in the project area may be enhanced by the increased availability of surface water during the summer and fall. This would help restore the historical condition of wetlands that have been heavily affected by altered drainage patterns; however, water availability would depend largely on seasonal and annual precipitation patterns, which could either enhance or degrade wetland habitat and fuel loading patterns, depending on annual variation. For example, longer seasonal water availability due to decreased demands for irrigation may reduce the fuel loading that occurs when vegetation dries out in the summer and fall; however, this trend would be reversed during abnormally dry years.

4.3 WILDLIFE, INCLUDING MIGRATORY BIRDS

4.3.1 Affected Environment

The wetland and upland habitats in the Goshen Bay, Benjamin Slough, and Mona Springs areas of Utah Lake support a diversity of wildlife populations. During field inventories, the UDWR documented 226 bird species, 49 mammal species, 16 reptile and amphibian species, and 18 fish species in the Utah Lake area. A complete list of these species can be found in Shields and Moretti (1982) and Radant and Sakaguchi (1979), and a partial list is included in **Appendix A** of this EA.

Avian

The wetlands surrounding Utah Lake are considered part of the marsh complex on the eastern shore of Great Salt Lake, which is internationally recognized as important migratory habitat for waterfowl (Bellrose

1976) and shorebirds (Western Hemisphere Shorebird Reserve Network 1993). These wetlands act as a conduit for birds migrating from breeding habitats in the continental interior and the arctic to southern wintering areas in western North America (BOR 1996).

The Utah Lake area supports the greatest waterfowl diversity during the spring, when water is abundant and migration occurs. This is particularly apparent in the Benjamin Slough unit, which provides ample habitat in the spring but dries up during the summer and fall in response to agricultural diversions. The Goshen Bay unit provides more fall habitat than the Benjamin Slough unit and is widely used by waterfowl species, such as Canada geese *(Branta canadensis),* mallards *(Anas platyrhynchos),* and common mergansers *(Mergus americana*). Other migratory waterfowl that breed in the area are cinnamon teal (*Anas cyanoptera*) and gadwall *(A. Strepera).* A variety of shorebirds are found on the ULWP, including: least sandpiper *(Erolia minutilla),* solitary sandpiper *(Tringa solitaria),* American avocet *(Recurvirostra americana),* black-necked stilt *(Himantopus mexicanus),* red-necked phalarope *(Phalaropus lobatus),* Wilson's phalarope *(Phalaropus tricolor),* California gulls *(Larus californicus),* American white pelicans *(Pelecanus erythrorhynchos),* and double-crested cormorants *(Phalacrocorax auritus*).

Breeding bird species include a variety of passerine (songbird) species, upland game species, and raptors. Passerine species, such as the western meadowlark (*Sturnella neglecta*) and black-billed magpie (*Pica pica*), are found in a variety of habitat types, while others occur in only specific habitats. Ring-necked pheasant (*Phasianus colchicus*) and mourning dove (*Zenaida macroura*) are two species of upland game birds commonly found in the Utah Lake area. Breeding raptors are the red-tailed hawk (*Buteo jamaicensis*), golden eagle (*Aquila chrysaetos*), American kestrel (*Falco sparverius*), northern harrier *(Circus hudsonius),* and short-eared owl *(Asio flammeus*).

Mammals

A variety of mammals are present in the Utah Lake area. Species commonly found in upland areas are mule deer *(Odocoileus hemionus*), rodents, black-tailed jackrabbits *(Lepus californicus),* cottontail rabbits *(Sylvilagus* spp.), and bats. Invasive species, such as red fox (*Vulpes fulva*) and raccoon (*Procyon lotor*), have also been observed, however, it is not the intent of this project to enhance their habitats. Mammal species found in wetland habitat in the Utah Lake area are the vagrant shrew *(Sorex vagrans*), deer mouse *(Peromyscus maniculatus*), meadow vole *(Microtus pennsylvanicus*), montane meadow mouse *(M. montanus),* muskrat *(Ondatra zibethicus*), long-tailed weasel *(Mustela frenata*), striped skunk *(Mephitis mephitis*), and coyote *(Canis latrans*).

Reptile and Amphibian

The Utah Lake area supports several reptile and amphibian species. Four species of lizards have been identified in the sagebrush, annual weeds, shadscale, and greasewood communities: northern sagebrush lizard *(Sceloporus graciosus*), northern blotch-sided lizard *(Uta stansburiana*), Great Basin whiptail *(Cnemidophorus tigris*), and short-horned lizard *(Phrynosoma douglasii*). Four species of snakes have been observed in the wetter portions of these same areas: the wandering garter snake *(Thamnophis elegans*), red-sided garter snake *(T. sirtalis),* the Great Basin gopher snake *(Pituophis melanoleucus*), and the western yellow-bellied racer *(Coluber constrictor mormon*). Four amphibian species have been inventoried in the wetland corridor between Goshen Warm Springs and White Lake: the boreal chorus frog *(Pseudacris maculata*), northern leopard frog *(Rana pipiens*), Woodhouse's toad *(B. woodhousii),* and the introduced American bullfrog *(Lithobates catesbeianus*).

Fish

Human activity over the last 125 years has resulted in the almost complete replacement of the native fish community in the Utah Lake area (Heckmann et al. 1981). Predominant species in Utah Lake and lower portions of Benjamin Slough are introduced common carp (*Cyprinus carpio*), white bass (*Morone chrysops*), channel catfish (*Ictalurus punctatus*), black bullhead (*Ameiurus melas*), walleye (*Sander vitreus*), and mosquitofish (*Gambusia affinis*). Native fish species present in Utah Lake include June sucker (*Chasmistes liorus*), cutthroat trout (*Oncorhynchus clarkia*), and Utah sucker (*Catostomus ardens*). Agricultural diversions are the primary threat to fish survival in the area, as they result in portions of historical water courses being dry for at least part of the summer in most years.

4.3.2 Environmental Consequences

Alternative A (No Action)

Under the No Action Alternative, there would continue to be wildlife and migratory bird habitat in the preserve. There is potential for habitat quality for most native species to improve as a result of vegetation management projects targeting invasive species; however, this would occur at slower rates, compared with accelerated restoration levels under the proposed plan. Existing and acquired habitat would continue to provide ecological value to species but at reduced levels, compared with its potential. There would be no new disturbances to wildlife and migratory birds from facility or infrastructure development. Fish populations would be relatively unaffected under this alternative. Agricultural diversions of water would continue to periodically dry tributary streams and ephemeral wetlands, during which fish habitat would not be available. Mosquito abatement would continue in the area.

Alternative B (Proposed Plan)

Alternative B would expand and enhance migratory bird and wildlife habitat in the ULWP. This would occur via additional land and water rights acquisitions, wetland and upland restoration, wildlife monitoring and management, and active pursuit of partnerships and funding. These improvements would increase food resources, nesting areas, brood-rearing and over-winter survival of upland species, and overall knowledge about species on the ULWP.

Over the long term, Alternative B has the greatest potential to restore ecological function and habitat; however, it would also have the greatest short- and mid-term impacts on avian and wildlife species in this habitat. Vegetation and wetland restoration could temporarily disturb, displace, or harm wildlife species through habitat realignment, noise, vibrations, and human presence. However, it would be unlikely that restoration would occur across the project area and at the same time. Therefore, wildlife may be displaced from an area undergoing restoration but could move to other undisturbed areas. Most general wildlife is mobile and could avoid disturbances, but some less mobile or burrowing species may be more susceptible to negative impacts. These species would be impacted until restoration is complete and new vegetation is established and matures to provide the ecological functions currently being provided: food, cover, and breeding and nesting habitat. Scheduling restoration activities outside of the peak breeding and nesting season would mitigate impacts on birds to the greatest extent possible.

Under Alternative B, the proposed recreation infrastructure and access improvements could also create short- to long-term localized surface disturbances. Developing additional parking areas in the Goshen Bay and Benjamin Slough units, a wildlife viewing structure in the Goshen Bay unit, and additional fencing, signage, and trail systems throughout the preserve could temporarily disturb, displace, or harm wildlife. Where new trails are established, wildlife may experience localized disturbance impacts from increased

recreation. Increased visitation to the ULWP would thereby increase the potential for human-related impacts on migratory bird and wildlife habitat and human-wildlife interactions. Increased visitation may also lead to other long-term impacts, including erosion and social trail creation, which could degrade wildlife habitat through fragmentation and noxious weed spread. These impacts would be mitigated with seasonal closures or use limitations to minimize disturbances and ongoing human-wildlife conflict assessments and by taking precautions to protect wildlife.

Actions outside of the project area would continue to have effects on fish habitat in the preserve under Alternative B; however, wetland restoration projects and the acquisition of additional water rights would increase and improve fish habitat. Mosquito abatement would continue; however, alternative treatments may be pursued that mitigate impacts on nontarget species.

Alternative C

Under Alternative C, impacts on wildlife and migratory birds would be the same as under Alternative B, but with fewer surface disturbance impacts from the development of recreation infrastructure and access improvements. Impacts on fish and their habitat would be the same as under Alternative B.

Alternative D

Alternative D provides the smallest opportunity for wetland and upland restoration out of all action alternatives, but it also has the fewest short-term impacts on migratory birds and wildlife. Like Alternatives B and C, the implementation of a monitoring and adaptive management framework would improve knowledge of migratory bird and wildlife species in the ULWP. Other than possible temporary impacts from installing interpretative signage at key access points, impacts on migratory birds, wildlife, and fish under Alternative D would be the same as under the No Action Alternative.

4.4 SPECIAL STATUS SPECIES

4.4.1 Affected Environment

The FWS's Information for Planning and Consultation database, queried on February 24, 2021, identified the following federally threatened species to have the potential to occur in the project area: Ute ladies'-tresses (*Spiranthes diluvialis*), June sucker (*Chasmistes liorus*), and yellow-billed cuckoo (*Coccyzus americanus*) (FWS 2021b). No endangered species or critical habitats were identified.

Ute ladies'-tresses, a perennial orchid, occurs in wetland habitats and has been documented along the eastern side of Utah Lake (Utah Reclamation Mitigation and Conservation Commission 1996). June suckers are a species of fish endemic to Utah Lake and are part of a multiple-party recovery program that aims to recover June suckers to self-sustaining populations (FWS 2021a). There is no suitable habitat for the yellow-billed cuckoo in the project area due to the lack of riparian woodlands with multilevel, dense overstories (Halterman et al. 2015).

In the vicinity of Utah Lake there are also six mammals and eleven bird species listed in the Utah WAP (UDWR 2015) as species of greatest conservation need (**Table 4-2**).

Table 4-2. Species of Greatest Conservation Need Found in the Vicinity of Utah Lake

Common Name	Species
Mammals	
Little brown bat	*Myotis lucifugus*
Spotted bat	*Euderma maculatum*
Townsend's big-eared bat	*Corynorhinus townsendii*
Pygmy rabbit	*Brachylagus idahoensis*
Botta pocket gopher	*Thomomys bottae*
Chisel-toothed kangaroo rat	*Dipodomys microps*
Kit fox	*Vulpes macrotis*
Birds	
American white pelican	*Pelecanus erythrorhynchos*
American bittern	*Botaurus lentiginosus*
White-faced ibis	*Plegadis chihi*
Ferruginous hawk	*Buteo regalis*
Golden eagle	*Aquila chrysaetos*
Bald eagle	*Haliaeetus leucocephalus*
Peregrine falcon	*Falco peregrinus*
Snowy plover	*Charadrius alexandrinus nivosus*
Caspian tern	*Sterna caspia*
Burrowing owl	*Athene cunicularia hypugaea*
Lewis's woodpecker	*Melanerpes lewis*

Source: UDWR 2015

4.4.2 Environmental Consequences

Alternative A (No Action)

Special status species are generally more vulnerable to threats from wildfire and invasive grasses than non-special status plants and therefore would benefit from current management that decreases these threats. Grazing also presents a threat to special status plants via herbivory and trampling; however, grazing before Ute-ladies' tresses develop flower stems may benefit the species by reducing competition from taller plants (NRCS 2011). Management that promotes diverse plant communities would improve conditions for pollinators and would indirectly benefit Ute-ladies' tresses, as it relies on pollinators to reproduce (NRCS 2011).

Impacts on special status wildlife species would be similar to those identified in Section 4.3 under Alternative A.

Alternative B (Proposed Plan)

Unlike animal species, protections under the ESA do not extend to federally listed plants on private property, unless there is a federal nexus. The transfer of federal property to the UDWR would therefore limit the protections afforded by the ESA to federally listed plants, such as Ute ladies'-tresses; however, since Ute ladies'-tresses occur in wetland habitats, any surface disturbance in federally jurisdictional wetlands would be subject to evaluation for Clean Water Act Section 404 permitting. This would qualify as a federal nexus, and protections afforded by ESA would be invoked; therefore, impacts on Ute ladies'-tresses under Alternative B would be similar to those described in Alternative A.

Impacts on special status wildlife species would be the same as those identified in Section 4.3 under Alternative B.

Alternative C

Impacts on special status plant species would be the same as those identified under Alternative B.

Impacts on special status wildlife species would be the same as those identified in Section 4.3 under Alternative C.

Alternative D

The focus on manual treatments under Alternative D would have the least impact on special status plant species because manual treatments are the least likely to impact nontarget vegetation. Although there is still a risk of damage due to trampling and accidental removal, particularly for Ute-ladies' tresses, which are often overlooked and typically identifiable only when they are flowering. The focus on native ecosystem restoration would also be beneficial to special status plants that are generally more sensitive to altered species composition.

Impacts on special status wildlife species would be the same as those identified in Section 4.3 under Alternative D.

4.5 SOIL RESOURCES

4.5.1 Affected Environment

Soils in the project area are part of the aquic, xeric, and aridic soil moisture regime classes; they provide long-term carbon storage, purify air and water, store and regulate water flow, and support plants and human structures (NRCS 2001a). Aquic soils are periodically saturated due to a perched water table or regional groundwater table; xeric soils are moist for more than 45 consecutive days in winter and dry for more than 45 consecutive days in summer and fall; and aridic soils are moist for fewer than 90 consecutive days (NRCS 2014, 2021).

Soil Stability

Soil texture (clay, silt, and sand content), slope, precipitation, and organic matter content are all components of soil stability. Slope gradients provide a quantitative estimate for soil stability and the potential for erosion susceptibility. Soils on steep slopes are more susceptible to water erosion because water moves loose soil particles as it is transported by gravity; the steeper the gradient, the greater the influence of gravity and therefore a greater susceptibility to erosion.

