RECLAMATION

Managing Water in the West

Provo Reservoir Water Users Company Carriage Contract in Deer Creek Reservoir Environmental Assessment

PRO-EA-16-015

Upper Colorado Region
Provo Area Office
Provo, Utah

U.S. Department of the Interior
Bureau of Reclamation
Provo Area Office
Provo, Utah

January 2016

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Provo Reservoir Water Users Company Carriage Contract in Deer Creek Reservoir Environmental Assessment

Proposed Agency Action:	Carriage Contract in Deer Creek Reservoir
Location:	Wasatch County, Utah
Lead Agency:	Bureau of Reclamation, Provo Area Office
Responsible Official:	Wayne G. Pullan, Area Manager, Provo Area Office
Cooperating agencies:	None
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U.S. Department of the Interior
Bureau of Reclamation
Provo Area Office
Provo, Utah

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FINDING OF NO SIGNIFICANT IMPACT

PRO-FONSI-16-015

Environmental Assessment of the Provo Reservoir Water Users Company Carriage Contract in Deer Creek Reservoir
Wasatch County, Utah

Recommended by:

Rick Baxter
Chief, Environmental Group

4/18/16
Date

Concur:

Water and Environmental
Resources Division

4/18/16
Date

Approved by:

FOR Kent Koford
Wayne G. Pullan
Area Manager, Provo Area Office

4/20/16
Date

Introduction

In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), the Bureau of Reclamation (Reclamation), Provo Area Office has conducted an environmental assessment (EA) for a Proposed Action of issuing Provo Reservoir Water Users Company (PRWUC) a five-year contract for the storage of up to 5,000 acre feet (AF) of Weber River water in Deer Creek Reservoir, on a space available basis. Deer Creek Reservoir is a Reclamation-owned feature; therefore, Reclamation is the lead agency for the purposes of compliance with the NEPA for this Proposed Action.

The EA was prepared by Reclamation to address the potential impacts to the human environment due to implementation of the Proposed Action.

Alternatives

The EA analyzed the No-Action Alternative and the Proposed Action Alternative of issuing PRWUC a five-year contract for the storage of up to 5,000 AF of Weber River water in Deer Creek Reservoir, on a space available basis. Reclamation's decision is to implement the Proposed Action Alternative. All terms and conditions that are integral to the alternative are included in the EA and contract.

Related NEPA Documents

An EA was prepared in 1998 for the Deer Creek Reservoir Resource Management Plan, which analyzed management policies and practices on Deer Creek Reservoir project lands that allow continuation of the original project purposes while protecting water quality and accommodating anticipated recreation and public use of project lands.

Reclamation considered the analyses of environmental effects, the public comments on the EA, and the ability of the alternatives considered in detail to achieve the stated resource management goals and objectives. A Finding of No significant Impact was issued August 1998.

Decision and Finding of No Significant Impact

It is my decision to authorize the Proposed Action identified in EA No. PRO-EA-16-015. Based upon my review of the EA and supporting documents, I have determined that implementing the Proposed Action will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the area. No environmental effects meet the definition of significance in context or intensity as defined at 40 CFR 1508.27. Therefore, an Environmental Impact Statement (EIS) is not required for this Proposed Action. This finding is based on consideration of the context and intensity as summarized here from the EA.

Context

For the Proposed Action and alternative, the context of the environmental effects is based on the environmental analysis in this EA. The Proposed Action is a site-specific action involving Deer

Creek Reservoir and the Lower Provo River. The Federal government owns Deer Creek Dam and the Utah State Parks manages the park under contract with Reclamation.

Intensity

Reclamation has taken a hard look at the environmental effects using relevant scientific information and knowledge of site-specific conditions gained from field visits. The finding of no significant impact is based on the context of the project and intensity of effects using the 10 factors identified in 40 CFR 1508.27(b).

1. Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial. The beneficial effects of the project include keeping Deer Creek Reservoir water surface elevations higher during the late spring to summer months, but given the low total AF that could be stored, the effects of the storage will probably not be visible to the recreationists using the reservoir. The adverse effects include delaying the timing of releases from the dam, which could affect downstream water resources, wildlife, and recreation.

2. The degree to which the selected alternative will affect public health or safety or a minority or low-income population. The main effect on public health relates to water quality. Storing more water in Deer Creek Reservoir should have a beneficial effect on public health. The Proposed Action will have no significant impacts on public health or safety. No minority or low income community would be disproportionately affected by the Proposed Action.

3. Unique characteristics of the geographic area such as the proximity to historical or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas. As described in the EA, there are no prime farmlands, wild and scenic rivers, wilderness areas, national parks, monuments, or areas of critical environmental concern in the project area. However, Deer Creek is a Utah State Park. Consultation with park staff indicates there would be no adverse impacts on the park. As described in the EA, no impacts to floodplains and wetlands would occur as a result of the Proposed Action.

4. The degree to which the effects on the quality of the human environment are likely to be highly controversial. Based on the number and content of comments from the public, the effects of the Proposed Action on the quality of the human environment are not considered highly controversial. No concerns were raised by the public.

