

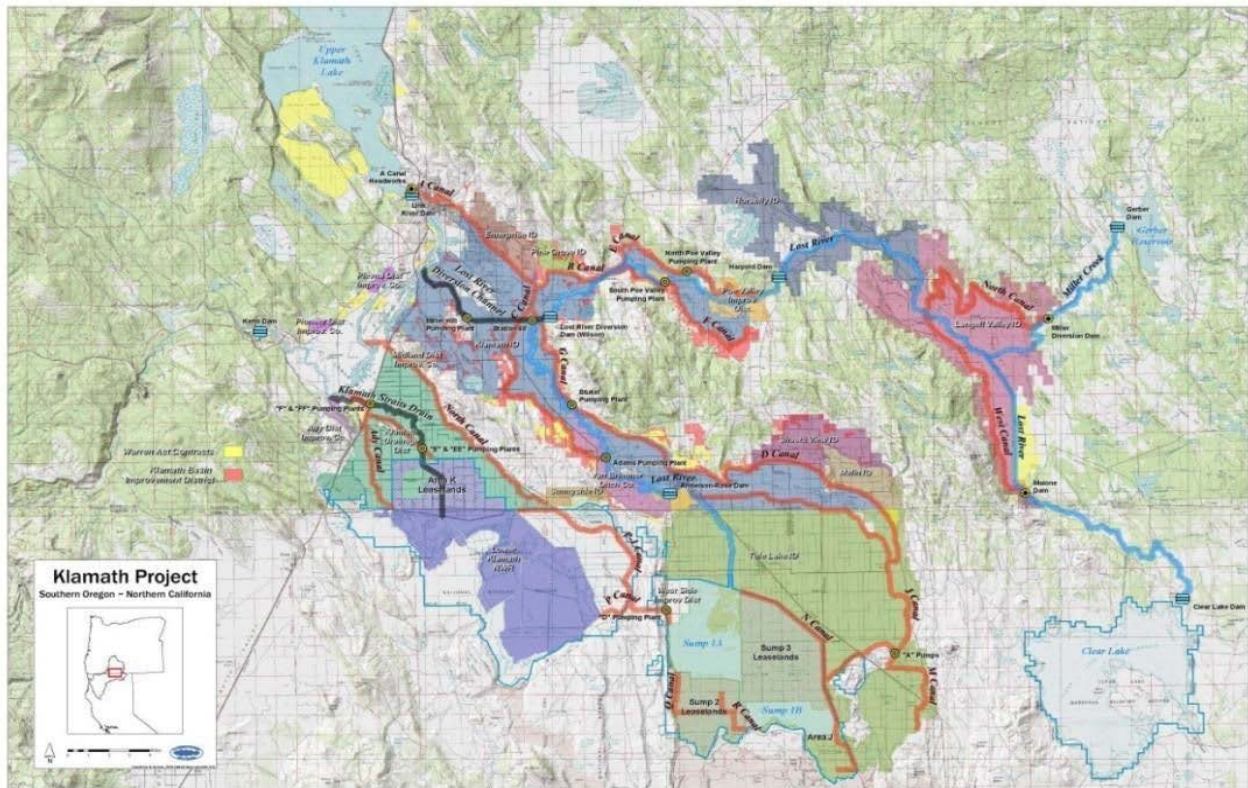
RECLAMATION

Managing Water in the West

Environmental Assessment

Water Acquisitions for National Wildlife Refuges

California and Oregon
2018-EA-010



U.S. Department of the Interior
Bureau of Reclamation
Klamath Basin Area Office

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Mission Statements

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water related resources in an environmentally and economically sound manner in the interest of the American public.

List of Acronyms and Abbreviations

AF	Acre-Feet
BiOp	Biological Opinions on the Effects of Proposed Klamath Project Operations from May 31, 2013, through March 31, 2023, on Five Federally-Listed Threatened and Endangered Species
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CLNWR	Clear Lake National Wildlife Refuge
CLR	Clear Lake Reservoir
DRA	Reclamation States Emergency Drought Relief Act (Pub. L. 102-250, 106 Stat. 53, as amended; 43 U.S.C. §§2211-2217)
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
HID	Horsefly Irrigation District
ITA	Indian Trust Asset
KDD	Klamath Drainage District
KID	Klamath Irrigation District
LKNWR	Lower Klamath National Wildlife Refuge
LRS	Lost River suckers
LRSNS	Lost River and shortnose suckers
LVID	Langell Valley Irrigation District
MODFLOW	Modular finite-difference flow model
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NWR	National Wildlife Refuge
Project	Klamath Project
Reclamation	Bureau of Reclamation
SNOTEL	Snow pack telemetry
SNS	Shortnose suckers
TID	Tulelake Irrigation District
TLNWR	Tule Lake National Wildlife Refuge
UKL	Upper Klamath Lake
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

Contents

Section 1 Introduction	1
1.1 Background	1
1.2 Location.....	1
1.3 Purpose and Need for the Proposal	1
1.4 Authority	2
Section 2 Alternatives	3
2.1 No Action Alternative	3
2.2 Proposed Action Alternative	3
2.2.1 Upper Klamath Lake and the Klamath River.....	4
2.2.2 Clear Lake Reservoir	4
2.2.3 Return Flows.....	5
Section 3 Affected Environment & Environmental Consequences	5
3.1 Resources Not Analyzed in Detail	5
3.1.1 Cultural Resources	6
3.1.2 Indian Sacred Sites.....	6
3.1.3 Indian Trust Assets.....	6
3.2 Resources Analyzed in Detail	6
3.2.1 Water Resources	6
3.2.2 Land Use	10
3.2.3 Biological Resources.....	10
3.2.4 Endangered Species	12
3.2.5 Recreation	13
3.2.6 Environmental Justice	14
3.2.7 Cumulative Impacts	14
3.3 Environmental Commitments.....	15
Section 4 Consultation and Coordination.....	15
4.1 Persons or Agencies Consulted During EA Development	15
4.2 Public Review Period.....	15
4.3 Responses to Public Comments	16
4.4 Draft and Final EA Comparison.....	16
Section 5 References.....	16
Section 6 Appendices	18
Appendix A: Map – Klamath Project and Relevant National Wildlife Refuges.....	19
Appendix B: Cultural Resources Coordination and Consultation.....	20
Appendix C: Indian Trust Asset Coordination and Consultation.....	21
Appendix D: Figures of Listed, Proposed, and Candidate Species that may occur in the Proposed Action Area	24
Appendix E: Public Comments and Reclamation Responses	27

Section 1 Introduction

1.1 Background

This Environmental Assessment (EA) examines the environmental effects of the Bureau of Reclamation's (Reclamation) Proposed Action to acquire up to 37,800 acre-feet (AF) of water from district entities, or their representatives, within the Klamath Project (Project) for use for fish and wildlife purposes in the Upper Klamath Basin, specifically in the following National Wildlife Refuges (NWR) that comprise part of the Klamath Basin NWR Complex administered by the U.S. Fish and Wildlife Service (USFWS).

- Tule Lake NWR (TLNWR)
- Clear Lake NWR (CLNWR)
- Lower Klamath NWR (LKNWR)

The EA has been prepared in accordance with the National Environmental Policy Act (NEPA) (42 United States Code (U.S.C.) §4321 et seq.), the Council on Environmental Quality (CEQ) Regulations for implementing the Procedural Provisions of NEPA (40 Code of Federal Regulations (CFR) Parts 1500-1508), and the Department of the Interior regulations for the Implementation of the NEPA (43 CFR Part 46). If there are no significant environmental impacts identified as a result of the analyses, a Finding of No Significant Impact can be signed to complete the NEPA compliance process. This EA would also be used to inform Reclamation's decision-making within the scope of the Proposed Action Alternative.

1.2 Location

The Project (see map in Appendix A) is located within southern Oregon and northern California on the east side of the Cascade Mountain Range. The Project serves irrigated lands within Klamath County, Oregon, and Siskiyou and Modoc counties in California. The primary water storage facilities in the Project are Upper Klamath Lake (UKL), Clear Lake Reservoir (CLR), and Gerber Reservoir, which collectively serve approximately 230,000 acres of irrigated agriculture. The Project also serves additional lands both from natural flows in the Lost River and Klamath River and from irrigation return flows within the Project.

1.3 Purpose and Need for the Proposal

The purpose of the water acquisition is to protect and maintain habitat for the migratory waterfowl and wetland-dependent wildlife in the NWRs during the current 2018 drought year.

The Klamath Basin, similar to much of California and Oregon, had a prolonged dry winter. As of

April 1, snowpack in the upper basin was 55 percent of normal; May 1, 46 percent of normal and as of June 1 no snowpack remained at snow pack telemetry (SNOTEL) sites. The minimal snowpack melted approximately one to two weeks earlier than normal. May precipitation was 76 percent of average resulting in a streamflow forecast for June through September to be as low as 26 percent of normal in various parts of the basin (U.S. Department of Agriculture Natural Resources Conservation Service, 2018).

Due to the continuing drought conditions, there is a shortage of water from the Project resulting in unreliability of water supply to all users, and concerns regarding availability of late season deliveries for the Project. Likewise, drought conditions have reduced, and will likely continue to limit, the availability of water for the NWRs in 2018. The constraints on water would likely reduce habitat availability and food sources for migratory birds and other wildlife within the NWRs. The NWRs offer a variety of habitat and ecological services for migratory birds in the Pacific Flyway.