Most of the soils in both the Benjamin Slough Unit and the Goshen Bay Unit are on level slopes, ranging from 0 to 10 percent (BLM GIS 2021). There are very few steep slopes in these areas (less than 1 percent for both units). As stated above, soils on steep slopes are more susceptible to water erosion.

Benjamin Slough Unit

Soils in the Benjamin Slough Unit are mostly poorly drained soils typical of lake plains, floodplains, lake terraces, and alluvial fans (NRCS 1972) (see **Table 4-3**). While their compositions vary, poorly drained soils are generally composed primarily of silt and clay and fewer sand particles. Silt particles are more susceptible to water erosion because, in the presence of water, they are not bonded together as well as

Table 4-3. NRCS Drainage Classes in the Benjamin Slough Unit

Drainage Class	Acres	Percentage of Unit
Well-drained	170	4.2
Moderately well-drained	140	3.5
Somewhat poorly drained	870	21.5
Poorly drained	2,710	67.1
Very poorly drained	60	1.5
None (no data)	90	2.2
Total	**4,040**	**100**

Source: NRCS 2021

clay particles and are not as easily drained as sand particles, due to smaller pore space. Fine-grained soils, especially clay-dominating soils, hold water well and are slow to drain. As a result, these soils are wet at shallow depths for long periods during the growing season, and free water tends to temporarily pool on the soil surface (NRCS 2017).

Approximately 3,310 acres (83 percent) of the Benjamin Slough Unit has saline soils (NRCS 2021) (see **Figure 2**). When salt is excessive in a soil, it generally limits vegetation growth for all but salt- tolerant plants (NRCS 2010).

The area receives additional water from Strawberry Reservoir, approximately 35 miles to the east. Lands used for agriculture in the unit are artificially drained to make them more tillable and to improve soil productivity. Runoff is typically heavy in late winter and spring, leading to abundant surface-water ponding in the area during those seasons. Most areas become dry by early to mid-summer.

Wetlands are abundant in much of the area, although they generally are seasonal. Wetter areas are most abundant west of Benjamin Slough and along the lakeshore. Saturated soils are vulnerable to compaction because their soil particles are held together tightly by water, and there is little pore space for water to drain.

Goshen Bay Unit

The NRCS Web Soil Survey has data for 43.5 percent of the Goshen Bay Unit (56.5 percent of the area does not have data). Most of the documented soils are somewhat poorly drained to very poorly drained (see **Table 4-4**). Approximately 1,670 acres (9.4 percent) of the Goshen Bay Unit has saline soils (NRCS 2021) (see **Figure 3**).

Table 4-4. NRCS Drainage Classes in the Goshen Bay Unit

Drainage Class	Acres	Percentage of Unit
Well-drained	110	<1
Somewhat excessively drained	60	<1
Somewhat poorly drained	1,670	9.4
Poorly drained	170	1.0
Very poorly drained	5,720	32.1
None (no data)	10,070	56.5
Total	**17,810**	**100**

Source: NRCS 2021
< = less than

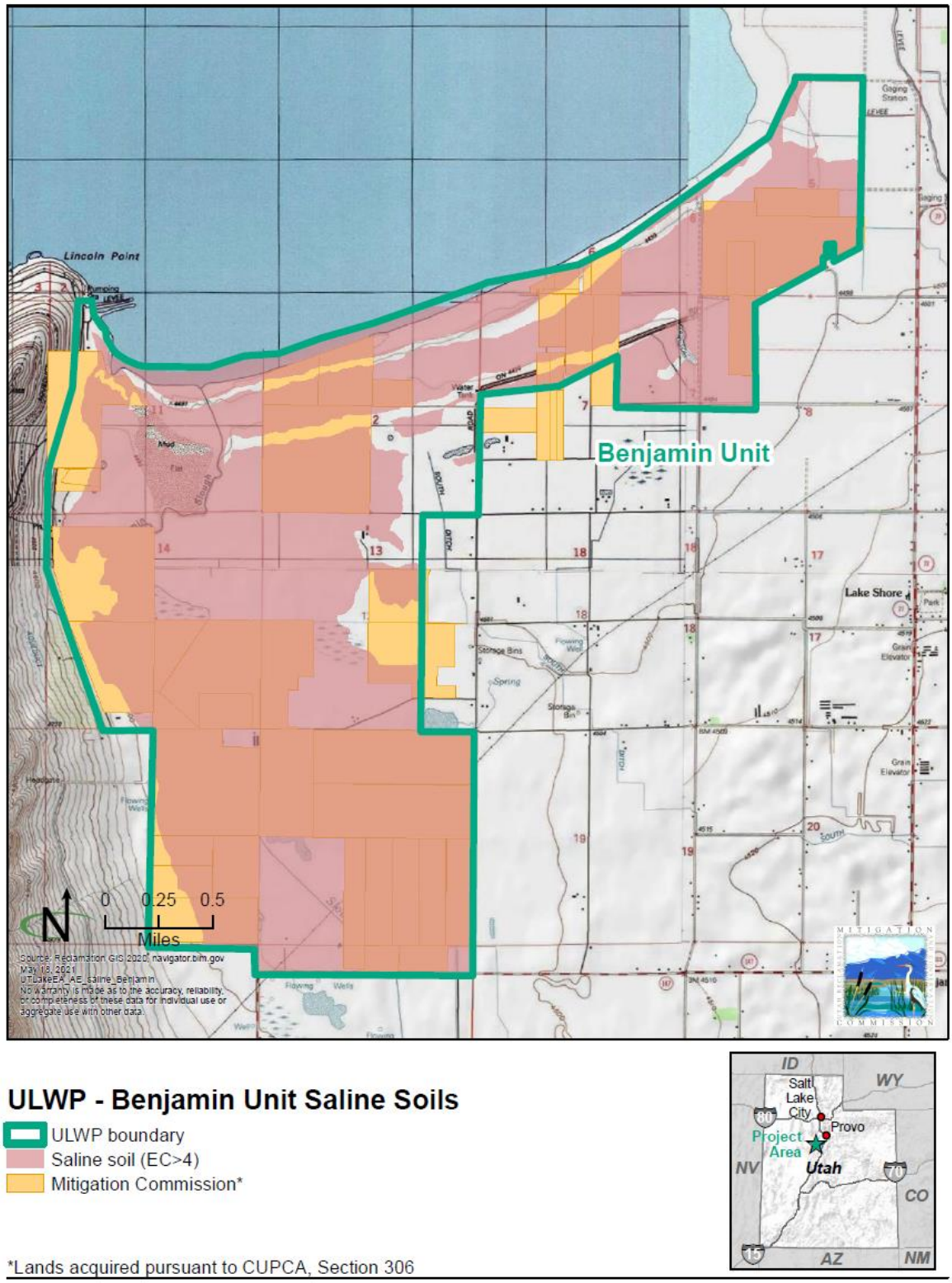


Figure 2. Saline Soils in Benjamin Unit

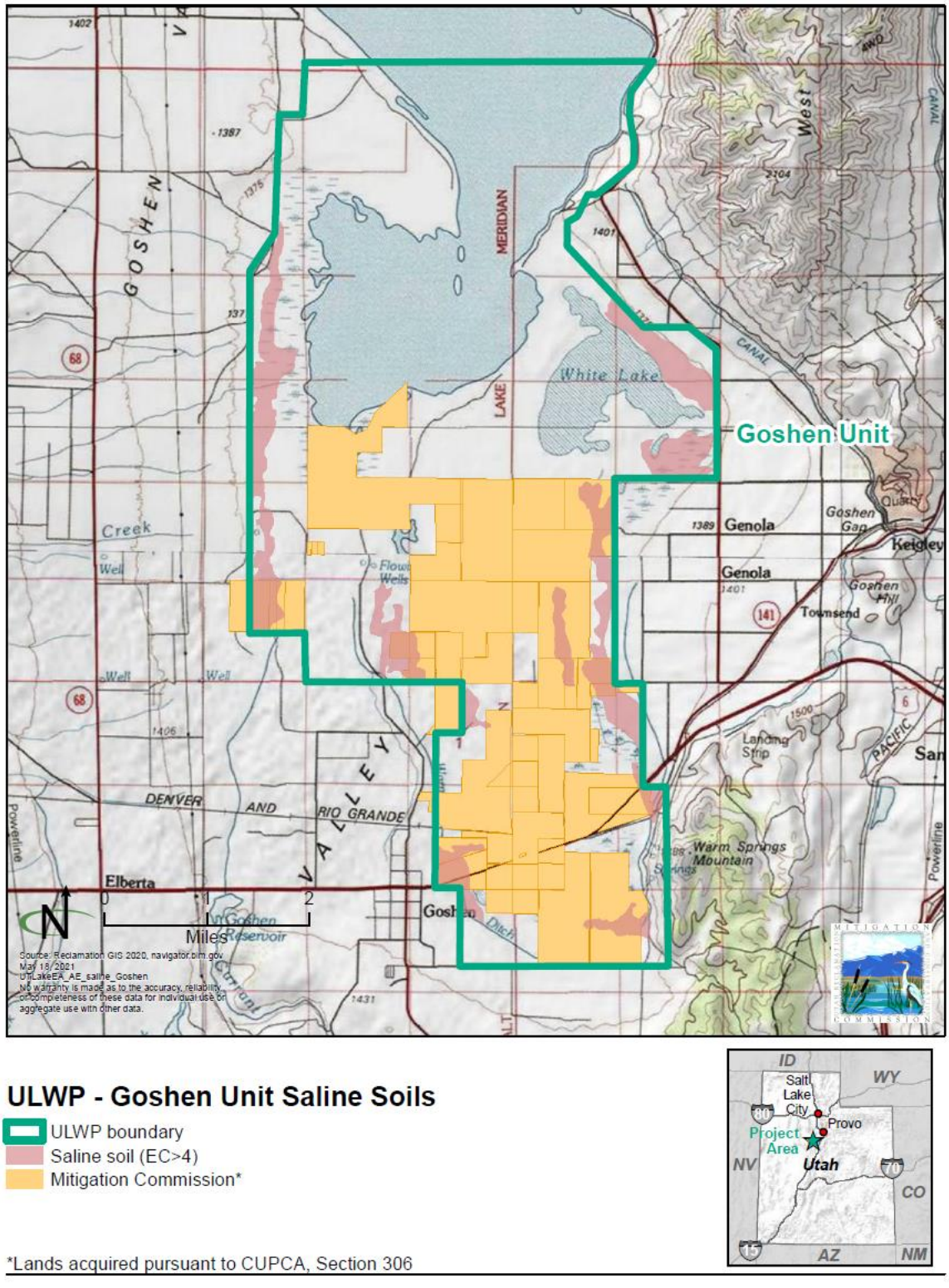


Figure 3. Saline Soils in Goshen Unit

Goshen Warm Springs, in the southeast corner of the project area, is a major water source for the area. The water is diverted around the southeast periphery of the area during the irrigation season. Water is abundant from October through May but becomes very scarce during summer and early fall. Much of the area is considered wetland, where water saturation is the dominant factor for soil development (Cowardin et al. 1979); however, aside from those next to Utah Lake, the wetlands have seasonal water pooling at the surface.

4.5.2 Environmental Consequences

Alternative A (No Action)

Under Alternative A, current UDWR management of the ULWP would continue without the use of a management plan. This means monitoring and adaptive management would be less emphasized for vegetation treatments. Vegetation treatments would target invasive species, and only native plants would be used for reseeding. Reseeding with native plant material would increase plant diversity; however, native species are often more selective of soil types than their invasive competitors, which would limit their ability to become established (Ott et al. 2016).

Both mechanical treatments and prescribed fire treatments would remove vegetation, which would increase soil erosion susceptibility and would be more pronounced when soils are dry or supersaturated or on fine-textured soils. Localized prescribed burning would transfer heat into the soil, exposing it to thermal extremes. This would impact soil nutrient availability and soil porosity, thereby limiting water infiltration (Busse et al. 2010). This could result in dry or water-repellant soils that lack cohesion between soil particles and are more susceptible to wind erosion and runoff.

Domestic animals and associated infrastructure used for targeted grazing could damage soils through physical disruption, including shearing and compacting. Grazed sites have higher compaction than non-grazed sites, as evidenced by higher bulk density (Tate et al. 2004). Compaction occurs when pressure decreases the pore spaces between soil aggregates in wet or moist soils. Soil compaction can break apart soil aggregates, which directly affects water infiltration, air movement, and the rate of chemical transport in soils. If the compaction is severe, it can also limit plant root growth (NRCS 2001b). Soils with mixed particle sizes are most prone to compaction, due to the potential for smaller particles to be forced between the larger sand grains (NRCS 2001b).

Manual treatments and chemical treatments would allow for more selective removal of vegetation and would minimize soil compaction and soil disturbance.

No new infrastructure would be built for water conveyance and manipulation or for recreation. Surface disturbance and soil compaction or erosion would be limited to vegetation treatments. Over the life of the plan, vegetation treatments would help reduce the severity of wildfires and help native vegetation become re-established. This would minimize soil burning and erosion in the long term.

Alternative B (Proposed Plan)

Impacts on soils from vegetation treatments would be similar to Alternative A; however, development of a CMP under Alternative B would provide monitoring and adaptive management objectives to minimize soil erosion and compaction over time. For example, the CMP prescribes adaptive management, which would include coordinating with soil scientists or partners, such as the NRCS, to help manage soils. This would address the constraints of saline and moist soils in the Benjamin and Goshen Units.

Infrastructure improvements for wetland restoration, such as channel construction, and recreation, such as trail development, would result in surface disturbance that would compact, displace, and mix soils, all of which could result in soil loss. Some of these impacts would be temporary, and others permanent. Best management practices and adaptive management would be implemented to minimize permanent soil loss. When establishing new water conveyance systems, the potential for erosion may be reduced in areas previously inundated by water. Water patterns that differ from natural conditions could also affect the drainage characteristics of soils; for example, a poorly drained soil could transition to a somewhat poorly drained soil. This would influence the ability of soils to leach salt and could negatively impact salt-dependent vegetation growth, especially if salts are excessively leached from soils. Conversely, salts could accumulate in new areas where native plants are less tolerant of saline conditions.