5. The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks. There should be no uncertainties about the storage of non-project water in Deer Creek or the predicted downstream releases.

6. The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration. The action will not establish a precedent; Reclamation enters into carriage contracts routinely.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts. Cumulative impacts are possible when the effects of the Proposed Action are added to other past, present, and reasonably foreseeable future actions as described under Related NEPA Documents above; however, significant cumulative effects are not predicted, as described in the EA.

8. The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources. There are historic properties in the area of potential effects of this carriage contract, but following Reclamation policy, the carriage contract is not considered an undertaking and no consultation or 36 CFR 800 compliance is required.

9. The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973. Field surveys were conducted around the project area by qualified biologists and they found no known federally listed animal, plant, or animal species around Deer Creek Reservoir. However, the Lower Provo River contains critical habitat for the endangered June sucker. As described in the EA, all points of diversion associated with the Proposed Action will remain the same and are located at a minimum approximately six miles upstream of the designated critical habitat. Also, approximately 21,000 AF of water has been purchased and designated to maintain and improve instream flows for aquatic species in the Lower Provo River System, especially the June sucker. Therefore, a no effect determination has been made.

10. Whether the action threatens a violation of Federal, state, local, or tribal law, regulation or policy imposed for the protection of the environment. The Proposed Action would not violate any Federal, state, or local environmental protection law, regulation, or policy. Potential resource conflicts were resolved through environmental commitments defined in the EA.

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Chapter 1 Introduction and Need for Proposed Action

1.1 Introduction

This Environmental Assessment (EA) was prepared to determine whether implementation of a carriage contract, proposed by the Provo Reservoir Water Users Company (PRWUC), would significantly affect the quality of the human environment. If the EA shows no significant impacts associated with implementation of the proposed project, then a Finding of No Significant Impact (FONSI) will be issued by the Bureau of Reclamation. Otherwise, an Environmental Impact Statement will be necessary prior to implementation of the proposed project.

1.2 Background

This EA involves two Reclamation projects, the Weber River Project (WRP) and the Provo River Project (PRP), and a private irrigation company PRWUC that is a stockholder in both projects.

Weber River Project

The WRP, formerly known as the Salt Lake Basin Project, first division, provides supplemental water supply for agricultural and domestic purposes primarily within unincorporated areas and cities in Weber, Davis, Salt Lake, and Utah Counties. The two key features of the WRP include Echo Reservoir and Dam and the Weber-Provo Diversion Canal, both constructed in 1931.

Echo Reservoir is located in Summit County approximately 42 miles southeast of Ogden City, Utah and is operated and maintained by the Weber River Water Users Association (WRWUA), under contract with Reclamation, for the benefit of its shareholders. Water is stored in Echo Reservoir (Echo water) under Utah Water Right No. 35-8739 (A9568) providing for an annual storage volume of 74,000 acre feet (AF).

The Weber-Provo Diversion Canal begins on the Weber River approximately 25 miles upstream of Echo Dam near Kamas, Utah. This canal was originally constructed by Reclamation at a conveyance capacity of 210 cubic feet per second (cfs) to deliver Weber River natural flow water (Direct Flow Water) under Utah Water Right No. 35-8740 (A9580) and Echo water to WRWUA stockholders on the Provo River. The Weber-Provo Diversion Canal was enlarged by

Reclamation to 1,000 cfs as part of the Provo River Project construction in the 1940's. Under contract with Reclamation, Provo River Water Users Association (PRWUA) is responsible for the operation and maintenance of the Weber-Provo Diversion Canal for the benefit of its shareholders.

Provo River Project

The PRP provides a supplemental water supply for irrigation of 48,156 acres of highly developed farmlands in Utah, Salt Lake, and Wasatch Counties. It also provides water for municipal and industrial (M&I) purposes (by way of the 1936 PRP repayment contract) to Salt Lake City, Provo, Orem, Pleasant Grove, Lindon, American Fork, and Lehi, Utah. The key feature of the PRP, Deer Creek Dam, is located on the Provo River east of project lands. Other significant PRP features include: the Power Plant at Deer Creek Dam, the 42-mile Salt Lake Aqueduct and Terminal Reservoir, the enlarged Weber-Provo Diversion Canal, the Duchesne Tunnel, the Murdock Diversion Dam, the Provo Reservoir Canal Enlargement, the Jordan Narrows Siphon and Pumping Plant, and the South Lateral. The Salt Lake Aqueduct and Terminal Reservoir make up the Aqueduct Division; all other features are included in the Deer Creek Division.

Deer Creek Reservoir stores Provo River floodwater, surplus water of the Weber River diverted by the enlarged Weber-Provo Diversion Canal, and surplus water from the headwaters of the Duchesne River diverted by the 6-mile Duchesne Tunnel.

Since construction of the PRP facilities by Reclamation, the title and ownership of two noteworthy PRP facilities has been transferred. First, in 2006 the title of the Salt Lake Aqueduct was transferred to the Metropolitan Water District of Salt Lake and Sandy. Second, in 2014 the title of the enlarged Provo Reservoir Canal (now named the Provo River Aqueduct) was transferred to the PRWUA.