In the Consolidated Appropriations Act, 2018 (Pub. L. 115-141), enacted March 23, 2018, Congress provided additional funding to Reclamation for projects, programs, and activities not originally included in the President's proposed budget. From the additional funding, Reclamation is proposing to allocate \$10.3 million for drought relief within the Project. Congress also extended the authority of the Reclamation States Emergency Drought Relief Act of 1991 (DRA; Pub. L. 102-250, 106 Stat. 53, as amended; 43 U.S.C. §§2211-2217) through 2020, as it had previously expired in 2017.

The DRA describes the manner in which Reclamation can provide emergency drought assistance. Among other things, the DRA authorizes Reclamation to acquire and make available water, on a non-reimbursable basis, for the purposes of protecting and restoring fish and wildlife resources, including mitigation losses, which occur as result of drought conditions.

Given the current constraints on water availability for the NWRs as a result of drought conditions, Reclamation proposes to obtain up to 37,800 acre-feet (AF) of water to support fish and wildlife resources within the NWRs, consistent with the USFWS's existing management plans for the NWRs. Water would be acquired from district entities, or their authorized representatives, within the Project that have legal and physical access to water that they would be willing to make available to Reclamation for use for fish and wildlife purposes. The actual amount acquired would depend upon the ability and willingness of district entities, or their authorized representatives, to make the water available to Reclamation for use for fish and wildlife purposes. The analysis is based upon 37,800 AF being acquired by Reclamation, although the actual amount could be less.

1.4 Authority

The proposed water acquisition is being undertaken pursuant to title I of the DRA. Part (c) of section 101 of the DRA (43 U.S.C. §2211(c)) authorizes Reclamation to “purchase water from willing sellers, including, but not limited to, water made available by Federal Reclamation project contractors through conservation or other means with respect to which the seller has reduced the consumption of water.” Part (d) of section 102 of the DRA (43 U.S.C. §2212(d))

authorizes Reclamation to “make water from Federal Reclamation projects and non-Project water available on a non-reimbursable basis for the purposes of protecting or restoring fish and wildlife resources, including mitigation losses, that occur as a result of drought conditions or the operation of a Federal Reclamation project during drought conditions.”

Section 2 Alternatives

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not acquire water from district entities, or their authorized representatives, within the Project for use for fish and wildlife purposes within the NWRs. The amount and timing of water available to the NWRs would continue to be limited through the remainder of 2018. As a result, habitat availability and food sources for migratory birds and other wildlife within the NWRs may be reduced in 2018, including the fall and winter waterfowl migration periods. The water would instead be available for irrigation purposes.

2.2 Proposed Action Alternative

Under the Proposed Action Alternative, Reclamation would enter into short term contracts (i.e., one year) with willing district entities, or their authorized representatives, within the Project for the acquisition of up to 37,800 AF of available water for use for fish and wildlife purposes.

Reclamation would acquire the contractor’s foregone diversion of water originating from UKL and/or CLR based on their reduction in consumptive use by not diverting it and, additionally, would acquire relinquished return flows from Project deliveries. This water is available to, or under the control of, district entities within the Project. District entities within the Project, or their authorized representatives, would agree by contract to make this water available and to deliver it to Reclamation, at locations and times in which it can be used for fish and wildlife purposes within the NWRs. The acquired water would then be used for fish and wildlife purposes in coordination with USFWS and consistent with existing NWR management plans. Reclamation’s discretionary action is limited to the contracting action for the acquisition of water for fish and wildlife purposes.

Because the Proposed Action Alternative serves mainly to change the place of use of water within the Project, no additional surface water would be used outside of the water management approach described in the National Marine Fisheries Service (NMFS) and USFWS’ *Biological Opinions on the Effects of Proposed Klamath Project Operations from May 31, 2013, through March 31, 2023, on Five Federally-Listed Threatened and Endangered Species* (BiOp; NMFS and USFWS, 2013).

No new construction or modification of existing facilities would occur in order to complete the Proposed Action Alternative. Reclamation’s action is administrative in nature and serves to

optimize the use of limited water supplies among existing lands served from Project facilities.

The following information outlines the types of activities anticipated to occur under the Proposed Action Alternative. Modifications to the specifics of these activities are possible due to multiple considerations such as operational, Endangered Species Act (ESA), litigation, and contracting requirements.

2.2.1 Upper Klamath Lake and the Klamath River

Reclamation proposes to contract for and acquire up to 20,000 AF of water from UKL and the Klamath River, for use for fish and wildlife purposes within TLNWR and LKNWR. The water would be acquired during August and/or September and delivered starting in August or September through October (in coordination with USFWS NWR needs) through existing Project and district facilities to TLNWR and LKNWR. District entities, or their authorized representatives, would potentially make water available from these sources by reducing their demand for water that would otherwise be available for irrigation use. Reclamation has no specific knowledge of how this reduction in demand would be achieved or occur, but understands that it may involve some combination of land idling, groundwater pumping, and active conservation measures, each of which may be a source of indirect effects of the Proposed Action Alternative. Reclamation cannot estimate the timing or magnitude of each of these activities because they are not under Reclamation's control; any attempt to do so would be speculative and beyond the scope of this analysis.

From August to November, water from this source, if made available by the districts or their representatives, would be released from UKL through Link River Dam and delivered via existing Project and district facilities to be used for fish and wildlife purposes within TLNWR and LKNWR.

Water deliveries from UKL and the Klamath River to TLNWR are made through the Lost River Diversion Channel, Anderson-Rose Dam, the J Canal system, and the Tule Lake Sumps (Sump 1A and 1B), all of which are Project facilities. Water deliveries from UKL and the Klamath River to LKNWR are made via the Ady Canal, which is operated and maintained by the Klamath Drainage District (KDD). Reclamation has a contractual right to use the Ady Canal for deliveries of available water to LKNWR.

District entities that have contracts with Reclamation for water from UKL and the Klamath River system are: Klamath Irrigation District (KID), Tulelake Irrigation District (TID), KDD, Klamath Basin Improvement District, Shasta View Irrigation District, Malin Irrigation District, Enterprise Irrigation District, Pine Grove Irrigation District, Sunnyside Irrigation District, Van Brimmer Ditch Company, Plevna District Improvement Company, Pioneer District Improvement Company, Midland District Improvement Company, and Ady District Improvement Company. The amount of water available to each of these entities contractually varies based on the associated irrigated acreage, as well as the specific terms of their respective contracts.

2.2.2 Clear Lake Reservoir

Reclamation proposes to contract for and acquire up to 2,800 AF from the contractor's foregone diversion of stored water out of CLR for retention in CLNWR for fish and wildlife purposes. CLR is operated to store water for irrigation and flood control purposes. The reservoir is also

located within CLNWR, and serves to provide refuge habitat particularly for migratory waterfowl. District entities that have contracts with Reclamation for water from CLR are: Langell Valley Irrigation District (LVID), Horsefly Irrigation District (HID), KID, and TID.

2.2.3 Return Flows

Certain district entities within the Project have access and infrastructure to collect and reuse return flows associated with irrigation. Return flows associated with irrigation are a significant source of water for the Project, and have historically been used for irrigation and fish and wildlife uses within the Project, including TLNWR and LKNWR.

Reclamation proposes to contract for and acquire up to 15,000 AF of recaptured return flows, from by TID, for use for fish and wildlife purposes within either TLNWR or LKNWR. TID operates and maintains drains and pumping plants, as well as the Tule Lake Sumps (Sump 1A and 1B), which can be used, separately or collectively, to capture irrigation return flows and make them available for irrigation or fish and wildlife purposes in both TLNWR and LKNWR. Specifically, with respect to TLNWR, captured return flow can be delivered via existing canals and laterals to flood lands within the refuge that have been planted with grain. The flooded grain fields provide food sources and foraging habitat for migrating waterfowl along the Pacific Flyway, particularly in the early fall and winter.

Up to approximately 5,000 acres in TLNWR would be flooded in the fall (October or later) for fish and wildlife purposes. It is expected that irrigation return flows would contribute to this flooded acreage.

TID can also deliver captured return flows to LKNWR, through operation of Pumping Plant D and the Tule Lake Tunnel, which conveys water from the Tule Lake Sumps (Sump 1A) through Sheepy Ridge. After discharge from the Tule Lake Tunnel, the water can be conveyed and delivered to various areas (or units) within LKNWR. Because of this, the Proposed Action Alternative would allow additional lands within LKNWR to be maintained (irrigated) for wildlife food purposes over the summer and additional acres to be flooded for fall waterfowl use.

Section 3 Affected Environment & Environmental Consequences

This EA analyzes two alternatives: the No Action Alternative and the Proposed Action Alternative. The No Action Alternative reflect conditions without the Proposed Action Alternative and serves as a basis of comparison for determining potential effects to the environment as a result of implementing the Proposed Action Alternative.

3.1 Resources Not Analyzed in Detail

Effects on the following environmental resources were examined and found to be negligible. For the reasons noted below, these resources were eliminated from further review in the EA.