Over the life of the plan, designated areas for recreation would prevent future soil compaction and erosion by concentrating public use and avoiding public use outside of these areas. Soils near trails would be at the most risk for erosion by recreationists.

Alternative C

Impacts on soils would be the same as described under Alternative B.

Alternative D

This alternative would have the fewest impacts on soils, compared with Alternative A. Vegetation management would be restricted to manual treatment methods that would allow for more selective removal of vegetation and therefore less potential for widespread soil compaction and erosion. Similar to Alternative A, no new infrastructure would be built for water conveyance and other water manipulation or for recreation, which would reduce soil compaction and would limit soil erosion to that caused by manual vegetation treatments and by natural water processes. Current conditions for saline soils would persist under Alternative D.

4.6 CULTURAL RESOURCES

4.6.1 Affected Environment

The Benjamin Slough and Goshen Units as well as the Mona Springs parcels lie within Utah Valley in the far eastern extent of the Great Basin, an area which has been a center of human activity and settlement for at least 6,000 years before Euro-American occupation in 1849. An oasis in the high desert, Utah Lake has a bountiful fishery and lake-related resources, which have provided a consistent foundation for human occupation. The first inhabitants of Utah Valley were the nomadic hunter-gatherers of the Desert Archaic Culture (8,000 to 1,600 BP). After the sparse presence of the hunter-gatherers, the Fremont people emerged in the Utah Valley, where they thrived in significant numbers until about 700 years ago thanks to the adoption of cultigens,[3] corn, beans, and squash to complement wild foods, such as fish, waterfowl, muskrat, horsetail rush, juniper, and sage, obtained through hunting and gathering. The Fremont people developed ceramics, adobe and masonry walled food storage structures, and pit houses to store excess foods. Fremont rock art motifs and clay figurines, distinct yet reminiscent of those left behind by the Ancestral Puebloans to the south, have been recorded throughout the Utah Valley. Archaeologists have documented hundreds of Fremont era mounds, formed by collapsed adobe structures and earth lodges,

[3] Plant species or varieties known only in cultivation, especially those with no known wild ancestors.

along Utah Lake and its various tributaries; many more of these likely existed in and around the plan area and were presumably leveled by Euro-American agricultural development (Janetski 1990).

The era before contact with Euro-Americans, known as the late pre-Contact era, in Utah Valley was marked by the fall of Fremont culture and the re-emergence of hunters and gatherers. These late pre-Contact occupants of the Utah Lake area, who persist to this day as the Timpanogos Nation, are considered to be the immediate ancestors of the Ute and Shoshone peoples. Along the beaches of Utah Lake, archaeologists have found resources from this group, who, like the Fremont and Desert Archaic cultures before them, made their living off the abundant resources provided by Utah Lake. These beach sites often include fire-affected rock, ground stone, pottery, flaked stone, desert side-notched and cottonwood projectile points, and an abundance of fish bones (Janetski 1990).

In 1843 and again in 1845 a government explorer by the name of John C. Fremont visited Utah Valley, which he described as having "fertile soil," "prettily timbered streams," and "an excellent locality for stock farms." Fremont's account would be the last of the intermittent Euro-American visits to the valley, which also included Spanish explorers and fur trappers. By 1850, the Utah Valley would be fully colonized by Mormon settlers (Jackson and Stevens 1981).

In 1849 conflict erupted between the Timpanogos and the Euro-American settlers with the Battle Creek Massacre, where Mormon militiamen sent by Brigham Young attacked and killed a group of Timpanogos that they believed were stealing livestock from Brigham Young's herd (Brooks 1964). Deadly tensions continued for 20 years, with instances of settler aggression, including the Battle at Fort Utah, the Goshen Valley Battle, the Walkara War, the Gunnison Massacre, and the Black Hawk War. Over time, the once large and powerful Timpanogos Nation would be fractured and reduced in size by the Mormon settlers' occupation of the Utah Valley and its commitment to moving indigenous communities from the fertile farmland surrounding the lake to the Uinta Valley Reservation (Meyer 2021).

With the new Mormon settlements came the cultivation of common agricultural crops, as well as many water diversion projects for irrigation. Fishing from Utah Lake and its tributary streams was a significant operation for the Mormons under the direction of Brigham Young in the 1850s; however, by the end of the 1860s fishing declined in association with increased water diversion for irrigation in the Utah Valley and the subsequent rapid loss of native fish populations (Jackson and Stevens 1981).

By 1874 all of Utah Lake's tributaries had been fully appropriated to irrigators, and disputes over water rights became common. Additional dams, canals, and diversions were created on the four major rivers that flow into Utah Lake, significantly reducing the inflow to the lake. Furthermore, irrigation and water storage interests from the populous Salt Lake Valley to the north had taken hold.

A dam at the outlet of Utah Lake into the head of the Jordan River was proposed, which would raise the level of Utah Lake 4 feet. The dam project was rejected by the Provo City Council, yet in 1870 farmers from Salt Lake County began to build the proposed dam. Within 4 years the elevated water level was causing significant damage to properties surrounding the lake. Aggravated Utah Valley farmers considered blowing up the dam but instead decided to submit the question of lake level for legal arbitration between the two parties. In 1884 an agreement was struck, resulting in the decision to raise the water level of Utah Lake by 3 feet 3 and-a-half inches. Colloquially this level is referred to as the "compromise level," and it defines the shoreline today. However, this shoreline fluctuates during periods of high spring melt-off

because the opening at the head of the Jordan River dam is not large enough to accommodate excessive water (Jackson and Stevens 1981).

The western portion of the Goshen Bay area includes the "old meadow," an area with historic significance dating to the early settlement of the area in the 1850s. This same general area (between Goshen and Mosida, on the western shore of the lake) includes several pre-Contact archaeological sites of varying ages (Utah Reclamation Mitigation and Conservation Commission 1996). The entirety of the planning area may contain cultural resources from pre-Contact use, dating as far back as 6,000 years ago through Mormon settlement in the historic period.

4.6.2 Environmental Consequences

Under all alternatives, cultural resources would be protected in accordance with Section 106 of the National Historic Preservation Act or the State of Utah's legally enforceable statutes, which are similar to those at the federal level, to negate the adverse action of the transfer of properties from federal to State management. Those parallel State of Utah statutes are as follows:

- Utah Native American Graves Protection and Repatriation Act, Utah Code Annotated (UCA) 9-9-401 and subsequent sections
- Rule 230-1 Ancient Human Remains on Nonfederal Lands That Are Not State Lands, UCA 9-8-309
- Utah State Antiquities Act UCA 9-8-301 to 9-8-308 and implementing rule, Protection of Paleontological Resources, UCA 79-3-508 UCA 9-8-404 (part of Title 9, Heritage, Arts, Libraries, and Cultural Development) UCA 9-8-404 (SHPO 2020-1)

At the time of this EA, Federal determinations have not been made regarding the ground-disturbing activities that might occur as part of the management directions under any alternative, and the SHPO has yet to be consulted. Coordination and consultation with the SHPO would occur before signing the transfer documents. UDWR staff would consult with Native American tribes, SHPO, and ACHP (if they desire) before signing the transfer documents and before initiating any ground-altering activities that are not authorized or analyzed as part of this EA and CMP.

Alternative A (No Action)

Under the No Action Alternative, cultural resources would remain in federal ownership and be subject to federal laws, including Section 106 of the National Historic Preservation Act. This act requires all federal agencies to identify the impacts their actions would have on cultural and historic resources. The Mitigation Commission and DOI CUPCA Office would comply with Section 106 of the National Historic Preservation Act and conduct government-to-government consultation with Native American tribes, as needed, to address concerns regarding the management of the ULWP.

Alternative B (Proposed Plan)

Alternative B would result in the transfer of ULWP lands from federal ownership to the State of Utah. Under Section 106 of the National Historic Preservation Act, the transfer out of federal ownership is defined as an adverse action, unless there are adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance. The adverse action associated with transferring lands out of federal ownership could be negated under all action alternatives because the State of Utah has legally enforceable statutes similar to those at the federal level. Furthermore, under

all action alternatives, Utah Code 9-8-404 regarding cultural resources would be adhered to before ground disturbance begins. The proposed plan includes the development of habitat management projects and recreation infrastructure development, as well as other ground-disturbing activities that have the potential to negatively impact cultural resources. In all cases the UDWR and the Mitigation Commission would work closely with the Utah SHPO to identify any potential impacts on cultural resources.

With the state statute protection in place and proposed deed restrictions, no impacts on cultural resources are anticipated. Coordination with the SHPO would occur prior to any ground-altering activities to ensure historic properties would not be affected. The CMP for the Benjamin Slough and Goshen Bay Units would adhere to the State of Utah's legally enforceable statutes mirroring federal level protections to negate any adverse actions on cultural resources. If cultural resources were discovered in the Benjamin Slough or Goshen Bay Units during construction or other ground-disturbing activities under the proposed plan, the SHPO would be consulted and appropriate measures would be taken to mitigate any impacts.

Management actions under the proposed plan include the goal to preserve, protect, and promote an understanding of cultural resources in the plan area through the development of cultural and historic interpretation materials. Through SHPO consultation regarding appropriate interpretation, the proposed plan aims to develop interpretive materials or signage in the plan area, which would facilitate the understanding of cultural resources and the laws in place that protect these resources. Increased visitation and interpretation may have the potential to increase looting or vandalism of cultural resources. Deferring to the SHPO for the appropriate interpretation of cultural resources is of paramount importance to avoid these types of adverse impacts.

Alternative C

Similar to Alternative B, impacts on historic properties are not anticipated under Alternative C. Coordination with the SHPO would occur prior to any ground-altering activities to ensure historic properties would not be affected. Utah Code 9-8-404 regarding cultural resources would be adhered to before the ground is disturbed. If cultural resources were discovered during construction or other ground-disturbing activities, the SHPO would be consulted and appropriate measures would be taken to mitigate any impacts.

Alternative D

Similar to Alternatives B and C, impacts on historic properties are not anticipated under Alternative D. Coordination with the SHPO would occur prior to any ground-altering activities to ensure that historic properties would not be affected. This alternative also does not outline any new recreation infrastructure development or ground disturbance for wetland habitat restoration, so incidental discovery of cultural resources is less likely than under the other action alternatives. Utah Code 9-8-404 regarding cultural resources would be adhered to before the ground is disturbed. If cultural resources were discovered during maintenance or other ground-disturbing activities, the SHPO would be consulted and appropriate measures would be taken to mitigate any impacts.

4.7 ACCESS, RECREATION, AND VISITOR SERVICES

4.7.1 Affected Environment

Located along the Wasatch Front, Utah County has an estimated population of 636,235, making it the second most populous county in the state. The population in this area has been steadily increasing over the last 10 years and has grown by 23.1 percent between 2010 and 2019 (US Census Bureau 2019). Utah

County spans 2,114 square miles and is home to two major universities, Brigham Young University and Utah Valley University. Between population growth, incoming students, and growing tourism, Utah County is continuing to become a desirable recreation destination for visitors and residents alike. Recreation destinations near the preserve include Utah Lake State Park, which is home to Utah Lake, the second largest freshwater lake in the western United States. The state park is a popular destination and attracts an average of 150,000 visitors annually for such activities as boating and water sports, camping, picnicking, hunting, and fishing (Utah DNR 2021).

Recreational Activities

The ULWP is currently available for wildlife-dependent recreation that is compatible with habitat and wildlife values. Popular recreation activities in the preserve are hunting, fishing, and wildlife viewing. Most recreation throughout ULWP is seasonal, mostly in the spring and fall.[4]

Bird watching is especially popular during the spring, when waterfowl and shorebirds migrate to the area. Throughout the ULWP there are 12 osprey nest platforms and over 50 Canada goose nesting structures that provide refuge habitat for the species. The osprey platforms are spaced at half-mile intervals, beginning at Lincoln Beach and moving eastward along the shoreline of Utah Lake. Many are visible from the county roads, but viewing experience is better with the use of binoculars or spotting scopes. There are also three platforms on the west side of West Mountain, visible by driving on West Mountain Road.

Most of the fishing in the ULWP occurs along the Benjamin Slough in the Benjamin Unit. Many anglers fish in this area throughout the year, but springtime is popular for channel catfishing and carp bow fishing.

Waterfowl and pheasant hunting is the most popular activity in the fall in the ULWP. The waterfowl hunting season extends from October through January, and pheasant hunting season occurs in November. As illustrated in **Table 4-5**, opening day of pheasant hunting season has experienced a relatively steady increase in participants since observations were first recorded in 2003. Firearms are prohibited on the preserve, except during open hunting season (Utah Admin. Rule R657-9-9), and upland game and waterfowl hunting is permitted only with a shotgun and nontoxic shot during hunting season (Utah Admin. Rule R657-9-8 and 50 CFR 20.21(j)). Dogs may be used to locate and retrieve upland game and waterfowl during open hunting seasons, except between March 10 and August 31 (Utah Admin. Rule R657-6-20). Otherwise, they are not permitted to be on ULWP lands (Utah Admin. Rule R657-9-28 and 50 CFR 26.21(b)).

Amenities, Access, and Trails

There are about a dozen common roads that visitors use to access the ULWP, including West Mountain Road, 7300 S, sportsman access on 4000 W, 4800 W, 6000 S, 6400 S, Lincoln Beach boat harbor, and 400 N and 800 S in Genola. In the Goshen Unit, visitors have been observed pulling off and parking where Highway 6 crosses the canal and at the north end of Goshen Bay Road. Visitors can expect to enter the ULWP through a gate or fence at these access points. There are minimal signs on the property, and they detail only the laws and regulations for motorized vehicles, firearms, hunting, and dogs. There are no developed trail systems on the ULWP, although the Mountainland Association of Governments has

[4] David Lee, ULWP Manager, personal communication with Victoria Arling, EMPSi, on March 1, 2021.

Table 4-5. Car Count on Opening Day of Pheasant Hunt

Year	Cars	Percent Change
2003	51	N/A
2005	216	324
2007	176	-19
2008	111	-37
2009	172	55
2010	182	6
2011	182	0
2012	219	20
2013	302	88
2014	297	-2
2015	353	19
2016	420	19
2017	384	-9
2018	366	-5
2019	362	-1
2020	332	-8

Source: David Lee, ULWP Manager personal communication with Victoria Arling, EMPSi, March 1, 2021
Note: All counts were conducted at approximately 8:00 a.m. on opening day of the pheasant hunt. Counts included all vehicles parked near the ULWP land parcels. Observations were not made during 2004 and 2006.
N/A = not applicable

proposed a trail along the abandoned railway alignment through the Goshen Unit. Motorized vehicles are prohibited.