Provo Reservoir Water Users Company

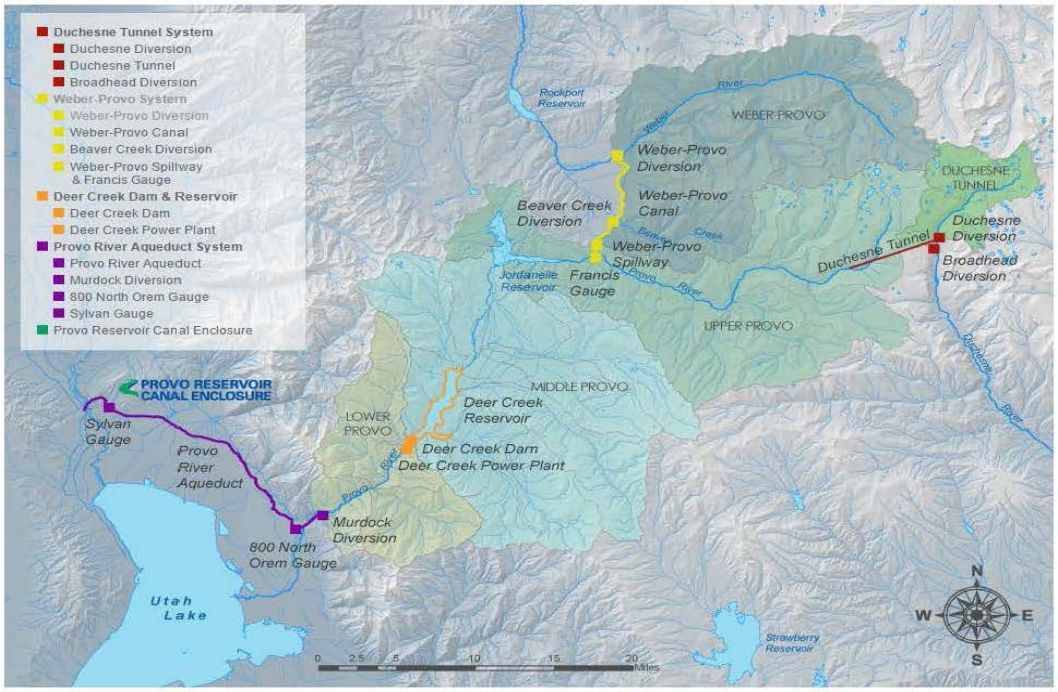
The PRWUC is a private, non-profit mutual irrigation company organized in 1924. Its predecessor, the Provo Reservoir Company (organized in 1908), constructed the original Provo Reservoir Canal which was later purchased and enlarged by Reclamation as part of the PRP. The PRWUC's primary purpose is to provide water to its shareholders.

The PRWUC holds a diverse portfolio of water rights on the Provo River and is the only stockholder that owns shares in both the WRP and PRP. The PRWUC's allocation of WRP water, as well as its allocation of Direct Flow Water, is conveyed through the Weber-Provo Diversion Canal. The PRWUC does not currently enjoy the benefit of physically storing WRP water in Echo Reservoir as do most other WRWUA shareholders. This is because the Weber-Provo Diversion Canal is located upstream of Echo Reservoir. As such, WRP water cannot be diverted into the Weber-Provo Diversion Canal unless excess water

exists in the Weber River above Echo Reservoir. This generally occurs during the spring of each year in high run-off periods.

The PRWUC currently has outstanding 26,383.45 shares of irrigation stock. By virtue of the Welby Jacob Exchange, Jordan Valley Water Conservancy District is the largest shareholder in the PRWUC, currently owning 66.4 percent of all outstanding shares. Water represented by PRWUC stock is delivered to PRWUC shareholders for agricultural and domestic purposes through several conveyance facilities, including: the Provo Bench Canal; the Provo River Aqueduct (previously known as the Provo Reservoir Canal), diverted at the Murdock Diversion; the Jordan Aqueduct, diverted at the Olmstead Diversion; and the Salt Lake Aqueduct, diverted at Deer Creek Dam.

Figure 1-1
Map of Key Features



1.3 Need for the Proposed Action

Reclamation needs to respond to a request by PRWUC for carriage of non-project water in a Reclamation facility. Typically, Reclamation enters into contracts to carry or store non-project irrigation water in Reclamation facilities through a contract issued under the authority of the Warren Act of 1911 (43 USC 523; 36 Stat. 925). The water that PRWUC is proposing to store in Deer Creek Reservoir is irrigation and M&I water. Congress issued a specific authorization for storage of M&I water in Reclamation's PRP in Section 2 of the Act of December 19, 2002 (Public Law 107-366). The purpose of Reclamation's action is to conform

with this Congressional authorization and determine if there would be significant environmental effects resulting from the action of storing and releasing the water.

1.4 Public Scoping and Involvement

The PRWUC considered and approved the proposed project at a board meeting held on February 25, 2016. The PRWUA also considered and approved the proposed project at a board meeting held on January 28, 2016.