3.1.1 Cultural Resources

Cultural resources are prehistoric and historic-era districts, sites, buildings, structures, and objects, as well as properties of religious or cultural importance to Native Americans or other traditional communities. Title 54 U.S.C. 306108, commonly known as Section 106 of the National Historic Preservation Act (NHPA), requires Federal agencies to take into account the effects of their undertakings on significant cultural resources, which are known as historic properties. Section 106 compliance follows a process outlined at 36 CFR Part 800. The Proposed Action Alternative would involve no new construction, ground disturbance, or changes in land use. Pursuant to 36 CFR §800.3(a)(1), Reclamation determined the Proposed Action has no potential to cause effects on historic properties. Reclamation has no further obligations under Section 106 of the NHPA. No significant impacts to historic properties would result from the Proposed Action (see Appendix B).

3.1.2 Indian Sacred Sites

Sacred sites are defined in Executive Order (EO) 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site." The purpose of EO 13007 is to accommodate access to and use of Indian sacred sites by Indian religious practitioners and to avoid adversely affecting such sites to the extent possible. The Proposed Action Alternative would not restrict access to or use of Indian sacred sites, nor result in adverse effects to any sacred site.

3.1.3 Indian Trust Assets

Indian Trust Assets (ITAs) are legal interests in property or rights held in trust by the United States for Indian Tribes or individuals. As indicated in Appendix C the proposed activity is partially located within the Klamath Tribal Designated Statistical Area. The water that will be acquired by Reclamation is not water above and beyond what is anticipated to be delivered under the current operations plan and is consistent with historic operations of the Project. As such, no impacts to Indian hunting or fishing resources or water rights are anticipated, and it is reasonable to assume that the Proposed Action Alternative would not have any impacts on ITAs.

3.2 Resources Analyzed in Detail

3.2.1 Water Resources

3.2.1.1 Affected Environment

Surface Water: The primary storage facilities in the Project relevant to the Proposed Action Alternative are UKL and CLR. UKL is regulated by Link River Dam, located just west of Klamath Falls, Oregon. The facility was completed in 1921 and is the principal source of water for the Klamath Project. The dam serves as the headwaters for the Link River, which flows into Lake Ewauna before transitioning into the Klamath River.

CLR is regulated by Clear Lake Dam, located on the Lost River in northwestern Modoc County,

California, about 19 miles southeast of Malin, Oregon. CLR provides storage for irrigation and reduces flow into the reclaimed portion of Tule Lake and the restricted Tule Lake Sumps in TLNWR. The dam protects the Tule Lake area (both in California and Oregon) from flooding, including the restricted sumps of Tule Lake and the TLNWR. The reservoir created by the dam has a very large surface area, 25,760 acres (104.2 km²), and its average depth at maximum capacity is only about 20 feet (6 m). Because of these factors, CLR experiences very high rates of evaporation.

Storage of water in these water bodies is dependent on winter and spring snowpack and resulting surface runoff and tributary groundwater inflow. Project reservoirs supply a network of 701 miles of canals and laterals, as well as 728 miles of drains owned by both the Reclamation and Project districts.

TLNWR is not a storage reservoir but was developed as a natural collection area for drainage return flows from Project lands. A portion of water is then removed from the sumps and used to irrigate the reserved sump lease lands and wildlife lands within the refuge. The water is then returned to the sumps by pumping. A considerable area within the sumps has become a marsh due to low water depths caused by siltation.

The Klamath Basin, similar to much of California and Oregon, had a prolonged dry winter. The minimal snowpack melted approximately one to two weeks earlier than normal and as of June 1, no snowpack remained at SNOTEL sites in the Upper Klamath Basin. As of June 20, total precipitation in the Upper Klamath Basin is 80 percent of average for the water year. Relative to Project reservoirs, conditions are as follows:

- As of August 2, UKL was at 48 percent capacity or 4,139.96 feet and is projected to exceed the remaining end of month threshold elevations (calculated pursuant to the 2013 Biological Opinion) during the spring/summer operating season.
- CLR is currently at 44 percent capacity and is anticipated to end the 2018 irrigation season well above the minimum lake elevations contained within the 2013 BiOp.

In addition, the National Weather Service has issued a temperature and precipitation outlook for August, which forecasts equal chances of below or above average precipitation and above average temperatures. The three month outlook for August, September, and October also call for equal chances of above or below average precipitation and above average temperatures.

Groundwater: “Since the late 1990s the U.S. Geological Survey (USGS) has worked to characterize the regional groundwater hydrology of the upper Klamath Basin. Research focuses on collecting data to help evaluate the state of the groundwater system and its response to external stresses, and to develop computer models to provide insights useful for water management. These efforts build on earlier USGS studies in the basin going back to the 1950s...

The upper Klamath Basin has a substantial regional groundwater flow system. The volcanic rocks that underlie the region are generally permeable and compose a system of interconnected aquifers. Interbedded with the volcanic rocks are sedimentary rocks composed of fine-grained lake sediments and basin-filling deposits. These sedimentary deposits have low permeability, are

not good aquifers, and probably reduce groundwater movement in some areas. The regional groundwater system is underlain and bounded on the east and west by older volcanic and sedimentary rocks that have generally low permeability.” (USGS, 2018)

3.2.1.2 Environmental Consequences

No Action Alternative

Surface Water: Under the No Action Alternative, surface waters would be managed in UKL, CLR, and TLNWR at all times at levels consistent with existing management requirements (i.e., elevations defined in the 2013 Biological Opinion). LKNWR would likely not receive any substantial deliveries of water from UKL and the Klamath River, or from the Tule Lake Sumps via D Plant. The availability of water for flooding TLNWR in the fall and winter period would likely be constrained.

Groundwater: Under the No Action Alternative, it is anticipated Project irrigators would continue to utilize groundwater as needed to meet their irrigation needs, possibly including mitigating shortages of Project surface water. Such groundwater utilization is at the discretion of the individual farmer and managed and approved by the respective states, which have instituted laws and policies to manage impacts to groundwater resources. In Oregon, impacts to groundwater are monitored and regulated by the Oregon Water Resources Department.

“The USGS modular finite-difference flow model (MODFLOW) simulations show that the timing and location of the effects of groundwater pumping vary markedly depending on pumping location. Pumping from wells close to groundwater discharge features, such as springs, drains, and certain streams, can affect those features within weeks or months of the onset of pumping, and the impacts can be essentially fully manifested in several years. Simulations indicate that seasonal variations in pumping rates are buffered by the groundwater system, and peak impacts are closer to mean annual pumping rates than to instantaneous rates. Thus, pumping effects are, to a large degree, spread out over the entire year. When pumping locations are distant from discharge features, the effects take many years or decades to fully impact those features, and much of the pumped water comes from groundwater storage over a broad geographic area even after two decades. Moreover, because the effects are spread out over a broad area, the impacts to individual features are much smaller than in the case of nearby pumping...

A groundwater management model was developed to identify optimal strategies to meet water-user needs while not violating defined constraints on impacts to groundwater levels and stream flows. The overall goal of the modeling effort was to determine the patterns and rates of groundwater pumping that meet the supplemental groundwater demands of [the Project]. To ensure that groundwater development does not adversely affect groundwater and surface-water resources, the groundwater-management model includes constraints to withdrawal and drawdown. The model indicates that supplemental groundwater pumping can be managed to avoid adverse effects to groundwater discharge that supports critical aquatic habitat.” (USGS, 2018)

In California, groundwater use is governed by the 2014 Sustainable Groundwater Management Act, which calls for the establishment of Groundwater Sustainability Agencies and Groundwater Sustainability Plans by 2022, with a goal, for the medium priority Tule Lake Basin, of sustainability by 2042.

Because a majority of the Proposed Action area is within the State of Oregon, which has enforcement authority of groundwater usage and the implementation of other measures intended to minimize impacts as outlined in 2018-EA-005, effects are outside what was analyzed in this EA as they are outside Reclamation knowledge and control.

Proposed Action Alternative

Surface Water: If water is obtained in UKL in August, but deliveries to the LKNWR and TLNWR do not occur until September, UKL elevation would gradually increase by 0.17 feet during the month of August, remain relatively constant in September, before decreasing through October back to the elevation that normal irrigation operations would have yielded. Under this scenario, UKL is anticipated to end the 2018 water year at 4,138.48 feet on September 30. Overall, UKL elevations at the end of October are projected to be the same as the elevations that would occur if this action is not taken. Thus, under the Proposed Action, acquiring 20,000 AF of available Project supply from UKL and delivering it to LKNWR and TLNWR starting in either August or September through October would result in projected UKL elevations that would remain above the end of month thresholds as calculated in the 2013 BiOp; and within historic operations.

Water released from UKL for use within TLNWR and LKNWR would be held in those refuges and managed in accordance with the USFWS refuge management plan for fish and wildlife purposes. Reclamation would continue coordination efforts with the USFWS to ensure activities are within the scope of analysis in the 2013 BiOp. Therefore, there would not be any effects on surface water in UKL as a result of the Proposed Action. Additionally, there would be no change in management of Klamath River flows that would occur and, thus, implementation of the Proposed Action would have no effect on Klamath River flows and resources.

The retention of 2,800 AF in CLR by the end of irrigation season would result in surface elevations being maintained up to approximately 0.14 feet higher than would otherwise occur under the No Action Alternative, which is within historic operations. The acquired water would likely provide continued access (as was already expected under the 2018 Ops Plan) to various habitats for bird and fish species.