School and scout groups have visited the ULWP in the past to complete service projects, such as weed/vegetation management, trash removal, or fence maintenance. More recently, these groups have been visiting the nearby Utah Lake State Park, which has more developed infrastructure to support larger group activities.

Minor user conflicts, including trespassing violations, have been documented between visitors and private landowners within the ULWP boundary, due to the checkerboard landownership status of the preserve. Additional user conflicts between hunters, due to overcrowding, and conflicts between paragliders landing from West Mountain and ranchers have also been documented and have disturbed livestock.[5]

4.7.2 Environmental Consequences

Alternative A (No Action)

Under the No Action Alternative, no improvements would be made to access or recreation infrastructure within the ULWP boundary. The ULWP would continue to be available for wildlife-dependent recreation that is compatible with habitat and wildlife values; it would continue to be closed to motorized access (except for administrative use). Current levels of recreation, including waterfowl and pheasant hunting, fishing, wildlife viewing, and photography, and access via road pull-offs to the ULWP would remain the same. Visitors would access those opportunities via existing access points, and the uses would be dispersed throughout the ULWP. The frequency and trends of use would be as described in **Section 4.7.1**.

[5] David Lee, ULWP Manager, personal communication with Victoria Arling, EMPSi, March 1, 2021

Education and outreach opportunities would be offered as needed to maintain public health and safety. The UDWR would implement seasonal or permanent closures to protect public health and safety, and education and outreach would improve public understanding of the preserve.

Alternative B (Proposed Plan)

Compared with Alternative A, Alternative B emphasizes increasing opportunities for nonmotorized, wildlife-dependent recreation that is compatible with habitat and wildlife values by prioritizing recreation infrastructure and access improvements in the preserve. The UDWR would allocate management resources toward the development of recreation and visitor use facilities and infrastructure, such as ADA-accessible parking, public walk-in access points, trailheads, trails, interpretive signage, boardwalks, and viewing platforms. These management actions would improve the overall quality of visitor experiences by allowing for more recreational and educational opportunities and by increasing access for recreation and education. For example, wildlife photography/viewing blinds and a wildlife viewing trail system would enhance the visitor experience, while minimizing the disturbance to nesting birds and other wildlife in the ULWP.

New interpretive signage would be added at access points, when new recreation infrastructure is built, and at key recreation destinations. This signage would increase education and may foster environmental stewardship and appreciation among visitors. Parking improvements would support visitors in larger groups or those attending special events while minimizing damage to resources through overflow parking on undeveloped roadsides.

Opportunities for waterfowl and pheasant hunting would continue, and the UDWR would evaluate the potential for a sandhill crane hunt based on determinations by the wildlife section and wildlife board. This would increase hunting opportunities and may increase visitation, especially during the fall and spring hunting seasons. Monitoring hunting activities during high use periods, increasing law enforcement and staffing, maintaining parking areas, gates, and other infrastructure, and posting hunting rules and information at access points would also increase visitor safety by providing safe and legal access to hunting. Also, managing popular fishing locations would mitigate the vegetation destruction, littering, and vandalism in the ULWP.

Alternative C

Under Alternative C, impacts on recreation would be similar to those described under Alternative B, except there would be slightly less focus on providing opportunities for nonmotorized, wildlife-dependent recreation. The UDWR would seek opportunities to develop new ADA-accessible parking, public walk-in access points, and infrastructure, such as a trailhead kiosk, boardwalk, and viewing platforms, for future public use. In the short term, before these infrastructure and development opportunities are implemented, the quality of recreation experiences in the preserve will be most similar to that described in Alternative A. This is because recreation and access would continue in its current state; however, in the long term when resources have allowed for most of these improvements to be implemented, impacts on the recreation quality in the preserve would be most similar to those described under Alternative B.

Education, outreach, and partnership opportunities would be focused on ecosystem restoration. Information about compatible recreation opportunities would improve the public's understanding of the natural processes present at the ULWP. Not emphasizing partnerships with recreation organizations would limit opportunities to provide outdoor recreation opportunities, including those focused on

ecosystem restoration. New interpretive signage would be added at access points when new recreation infrastructure is built. Overall, as compared with Alternative A, educational signage would increase in the ULWP, and impacts would be similar to those described in Alternative B.

Alternative D

Under Alternative D, impacts on recreation would be most similar to Alternative A, as no improvements or additions would be made to recreation infrastructure or access; however, the feasibility of providing additional access to the ULWP that meets ADA requirements would be assessed. New interpretive signage would be added only at key access points, and impacts would be similar to Alternative C.

4.8 LAND USE

4.8.1 Affected Environment

There are 21,856 acres in both the Benjamin and Goshen units characterized by a mosaic of surface ownership and management (see **Table 1-1** and **Figure 1**). The Mitigation Commission has acquired 7,465 acres (34.2 percent) in both units. The Utah County Zoning Map identifies most of the ULWP as Agricultural 1, which requires five acres (minimum) with road frontage to qualify for residential development (Utah County 2021).

In 1996, the Mitigation Commission began acquiring lands for the ULWP and entered into a series of interim management agreements with the UDWR to manage the federally owned properties. The Mitigation Commission has since continued acquiring lands, water, and other interests in the ULWP; to date, it has acquired a total of 7,465 acres—2,052 acres in the Benjamin Unit and 5,413 acres in the Goshen Unit. The Mitigation Commission has also acquired a total of 299 acres contiguous to the ULWP boundary (129 acres near the Benjamin Unit, 170 acres near the Goshen Unit) that were acquired as remainders from willing-seller purchases in the ULWP boundary proper. The 299 acres are considered as part of the ULWP, and the CMP and EA apply to those remainder properties as well. The Mitigation Commission also acquired 104 acres on two parcels outside the ULWP near Mona Springs (see **Table 4-6**). Per CUPCA, the Mitigation Commission will continue acquiring land and water rights in the ULWP, on a willing seller basis, subject to available funding.

Table 4-6. Lands Acquired by the Mitigation Commission inside and outside of the ULWP

	Benjamin Unit[1]	Goshen Unit[1]	Mona Springs[1]	Total
Acres of lands within the ULWP boundary	4,046 (19%)	17,810 (81%)	0 (0%)	**21,856**
Acres of lands acquired by the Mitigation Commission *within* the ULWP boundary	2,052 (27%)	5,413 (73%)	0 (0%)	**7,465**
Acres of lands acquired by the Mitigation Commission *outside* the ULWP boundary	129 (32%)	170 (42%)	104 (26%)	**403**

Source: Mitigation Commission and CUPCA GIS 2021

[1] Acres are also shown as a percentage of the total and are rounded to the nearest whole percentage.

Note: Acreages are rounded to the nearest whole acre.

Mona Springs is south of the Benjamin and Goshen Units, near the town of Mona and is not part of the ULWP. The Mitigation Commission has acquired 104 acres of land in Mona Springs; most of landownership surrounding the area is private parcels or UDWR lands.

The ULWP is bordered primarily by a mix of private, federal (BLM), and state (FFSL, UDWR, and SITLA) lands. These private lands are zoned for residential agriculture and grazing; Utah County does not zone federal and state lands. The mixed land status and ownership poses some unique management considerations in the ULWP because land use decisions made by each landowner or responsible jurisdiction may complement or contradict the others.

The lands in the ULWP are managed for a variety of resources and uses, including vegetation, wildlife, habitat, soils, cultural resources, recreation, and grazing (see all other sections in Chapter 3 for more details). Additionally, there are access easements within the ULWP boundary associated with canals and railroads. All resources and resource use within the ULWP boundary must remain compatible with the purposes and goals of the ULWP established in 1992: to protect and enhance wetlands and associated wildlife values, while helping to replace values lost following construction of the CUP and other earlier Reclamation projects.

All of the water rights and water shares used for the ULWP were acquired on a willing seller basis and are appurtenant to the lands acquired to establish the ULWP. In the course of establishing the ULWP, the United States has acquired shares in several irrigation companies. Those include the Strawberry Highline Canal Co., Goshen Irrigation and Canal Co. (Class B), Warm Springs Irrigation and Power Co., Lakeside Irrigation Co., East Warm Creek Irrigation Co., and Lake Shore Irrigation Co. The United States has also acquired water rights appurtenant to the lands within the ULWP. **Table 4-7** lists all water rights used on the ULWP,

Table 4-7. Water rights acquired and used for the Utah Lake Wetlands Preserve

53 Area	Source	County	51 Area	Source	County
312	Underground water well	Utah	5503	Underground water well	Utah
313	Underground water well	Utah	2734	Underground water well	Utah
830	Underground water well	Utah	2735	Underground water well	Utah
831	Underground water well	Utah	1706	Lower Spring Creek	Utah
832	Underground water well	Utah	6955	Underground water well	Utah
833	Underground water well	Utah	6956	Underground water well	Utah
834	Underground water well	Utah	6957	Underground water well	Utah
835	Underground water well	Utah	6958	Underground water well	Utah
983	Underground water well	Utah	6959	Underground water well	Utah
111	Underground water well	Utah	6960	Underground water well	Utah
1152	Unnamed spring	Utah	6961	Underground water well	Utah
1154	Underground water well	Utah	6962	Underground water well	Utah
1225	Warm Springs stream	Utah	6963	Underground water well	Utah
1226	Warm Springs stream	Utah	6964	Underground water well	Utah
309	Underground water well	Utah	6965	Underground water well	Utah
1415	Underground water well	Utah	6966	Underground water well	Utah
1593	Underground water well	Utah	6967	Underground water well	Utah
561	Underground water well	Utah	2321	Underground water well	Utah
964	Underground water well	Utah			
241	UWC, Utah Lake & Jordan River	Utah			
242	Underground water well	Utah			
266	Underground water well	Utah			
964	Underground water well	Utah			

4.8.2 Environmental Consequences

Alternative A (No Action)

Under Alternative A, management of the ULWP would continue without change under the UDWR and acquired lands would remain in federal ownership. Land and water rights acquisitions would continue on a willing-seller basis, in accordance with CUPCA; however, acquisitions would not be transferred out of federal ownership to the State of Utah. The UDWR would continue to manage the acquired lands in the ULWP according to CUPCA and as per the Decision in the 1996 EA.

Alternative B (Proposed Plan)

As compared with Alternative A, acquired land and water rights, including those associated with the Mona Springs parcels, would be transferred out of federal ownership to the State of Utah. Approximately 7,868 total acres—2,181 acres of the Benjamin Unit, 5,583 acres of the Goshen Unit, and 104 acres in Mona Springs—would be subject to this land transfer; however, because Mona Springs is not within the ULWP boundary, the parcels would not be managed under this CMP. This is because a separate management plan (operating agreement) has been developed for these properties; therefore, impacts on these parcels as a result of the land transfer are not analyzed in this plan.

The need for transferring federal lands and water rights acquired in accordance with CUPCA (Sec. 306(c)(1)) to the UDWR is to fulfill CUPCA objectives in Section 301(k). Transferred lands within the ULWP boundary (7,764 acres) would continue to be managed according to UDWR policies and programs and to be compatible with CUPCA (306(c)(3)) and the NWRSAA. Since the proposed plan is essentially an administrative action, there generally would not be any impacts on the environment from the transfer of properties to the UDWR. Management goals, objectives, and actions would be administered according to this CMP (see **Chapter 2**).

The UDWR would pursue additional water rights to support wetlands and habitat management projects. This would enhance vegetation, wildlife, and wetland habitat in the ULWP and beyond. Land uses on adjacent properties would not be impacted by the land transfer. There is a potential for agriculture and grazing development on private lands next to the preserve, but these uses would not impact land status on the ULWP.

Alternative C

Impacts would be the same as those described under Alternative B.

Alternative D

Under Alternative D, only existing water rights would be used for wetland management. This would restrict the UDWR from pursuing additional water rights, and it may impact the ULWP's ability to expand and complete additional wetland and habitat restoration projects. All other impacts from the land and water rights transfer would be the same as those described under Alternative B.

Chapter 5. Implementation and Monitoring

5.1 PERSONNEL

Overall plan implementation is contingent on maintaining current staffing, ULWP expenses, and partnerships. Depending on the extent of monitoring and evaluation, additional personnel or contractors may be required. **Table 5-1** illustrates current ULWP staffing.

Table 5-1. ULWP Current Staffing

Permanent Personnel
ULWP Manager
Assistant ULWP Manager
Seasonal Personnel
Seasonal maintenance staff
Supporting UDWR Personnel
Law Enforcement Section
Administrative Services Section
Community Outreach Section
Regional Resource Specialists and Managers
Real Estate Section (UDWR and BOR)
Contractors
Fencing installation
Heavy equipment operators

5.2 ULWP EXPENSES

Fixed annual expenses consist of permanent personnel salaries, seasonal personnel salaries, and State motor pool costs for ULWP vehicles. Other line-item costs estimated annually are for fencing materials, weed control, and capital outlays, such as signs and gravel for parking areas.

5.3 PARTNERSHIP OPPORTUNITIES

In addition to the role the Mitigation Commission has in perpetuating the mission of the ULWP, other existing and potential partnership opportunities for various refuge activities are the following:

- BLM—Collaboration on coordinated land management activities on adjacent BLM-administered lands and ULWP properties
- Ducks Unlimited—Collaboration on wetland habitat enhancement or nesting structure projects
- Dedicated Hunters—Contributes volunteer hours on distinct projects, such as erecting fencing and building nest boxes
- Great Basin Research Center—Collaboration developing and procuring native plant seed mixes and other materials for restoration
- Intermountain West Joint Venture Program—Coordination of migratory bird conservation, with an emphasis on wetland and sagebrush habitats
- Irrigation companies (6)—Administration of existing water shares and creative use of return flows into the ULWP
- Partners in Flight Avian Conservation Strategy—Coordination on land bird conservation

- Pheasants Forever—Collaboration on upland habitat enhancement and support during the hunting season
- SHPO—Assistance with cultural resource interpretation and regulatory compliance
- Utah Audubon—Incorporation of the ULWP into the Christmas Bird Count program
- Utah Division of FFSL—Collaboration on fire and invasive species management
- UDWR—Collaboration on law enforcement and wildlife population management
- Utah Lake Commission—Oversight on broader Utah Lake management, including lake levels and phragmites treatment
- Utah County Mosquito Abatement—Coordination on safe and effective mosquito abatement in populated areas surrounding the ULWP
- Utah County Public Works—Collaborate on mosquito abatement and road maintenance; consult during boundary fence replacement along county roads to ensure compliance with road easements
- Utah Native Plant Society—Collaboration on conserving native species and treating noxious weeds that are impacting native ecosystems and landscapes
- USFWS—Receive annual reports that the Mitigation Commission publishes

5.4 MONITORING AND EVALUATION

An adaptive management approach includes monitoring and evaluation that improves learning information about and understanding of ecological processes and then adjusting management in response to monitoring data. In addition, monitoring and evaluation are necessary to meet the mission of the ULWP and measure the effectiveness of the management actions in this management plan. In the interest of staff availability this management plan focuses on migratory bird, vegetation, and hydrology monitoring. For example, many of the goals in the management plan center on migratory birds and enhancing associated habitat, so an evaluation of this resource is critical to the long-term management of the ULWP. Complementing these findings is an understanding of the vegetation communities and hydrology of the ULWP, which are fundamental components of migratory bird habitat and the overall ecosystems in the ULWP.