1.5 Permits, Licenses, and Authorizations

Implementation of the Proposed Action may require a number of authorizations or permits from state and Federal agencies. The PRWUC would be responsible for obtaining all permits, licenses, and authorizations required for the Project. Potential authorizations or permits may include those listed in Table 1-2.

Table 1-2
Permits and Authorizations

Agency/Department	Purpose
State of Utah Department of Natural Resources, Division of Water Rights (DWRi)	A change application may be required to store water in Deer Creek Reservoir that currently just passes through on a run-of-the-river basis.
Bureau of Reclamation	A carriage contract would be necessary in order for the storage of water in Deer Creek Reservoir.

1.6 Related Projects and Documents

1.6.1 EA of the Deer Creek Reservoir Resource Management Plan

An EA was prepared in 1998, which analyzed management policies and practices on Deer Creek Reservoir project lands that allow continuation of the original project purposes while protecting water quality and accommodating anticipated recreation and public use of project lands.

Reclamation considered the analyses of environmental effects, the public comments on the EA, and the ability of the alternatives considered in detail to achieve the stated resource management goals and objectives. A FONSI was issued August 1998.

1.7 Scope of Analysis

The purpose of this EA is to determine whether or not Reclamation should issue a five-year contract to PRWUC for the storage of up to 5,000 AF of Weber River water in Deer Creek Reservoir, on a space available basis. That determination includes consideration of whether there would be significant impacts to the human environment. In order to issue the contract, this EA must be completed and a FONSI issued.

Chapter 2 Alternatives

2.1 Introduction

This chapter describes the features of the No Action and Proposed Action Alternatives, and presents a comparative analysis. It includes a description of each alternative considered. This section also presents the alternatives in comparative form, defining the differences between each alternative.

2.2 No Action

Under the No Action Alternative, Reclamation would not enter into a carriage contract with PRWUC. Weber River water would continue to be discharged into Jordanelle Reservoir by way of the Weber-Provo Diversion Canal. This water would eventually flow down the Provo River into Deer Creek Reservoir and then into existing diversions on a run-of-the-river basis, as has been occurring for many years.

2.3 Proposed Action

The Proposed Action is the preferred alternative. The Proposed Action consists of Reclamation issuing a five-year contract to PRWUC for the storage of up to 5,000 AF of Weber River water in Deer Creek Reservoir, on a space available basis. The stored water would be released from Deer Creek Dam to the Provo River. The volume of release would be limited by the capacity of the spillway and outlet works, and the timing would be over the later summer months when the yield of other PRWUC water rights has declined. The action would include releasing the water downstream in the Provo River for delivery to PRWUC at various diversion points including the Murdock Diversion, Jordan Aqueduct, Olmstead Diversion, and Salt Lake Aqueduct.

The Proposed Action would not affect the operation of any reservoir or constructed facility within the PRP. Releases from upstream reservoirs and maintenance of flows for fish, including the endangered June sucker, or other purposes would continue in accordance with past practice.

Chapter 3 Affected Environment and Environmental Consequences

3.1 Introduction

This chapter describes the environment that could be affected by the Proposed Action. These impacts are discussed under the following resource issues: geology and soils resources; visual resources; cultural resources; paleontological resources; wild and scenic rivers; hydrology; water quality; system operations; health, safety, air quality, and noise; prime and unique farmlands; wetlands, riparian, noxious weeds and existing vegetation; wildlife resources; threatened, endangered, and sensitive species; recreation; socioeconomics; public safety, access, and transportation; water rights; Indian Trust Assets (ITAs); and environmental justice. The present condition or characteristics of each resource are discussed first, followed by a discussion of the predicted impacts caused by the Proposed Action.

3.2 Resources Considered and Eliminated from Further Analysis

The following resources were considered but eliminated from further analysis because they did not occur in the Project area or because their effect is so minor (negligible) that it was discounted.

Table 3-1
Resources Considered and Eliminated from Further Analysis

Resource	Rationale for Elimination from Further Analysis
Geology and Soils Resources	No disturbance of soils would occur; therefore, this resource is eliminated from further consideration.
Visual Resources	The storage of up to 5,000 AF, on a space-available basis, would only comprise 3.3 percent of the total volume of Deer Creek Reservoir which is negligible; therefore, this resource is eliminated from further consideration.
Paleontological Resources	No paleontological resources would be impacted; therefore, this resource is eliminated from further consideration.
Public Health and Safety, Air Quality, and Noise	There would be no change in public health and safety, air quality, or noise due to implementation

Resource	Rationale for Elimination from Further Analysis
	of the proposed action; therefore, this resource is eliminated from further consideration.
Riparian, Noxious Weeds, and Existing Vegetation	The riparian and existing vegetation within the project area is reservoir induced. A temporary 3.3 percent increase in water volume within the reservoir is negligible and would pose no measureable impact to existing vegetation; therefore, this resource is eliminated from further consideration.