The proposed action would not result in any change in management of, or water surface elevations in, Tule Lake sumps. Conditions would remain consistent with historic operations and as analyzed in the 2013 BiOp.

Flows in Project facilities may change somewhat while water is being transported from storage to the Refuges, depending upon volumes and timing. However, all the potential changes are within the range of historic operations. As such, Reclamation anticipates no significant impacts to water resources to result from the Proposed Action Alternative.

Groundwater: Implementation of the Proposed Action Alternative would have no direct effects on groundwater. However, indirect effects are possible if Project districts compensate individual irrigators for increasing private, state-approved groundwater pumping beyond levels anticipated under the No Action Alternative to replace water acquired by Reclamation under this program.

The details of such use are speculative and therefore beyond the scope of this analysis. To mitigate potential indirect groundwater impacts, Reclamation regularly coordinates with the states to ensure that limits on groundwater usage are enforced. Reclamation is not promoting or approving groundwater pumping in any manner as a result of implementation of the Proposed Action Alternative.

3.2.2 Land Use

3.2.2.1 Affected Environment

The Project primarily consists of roughly 230,000 acres of irrigated farmlands, including farmed portions of the Refuges, which also consist of open water and wetland areas.

3.2.2.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, involuntary idling of agricultural land may occur if Project water supplies are inadequate and no alternative source of water is available.

Proposed Action Alternative

Implementation of the Proposed Action Alternative would have no direct effects on land use. However, indirect effects are possible if Project districts compensate individual irrigators for idling land over and above that which might occur under the No Action Alternative in order to reduce demand for stored surface water. Accordingly, the Proposed Action Alternative is not likely to significantly change the amount of land that is already being idled as a result of inadequate water supplies as a result of drought.

Given the unlikelihood of increasing the amount of lands already not being irrigated, indirect effects on land use practices from implementation of the Proposed Action Alternative are not anticipated to be significant.

3.2.3 Biological Resources

3.2.3.1 Affected Environment

UKL, the largest lake by surface area in Oregon (91,000 acres), is fed by a watershed of 3,768 square miles including the Williamson and Wood Rivers, and it is drained by the Link River, which issues from the south end of the lake. The Upper Klamath National Wildlife Refuge has been established on land along the northern edge of the lake to preserve natural habitat. Nevertheless, the lake is a vital stop for waterfowl along the Pacific Flyway, and is known for its rainbow trout fishery. UKL also provides critical habitat for ESA-listed Lost River suckers (LRS; *Deltistes luxatus*) and shortnose suckers (SNS; *Chasmistes brevirostris*; collectively “LRSNS”).

CLNWR was established in 1911. This 46,460 acre refuge consists of approximately 20,000 acres of open water (CLR) surrounded by upland habitat of bunchgrass, low sagebrush, and juniper. It supports populations of LRS and SNS, species listed under the ESA. Small, rocky islands in the lake provide nesting sites for the American white pelican, double-crested cormorant, and other colonial nesting birds. The upland areas serve as habitat for pronghorn antelope, mule deer, and sage grouse. Except for limited waterfowl and pronghorn antelope

hunting during the regular California State seasons, CLNWR is closed to public access to protect fragile habitats and to reduce disturbance to wildlife. CLR is the primary source of water for the eastern portion of the Project, with water levels regulated by Reclamation in accordance with the 2013 BiOp (USFWS, 2018, CLNWR).

TLNWR is located in the fertile and intensely farmed Tule Lake Basin of northeastern California. It was established in 1928 as a “preserve and breeding ground for wild birds and animals.” This 39,116-acre refuge is mostly open water (Sumps 1A and 1B) and crop land. Approximately 17,000 acres (Sumps 2 and 3, Area J) are leased for production of potatoes, onions, horseradish, alfalfa, and cereal grains within the Public Lease Lands program. This program is administered by Reclamation consistent with the Kuchel Act (Pub. L. 88-567). Permit holders farm an additional 1,900 acres in cooperation with the USFWS. Endangered LRS and SNS live in or use this refuge. TLNWR is a significant staging area for migrating waterfowl during spring and fall migrations. It is used primarily by white-fronted, snow, Ross, and cackling Canada geese, all of which nest in the Arctic tundra (USFWS, 2018, TLNWR).

LKNWR, located in rural northeastern California and Southern Oregon, was established in 1908 as the Nation's first waterfowl refuge. The 50,092-acre refuge is a varied mix of intensively managed shallow marshes, open water, grassy uplands, and croplands that provide critical feeding, resting, nesting, and brood-rearing habitat for waterfowl, including approximately 50% of those migrating via the Pacific Flyway as well as tens of thousands of nesting waterfowl. LKNWR also contains Public Land Lease Area K, also administered by Reclamation pursuant to the Kuchel Act, consisting of 5,500 acres of pasture and small grains. In all, LKNWR provides habitat for 25 species of special concern listed as threatened or sensitive by California and Oregon. (USFWS, 2018, LKNWR)

The Kuchel Act, enacted in 1964, dedicated the lands within the boundaries of both TLNWR and LKNWR to wildlife conservation for the major purpose of waterfowl management and placed the lands permanently in ownership by the United States. The Kuchel Act mandates continuation of an agricultural leasing program that is consistent with “proper waterfowl management” on TLNWR and LKNWR. This unique program provides for economic gain and wildlife benefits (e.g. migratory bird food sources from grain production, etc.).

3.2.3.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, UKL, CLR, and TLNWR would continue to be managed in accordance with the 2013 BiOp at levels which provide fish and wildlife habitat at levels approximating historic norms and refuge management plans. LKNWR would not receive substantial volumes of water (i.e., less than 5,000 AF), which would result in a reduction in resting and feeding habitat for migratory waterfowl.

Proposed Action Alternative

Under the Proposed Action Alternative, up to 20,000 AF of water may be retained in UKL over the course of August. As a result, UKL may be up to approximately 0.17 feet higher during the month of August, compared to the No Action Alternative. This would result in an insignificant increase in aquatic habitat, as well a minor increase in flooded bulrush/cattail marsh habitat for the fish and wildlife species dependent on it for nesting and rearing, however, all within the 2013

BiOp and historic operations. By September, nesting and rearing are largely complete, and the retained water can be delivered to the LKNWR via Project facilities with no impact to biological resources in UKL.

Water delivered to LKNWR in the fall and winter months would be managed in accordance with the USFWS refuge management plan to provide critically important habitat for migratory waterfowl that would not occur under the No Action Alternative. Habitat types include critical resting and feeding habitat on a variety of wetland types ranging from flooded post-harvest grain fields to seasonal and permanent wetlands.

Under the Proposed Action Alternative, up to 2,800 AF of water would be retained in CLR. As a result, CLR would be up to approximately 0.14 feet higher, providing slightly deeper open water habitat for fish species and waterfowl compared to the No Action Alternative. Normal operating water levels maintain security for the islands where white pelicans and a variety of other species nest. However, because CLR experiences only sporadic refill events, this increased elevation may, depending on precipitation in the upcoming winter of 2018-2019, extend some value in future years. All considered CLR elevations would be within historic ranges.

Under the Proposed Action Alternative, Reclamation would acquire up to 15,000 AF of return flow from TID for use for fish and wildlife purposes within TLNWR and LKNWR, supporting management of these refuges in a manner similar to historic norms. Water elevations within those parts of TLNWR that support listed LRSNS (Sump 1A) would not experience any elevation change from already planned management. LKNWR would receive water to provide food and/or habitat availability for migratory waterfowl in the fall and winter period (September-December) consistent with the USFWS refuge management plan and in contrast to the No Action Alternative. For example, if the refuge applies the water to a wetland unit or over standing grain, habitat availability would increase.

Indirect effects may occur due to district efforts to offset foregone Project water through land idling, groundwater pumping, and/or conservation. The effects of any additional lands that may not be irrigated, to the extent they occur, are likely insignificant. Groundwater pumping within the scope of the states' management programs would have no effect on biological resources. Conservation efforts are expected to be minor in scope, and any impact therefore insignificant.

3.2.4 Endangered Species

3.2.4.1 Affected Environment

Appendix D contains lists generated from the U.S. Fish and Wildlife Services Ecological Services' website (USFWS, 2018, Information Resources) of the Federally Listed, Proposed, and Candidate species that may occur within the Proposed Action area (Klamath County, Oregon, and Modoc and Siskiyou counties, California).

Under section 7(a)(2) of the ESA of 1973, as amended, each Federal agency must, in consultation with the Services, ensure that any action it funds, authorizes, or carries out will not jeopardize the continued existence of listed species or adversely modify designated critical habitat. As ESA-listed species LRS and SNS, and coho salmon (*Oncorhynchus kisutch*) are present within the Bureau of Reclamation's managed water bodies central to the proposed action,

the action is subject to section 7 evaluation.

3.2.4.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, impacts to ESA-listed species are avoided by operating the Project in accordance with the 2013 BiOp and by maintaining the status quo operation of the Project. Reclamation would take no action that would jeopardize ESA-listed species without ensuring compliance with Section 7 of the ESA.

Proposed Action Alternative

Reclamation has analyzed and evaluated the potential effects of acquiring available water from willing districts, or their authorized representatives, and how the management of that acquired water would impact LRSNS and coho salmon species or their critical habitat.