Determining if management actions are responsible for achieving management goals and objectives, for example enhancing wildlife habitat and increasing migratory bird abundance and biodiversity, can be difficult because of the influence of indirect factors, such as drought, disease, and surrounding land use practices; however, results from a ULWP monitoring program can provide general long-term trend information, document wildlife use, direct modifications of management actions and objectives, and inform revision of the management plan.

Due to limited data, a monitoring program should start with a baseline inventory of migratory birds, vegetation communities, and water resources. This should be followed by systematic point, transect, or plot-based monitoring in multiple habitat types in both ULWP management units. Finally, monitoring and evaluating the outcomes of management actions as they are implemented and adjusting management, as needed, will contribute positively toward the achievement of management goals and objectives.

Some of the monitoring can be conducted by ULWP staff but may need to be supplemented with the assistance of UDWR resource specialists and citizen scientists. Potential monitoring partnerships are identified in the partnership opportunity section.

5.5 PLAN AMENDMENT AND REVISION

The ULWP manager will use the CMP to ensure that ULWP conservation and other activities are consistent with the goals, objectives, and management actions established during this planning process. The plan can also be used to support staffing decisions or requests for funding. ULWP staff will review the CMP at least annually to determine if revisions are required, as new information becomes available, ecological conditions change, or if additional land or water is incorporated into the ULWP. At a minimum, the CMP will be revised every 15 years.

This page intentionally left blank.

Chapter 6. Consultation and Coordination

6.1 Tribes, Individuals, Organizations, and Agencies Consulted

During the development of this CMP and EA, the Mitigation Commission, DOI CUPCA Office, and the UDWR cooperated with federally recognized tribes, federal, state, and local agencies, special interest groups, and individuals. The agencies did this to ensure compliance, in both the spirit and intent, with 40 CFR 1501.7, 1502.19, and 1503. In addition to formal scoping, the agencies implemented collaborative outreach and a public involvement process that included inviting agencies to be cooperative partners for the EA planning process. A cooperating agency is any federal, state, or local government agency or Native American tribe that enters into formal agreement with the lead federal agency to help develop an environmental analysis.

6.1.1 Government-to-Government Consultation

The federal government works on a government-to-government basis with Native American tribes, who are recognized as sovereign governments. This relationship was formally recognized on November 6, 2000, with Executive Order 13175 (*Federal Register*, Volume 65, page 67249). As a matter of practice, the DOI CUPCA Office, on behalf of the Mitigation Commission, coordinates with all tribal governments, associated native communities, native organizations, and tribal individuals whose interests might be directly and substantially affected by activities overseen by the agency. In addition, Section 106 of the National Historic Preservation Act requires federal agencies to consult with Native American tribes for undertakings on tribal lands and for historic properties of significance to the tribes that may be affected by an undertaking (36 CFR 800.2(c)(2)). BLM Manual 1780, Tribal Relations, and BLM Handbook H-1780-1, Improving and Sustaining BLM-Tribal Relations, provide guidance for Native American consultations.

Executive Order 13175 stipulates that, during the NEPA process, federal agencies consult tribes identified as being directly and substantially affected. The DOI CUPCA Office notified several tribes of the proposed action in writing in February 2021. The DOI CUPCA Office also notified tribes of the availability of the draft plan and EA in January 2022. Letters were sent to the Las Vegas Tribe of Paiute Indians, Skull Valley Band of Goshute Indians, Ute Mountain Ute Tribe, Ute Tribe Business Committee, Shoshone Tribe of the Wind River Reservation of Wyoming, Navajo National Tribal Council, Hopi Tribe of Arizona, Zuni Tribe of the Zuni Reservation, Northwestern Band of Shoshoni Nation of Utah, Kaibab Band of Paiute Indians of the Kaibab Indian Reservation, Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Paiute Indian Tribe, Shoshone-Bannock Tribes of the Fort Hall Reservation of Idaho, Northern Arapaho Tribe of the Wind River Reservation, Confederated Tribes of the Goshute Reservation, Wind River Agency Bureau of Indian Affairs, Uintah and Ouray Agency Bureau of Indian Affairs, Fort Hall Agency Bureau of Indian Affairs, and Southern Paiute Agency Bureau of Indian Affairs. The Ute Tribe Business Committee submitted a late comment letter requesting further information on water rights used for the ULWP. The DOI CUPCA Office provided the requested information to the Ute Tribe Business Committee and their consultant. The information on water rights and shares has been added to the CMP and EA. The DOI CUPCA Office and the Mitigation Commission conclude that the project will not have adverse effects on Indian Trust Assets including water rights. Tribes either provided no response or responded stating that no traditional cultural properties would be affected, and the plan can proceed without further consultation.

6.1.2 US Department of the Interior, Fish and Wildlife Service

Consultation with the FWS is required under Section 7(c) of the ESA before the initiation of any project or plan that may affect federally listed or endangered species or their habitat. The Mitigation Commission and DOI CUPCA Office coordinated with the FWS during the early information gathering phase of the project. Based on this coordination, the Mitigation Commission does not anticipate the need for a draft biological assessment to evaluate the potential impact of the plan on federally listed threatened and endangered species. There is no evidence indicating the presence of ESA-listed species in the plan area.

6.1.3 Cooperating Agencies

NEPA requires the Mitigation Commission to coordinate planning with other federal agencies that have jurisdiction by law or special expertise with respect to any environmental impact from a proposed action (see 40 CFR 1501.8). A federal, state, or local government agency or Native American tribe may enter into a formal agreement with the lead federal agency as a cooperating agency to help develop an environmental analysis. Cooperating agencies and tribes work with the Mitigation Commission and DOI CUPCA Office, sharing knowledge and resources, to achieve desired outcomes for public lands and communities within statutory and regulatory frameworks. Agencies that were invited and those that accepted and signed a memorandum of understanding agreeing to participate as cooperating agencies for this NEPA process are presented in **Table 6-1**, below.

Table 6-1. Cooperating Agency Participation

Agency	Invited	Accepted
BLM	Yes	Yes
BOR	Yes	Yes
Central Utah Water Conservation District	Yes	Yes
Juab County	Yes	No
FWS	Yes	Yes
Utah County	Yes	No
UDWR	Yes	Yes

6.2 LIST OF PREPARERS

This environmental assessment was prepared by agency staff from the DOI CUPCA Office, Mitigation Commission, and UDWR and consultants from Environmental Management and Planning Solutions, Inc. (EMPSi) and Martin & Nicholson. The following is a list of people who prepared or contributed to the development of this EA.

6.2.1 Agency Staff

Team	Name	Role/Responsibility
Mitigation Commission	Mark Holden	Executive Director
	Michael Mills	Project Coordinator
	Richard Mingo	Geographic Information Systems
DOI CUPCA Office	W. Russ Findlay	Program Coordinator
Utah Division of Wildlife Resources	David Lee	Preserve Manager; Habitat Project Leader
	Bill James	Staff Biologist (Retired)
	Josee Seamons	Assistant Manager – Wildlife Biologist

6.2.2 Consultant: EMPSi and Martin & Nicholson

Team	Name	Role/Responsibility
Management	Peter Gower	Project Manager
	Noelle Crowley	Deputy Project Manager, Wildlife Biologist
	Meredith Linhoff	NEPA Specialist
	Brian Nicholson	Planning Lead, Ecologist
ID Team and Support Staff	Victoria Arling	Lands and Realty, Recreation Specialist
	Kirsten Davis	Soils
	Jenna Jonker	Geographic Information Systems
	Rob Lavie	Geographic Information Systems
	Susan Martin	Plant Ecologist
	Shannon Regan	Wildlife Biologist, Ecologist
	Cindy Schad	Word Processing
	Andy Spellmeyer	Ecologist
	Randolph Varney	Technical Editor
	Adam Young	Cultural Resources Specialist

This page intentionally left blank.

Chapter 7. Literature Cited

Blair, A. 2019. The Dominguez-Escalante Reaches Utah Valley. Brigham Young University. Provo, Utah. Internet website: https://www.intermountainhistories.org/items/show/35.

BLM (Bureau of Land Management). 2018. Utah Bureau of Land Management Sensitive Wildlife Species List December 2018. Salt Lake City, Utah.

Brooks, J. 1964. *Utah Lake: On The Mormon Frontier: The Diary of Hosea Stout, 1844–1861*. University of Utah Press. Salt Lake City, Utah. Internet website: https://www.jstor.org/stable/40167232?seq=1.

Brotherson, J. D., and V. E. Evenson. 1982. Vegetation Communities Surrounding Utah Lake and its Bays. Utah Lake Vegetation Studies. Brigham Young University, Provo, Utah.

Cowardin, L. M., V. Carter, F. C. Golet, and T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. US Department of the Interior, Fish and Wildlife Service. Office of Biological Services, Washington, DC.

DNR (Utah Department of Natural Resources). 2021. Utah Lake State Park. Internet website: https://stateparks.utah.gov/parks/utah-lake/.

Halterman, M., M. J. Johnson, J. A. Holmes, and S. A. Laymon. 2015. A Natural History Summary and Survey Protocol for the Western Distinct Population Segment of the Yellow-billed Cuckoo: US Fish and Wildlife Techniques and Methods.

Heckmann, R. A., C. W. Thompson, and D. A. White. 1981. "Fishes of Utah Lake." *Great Basin Naturalist Memoirs 5*(8): 107–127.

Jackson R. H., and D. Stevens. 1981. Physical and cultural environment of Utah Lake and adjacent areas. Great Basin Naturalist Memoirs: Vol. 5, Article. Volume 58, Number 1. Provo, Utah. Internet website: https://scholarsarchive.byu.edu/gbnm/vol5/iss1/2?utm_source=scholarsarchive.byu.edu%2Fgbnm%2Fvol5%2Fiss1%2F2&utm_medium=PDF&utm_campaign=PDFCoverPages.

Janetski, J. C. 1990. "Utah Lake: Its role in the prehistory of Utah Valley." Utah Historical Quarterly 58(1). Salt Lake City. Internet website: https://www.researchgate.net/publication/50533036.

Lowry, B. J., C. V. Ransom, R. E. Whitesides, and H. Olsen. No Date. *Noxious Weed Field Guide for Utah.* 4th edition. Utah State University Extension. Logan, Utah.

Michigan Department of Environmental Quality. 2014. A Guide to the Control and Management of Invasive Phragmites, 3rd Edition. Water Resources Division. Lansing, MI.

Miller, R. F., J. C. Chambers, and M. Pellant. 2015. A Field Guide for Rapid Assessment of Post-wildfire Recovery Potential in Sagebrush and Piñon-juniper Ecosystems in the Great Basin: Evaluating Resilience to Disturbance and Resistance to Invasive Annual Grasses and Predicting Vegetation Response. Gen. Tech. Rep. RMRS-GTR-338. US Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fort Collins, Colorado.

Meyer, M. M. 2021. History of The Timpanogos Nation. Chief Executive of the Timpanogos Nation. Snake Shoshone Utah Territory, Uinta Valley Reservation Utah. Internet website: https://www.runaarts.com/timpanogostribe.com/history.html.

Narango, D. L., D. W. Tallamy, and P. P. Marra. 2018. "Nonnative plants reduce population growth of an insectivorous bird." Proceedings of the National Academy of Sciences of the United States of America (PNAS) 115(45): 11549–11554. Internet website: www.pnas.org/cgi/doi/10.1073/pnas .1809259115.

NPS (National Park Service). 2017. History & Culture: Fremont Indians. Great Basin National Park. Internet website: https://www.nps.gov/grba/learn/historyculture/fremont-indians.htm.

NRCS (United States Department of Agriculture Natural Resources Conservation Service). 2001. Soil Quality Information Sheet: Rangeland Soil Quality—Compaction. Internet website: https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/resource/.

_____. 2010. Plants for Saline to Sodic Soil Conditions. Technical Note, Plant Materials NO. 9A, Boise, Idaho, and Salt Lake City, Utah.

_____. 2011. Ute ladies'-tresses (*Spiranthes diluvialis*) Fact Sheet. Washington, DC.

_____. 2014. Keys to Soil Taxonomy, Twelfth Edition. Internet website: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/survey/class/?cid=nrcs142p2_053580.

_____. 2017. Soil survey manual. C. Ditzler, K. Scheffe, and H. C. Monger (editors). USDA Handbook 18. Government Printing Office, Washington, DC.

_____. 2021. Web Soil Survey. Internet website: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm.

Ott, J., A. Halford, and N. Shaw. 2016. Seeding Techniques for Sagebrush Community Restoration After Fire. Great Basin Factsheet Series, Number 14. Internet website: https://www.fs.fed.us/rm/pubs_journals/2016/rmrs_2016_ott_j003.pdf.

Radant, R. D., and D. K. Sakaguchi. 1979. Study of Fisheries, Vegetation, and Terrestrial Wildlife of Utah Lake. DNR, Utah Division of Wildlife Resources, Salt Lake City, Utah.

Schlaepfer, M. A., D. F. Sax, and J. D. Olden. 2011. "The potential conservation value of non-native species." *Conservation Biology* 25(3): 428–37. doi:10.1111/j.1523-1739.2010.01646.x. Epub 2011 Feb 22. PMID: 21342267.