3.3 Affected Environment and Environmental Consequences

This chapter describes the affected environment (baseline conditions) and environmental consequences (impacts as a result of the Proposed Action) on the quality of the human environment that could be impacted by construction and operation of the Proposed Action, as described in Chapter 2. The human environment is defined in this study as all of the environmental resources, including social and economic conditions occurring in the impact area of influence.

3.3.1 Hydrology

Deer Creek Dam is located on the Provo River about 16 miles northeast of Provo, Utah. It is a zoned earthfill structure 235 feet high with a crest length of 1,304 feet. The dam contains 2,810,000 cubic yards of material and forms a reservoir of 152,700 AF capacity.

Inflows to Deer Creek Reservoir

Deer Creek Reservoir stores Provo River floodwater, surplus water of the Weber River diverted by the enlarged Weber-Provo Diversion Canal, and surplus water from the headwaters of the Duchesne River diverted by the 6-mile Duchesne Tunnel.

Storage in Deer Creek Reservoir

The total capacity of Deer Creek Reservoir at elevation 5,417 feet is 152,700 AF. The active capacity ranges from elevations 5,303 to 5,417 feet. At 5,417 feet elevation (full pool), the water surface area is 2,683 acres.

Under the Proposed Action, the stored water (Utah Water Right No. 35-8739; A9568) would add up to 5,000 additional AF when the reservoir is not at full pool. It is anticipated that this storage would occur in the spring and the stored water would remain in the reservoir until called for by PRWUC in the late

summer months. The full 5,000 AF that could be stored, on a space-available basis, would comprise about 3 percent of total storage capacity - a minor amount of water.

Release from Deer Creek Reservoir

The spillway at Deer Creek Dam has a capacity of 12,000 cfs; the outlet works has a capacity of 1,500 cfs. The proposal is to release stored water during the late summer months when needed by PRWUC. All points of diversion for the stored water are located on the Provo River upstream of the junction of State Route 52 and U.S. Highway 189 near the mouth of Provo Canyon.

3.3.1.1 No Action

The No Action Alternative would have no effect on hydrology.

3.3.1.2 Proposed Action

The Proposed Action Alternative has been evaluated by professional engineers at Reclamation and the PRWUA, which operates the reservoir. With a reservoir capacity of 152,700 AF, the 5,000 AF of requested storage would only comprise 3.3 percent of the volume of Deer Creek Reservoir. In the event that the reservoir fills with PRP water, the PRWUC's stored water would lose all privileges to be stored in Deer Creek Reservoir. The PRWUC would only be allowed to store this water in Deer Creek Reservoir at the operator's discretion and when space is available. The PRWUC would only store Weber River water in Deer Creek Reservoir until October 31, of each year.

3.3.2 Water Quality

The resource management plan and EA for Deer Creek Reservoir (Reclamation 1989) indicated water quality in Deer Creek is a concern to municipal water users due to the potential for contamination by pathogens, phosphorus, and petroleum products. The plan indicates that when the reservoir water levels are low, there is less dilution of pollutants; thus, the proposal to store additional water in the reservoir, when space is available, would be perceived as a benefit to water quality and public health.

In compliance with the Clean Water Act, the State of Utah reports (Utah DEQ 2014), that the Provo River and Deer Creek Reservoir are impaired for water quality. The State of Utah's Department of Environmental Quality, Division of Water Quality (2014) lists the Provo River as impaired from Deer Creek Reservoir to Jordanelle Reservoir (17 miles); from Deer Creek Reservoir to the Olmstead Diversion (6.1 miles); and from the Murdock Diversion to Utah Lake (10.9 miles). The cause of impairment from Deer Creek Reservoir to Olmstead Diversion (Provo River 3: UT16020203-003__00) is organic enrichment and oxygen depletion. The cause of impairment from Deer Creek Reservoir to Jordanelle Reservoir (Provo River 2: UT16020203-004__00) is listed as Escherichia coli or other pathogens that affect both recreation and the domestic water supply.

3.3.2.1 No Action
The No Action Alternative would have no effect on the quality of the water in Deer Creek Reservoir.

3.3.2.2 Proposed Action
Under the Proposed Action Alternative there would be no change to the water source, conveyance, or potential for contaminants. The Proposed Action Alternative would merely allow water that currently passes through the reservoir the opportunity to be stored in the reservoir on a space-available basis for use later in the irrigation season. The additional stored water when the reservoir is low would be perceived as a benefit by helping to dilute the pollutants within the reservoir.

3.3.3 Wild and Scenic Rivers and Wilderness
While the Lower Provo River is popular for recreation, it has not been designated as a Wild and Scenic River. The U.S. Forest Service has studied the eligibility of the North Fork of the Provo River, but this is beyond the affected environment for this Proposed Action.

3.3.3.1 No Action
The No Action Alternative would have no effect on Wild and Scenic Rivers or Wilderness.

3.3.3.2 Proposed Action
The Proposed Action Alternative would have no effect on Wild and Scenic Rivers or Wilderness as there are no such areas within the project boundary.

3.3.4 Wildlife Resources
The shoreline zone that would be affected by additional storage is not generally considered wildlife habitat; however, the land further away from the shoreline of Deer Creek Reservoir is a hilly, sloped area covered in desert shrub vegetation communities. These upland communities provide wildlife forage and habitat.