As a result of this evaluation, Reclamation has found that 1) acquiring 20,000 AF of available Project Supply from UKL and delivering it to LKNWR and TLNWR starting in either August or September through October will result in UKL elevations projected to remain above the end of month thresholds as calculated in the 2013 BiOp; no impact to LRSNS or their critical habitat would occur, 2) no change in management of Klamath River flows would occur and thus implementation of the proposed action would not result in impacts to coho salmon or their critical habitat, 3) the retention of 2,800 AF in CLR by the end of irrigation season would not result in discernible impacts to LRSNS or their critical habitat, and 4) no change in management of Tule Lake sumps would occur and conditions would remain consistent with historic operations and as analyzed in the 2013 BiOp.

Overall, Reclamation has determined that the proposed action will result in a “no effect” on LRSNS or coho salmon life history stage requirements for individuals and constituent elements of critical habitat as defined as protective by the 2013 BiOp.

3.2.5 Recreation

3.2.5.1 Affected Environment

The biological resources present in the Klamath Basin Refuges, as discussed above, provide a wide variety of recreational opportunities, including hunting, birdwatching, and fishing.

3.2.5.2 Environmental Consequences

No Action Alternative

Under the No Action Alternative, impacts to fish and wildlife due to inadequate water supplies in the NWRs may impact recreational opportunities.

Proposed Action Alternative

Implementation of the Proposed Action Alternative would make it possible to help avoid or lessen many of the impacts to fish and wildlife that would have occurred under the No Action Alternative, which, in turn, would maintain recreational opportunities at historic norms. Direct or indirect effects to recreation from the Proposed Action are not expected to be significant.

3.2.6 Environmental Justice

EO 12898 requires each Federal agency to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations. Within the Project, the agricultural industry provides employment options for migrant workers, dispersed persons, and others who may be identified in these populations.

No Action Alternative

Under the No Action Alternative, the existing constraints on the availability of water from the Project for irrigation purposes may result in involuntary land idling, resulting in reduced employment of agricultural workers to raise and harvest crops. Agricultural employment is a potential environmental justice issue due to the fact that agriculture employs a higher proportion of minority and low-income workers than are employed in the general workforce.

Proposed Action Alternative

The Proposed Action Alternative itself carries no direct implications with respect to environmental justice. Indirect effects due to actions taken by the entities with which Reclamation has contracted for this water may include potential impacts to agricultural employment due to idling of agricultural lands that may occur under the No Action Alternative. However, much of the agricultural land that would potentially be managed in this manner has already gone without water during the 2018 irrigation season, and would continue to go without water through the remainder of the irrigation season (e.g., as opposed to planting new seeding or other limited agricultural practices). Accordingly, the Proposed Action Alternative is not likely to materially reduce the amount of land that is already being idled as a result of inadequate water supplies as a result of drought. As such, Reclamation anticipates that the Proposed Action Alternative would result in no significant changes in agricultural employment compared to the No Action Alternative, and, therefore, no significant direct or indirect effects with respect to environmental justice.

3.2.7 Cumulative Impacts

According to the CEQ regulations for implementing the procedural provisions of the NEPA, a cumulative impact is defined as *the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions*. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

It is anticipated that survival rates of migratory bird species would, or would have a potential to, be increased by Proposed Action Alternative implementation and, therefore, would provide minor support for future species populations. As the Proposed Action, however, is limited to one year and because the effects on all other species, resources discussed in this EA, NWRs, and reservoirs would be within average historic ranges, the Proposed Action Alternative would not contribute to any significant cumulative impacts whether direct or indirect.

3.3 Environmental Commitments

Reclamation would include the following, or similar, conditions in the proposed contracts to ensure environmental consequences are reduced under the Proposed Action Alternative.

- District entities, or their authorized representatives, would be responsible for compliance with all applicable Federal, state, and local laws and regulations and, as necessary, would obtain all required permits or licenses from the appropriate authorities.
- District entities, or their authorized representatives, would comply with the terms and conditions as stated in the proposed water acquisition contracts.

Section 4 Consultation and Coordination

This section presents the agencies and parties that had been consulted during development of the EA and addresses public comments that were submitted during the review period.

4.1 Persons or Agencies Consulted During EA Development

- District entities (i.e. KID, KDD, HID, LVID, TID, etc.)
- Klamath Water Users Association
- NMFS
- Oregon Water Resources Department
- USFWS (Klamath Falls Fish and Wildlife Office and Klamath Basin Refuge Complex Office)
- 2018 Klamath Project Drought Response Agency

4.2 Public Review Period

Reclamation provided a public review and comment period for the draft EA from June 22, 2018 through July 6, 2018. Several comments were received and are addressed in the following subsection. Electronic versions of this EA and the prior draft EA are available online at https://www.usbr.gov/mp/nepa/nepa_project_details.php?Project_ID=33721. Physical copies of both documents can be located at the below address.

Bureau of Reclamation
Klamath Basin Area Office
6600 Washburn Way,
Klamath Falls, Oregon 97603

4.3 Responses to Public Comments

Reclamation received several comments regarding the draft EA. Some of the comments, including those in opposition to or supportive of the Proposed Action, required no specific response as they were non-substantive and/or not responsive to this proposal. Most comments, however, did refer to and question particular items within the draft EA, and Reclamation attempted to clarify and answer these concerns and, in some cases, updated language in certain sections of the EA. The complete listing of public comments and Reclamation responses can be found in Appendix E.

4.4 Draft and Final EA Comparison

Several non-substantive editorial edits were made to the draft EA and are currently reflected throughout this final version, and, based on the collected comments, some minor changes were made to clarify certain aspects of the Proposed Action Alternative that may have been confusing to the reader. Two relatively significant changes were made that include the following:

1. As required under Section 7(a)(2) of the ESA, Reclamation, through coordination with the USFWS and NMFS, conducted an analysis to ensure that the draft EA Proposed Action Alternative would not jeopardize the continued existence of ESA-listed species or adversely modify designated critical habitat. In order to achieve a “no effect” determination, the acquisition of up to 5,000 AF of return flows from KDD was eliminated from the Proposed Action.
2. In continuing discussions with Project districts, it was determined that the proposed maximum amount of water to be acquired from CLR could be increased from 2,200 AF to 2,800 AF.

Section 5 References

NMFS and USFWS. 2013. Biological Opinions on the Effects of Proposed Klamath Project Operations from May 31, 2013 through March 31, 2013, on Five Federally Listed Threatened and Endangered Species.

U.S. Department of Agriculture Natural Resources Conservation Service. 2018. Oregon Basin Outlook Report. June 1, 2018.

USFWS. 2018. CLNWR. About the Refuge. Website:
https://www.fws.gov/refuge/Clear_Lake/about.html

USFWS. 2018. Information Resources: Listed, proposed, and Candidate Species Lists (Klamath County, Oregon, Modoc and Siskiyou counties, California). Website:
<http://www.fws.gov/klamathfallsfwo/es/es.html>

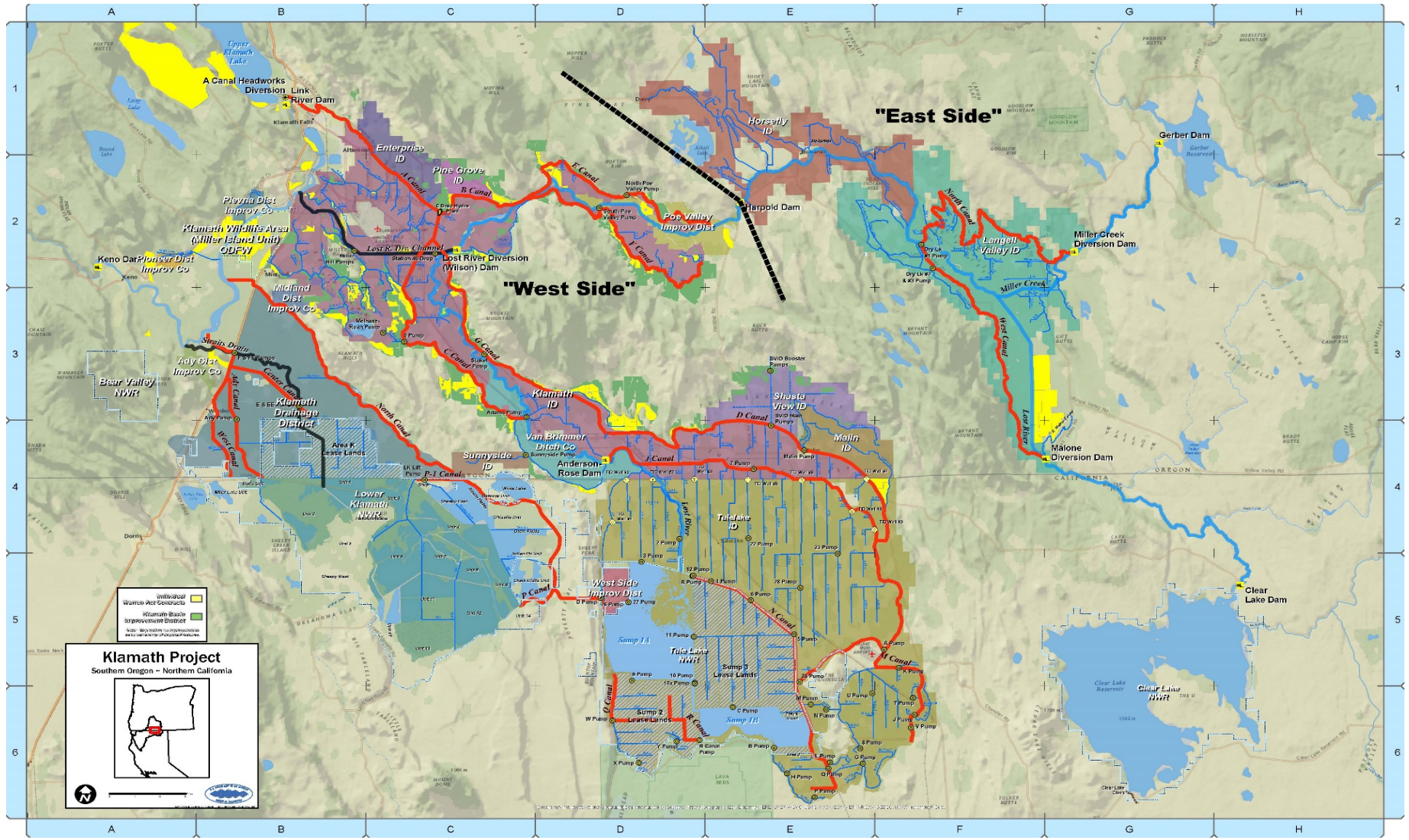
USFWS. 2018. LKNWR. About the Refuge. Website:
https://www.fws.gov/refuge/Lower_Klamath/about.html