Shields, W. C., and M. O. Moretti. 1982. Utah Lake Terrestrial Wildlife Inventory. DNR, Utah Division of Wildlife Resources, Salt Lake City, Utah.

Tate, K. W., D. M. Dudley, N. K. McDougald, and M. R. George. 2004. "Effect of canopy and grazing on soil bulk density." *Journal of Range Management* 57(4): 411–417.

United States Army Corps of Engineers. 2013. Benchmarks for Incorporating Adaptive Management into Water Project Designs, Operational Procedures, and Planning Strategies. Institute for Water Resources Report 2013-R-11.

US Census Bureau. 2019. Quick Facts: Utah County, Utah. Internet website: https://www.census.gov/quickfacts/fact/dashboard/utahcountyutah/PST045219.

USDA (US Department of Agriculture). 1972. Soil Survey of Utah County, Utah, Central Part. Soil Conservation Service, Washington DC.

USFWS (US Fish and Wildlife Service). 2021a. Endangered and Threatened Wildlife and Plants; Reclassification of the Endangered June Sucker to Threatened with a Section 4(d) Rule. *Federal Register* 86(1). Internet website: https://www.govinfo.gov/content/pkg/FR-2021-01-04/pdf/2020-27833.pdf#page=1.

_____. 2021b. Information, Planning, and Consultation (IPaC) online screening tool. Internet website: https://ecos.fws.gov/ipac/location/index.

Utah County. 2021. Utah County Zoning Map. Internet website: https://maps.utahcounty.gov/zoning/zoningmap.html

Utah Lake Commission. 2021. Utah Lake Water Levels (Provisional Data). Available at: https://utahlakecommission.org/water-levels/. Accessed May 24, 201.

Utah Reclamation Mitigation and Conservation Commission. 1996. Decision Notice and Finding of No Significant Impact and Final Environmental Assessment for Establishment of the Utah Lake Wetland Preserve. Salt Lake City, Utah.

Utah Reclamation Mitigation and Conservation Commission GIS. 2021. Salt Lake City, Utah. Utah Wildlife Action Plan Joint Team. 2015. Utah Wildlife Action Plan: A plan for managing native wildlife species and their habitats to help prevent listing under the Endangered Species Act. Publication number 15-14. Utah Division of Wildlife Resources, Salt Lake City, Utah, USA.

This page intentionally left blank.

Chapter 8. Glossary Terms

Adaptive Management. An iterative decision-making approach that is informed by best management practices that reflect current understanding of resources and their response to management actions.

Alluvial fan. A fan-shaped accumulation of sediments deposited by a flowing river.

Best management practice. The methods, measures, or practices found to be the most effective and practical in achieving an objective, such as preventing or minimizing impacts from grazing and invasive weed establishment and spread, while making use of the resources.

Biodiversity. The variety and abundance of plants, animals, and other living organisms and the ecosystem processes, functions, and structures that sustain them. Biodiversity includes the relative complexity of species and communities across the landscape at a variety of scales, connected in a way that provides for the genetic diversity to sustain species over the long term.

Bow fishing. A method of fishing that uses specialized archery equipment to shoot and retrieve fish.

Bulk density (soil). The dry weight of a soil divided by its volume. It is used as an indicator for soil compaction because it increases when a soil is compacted and pore space between soil particles decreases.

Clay. Fine-grained soil particles with high water retention and shrinking and swelling properties. It is usually sticky when wet and does not drain well.

Conservation. The protection, preservation, management, or restoration of natural environments, ecological communities, and species.

Control. With respect to invasive species (plant, pathogen, vertebrate, or invertebrate species), control is defined as any activity or action taken to reduce the population, contain, limit the spread, or reduce the effects of an invasive species. Control activities are generally directed at established free-living infestations and may not necessarily be intended to eradicate the targeted infestations in all cases.

Cover type. The existing vegetation of an area described by the dominant plant species.

Cultural resources. The present expressions of human culture and the physical remains of past activities, such as buildings, structures, districts, landscapes, archaeological sites, and objects. They can also include locations that can be significant in national, regional, or local history, architecture, archaeology, engineering, or culture. They include sacred sites and natural features significant to contemporary communities or peoples.

Desired condition. Descriptions of specific social, economic, or ecological characteristics of the plan area, or a portion of the plan area, toward which management of the land and resources should be directed.

Disturbance. An event that alters the structure, composition, or function of terrestrial or aquatic habitats; any relatively discrete event in time that disrupts ecosystem, watershed, community, or species

population structures or function and changes resources, substrate availability, or the physical environment.

Ecosystem processes. The physical, chemical, and biological processes that link organisms and their environment. These may include biogeochemical/nutrient cycling, energy flow, and food web dynamics.

Endangered species. A species that the Secretary of the Interior or the Secretary of Commerce has determined is in danger of extinction throughout all or a significant portion of its range. Endangered species are identified by the Secretary of the Interior in accordance with the 1973 Endangered Species Act.

Fish barrier. A structure, either natural or human-made, that prevents the upstream movement of fishes and aquatic organisms. The Bureau of Reclamation constructs fish barriers to prevent upstream movements of nonnative aquatic organisms into streams with native fish populations. Reclamation's barriers are either physical drop structures (low waterfalls) or electrical fields (Bureau of Reclamation).

Floodplain. A plain on low-lying ground next to a river that is composed of river sediments and is prone to flooding.

Goal. Broad statements of intent expressed in broad, general terms that do not include completion dates. They are forward looking.

Historic property. Any prehistoric or historic district, site, building, structure, or object included on, or eligible for inclusion on, the National Register of Historic Places.

Infrastructure. The collection of human-built improvements, such as roads, trails, and facilities.

Interjurisdictional fish. Fish populations whose management and allocation of use are the collective responsibility of two or more states, tribes, or other nations.

Integrated pest management. Combines biological and cultural controls with limited pesticide use to keep pest populations below economically damaging levels, to prevent future pest problems, and to minimize the harmful effects of pesticides on humans and natural resources, including wildlife.

Invasive species. An alien species whose introduction causes or is likely to cause economic or environmental harm or harm to human health. A species that causes or is likely to cause harm and that is exotic to the ecosystem it has infested. Invasive species infest both aquatic and terrestrial areas and can be identified within any of the following four taxonomic categories: plant, vertebrates, invertebrates, and pathogens (Executive Order 13112).

Lake plain. A plain formed due to the past existence of a lake and its accompanying sediment depositions.

Lake terrace. A former shoreline of a glacial, non-glacial, or pre-glacial lake.

Management action. The specific actions used to achieve objectives and goals.

Migratory birds. All bird species protected under the Migratory Bird Treaty Act of 1918.

Mitigate. To avoid, minimize, rectify, reduce, or compensate the adverse environmental impacts associated with an action.

Monitoring. A systematic process of collecting information to evaluate effects of actions or changes in conditions or relationships.

Native species. An organism that was historically or is presently in a particular ecosystem as a result of natural migratory or evolutionary processes and not as a result of an accidental or deliberate introduction into that ecosystem.

Native-functioning. Species of plants often used in a restoration context that, although not native, have many of the same ecological functions and values, for example habitat and nutritional quality, provided by native species. In many cases native-functioning species may be easier to establish and are readily available at local nurseries but are not prone to outcompete native species.

Noxious weed. A regulatory term defined through federal and individual state statutes. Noxious weeds are invasive plants capable of successfully expanding their populations into new ecosystems beyond their natural range and can create lasting impacts on native plant communities. Fire, native pests, weather, human actions, and environmental change can worsen noxious weeds' impacts.

Nuisance wildlife. Individuals or populations of specific wildlife species that may cause damage to property or crops or risk transferring disease to humans or domesticated animals.

Objective. A concise, measurable, and time-specific statement of a desired rate of progress toward a desired condition. Objectives are specific, measurable, achievable, relevant, and time-based statements that guide implementation.

Phreatophytes. A deep rooted plant that obtains a significant portion of the water that it needs from near the water table.

Prescribed fire. A fire ignited via management actions to meet specific objectives. A written, approved, prescribed fire plan must exist, and National Environmental Policy Act requirements (where applicable) must be met, prior to ignition.

Saline soil. Soil that has high salinity or an electrical conductivity greater than 4 deciSiemens per meter.

Sand. Soil that is coarser-grained than silt and significantly coarser than clay.

Section 106 process. Regulations implementing the National Historic Preservation Act of 1966, which describe the procedures for identifying and evaluating historic properties, assessing the impacts of federal actions on historic properties, and project proponents consulting with appropriate agencies to avoid, reduce, or minimize adverse effects.

Silt. Soil that is finer grained than sand and coarser grained than clay. It is common in floodplain areas and is easily eroded.

Soil aggregate. A group of soil particles with any combination of clay, silt, or sand that are held together by natural cohesion.

Soil productivity. The ability of soil to sustain vegetation, which depends on the amount of nutrients and water the soils contain and can release to plants.

Soil stability. The ability of soil aggregates to resist disintegration from movement by water, wind, or tillage.

Species of greatest conservation need. The 141 species identified in the 2015 Utah Wildlife Action Plan prioritized for conservation.

Threatened species. A species that the Secretary of the Interior or the Secretary of Commerce has determined is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. Threatened species are identified by the Secretary of the Interior in accordance with the 1973 Endangered Species Act.

Treaty rights. Those rights or interests reserved in treaties for the use and benefit of tribes. The nature and extent of treaty rights are defined in each treaty. Only Congress may abolish or modify treaties or treaty rights.

Wetland. An area that under normal circumstances has hydrophilic[6] vegetation, hydric soils,[7] and wetland hydrology.

Wildlife-dependent recreation. A use of a refuge involving hunting, fishing, wildlife observation and photography, and environmental education and interpretation.

[6] Having a tendency to mix with, dissolve in, or be wetted by water.
[7] Very wet soil.

Appendix A. List of Species Found on the ULWP

Fish Species	
Brown trout	*Salmo trutta*
Cutthroat trout	*Oncorhynchus clarkii*
Rainbow trout	*O. mykiss*
Carp	*Cyprinus carpio*
Utah chub	*Gila atraria*
Fathead minnow	*Pimephales promelas*
Golden shiner	*Notemigonus crysoleucas*
Redside shiner	*Richardsonius balteatus*
Utah sucker	*Catostomus ardens*
June sucker	*Chasmistes liorus*
Mountain sucker	*Catostomus platyrhynchus*
Channel catfish	*Ictalurus punctatus*
Black bullhead	*Ameiurus melas*
Mosquitofish	*Gambusia affinis*
White bass	*Morone chrysops*
Largemouth bass	*Micropterus salmoides*
Green sunfish	*Lepomis cyanellus*
Bluegill	*L. macrochirus*
Yellow perch	*Perca flavescens*
Walleye	*Stizostedion vitreum*
Mottled sculpin	*Cottus bairdii*

Mammal Species	
Vagrant shrew	*Sorex vagrans*
Little brown bat	*Myotis lucifugus*
Long-legged myotis	*M. volans*
Silver-haired bat	*Lasionycteris noctivagans*
Big brown bat	*Eptesicus fuscus*
Hoary bat	*Lasiurus cinereus*
Townsend's big-eared bat	*Corynorhinus townsendii*
Spotted bat	*Euderma maculatum*
Brazilian free-tailed bat	*Tadarida brasiliensis*
Black-tailed jackrabbit	*Lepus californicus*
Nuttall cottontail	*Sylvilagus nuttallii*
Pygmy rabbit	*Brachylagus idahoensis*
Yellow-bellied marmot	*Marmota flaviventris*
Townsend ground squirrel	*Urocitellus townsendii*
Uinta ground squirrel	*U. armatus*
Rock squirrel	*Otospermophilus variegatus*
White-tailed antelope squirrel	*Ammospermophilus leucurus*
Least chipmunk	*Tamias minimus*
Botta's pocket gopher	*Thomomys bottae*
Great Basin pocket mouse	*Perognathus parvus*
Ord kangaroo rat	*Dipodomys ordii*
Chisel-toothed kangaroo rat	*D. microps*

Mammal Species	
Western harvest mouse	*Reithrodontomys megalotis*
Deer mouse	*Peromyscus maniculatus*
Pinyon mouse	*P. truei*
Northern grasshopper mouse	*Onychomys leucogaster*
Desert wood rat	*Neotoma lepida*
Bushy-tailed woodrat	*N. cinerea*
Sagebrush vole	*Lemmiscus curtatus*
Muskrat	*Ondatra zibethicus*
Pennsylvanian meadow mouse	*Microtus pennsylvanicus*
Montane meadow mouse	*M. montanus*
Long-tailed vole	*M. longicaudus*
Beaver	*Castor canadensis*
Porcupine	*Erethizon dorsatum*
Coyote	*Canis latrans*
Kit fox	*Vulpes macrotis*
Long-tailed weasel	*Mustela frenata*
Mink	*Vison vison*
Badger	*Taxidea taxus*
Striped skunk	*Mephitis mephitis*
Spotted skunk	*Spilogale gracilis*
Bobcat	*Lynx rufus*
Mule deer	*Odocoileus hemionus*

Avian Species	
Common loon	*Gavia immer*
Red-necked grebe	*Podiceps grisegena*
Horned grebe	*P. auritus*
Eared grebe	*P. nigricollis californicus*
Western grebe	*Aechmophorus occidentalis*
Pied-billed grebe	*Podilymbus podiceps*
White pelican	*Pelecanus erythrorhynchos*
Brown pelican	*P. occidentalis*
Double-crested cormorant	*Phalacrocorax auritus*
Great blue heron	*Ardea herodias treganzai*
Cattle egret	*Bubulcus ibis*
Common egret	*Casmerodius albus egretta*
Snowy egret	*Egretta thula brewsteri*
Black-crowned night heron	*Nycticorax nyxticorax hoactli*
American bittern	*Botaurus lentiginosus*
Wood stork	*Mycteria americana*
White-faced ibis	*Plegadis chihi*
Whistling swan	*Cygnus columbianus*
Canada goose	*Branta canadensis*
White-fronted goose	*Anser albifrons*
Snow goose	*Chen caerulescens*
Mallard	*Anas platyrhynchos*
Black duck	*A. rubripes*
Gadwall	*Mareca strepera*
Pintail	*A. acuta*
Green-winged teal	*A. crecca carolinensis*
Blue-winged teal	*Spatula discors*
Cinnamon teal	*S. cyanoptera septentrionalium*