3.3.4.1 No Action
The No Action Alternative would have no effect on wildlife resources.

3.3.4.2 Proposed Action
The Proposed Action Alternative would have no impacts to fish or other wildlife populations. Releases from upstream reservoirs and maintenance of flows for fish or other wildlife purposes would continue in accordance with past practice.

3.3.5 System Operations
Deer Creek Reservoir has a water storage capacity of 152,700 AF. Releases from the reservoir for the Aqueduct Division are diverted at the dam into the Salt Lake Aqueduct, which carries water to a point near Salt Lake City to supplement the city's supply.

The Provo Reservoir Canal takes water from the Provo River at the Murdock Diversion Dam, about 7 miles downstream of the storage dam. This 23-mile-long canal serves the 46,609 acres in the Deer Creek Division. The Jordan Narrows Siphon and Pumping Plant furnishes water from the Provo Reservoir Canal and Jordan River to lands on the west side of Utah Lake and the Jordan River. The South Lateral delivers water supplies from the Jordan Narrows pump to the area south of the pump and west of the Jordan River. Deer Creek Powerplant generates 4,950 kilowatts of power.

3.3.5.1 No Action

The No Action Alternative would have no effect on either the WRP or PRP system operations.

3.3.5.2 Proposed Action

The Proposed Action Alternative would require no new operation and maintenance expenditures as no changes to WRP or PRP features or operations would occur.

3.3.6 Threatened and Endangered Species

While the resource management plan listed several species as being protected under the Endangered Species Act (ESA), most of these have been delisted or are not likely to occur around the shoreline of the reservoir or in the Lower Provo River. The only species that is known to be within the effected action area of the proposed carriage contract is the June sucker (Chasmistes lioru).

In 1986, this fish species became federally listed as endangered with the Lower Provo River, its critical habitat. Its critical habitat is the lower 4.9 miles of the main channel of the Provo River from the Tanner Race diversion downstream to Utah Lake. Threats to the species include dewatering stream channels, degrading water quality, competition and predation by nonnative species, commercial fishing and killing of adults during the spawning run (Service 1998). With water quality a primary constituent element of its habitat, temperature, sediment or turbidity and chemical contamination are all important factors in assessing effects on the critical habitat.

Also, the flows in the Lower Provo, including peak and base flows are important to the critical habitat.

3.3.6.1 No Action

The No Action Alternative would have no effect on any listed threatened and endangered species.

3.3.6.2 Proposed Action

The Proposed Action Alternative has no foreseeable impact to any listed threatened and endangered species. Points of diversion on the Provo River for the stored water will remain the same as present and are located at a minimum approximately 6 miles upstream of designated June sucker critical habitat.

Under the Proposed Action, not as much water would be released during the spring peak as under the current run-of-the-river flow pattern. Under the Proposed Action, spring flood flows would be stored in Deer Creek Reservoir and released in the later summer months for PRWUC.

The Central Utah Project Completion Act provided authorization and funding to purchase water for efforts to increase the minimum flow in the Provo River downstream of the Olmsted Diversion from a committed flow of 25 cfs to a goal of 75 cfs. Officials have purchased approximately 21,000 AF of water to improve instream flows for aquatic species in the Lower Provo River System, especially the June sucker.

Any adverse impacts from changing the timing of water release would be minor, temporary, and would not result in any net change in function of the existing riverine habitat.

3.3.7 Recreation

Deer Creek Reservoir is managed as a Utah State Park. Located just a short drive from Park City, Salt Lake City, and Provo, the reservoir is a popular park for boating, wake boarding, water skiing and camping. The main recreational effect of the proposal would be on the water surface elevation of the reservoir and boat ramps.

According to State Park managers (Gibbs, p.c. 2016), the main ramp is operational at elevations 5,405 to 5,484 feet. Below 5,405 feet, the launch ramp must be closed because there is a 90 foot drop-off that presents a danger to anyone backing up a trailer or vehicle on the ramp.

The Island ramp operational ranges are from 5,400 to 5,420 feet. The concern is that any additional storage that would increase surface elevations above 5,420 feet would potentially flood the Island ramp and recreational area (and possibly flood the nearby communities of Rainbow and Charleston).

Sport fishing in the reservoir and the Provo River is a popular recreational activity. Anglers fish for rainbow trout, brown trout, perch, largemouth bass, small mouth bass, and walleye (Heber Valley Chamber of Commerce 2016).

Anglers consider the Provo River below Deer Creek to be the “Lower Provo River.” Arguably, this is one of the best trout fisheries in the western United States. The tailwater fishery provides angler access to brown trout between the reservoir and the Olmstead Diversion Dam (State of Utah 2016a,b). Deer Creek State Park is easily accessible from the Wasatch Front; within one-half hour from Provo and an hour from Salt Lake City. The reservoir and park are extremely popular for recreation and camping. Major park activities are water-based and include boating, water skiing, sailing, windsurfing, swimming, and fishing. The number of visitors at the reservoir peaked during 1980 at approximately 495,000.