USFWS. 2018. TLNWR. About the Refuge. Website:
https://www.fws.gov/refuge/Tule_Lake/about.html

USGS. 2018. Upper Klamath Basin Groundwater Studies. Website:
https://www.usgs.gov/centers/or-water/science/upper-klamath-basin-groundwater-studies?qt-science_center_objects=0#qt-science_center_objects

Section 6 Appendices

Appendix A: Map – Klamath Project and Relevant National Wildlife Refuges



Appendix B: Cultural Resources Coordination and Consultation

CULTURAL RESOURCES COMPLIANCE Division of Environmental Affairs Cultural Resources Branch (MP-153)

MP-153 Tracking Number: 18-KBAO-107

Project Name: Water Acquisitions for National Wildlife Refuges

NEPA Document: KBAO-EA-2018-010

NEPA Contact: Kirk Young, Natural Resources Specialist

MP 153 Cultural Resources Reviewer: Joanne Goodsell, Archaeologist

Date: June 22, 2018

JOANNE GOODSSELL Digitally signed by JOANNE GOODSSELL
Date: 2018.06.22 08:25:44 -07'00'

The Bureau of Reclamation proposes to enter into contracts and acquire up to 50,000 acre-feet of water from Klamath Project Irrigation Districts for use for fish and wildlife purposes in the Tule Lake National Wildlife Refuge (NWR), Clear Lake NWR, and Lower Klamath NWR. The acquired water would be conveyed through existing facilities. No new construction or modification of existing facilities would occur to complete the proposed action.

Reclamation determined the proposed action constitutes a Federal undertaking, as defined at 36 CFR § 800.16(y), that has no potential to cause effects on historic properties pursuant to 36 CFR § 800.3(a)(1). As such, Reclamation has no further obligations under Title 54 U.S.C. 306108, commonly known as Section 106 of the National Historic Preservation Act (NHPA). The proposed action would have no impacts on cultural resources.

This document conveys the completion of the NHPA Section 106 process and cultural resources review for this undertaking. Please retain a copy in the administrative record for the proposed action. Should the proposed action change, additional NHPA Section 106 review, possibly including consultation with the California and/or Oregon State Historic Preservation Officer(s), may be necessary.

Appendix C: Indian Trust Asset Coordination and Consultation

Indian Trust Assets Request Form (MP Region)

Submit your request to your office's ITA designee or to MP-400, attention Deputy Regional Resources Manager.

Date: 6/5/2018

Requested by (office/program)	Kirk Young, Natural Resource Specialist, KBAO
Fund	18XR0680A1
WBS	RX.001261M0.2000000
Fund Cost Center	25320000
Region # (if other than MP)	
Project Name	Water Acquisitions for National Wildlife Refuges (NWR)
CEC or EA Number	KBAO-EA-2018-010
Project Description (attach additional sheets if needed and include photos if appropriate)	<p>The Bureau of Reclamation's Klamath Basin Area Office (KBAO) is proposing to enter into contracts and acquire up to approximately 51,000 acre-feet (AF) of surface water from Klamath Project (Project) Irrigation Districts for the U.S. Fish and Wildlife Service's Tule Lake, Clear Lake, Upper Klamath, and Lower Klamath National Wildlife Refuges (NWR; collectively part of the Klamath Basin NWR Complex). The purpose of the surface water acquisition is to protect and maintain NWR habitats for the benefit of migratory waterfowl and wetland-dependent wildlife in the NWRs during the current drought year. Existing legal and contractual constraints on Reclamation's ability to provide water to the NWRs are being exacerbated by limited water supplies in 2018. As a result, there is a need to obtain water supplies in order to meet the NWRs' operational needs. The water acquired for this purpose is water that would have otherwise been diverted from Project reservoirs (Upper Klamath Lake and Clear Lake Reservoir) or recirculated within Irrigation Districts for irrigation use. No construction would occur as a result of this proposal.</p> <p>This proposal is being undertaken pursuant to both the Reclamation States Emergency Drought Relief Act of 1991 (P.L. 102-250, 106 Stat. 53, 43 U.S. Code § 2201) and the Fish and Wildlife Coordination Act (16 U.S.C. 661-667e; the Act of March 10, 1934; Ch. 55; 48 Stat. 401), as amended. Under these Acts, the Secretary is given authority to purchase water for the purpose of protecting fish and wildlife resources on a nonreimbursable basis.</p>

***Project Location
(Township, Range,
Section, e.g., T12
R5E S10, or
Lat/Long cords,
DD-MM-SS or
decimal degrees).
Include map(s)**

GENERAL: The Klamath Project and the Irrigation Districts associated with the proposed action are located in Klamath County, Oregon as well as both Modoc and Siskiyou County in California. Multiple townships are included in the proposed action area (see map in Exhibit B).



Signature

KIRK YOUNG

Printed name of preparer

6/5/18

Date

ITA Determination:

The proposed **Water Acquisitions for National Wildlife Refuges** activity is located within the **Klamath Tribal Designated Statistical Area (TDSA)** as a portion of Reclamation's Klamath Project, and thus the activity area, extends into the TDSA (see attached image in Exhibit A).

The proposed activity is within the Klamath TDSA. The nature of the action includes the issuance of contracts to acquire, from Klamath Project Irrigation Districts, up to approximately 51,000 acre-feet of water that is currently stored in Project reservoirs or recirculated to support water supply needs for Tule Lake, Clear Lake, Upper Klamath, and Lower Klamath National Wildlife Refuges for the 2018 water year. The water acquired for this purpose would have otherwise been diverted for irrigation uses. Due to these factors, no impacts to Indian hunting or fishing resources or water rights are anticipated, and it is reasonable to assume that the proposed activity **will not** have any impacts on ITAs.

 Tara Jane Campbell Miranda 6/5/18

Signature

Printed name of approver

Date

RECLAMATION | *tessel*

Search Reclamation

Native American Lands

Close App

This application locates Native American Lands trust assets within the selected search radius and lists the results with distances.

Step 1. Select a search radius (miles)

25

Step 2. Longitude and Latitude

If you CLICK on the map, the coordinates for the location will be inserted below. Or, you can type them manually.

Longitude: -121.65697

Latitude: 42.25603

Step 3. Find closest Native American Lands

Search

Distance to closest native american land: 2.65 miles
 Name: Klamath TDSA
 Tribe: Klamath Indian Tribe of Oregon

[Help](#)

Indian Trust Asset (1 of 2)

Distance = 2.65 miles
 Name = Klamath TDSA
 Tribe = Klamath Incien Tribe of Oregon
[Zoom to](#)

Scale: 577,791 | Long: -122.30194, Lat: 42.59866

Appendix D: Figures of Listed, Proposed, and Candidate Species that may occur in the Proposed Action Area



United States Department of the Interior

FISH AND WILDLIFE SERVICE
 Klamath Falls Fish and Wildlife Office
 1936 California Avenue, Klamath Falls, Oregon 97601
 (541) 885-8481 FAX (541)885-7837
kfalls@fws.gov



LISTED, PROPOSED, AND CANDIDATE SPECIES THAT MAY OCCUR IN KLAMATH COUNTY, OREGON

Status: Endangered

Phylum	Common Name	Scientific Name	Critical Habitat
Fish	Lost River sucker	<i>Deltistes luxatus</i>	Designated
Fish	Shortnose sucker	<i>Chasmistes brevirostris</i>	Designated
Mammal	Gray wolf	<i>Canis lupus</i>	
Plant	Applegate's milk-vetch	<i>Astragalus applegatei</i>	
Plant	Greene's tuctoria	<i>Tuctoria greenei</i>	Designated