Avian Species	
American wigeon	*Mareca americana*
Northern shoveler	*S. clypeata*
Wood duck	*Aix sponsa*
Redhead	*Aythya americana*
Ring-necked duck	*A. collaris*
Canvasback	*A. valisineria*
Greater scaup	*A. marila*
Lesser scaup	*A. affinis*
Barrow's goldeneye	*Bucephala islandica*
Bufflehead	*B. albeola*
Long-tailed duck	*Clangula hyemalis*
White-winged scoter	*Melanitta deglandi*
Ruddy duck	*Oxyura jamaicensis*
Hooded merganser	*Mergus cucullatus*
Common merganser	*M. merganser americanus*
Red-breasted merganser	*M. serrator*
Osprey	*Pandion haliaetus carolinensis*
Northern harrier	*Circus hudsonius*
Swainson's hawk	*Buteo swainsoni*
Red-tailed hawk	*B. jamaicensis*
Prairie falcon	*Falco mexicanus*
Peregrine falcon	*F. peregrinus*
Merlin	*F. columbarius*
American kestrel	*F. sparverius*
Ring-necked pheasant	*Phasianus colchicus*
Chukar	*Alectoris chukar*
Sandhill crane	*Grus canadensis*
Virginia rail	*Rallus limicola*
Sora	*Porzana carolina*
Common gallinule	*Gallinula galeata*
American coot	*Fulica americana*
Semipalmated plover	*Charadrius semipalmatus*
Snowy plover	*C. alexandrinus nivosus*
Killdeer	*C. vociferus*
Black-bellied plover	*Pluvialis squatarola*
Wilson's snipe	*Gallinago delicata*
Long-billed curlew	*Numenius americanus*
Spotted sandpiper	*Actitis macularia*
Solitary sandpiper	*Tringa solitaria*
Greater yellowlegs	*T. melanoleuca*
Lesser yellowlegs	*T. flavipes*
Willet	*Tringa semipalmata inornatus*
Red knot	*Calidris canutus rufa*
Baird's sandpiper	*C. bairdii*
Least sandpiper	*C. minutilla*
Dunlin	*C. alpina pacifica*
Semipalmated sandpiper	*C. pusilla*
Western sandpiper	*C. mauri*
Sanderling	*C. alba*
Long-billed dowitcher	*Limnodromus scolopaceus*
Marbled godwit	*Limosa fedoa*
Wilson's phalarope	*Phalaropus tricolor*

Avian Species	
Northern phalarope	*P. lobatus*
American avocet	*Recurvirostra americana*
Black-necked stilt	*Himantopus mexicanus*
Glaucous gull	*Larus hyperboreus*
Herring gull	*L. argentatus smithsonianus*
California gull	*L. californicus*
Ring-billed gull	*L. delawarensis*
Franklin's gull	*L. pipixcan*
Bonaparte's gull	*L. philadelphia*
Sabine's gull	*Xema sabini*
Forster's tern	*Sterna forsteri*
Common tern	*S. hirundo*
Caspian tern	*S. caspia*
Black tern	*Chlidonias niger surinamensis*
Mourning dove	*Zenaida macroura marginella*
Western screech-owl	*Megascops kennicottii*
Great horned owl	*Bubo virginianus*
Burrowing owl	*Athene cunicularia hypugaea*
Long-eared owl	*Asio otus tuftsi*
Short-eared owl	*A. flammeus*
Common nighthawk	*Choredeiles minor*
Black swift	*Cypseloides niger borealis*
Chimney swift	*Chaetura pelagica*
Vaux's swift	*C. vauxi*
White-throated swift	*Aeronautes saxatalis*
Broad-tailed hummingbird	*Selasphorus platycercus*
Belted kingfisher	*Megaceryle alcyon caurina*
Northern flicker	*Colaptes auratus*
Lewis's woodpecker	*Melanerpes lewis*
Hairy woodpecker	*Dryobates villosus*
Downy woodpecker	*D. pubescens leucurus*
Eastern kingbird	*Tyrannus tyrannus*
Western kingbird	*T. verticalis*
Say's phoebe	*Sayornis saya*
Willow flycatcher	*Empidonax traillii*
Gray flycatcher	*E. wrightii*
Western wood pewee	*Contopus sordidulus*
Horned lark	*Eremophila alpestris*
Violet-green swallow	*Tachycineta thalassina lepida*
Tree swallow	*T. bicolor*
Purple martin	*Progne subis*
Rough-winged swallow	*Stelgidopteryx ruficollis*
Bank swallow	*Riparia riparia*
Barn swallow	*Hirundo rustica erythrogaster*
Cliff swallow	*Petrochelidon pyrrhonota*
Water pipit	*Anthus spinoletta*
Loggerhead shrike	*Lanius ludovicianus*
Northern shrike	*L. excubitor borealis*
Dipper	*Cinclus mexicanus unicolor*
Rock wren	*Salpinctes obsoletus*
Marsh wren	*Cistothorus palustris*
House wren	*Troglodytes aedon parkmanii*

Avian Species	
Mockingbird	*Mimus polyglottos leucopterus*
Sage thrasher	*Oreoscoptes montanus*
Mountain bluebird	*Sialia currucoides*
Townsend's solitaire	*Myadestes townsendi*
Swainson's thrush	*Catharus ustulatus*
Hermit thrush	*C. guttatus*
American robin	*Turdus migratorius propinquus*
Blue-gray gnatcatcher	*Polioptila caerulea amoenissima*
Ruby-crowned kinglet	*Corthylio calendula*
Black-capped chickadee	*Poecile atricapillus*
Snow bunting	*Plectrophenax nivalis*
Song sparrow	*Melospiza melodia*
Lincoln's sparrow	*M. lincolnii*
White-crowned sparrow	*Zonotrichia leucophrys*
Dark-eyed junco	*Junco hyemalis*
Savannah sparrow	*Passerculus sandwichensis*
Leconte's sparrow	*Ammospiza leconteii*
Tree sparrow	*Spizelloides arborea*
Chipping sparrow	*Spizella passerina*
Vesper sparrow	*Pooecetes gramineus*
Lark sparrow	*Chondestes grammacus strigatus*
Sagebrush sparrow	*Artemisiospiza nevadensis*
Green-tailed towhee	*Pipilo chlorurus*
Eastern towhee	*P. erythrophthalmus*
Black-headed grosbeak	*Pheucticus melanocephalus*
Blue grosbeak	*Passerina caerulea interfusa*
Lazuli bunting	*P. amoena*
Western tanager	*Piranga ludoviciana*
Orange-crowned warbler	*Oreothlypis celata sordida*
Nashville warbler	*O. ruficapilla*
Virginia's warbler	*O. virginiae*
Yellow warbler	*Setophaga petechia*
Black-throated gray warbler	*S. nigrescens*
Townsend's warbler	*S. townsendi*
Yellow-rumped warbler	*S. coronata*
Common yellowthroat	*Geothlypis trichas*
MacGillivray's warbler	*G. tolmiei*
Wilson's warbler	*Cardellinia pusilla*
Solitary vireo	*Vireo solitarius*
Warbling vireo	*V. gilvus*
Baltimore oriole	*Icterus galbula*
Yellow-headed blackbird	*Xanthocephalus xanthocephalus*
Red-winged blackbird	*Agelaius phoeniceus*
Western meadowlark	*Sturnella neglecta*
Common grackle	*Quiscalus quiscula*
Brewer's blackbird	*Euphagus cyanocephalus*
Brown-headed cowbird	*Molothrus ater*
Bobolink	*Dolichonyx oryzivorus*
Pine siskin	*Spinus pinus*
American goldfinch	*S. tristis*
Cassin's finch	*Haemorhous cassinii*
House finch	*H. mexicanus*

Avian Species	
Evening grosbeak	*Coccothraustes vespertinus*
House sparrow	*Passer domesticus*
Starling	*Sturnus vulgaris*
Pinyon jay	*Gymnorhinus cyanocephala*
Woodhouse's scrub jay	*Aphelocoma woodhouseii*
Black-billed magpie	*Pica hudsonia*
Common crow	*Corvus brachyrhynchos*
Raven	*C. corax*

Plant Species	
Tamarisk*	*Tamarix ramosissima*
Common reed*	*Phragmites australis*
Cattail	*Typha* sp.
Indian paintbrush	*Castilleja* sp.
Russian olive*	*Elaeagnus angustifolia*
Intermediate wheatgrass	*Thinopyrum intermedium*
Cheatgrass	*Bromus tectorum*
Rubber rabbitbrush	*Ericameria nauseosa*
Bulbous bluegrass	*Poa bulbosa*
Smotherweed	*Bassia* sp.
Annual ragweed	*Ambrosia artemisifolia*
Saltgrass	*Distichlis spicata*
Basin wildrye	*Leymus cinereus*
Alfalfa	*Medicago sativa*
Showy milkweed	*Asclepias speciosa*
Broadleaved (perennial) pepperweed*	*Lepidium latifolium*
Whitetop*	*Cardaria draba*
Scotch cottonthistle*	*Onopordum acanthium*
Canada thistle*	*Cirsium arvense*
Nodding plumeless (musk) thistle*	*Carduus nutans*
Little barley	*Hordeum pusillum*
Arctic rush	*Juncus arcticus*
Curlycup gumweed	*Grindelia squarrosa*
Prickly lettuce	*Lactuca serriola*

Source: Wildlife species compiled from Utah Division of Wildlife Resources, 2005 and observations by Susan Martin, M&N. Plant species compiled from observation on October 20, 2020 by Susan Martin, M&N.
*Utah state-listed noxious weed

Appendix B. Public Comments Received during Scoping and Draft EA Review

PUBLIC COMMENTS RECEIVED DURING SCOPING

Commenter Name

Alan and Caralee Steele

Organization

AKS Ranch Located in Goshen, Utah

Comment Text

My name is Alan Steele, I am a 5th generation rancher in the Goshen Valley. For the past 10 years I have been working with the DWR (David Lee) on the Utah Lake Preserve. Through a coordinated effort with David Lee, we have in many places been cutting fire breaks around the perimeter of the preserve, also cutting and baling grass hay. We have a coordinated grazing program with the cattle in place. One thing that we discovered in harvesting the grass, either through cutting or grazing is that it has kept the grasses healthy. The healthy grasses have crowded out the obnoxious weeds. This in turn has made for a more healthier and productive wetland without the use of pesticides. I own a parcel of ground that is approximately 170 acres located on the very north end of the Randall Steele property in the north end of Goshen Bay. This ground is inside the Wetland Preserve. I would be interested in working with the Commission of the Wetlands Preserve to make a trade of the hunting and usage rights of my property for the haying and grazing and farming rights on the preserve. It is my belief that working together as a team in a coordinated effort we could make some big improvements to the wetlands that would benefit all interests of those concerned. I would be interested in meeting in person to discuss the options that can be agreed upon for all parties concerned. Thanks, Alan

Commenter Name

Letitia Meredith Fletcher

Organization

N/A

Comment Text

Our family home is located on 5200 South in Lake Shore which I think is very close to the preserve and the lake, approximately two miles or so away. I have lived here for 17 years, and there is a very unbearable mosquito problem in our area, especially late spring and all through summer and into fall. There always has been and I have never been able to use my property to its fullest capacity because of the mosquitoes.

The mosquito problem makes it impossible to enjoy our property, especially in the dusk/evenings, and our horses are riddled with mosquito bites in the hundreds if not thousands all over their bodies. Expensive fly sheets and bottles of insect spray do not help. My neighbor even sprayed her barn with a chemical all over the walls trying to deter them. It does not work!

Entry into our home means first trying to rid the door of mosquitos and then letting in at least 30 mosquitos that are still on or near the doors and then spending the next half hour killing them and killing strays through the night.

I hope you can study this problem and come up with ways to control this awful problem. I have heard that bats eat mosquitos or maybe county ditches can be cemented. All I know is the mosquito abatement chemical spraying program does not work, and it even seems that after a spraying of whatever chemicals all over the air and all over our properties (without notice so we can make sure our chores are done and we are inside) the mosquitos get worse, not better. Last year was very, very bad, and the problem is getting more and more out of control no matter if it is a rainy year or not.

Thank you for your time.

Letitia Meredith Fletcher

PUBLIC COMMENTS RECEIVED ON THE DRAFT EA

The DOI CUPCA Office received a letter from the Ute Indian Tribe; that letter and DOI's response are included in the pages that follow. Other comments received regarding the Draft EA are included below.

Commenter Name

Kimberly Lawson

Organization

N/A

Comment Text

I was an attendee at the UVU conference held by Rep Stratton. My take a way's: The deciding actors, didn't open the restoration of Utah Lake to anyone other than the current proposal, despite the intent to make it look like they did (transparency ya right). There are smart people (first panel) who need the opportunity to do their job and I believe they will restore Utah lake to the productive eco system it can be. The young women who sent in a proposal needs to be given a chance, as well as others! It isn't fair you're not allowing any one else to help! All that talk about transparency (shiny keys) how about capitalism and fairness. I was not impressed with Jeff Hartley, all he talked about was the 9 billion dollars in the proposal. People don't want to hear that. Rep Stratton took up all the time for questions and answer period, because he wanted to hear himself talk! He wasted so much time, it was obvious he didn't want to allow any one else to have ideas. He tried to brag about balancing the budget.....well his definition and my definition of balance are different since Utah has had an excess for a while now....balance....hello! Stop pretending you care about the lake, when you won't give any one else a chance! You lie, you lie about the land being sovereign, and then an hour later you realize through

questions and answers it can't stay that way! There isn't a deadline for restoration, it doesn't have to happen overnight! Let opportunity work, give others a chance, stop forcing down our throats the dredging of the lake to an investor of 9 billion! At the end a woman got up and asked us to have an open mind, well walk the walk, you need to have an open mind and look outside of ONE proposal. Again, it doesn't have to be overnight, give others a chance! This is the United States of AMERICA, it's a free market, allow the best proposal a chance not the most expensive one!

Response

Comment does not directly address content in the EA. The comment is therefore not substantive and does not warrant a change to the EA.

Commenter Name

Barbara Richardson

Organization

N/A

Comment Text

It is crucial to protect and preserve local fauna. The birds and mammals have been here long before us. Hunting is not the first priority—hunting should fit into the landscape of natural, balanced, undeveloped areas. Please work to protect the rights of the landscape first. Human needs come second.