3.3.7.1 No Action
The No Action Alternative would have no effect on recreation at the reservoir.

3.3.7.2 Proposed Action
The Proposed Action Alternative would have no foreseeable impacts to recreation at the reservoir. The Proposed Action will not raise the full pool elevation above the current 5,417 feet. The carriage contract would only allow up to 5,000 AF of storage when space is available in the reservoir; therefore, there would be no impacts to any of the boat ramps or recreational facilities. A 3.3 percent water volume increase within the reservoir, on a space-available basis, is negligible and would likely not be noticed by recreationists.

3.3.8 Socioeconomics
Deer Creek Dam and Reservoir affect socioeconomic resources in three major ways.

(l) The reservoir yields approximately 100,000 AF of project water for use by irrigators, municipalities, and other users in Utah and Salt Lake Counties, and by exchange in Wasatch and Summit Counties. Heber City, Utah, situated immediately north and west of Deer Creek Reservoir, originally served the predominantly agricultural economy of the surrounding valley. However, in recent years it has become a bedroom community for commuters who work in the Provo-Orem metropolitan area. Agriculture remains an important part of the economy of the area, though its relative importance has declined with increases in tourism and residential service suppliers.

(2) Deer Creek Reservoir serves as a major source of recreation for residents of these four counties. Recreation, the most prominent economic activity in the valley, is largely centered on the reservoir. Based upon information provided by the Utah Division of Parks and Recreation, the capitalized net present value of recreation associated with Deer Creek Reservoir is calculated at approximately $65.1 million (Lichtkoppler 2002). In addition to the reservoir, the privately owned Sundance Ski Resort is located southwest of Deer Creek Dam.

(3) The hydroelectric power produced at the Deer Creek Powerplant is marketed or otherwise exchanged by Western Area Power Administration. Energy produced at the plant is exchanged for water imported from the Weber River and replaces energy lost at other non-government (Utah Power) powerplants on the Weber during the winter months. At other times, Western Area Power Administration markets the power in behalf of the PRWUA to two preference public power utilities for project repayment purposes and for recovery of the total cost of operating and maintaining the powerplant.

3.3.8.1 No Action
The No Action Alternative would have no effect on socioeconomics in the project area.

3.3.8.2 Proposed Action

The Proposed Action Alternative would allow PRWUC to more fully meet the late summer demands of its water users. This project would allow 5,000 AF of water, stored on a space-available basis, to become available for late season use when natural flows diminish, irrigation needs continue, and M&I needs peak. This would be of great economic benefit to the water users.

3.3.9 Public Safety, Access, and Transportation

Wasatch County with forested mountains ranging over 10,000 feet is a picturesque area that has experienced significant growth within the past few years. Principal towns include Heber City (county seat), Midway, and the smaller communities of Charleston and Wallsburg. Major highways serving the county include U.S. Highway 40 and U.S. Highway 189. On the north, from its junction with Interstate 80 near Park City, U.S. Highway 40 extends 19 miles south to Heber City, then through Wasatch County to Strawberry Reservoir, and finally east through the Uinta Basin and into Colorado. On the south, U.S. Highway 189 extends northeast 27 miles from Provo, passing Deer Creek Reservoir en route and joining U.S. Highway 40 at Heber City.

3.3.9.1 No Action

The No Action Alternative would have no effect on public safety, access, and transportation.

3.3.9.2 Proposed Action

The Proposed Action Alternative requires no construction, access, or surface disturbance activities. All access and transportation routes would continue to operate in accordance with past practices.

3.3.10 Water Rights

The PRWUC has a Subscription Contract dated January 5, 1927, for 5,000 shares of capital stock of the WRWUA, representing Echo Water under Utah Water Right No. 35-8739 (A9568). In addition, PRWUC is the primary beneficiary of Direct Flow Water under Utah Water Right No. 35-8740 (A9580).

3.3.10.1 No Action

The No Action Alternative would have no effect on water rights.

3.3.10.2 Proposed Action

The Proposed Action Alternative would have no impacts on the actual water rights; however, a change application may be needed from the DWRi to store water in Deer Creek Reservoir that currently just passes through.

3.4 Cultural Resources and Historic Properties

Recent surveys along the shoreline of Deer Creek Reservoir have indicated there are some cultural resources present, but these are high enough above the full pool

surface water level that they would not be affected by the proposal. The Weber-Provo Diversion Canal and the Deer Creek Dam are both over 50 years of age and are considered historic properties potentially eligible for listing on the National Register of Historic Places under 36 CFR 60 and the National Historic Preservation Act of 1966 (16 U,.S.C. 470, et seq.).

Following Reclamation policy, a carriage contract where existing facilities will be used and where no modifications and no land use changes are proposed is not considered an undertaking. Therefore, the proposal would result in no effects to historic properties and no consultation with the Utah State Historic Preservation Office is required.