Status: Threatened

Phylum	Common Name	Scientific Name	Critical Habitat
Bird	Northern spotted owl	<i>Strix occidentalis caurina</i>	Designated
Bird	Yellow-billed cuckoo (Western DPS)	<i>Coccyzus americanus occidentalis</i>	Proposed
Fish	Bull trout	<i>Salvelinus confluentus</i>	Designated
Amphibian	Oregon spotted frog	<i>Rana pretiosa</i>	Designated
Plant	Slender Orcutt grass	<i>Orcuttia tenuis</i>	Designated

Status: Proposed

Phylum	Common Name	Scientific Name	Critical Habitat
Mammal	Wolverine	<i>Gulo gulo luscus</i>	

Status: Candidate

Phylum	Common Name	Scientific Name
Plant	Whitebark Pine	<i>Pinus albicaulis</i>

Updated December 14, 2017



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Klamath Falls Fish and Wildlife Office
1936 California Avenue, Klamath Falls, Oregon 97601
(541) 885-8481 FAX (541)885-7837
kfalls@fws.gov



LISTED, PROPOSED, AND CANDIDATE SPECIES THAT MAY OCCUR IN SISKIYOU COUNTY, CALIFORNIA

Status: Endangered

Phylum	Common Name	Scientific Name	Critical Habitat
Fish	Lost River sucker	<i>Deltistes luxatus</i>	Designated
Fish	Shortnose sucker	<i>Chasmistes brevirostris</i>	Designated
Mammal	Gray wolf	<i>Canis lupus</i>	
Invertebrate	Shasta crayfish	<i>Pacifistacus fortis</i>	
Plant	Yreka phlox	<i>Phlox hirsute</i>	
Plant	Greene's tuctoria	<i>Tuctoria greenei</i>	Designated
Plant	Gentner's fritillary	<i>Fritillaria gentneri</i>	Designated

Status: Threatened

Phylum	Common Name	Scientific Name	Critical Habitat
Bird	Northern spotted owl	<i>Strix occidentalis caurina</i>	Designated
Bird	Yellow-billed cuckoo (Western DPS)	<i>Coccyzus americanus occidentalis</i>	Proposed
Amphibian	California red-legged frog	<i>Rana aurora draytonii</i>	Designated
Amphibian	Oregon spotted frog	<i>Rana pretiosa</i>	
Plant	Slender Orcutt grass	<i>Orcuttia tenuis</i>	Designated

Status: Proposed

Phylum	Common Name	Scientific Name	Critical Habitat
Mammal	Wolverine	<i>Gulo gulo luscus</i>	

Status: Candidate

Phylum	Common Name	Scientific Name
Plant	Whitebark Pine	<i>Pinus albicaulis</i>

Updated December 14, 2017



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Klamath Falls Fish and Wildlife Office
1936 California Avenue, Klamath Falls, Oregon 97601
(541) 885-8481 FAX (541)885-7837
kfalls@fws.gov



LISTED, PROPOSED, AND CANDIDATE SPECIES THAT MAY OCCUR IN MODOC COUNTY, CALIFORNIA

Status: Endangered

Phylum	Common Name	Scientific Name	Critical Habitat
Fish	Lost River sucker	<i>Deltistes luxatus</i>	Designated
Fish	Shortnose sucker	<i>Chasmistes brevirostris</i>	Designated
Plant	Greene's tuctoria	<i>Tuctoria greenei</i>	Designated

Status: Threatened

Phylum	Common Name	Scientific Name	Critical Habitat
Bird	Northern spotted owl	<i>Strix occidentalis caurina</i>	Designated
Bird	Yellow-billed cuckoo (Western DPS)	<i>Coccyzus americanus occidentalis</i>	Proposed
Amphibian	Oregon spotted frog	<i>Rana pretiosa</i>	
Plant	Slender Orcutt grass	<i>Orcuttia tenuis</i>	Designated

Status: Proposed

Phylum	Common Name	Scientific Name	Critical Habitat
Mammal	Wolverine	<i>Gulo gulo luscus</i>	

Status: Candidate

Phylum	Common Name	Scientific Name
Plant	Whitebark Pine	<i>Pinus albicaulis</i>

Note:

The gray wolf (*Canis lupus*) is listed as endangered in portions of Washington (west of State Route 97 from the Canadian border to Highway 17, west of Highway 17 to State Route 395, and west of State Route 395 to the Oregon border), Oregon (west of the center line of Highway 395 and Highway 78 north of Burns Junction and that portion of Oregon west of the center line of Highway 95 south of Burns Junction), and all of California [see 73 FR 10514]. Radio-collared wolves (OR-7 and OR-25) have dispersed from northeastern Oregon through portions of many counties including Klamath and Jackson County in southern Oregon, and through portions of Siskiyou, Modoc, Shasta, Lassen, Plumas, and Tehama Counties in California. Resident wolves are not known to occur in Modoc County at this time. Please contact the U.S. Fish and Wildlife Service office issuing this list (see letterhead for contact information) with questions about the potential for gray wolf presence in proposed project areas.

Updated December 14, 2017

Appendix E: Public Comments and Reclamation Responses

Comment	Response
<p>Re: Klamath Hydroelectric Removal Project</p> <p>The KRRC spoke to the residents of Copco on June 12 after the threat of removing the dams has left that upscale community in financial ruin. This community located on the beautiful lake by the dam is experiencing a tremendous loss of property value where dam removal would leave them overlooking a 100 foot muddy hole. Realtors will not even list their properties with this outlook for the future.</p> <p>I would like to start this by stating that the KRRC is hell bent on removing our dams to save Coho Salmon in the Klamath River. In early September 1999, federal district Judge Michael Hogan threw out the Coho's status as threatened under the Endangered Species Act as they were determined genetically to be from the Cascadia hatchery in Oregon and not an indigenous species of the Klamath or Rogue River Basin and all listings were cancelled in Southern Oregon and all California waters. We have documentation from both the Karuk and the Shasta Tribe stating that Coho were never native and why should they try to bring them back.</p> <p>Not only are they in violation of the Endangered Species Act but consider that residents of Jackson County, OR, Klamath County OR and Siskiyou County, CA have voted to retain these hydroelectric facilities and their Commissioners and Supervisors have made their position known to FERC and the Department of the Interior as any attempt to remove these dams is a direct violation of the Constitution of the United States wherein the people determine such actions.</p> <p>It is also of fact that this proposal is in violation of the Federal Endangered Species Act, 1902 Federal Reclamation Act, the Dormant Commerce Clause of the Constitution, the 1981 Federal National Wild and Scenic Rivers Act, the Klamath Basin Compact, Southern Oregon Irrigation Rights, Power costs of two to three times higher for citizens and businesses, Siskiyou Counties water rights, Shasta Indian burial rights, veterans of the Civil War cemetery rights, possible loss of life and property to all adjoining the Klamath River as Iron Gate Dam was built to protect all and at the present time the dams supply fire helicopters access to water supply to fight forest fires. Removal of these dams would force said fire helicopters to much longer time delays to fill their buckets and thereby expose all to longer wait times and possibility of lost lives and property. According to the removal it has been estimated that all fish and local animals that depend on the river will be decimated for ten years or more.</p>	<p>Comments not responsive to Proposed Action.</p>
<p>In short I'm appalled at the political slants used to play with the livelihood of Farmers within the area. Stop with the pandering nonsense. As per the Klamath River basin compact. Water goes to Farmers and residents first. Period.</p>	<p>Reclamation takes seriously its obligations to its water contractors, and is working diligently to support their interests within the limits of existing law.</p>

Comment

Response

I reviewed your Water Acquisitions for National Wildlife Refuges Environmental Assessment. It is excellent. Kudos to you and others for preparing it.

General comment that requires no response.

I strongly support and urge you to adopt and implement the Proposed Action Alternative. This is reasonable and necessary to maintain important aquatic habitats and consistent with advancing refuge purposes.

Thank you very much for your consideration.

I support the “no action alternative”

I’m writing in opposition to Reclamation acquiring up to 50,000 acre-feet of surface water supply from Klamath Project contractors.

With the limited amount of water available to Klamath Project irrigators this year, and the looming lawsuit by tribes and environmental groups to shut off irrigation in July, giving or selling 50,000 AF of stored water would be detrimental to our farms, our Hispanic community, and local businesses.

Of our 70 million pounds of food used by waterfowl in the Klamath Basin annually, our farms supply half of this feed.

When our fields are fallowed, the neighboring fields use more water because the ground water level drops.

If our deeded surface water is sold or denied irrigators, more groundwater will be pumped, decimating our aquifer.

I oppose Reclamation acquiring any of our surface water supply meant for agriculture to supplement the refuges.

Water would only be purchased from willing sellers who find it advantageous to do so. Funds obtained by districts through the sale of water could be used throughout the district to provide relief for involuntary drought impacts, providing at least some support for local farms, Hispanic communities, and businesses. Reclamation has no jurisdiction over groundwater and relies on state water agencies to manage groundwater use in a sustainable manner.

I adamantly oppose the Bureau of Reclamation acquiring 50,000 acre feet of surface water from the Klamath Project irrigators. Because of the limited amount of water supply, lawsuits and the possibility of water being shut off July 21, 2018, giving or selling 50,000 acre feet stored water, which does not belong to the Bureau, will be detrimental to our farms, Hispanic community and local business.

Reclamation would not be taking water but purchasing it from willing sellers who find it advantageous to do so. Sellers of water would receive compensation at a negotiated rate.