Response

CUPCA requires that the ULWP be managed to meet the substantive requirements of the National Wildlife Refuge System Administration Act of 1966. The CMP has been developed with this requirement in mind. The CMP emphasizes the conservation, management, and protection of fish and wildlife while providing compatible wildlife-dependent recreational use, such as hunting.

Commenter Name

Dennis & Donette Carr

Organization

N/A

Comment Text

Utah Lake Wetland Issues

Thank you for requesting public comments on the Utah Lake Wetland Preserve. We have lived next to the Wetland at the Southeastern edge of Utah Lake for over 40 years. We have experienced both the

drought years as well as the very wet years of 1984 & 1985. These experiences have given us a perspective that we hope will help in the future decisions concerning the Wetlands.

The area across the street from our home is called by the locals "Wride's Pond". This area fills each winter and spring from the rain in the valley that flows through the Benjamin Slough on its way to Utah Lake. In these 40 years, we have watched what happens to the wildlife across the street as the water level changes. One rainstorm, for example, could easily raise the water level 3 to 6 inches, and cover many more acres of ground in the process. As migratory birds use this area, we have watched the impact of the water level affect their activity and nesting patterns.

Typically, these birds (ducks, geese, pelicans, sand hill cranes, etc.) build their nests near the edge of the water line. We have witnessed what happens when one rain storm raises the water level so much that it floods the nests of these birds. It is hard to describe the sound of helpless birds losing their nests to the rising water. One can never forget the sound. After witnessing the effects of a slough without control or direction for 40 years, we would like to give our suggestion or thoughts on how this situation could be improved.

Currently the slough is almost full of silt, and the build-up of decades of runoff. This results in a very shallow waterway without embankments or containment. Back in the 1980's there was discussion about dredging the slough to help control the flow of water. For whatever reason, this process was never done and the build-up has continued.

It would be our suggestion that the Benjamin Slough be dredged from the pond (Wride's Pond) to the lake (Utah Lake). This step alone would be helpful, but not sufficient. We would also suggest that a dam be placed in the Benjamin Slough, somewhere south of 6400 South to divert the water into the pond, and allow the migratory birds the option of building their nests at the shoreline created by this diversion of water. The water could then be controlled to stabilize the water level at a pre-determined height to prevent the flooding of nests that has happened in the past. Once the spring "hatch" has completed, and the birds have continued on their journey, the water could then be re-diverted completely into the slough.

This suggestion would also have a secondary purpose. As the situation currently exists, the water in the "Wride's Pond" area remains stagnant and pooled after the spring runoff. This leads to mosquito breeding in these stagnant pools of water that the County must then continually monitor and control with expensive chemical treatments and delivery (spray planes etc.). We understand that there will always be a mosquito problem in this area, but the current situation makes an ideal breeding ground for these insects who more and more often carry diseases.

It is our belief that these two measures would allow the Wetlands to serve their intended purposes more fully. We understand that there are competing voices on these issues. Our hope is that level heads can look at what is currently happening, and the reduced number of migratory birds who now come to this area, and realize the impact of uncontrolled water levels. Many years ago, we enjoyed large flocks of pelicans, sand hill cranes, geese and ducks that used "Wride's Pond" for their annual nesting. Each year their numbers go down. We hope that by controlling the water levels to maintain a more stable waterline for nesting, these birds might return.

Thank you again for soliciting our thoughts, ideas and suggestions.

Response

Restoration and enhanced management of Benjamin Slough and Wride's Pond are consistent with the CMP developed with this NEPA action. Currently, a portion of Wride's Pond is owned and managed by the Utah Department of Transportation and isn't controlled by the UDWR or Mitigation Commission. We will continue to work with partners to acquire land and water rights where possible. Acquisition of additional land and water rights in the Benjamin Slough and Wride's Pond area would facilitate projects as described in this comment. Habitat enhancements or restoration of specific areas would be subject to additional permitting and/or NEPA action. As specific restoration plans are developed for this or other areas of the ULWP there will be further opportunity for public comment as part of that additional permitting.

Commenter Name

Michael Cooper

Organization

N/A

Comment Text

I am concerned about how much land the Mitigation Commission has already transferred to the State. My understanding is the Commission will cease to exist once its funding is depleted. The DWR is willing manage these lands as long as the Commission foots the bill but I question what happens when that is no longer possible. The DWR is under the heavy hand of the State Legislature whose commitment to conservation is fleeting at best. Perhaps the Commission should conserve its resources to protect the lands it has already purchased. I am particularly concerned about the Middle Provo project which is too valuable both for its conservation values and its riverfront real estate to be entrusted to the State. As I write this, the Legislature is considering ceding the bed of Utah Lake to private developers and would, I believe, gladly do the same to Commission property given the opportunity. Please take a multi-generational view to protect these lands for posterity, otherwise your commendable efforts will have been in vain. Thank you.

Response

The transfer of Mitigation Commission acquired ULWP lands is a requirement of the CUPCA Section 301(k). The CMP developed as part of this NEPA action is designed to guide the management of the ULWP by UDWR and transfer by the State of Utah to private developers is not consistent with the CMP.

Commenter Name

David D. Scott

Organization

N/A

Comment Text

Greetings, I am writing on behalf of my wife, Mary-Margaret Scott who received a postcard in the mail that announces a public online meeting regarding the Utah Lake Preserve Management Plan. Can you advise us specifically as to why we have been notified about the ULWP project and how we might be impacted? Our property, just 5.25 acres, appears to be located within or adjacent to the ULWP project boundary. The exact proximity of our property to the boundary is not clear from the project map because our property is obscured by the boundary border posted on the map. Can you confirm our location relative to the boundary? Our land is located at 4571 West, 5400 South, in Lake Shore. More specifically, our property adjoins 5400 South on the north end and runs south from there. Can I assume that if our land exists outside the boundary, there won't be any interest in acquiring our land and water rights for this project? Based on the description of this boundary, it appears as though the primary interest in land acquisition is for land that exists within the Utah Lake flood plain. Until just recently, the north end of our property was in the flood plain. However, the flood plain was reevaluated and redrawn and our property is no longer within the flood plain. We purchased our Lake Shore property with the intent of eventually building a home on this property. Some development has already taken place, including the installation of a well authorized by the Division of Water rights for approximately 9- acre feet of water. We have also paid the impact fees for the property and installed electrical service to our 20 x 26' pumphouse, a garage-style, fully permitted building under the Utah County building code. We don't currently have immediate plans to build a house on this property and may choose to build elsewhere. Please provide us with any additional information that may be relevant to our needs and concerns and advise us on how to proceed. Regards, David D. Scott

Response

Comment does not directly address content in the EA. The comment is therefore not substantive and does not warrant a change to the EA.

Additional information was provided to the landowner informing them of their property location in reference to the ULWP.

Commenter Name

Kyle Bateman

Organization

N/A

Comment Text

Sometimes it is easy to forget the purpose of wetland preservation. The name of the US law that established protections for wetlands is called "The Clean Water Act." The goal of clean water should be a higher priority than should blind maximization of the number of acres of wetland, without regard to the effect it has on maintaining a clean, pollution-free environment. But it regularly falls to second place. The goal is clean water. Wetlands are an important part of a strategy to improve water quality as long as they are part of a properly operating biosphere, performing their function to clean and filter

contaminants from the water. The tactic of merely optimizing the acreage of ground that can be delineated as wetland does not always promote the primary goal. Quality is more effective than quantity. But most of our regulatory efforts focus on quantity rather than quality. Utah Lake water quality is abysmal. Much effort is exerted preserving wetland around Utah Lake, but I have not seen any viable, sustainable plans being pursued to actually remediate the water quality. Sometimes regulations regarding wetland preservation are at odds with the goal of clean water, rather than supporting it. For example, water quality in the lake could be improved with well designed and implemented dredging plan. But that activity is very nearly impossible under current regulations. Another approach for cleaning the water is to build permanent, sustainable wetland filters in areas surrounding the lake to clean agricultural effluent water before it enters the lake. This would have a major impact on water quality, but is very nearly impossible under current regulations as it would require filling certain low areas to a higher level so they are not inundated and destroyed when the lake water rises. I have done extensive research on both of these topics and have been operating a farm on the shore of the lake where we experiment with technologies to improve water quality and the way agricultural operations can interact with the lake in a more sustainable way. Government bureaucracy and regulations have been the biggest barrier I have encountered in this work. I have developed several approaches by which the lake water quality can be improved that are sustainable, scalable and self funding. If anyone is interested in hearing more, feel free to contact me. Kyle Bateman

Response

Comment does not directly address content in the EA. The comment is therefore not substantive and does not warrant a change to the EA.

The current CMP and EA are programmatic in nature, meaning that area-specific projects are not included. Rather, the CMP is intended to guide planning level alternatives. The type of site-specific enhancements described in this comment may be allowable under the CMP, but would be subject to supplemental analysis that may include additional NEPA action.

This page intentionally left blank.

UTE INDIAN TRIBE
P. O. Box 190
Fort Duchesne, Utah 84026
Phone (435) 722-5141 • Fax (435) 722-5072

March 8, 2022

Via Email and Certified Mail

W. Russ Findlay
302 East Lakeview Parkway
Provo, Utah 84606
wfindlay@usbr.gov

Re: Draft Environmental Assessment for Utah Lake Wetland Preserve

Dear Mr. Findlay:

We reviewed the Draft Environmental Assessment (EA) for the Utah Lake Wetland Preserve project, sent to us by Reed Murray, Program Director of the Central Utah Project Completion Act Office. Mr. Murray's letter indicated that the Ute Indian Tribe was being notified of this project as part of Tribal Consultation requirements because "the proposed plan may affect Tribal interests." However, after a review of the Draft EA, we have concluded that it is completely insufficient for determining what, if any, impact this proposed project will have on our Tribal water rights and other interests.

Based on the information in the Draft EA, we are unable to verify the origins of the sources of the water rights acquired within and outside of the Utah Lake Wetland Preserve. We cannot, therefore, protect and ensure that our Tribal water rights will not be adversely impacted by this proposal. Please work with our water engineers, Natural Resources Consulting Engineers, Inc., and provide them with any information they need, including the sources of water for this project, so that they can conduct an evaluation of the potential impacts on our Tribal interests.

We are also interested in making the proper assessment of this and all other CUPCA projects and their impact on our Tribal water rights and other Tribal interests. Please provide us with any and all other State water use projects that CUPCA is aware of or knows about for which we have not been properly notified.

On Behalf of the Ute Indian Tribe Business Committee

Shaun Chapoose, Chairman
Ute Tribal Business Committee

xc: Reed Murray, Program Director, Central Utah Project Completion Act Office
(transmitted via email: RRMurray@usbr.gov)

United States Department of the Interior

OFFICE OF THE SECRETARY
Central Utah Project Completion Act Office
302 East Lakeview Parkway
Provo, Utah 84606

CA-1300
2.1.4.17

CERTIFIED – RETURN RECEIPT REQUESTED

Honorable Shawn Chapoose
Chairman, Ute Tribal Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Subject: Draft Environmental Assessment for the Utah Lake Wetland Preserve – Section 306(c) – Central Utah Project Completion Act (CUPCA)

Dear Chairman Chapoose:

Thank you for your letter dated March 8, 2022, regarding the Draft Environmental Assessment (EA) for the Utah Lake Wetland Preserve (Preserve) and requesting clarification as to *"…what, if any, impacts this proposed project will have on our Tribal water rights and other interests."*

All of the water rights and water shares used for the Preserve were acquired appurtenant to the lands acquired to establish the Preserve. In the course of establishing the Preserve, the United States has acquired shares in several irrigation companies. Those include the Strawberry Highline Canal Company, Goshen Irrigation and Canal Company (Class B), Warm Springs Irrigation and Power Company, Lakeside Irrigation Company, East Warm Creek Irrigation Company, and Lake Shore Irrigation Company. The United States has also acquired water rights appurtenant to the lands within the Preserve. The table below is provided as per your request. The table shows all water rights used on the Preserve, as requested, this information is also being sent to your consultants at Natural Resources Consulting Engineers, Inc. The final Preserve EA will be amended to include this information.

53 Area	**Source**	**County**	**51 Area**	**Source**	**County**
312	Underground water well	Utah	5503	Underground water well	Utah
313	Underground water well	Utah	2734	Underground water well	Utah
830	Underground water well	Utah	2735	Underground water well	Utah
831	Underground water well	Utah	1706	Lower Spring Creek	Utah
832	Underground water well	Utah	6955	Underground water well	Utah

833	Underground water well	Utah	6956	Underground water well	Utah
834	Underground water well	Utah	6957	Underground water well	Utah
835	Underground water well	Utah	6958	Underground water well	Utah
983	Underground water well	Utah	6959	Underground water well	Utah
111	Underground water well	Utah	6960	Underground water well	Utah
1152	Unnamed spring	Utah	6961	Underground water well	Utah
1154	Underground water well	Utah	6962	Underground water well	Utah
1225	Warm Springs stream	Utah	6963	Underground water well	Utah
1226	Warm Springs stream	Utah	6964	Underground water well	Utah
309	Underground water well	Utah	6965	Underground water well	Utah
1415	Underground water well	Utah	6966	Underground water well	Utah
1593	Underground water well	Utah	6967	Underground water well	Utah
561	Underground water well	Utah	2321	Underground water well	Utah
964	Underground water well	Utah			
241	UWC, Utah Lake & Jordan River	Utah			
242	Underground water well	Utah			
266	Underground water well	Utah			
964	Underground water well	Utah			

You also requested information for *"any and all other State water use projects that CUPCA is aware of or knows about for which we have not been properly notified."* As is our practice, we have notified and will continue to provide notice to the Ute Tribe for projects under our jurisdiction.

Should there be any additional questions, please contact Mr. W. Russ Findlay at (801) 379-1084 or wfindlay@usbr.gov. For Text Telephone Relay Service access, call the Federal Relay System Text Telephone (TTY) number at (800) 877-8339.

Sincerely,

REED MURRAY

Digitally signed by REED MURRAY
Date: 2022.03.25 09:37:28 -06'00'

Reed R. Murray
Program Director

cc: Woldezion Mesghinna
President, Natural Resources
Consulting Engineers, Inc.
131 Lincoln Avenue, Suite 300
Fort Collins, Colorado 80524

ec: jpatterson@nativelawgroup.com
kerry_rae@ios.doi.gov
scott.bergstrom@sol.doi.gov
christopher.ruedas@sol.doi.gov
mholden@usbr.gov
rrmurray@usbr.gov
wfindlay@usbr.gov