3.5 Indian Trust Assets

The ITAs are legal interests in property held in trust by the United States for Federally recognized Indian Tribes or Indian individuals. Assets can be real property, physical assets, or intangible property rights, such as lands, minerals, hunting and fishing rights, and water rights. The United States has an Indian trust responsibility to protect and maintain rights reserved by or granted to such tribes or individuals by treaties, statutes, and executive orders. These rights are sometimes further interpreted through court decisions and regulations. This trust responsibility requires that all Federal agencies take all actions reasonably necessary to protect trust assets. Reclamation carries out its activities in a manner which protects these assets and avoids adverse impacts when possible. When impacts cannot be avoided, Reclamation would provide appropriate mitigation or compensation. Implementation of the Proposed Action would have no foreseeable negative impacts on ITAs.

3.6 Environmental Justice

Executive Order 12898, established Environmental Justice as a Federal agency priority to ensure that minority and low-income groups are not disproportionately affected by Federal actions. Implementation of the Proposed Action would not disproportionately (unequally) affect any low-income or minority communities within the Project area. The reason for this is that the proposed project would not involve any facility construction, population relocation, health hazards, hazardous waste, property takings, or substantial economic impacts. This action would therefore have no adverse human health or environmental effects on minority and low-income populations.

3.7 Prime and Unique Farmlands

Under both alternatives, releases from Deer Creek Reservoir provide water for irrigation of farmlands in Utah, Salt Lake, and Wasatch Counties. Reclamation

has no record indicating any of these PRWUA farmlands are prime farmlands. There would be no conversion of existing farmlands to non-agricultural use and no violation of the Federal Farmland Protection Policy Act (7 U.S.C. 4201-4209).

3.8 Floodplains and Wetlands

The release of water into the Provo River would be within a 500-year floodplain, but there would be no construction and no encroachment on the floodplain as a result of either alternative.

Under the proposal, the water would be released during the late summer when the Provo River flows have decreased, so there would be no increase in base floodplain elevation. Therefore, neither Executive Order 11988, Floodplain Management, nor E.O. 13690, Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input, apply to the proposal.

The proposal would not impact a jurisdictional wetland, nor there destruction, loss or degradation of wetlands. An Army Corps of Engineers permit or compliance with E.O. 11990, Protection of Wetlands, is not required.

3.9 Cumulative Effects

In addition to project-specific impacts, Reclamation analyzed the potential for significant cumulative impacts to resources affected by the project and by other past, present, and reasonably foreseeable activities within the watershed. According to the Council on Environmental Quality's regulations for implementing National Environmental Policy Act (NEPA) (50 CFR §1508.7), a "cumulative impact" is an impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. It focuses on whether the Proposed Action, considered together with any known or reasonably foreseeable actions by Reclamation, other Federal or state agencies, or some other entity combined to cause an effect.

Based on Reclamation, and PRWUA resource specialists' review of the Proposed Action, Reclamation has determined that this action would not have a significant adverse cumulative effect on any resources.

Chapter 4 Consultation and Coordination

4.1 Introduction

This chapter details other consultation and coordination between Reclamation and other Federal, state, and local Government Agencies, Native American Tribes, and the public during the preparation of this EA. Compliance with NEPA, is a Federal responsibility that involves the participation of all of these entities in the planning process. The `NEPA requires full disclosure about major actions taken by Federal agencies and accompanying alternatives, impacts, and potential mitigation of impacts.

4.2 Public Involvement

The public was notified of the availability of this EA and draft FONSI by posting on the internet. No comments were received.

On February 25, 2016, the PRWUC held a board meeting to discuss the proposed project. The PRWUA also held a board meeting to discuss the proposed project on January 28, 2016. At both board meetings the proposed project was considered and approved.

Chapter 5 Preparers

The following is a list of preparers who participated in the development of the EA. They include Reclamation, state, and District team members.

Table 5-1
Reclamation Team Members

Name	Title	Company
Ms. Linda Morrey	Secretary	Bureau of Reclamation
Mr. Rick Baxter	Environmental Group Chief	Bureau of Reclamation
Mr. Peter Crookston	NEPA Coordinator	Bureau of Reclamation
Mr. Jeff Hearty	Economist	Bureau of Reclamation
Mr. Cal Jennings	Archaeologist	Bureau of Reclamation
Mr. Shane Mower	General Biologist	Bureau of Reclamation
Mr. Zachary Nelson	Archaeologist	Bureau of Reclamation
Mr. Justin Record	Water Rights	Bureau of Reclamation
Mr. David Snyder	CWA Coordinator, Interdisciplinary Team Leader	Bureau of Reclamation
Ms. Nancy Coulam	Upper Colorado Region Environmental Compliance Officer	Bureau of Reclamation
Ms. Valerie Heath-Harrison	Upper Colorado Region Recreation Specialist	Bureau of Reclamation

Table 5-2
State and District Team Members

Name	Title	Company
Mr. Bart A. Forsyth, P.E.	Assistant General Manager	Jordan Valley Water Conservancy District
Mr. Edwin Gibbs	Parks and Recreation	Utah State Parks

Chapter 6 References

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Utah Reclamation Mitigation and Conservation Commission http://www.mitigationcommission.gov/