Farming is a \$700,000 industry and everyone in Klamath County will be impacted and many farms and business will no longer be able to survive. How much does the Klamath Basin contribute annually to the waterfowl?

You are stealing my deeded water right under Oregon State Law.

No to you acquiring an of [sic] our surface water supply meant for agriculture to supplement the refuges.

Comment

Response

We support the “no action alternative”

Because Reclamation's first obligation is to maintain water levels for ESA-listed species, purchased water remaining in UKL, until diverted to LKNWR, would potentially result in UKL levels slightly higher (0.11 feet) than required. Water would be diverted to LKNWR only in quantities that do not violate required lake levels.

We are writing in opposition to Reclamation acquiring up to 50,000 acre-feet of surface water supply from Klamath Project contractors.

With the limited amount of water available to Klamath Project irrigators this year, and the looming lawsuit by tribes and environmental groups to shut off irrigation in July, giving or selling 50,000 AF of stored water would be detrimental not only to farms in the Project but to those in the Upper Basin as well. Our ranch at Ft. Klamath has water shut off for irrigation and since water for livestock comes through the same ditch, no stockwater either. Since high Lake levels are being maintained for fish, sending water to the Refuge just makes it more difficult to keep required levels. This affects the whole Upper Basin as well as our whole community and local businesses.

Of over 70 million pounds of food used by waterfowl in the Klamath Basin annually, our farms supply half of this feed.

We oppose Reclamation acquiring any surface water supply meant for agriculture to supplement the refuges.

I am writing to support section 2.1 “No Action Alternative” found on page 3 in the Draft Environmental Assessment for Water Acquisitions for National Wildlife Refuges. I oppose the Bureau of Reclamation acquiring/redirecting any surface water intended for agriculture to supplement the refuges.

Water would only be purchased from willing sellers who find it advantageous to do so. Funds obtained by districts by the sale of water could be used throughout the district to provide relief for involuntary drought impacts, providing at least some support for local farms, Hispanic communities, and businesses.

This year the Klamath Project has been severely hamstrung by artificial limiting access to surface water. Tribal and environmental group lawsuits to be heard in a few days could shut off irrigation to the Project in July. Setting aside more stored water for any other use beside agriculture would be a final nail in the coffin for our farmers and ranchers. The economic consequences in the surrounding communities would be devastating.

This communication is in reference to the proposed removal of four hydroelectric dams on the Klamath River. The entire proposal is based on the recovery of Coho Salmon which Federal Judge Michael Hogan in 1999 deemed were not indigenous and all listings in Southern Oregon and California waters were deleted. These Coho were planted from the Cascadia hatchery in Central Oregon. Thank you for your understanding of the seriousness of this proposed action.

Comments not responsive to Proposed Action.

Illegal infractions regarding Klamath dam removals

Violation of the Constitution of the United States

Elections in Siskiyou County California and Klamath County Oregon voted 80% to retain the dams and removal of these dams would be in direct violation of the will of the people and the Constitution. Jackson County in Oregon has also indicated that their voters also want the dams to remain to assure them of irrigation waters and power costs.

Violation of the Reclamation Act of 1902

The Reclamation Act of 1902 (43 U.S.C. 391 et seq.) authorized the Secretary of the Interior to locate, construct, operate,

Comment**Response**

[continued from previous]

Comments not responsive to Proposed Action.

and maintain works for the storage, diversion, and development of water for the reclamation of arid and semiarid lands in the western States.

Congress facilitated development of the Klamath Project by authorizing the Secretary to raise or lower the level of Lower Klamath and Tule Lakes and to dispose of the land uncovered by such operation for use under the Reclamation Act of 1902. Starting around 1912, construction and operation of the numerous facilities associated with Reclamation's Klamath Project significantly altered the natural hydrographs of the upper and lower Klamath River. Reclamation's Klamath Project consists of an extensive system of canals, pumps, diversion structures, and dams capable of routing water to approximately 200,000 ac (81,000 ha) of irrigated farmlands in the upper Klamath Basin. Water diversions from from *[sic]* UKL for the Klamath Project affects river flows downstream of Link River and Iron Gate dams. It has come to my attention that in section 372 of the Act the water right becomes an integral part of the property and cannot be taken or reduced.

The headwaters of the Klamath River originate in Southern Oregon and flow through the Cascade Mountain Range to the Pacific Ocean south of Crescent City, California. The river extends nearly 250 miles and is just one of three waterways that pass through the Cascades to the Pacific. It is named after a native American name – klamet – meaning swiftness.

Violation of the 1981 National Wild & Scenic Rivers Designation

The Klamath River was designated a Recreational River within the National Wild & Scenic Rivers System in 1981. The Klamath River enters California from Oregon just north of the Gooseneck Ranger District. Heading west it is impounded by two dams forming Copco Lake and Iron Gate Reservoir. Nine miles further west it turns south and follows Interstate 5 for a few miles before again turning west and entering the Happy Camp/Oak Knoll Ranger District. The next 85 miles provide many opportunities for recreation and scenic vistas before the river enters the Six Rivers National Forest.

Dam removal would release toxic material that would destroy the habitat for all species in addition to physically changing the course of the Klamath River in direct violation of the National Wild & Scenic Rivers designation.

Violation of the Dormant Commerce Clause

No State may impose any regulatory action against navigable rivers in the US of which the Klamath River is considered a navigable river. This would also prohibit removal of any dams located on a navigable river in the US by States.

Violation of the Federal Endangered Species Act

Under the Federal ESA only indigenous species can be listed and under the Final report of Coho Salmon by the Klamath Expert Panel Coho Salmon were planted from Cascadia, Oregon and are not indigenous to the Klamath. In early September 1999, federal district Judge Michael Hogan agreed, throwing out the coho's status as threatened under the Endangered Species Act.

Comment**Response**

[continued from previous]

Comments not responsive to Proposed Action.

Violation of Rogue Valley Oregon Irrigation Rights

Removal of these dams would reduce approximately 40% of water from the Klamath River that now goes to Southern Oregon for agriculture which would result in serious loss of agriculture that now stabilize the economy of Southern Oregon.

Violation of the Klamath Basin Compact

I have discovered that the proposed removal of four hydroelectric dams on the Klamath are also in violation of the Klamath River Basin Compact which was ratified by Congress on August 30, 1997.

Serious impact on power costs in Northern CA and Oregon

Hydroelectric dams supply Northern California and most of Oregon homes and businesses with the least expensive power available. The average homeowner is liable for approximately \$200 per month and with the proposed natural gas power supply it would increase their costs to approximately \$600 per month.

Violation of Union Veterans of the Civil War Cemetery

It has come to my attention that on the banks of the Klamath River in Northern California that there exists a Union Veterans of the Civil War cemetery that will be destroyed should they illegally remove four hydroelectric dams on the Klamath.

Violation of Shasta Indian burial rights

At the present time Shasta Indian Tribe burial grounds are protected by Iron Gate Reservoir and removal of this dam their burial grounds could be exposed, plundered and desecrated *[sic]*.

Shasta Nation and Karuk Tribe deny Coho native

We have documentation from both the Shasta Nation and Karuk tribe denying Coho were indigenous to both the Rogue Valley and Klamath basin.

Violation of Siskiyou Counties water rights *[sic]*

Removal of these dams would be in serious loss of existing water rights as proposed solutions to avoiding this problem would be in serious possibility of failure and exposed to vandalism.

Possible loss of life and property to all adjoining the Klamath River

Due to occasional flooding Iron Gate Dam was constructed to serve to protect all that lived on the banks of the Klamath River from catastrophic flooding events. Without this dam property values would fall and expose all with the possibility of loss of life and property.

Comment

Response

[continued from previous]

Comments not responsive to Proposed Action.

Serious fire danger to all in Siskiyou County

At the present time the dams supply fire helicopters access to water supply to fight forest fires. Removal of these dams would force said fire helicopters to much longer time delays to fill their buckets and thereby expose all to longer wait times and possibility of loss of lives and property.

Prior law decisions

In the late 90's a proposal was made to change the definition of Federal ESA regulations regarding endangered salmon to Ecological Society of America regulations which means that instead of regulations applying only to water and substrate would be changed to allow them regulations up to a mile from the banks of a river. Through the States of Idaho, Washington, Oregon and California State Granges we defeated this change.

In the early 2000's the Granges engaged Pacific Legal Foundation and listings of Coho in Northern California and Southern Oregon were cancelled as the Coho were not indigenous to these waters and rivers.

In the mid 2000's an attempt was made by environmental groups to list Chinook Salmon in the upper Klamath and the Siskiyou County Water Users Association filed a de-listing petition which was successful and the Chinook listing was denied.

[Commenter] appreciates the opportunity to comment on the draft Environmental Assessment (EA) for Water Acquisitions for National Wildlife Refuges (2018-EA-010). *[Commenter]* urges expeditious completion of the EA and contracting processes.

Edits considered for inclusion in the final EA.

[Commenter] has no comments on the analysis of environmental effects of the proposed action. As Reclamation is aware, *[Commenter]* (like Reclamation itself) does not believe that the underlying authority for the program is as narrow as it is being interpreted. We reserve our positions, and that of our members, on that and any other legal issue implicated by the EA.

Subject to those positions and reservations, we believe that the description of the proposed action should preserve maximum flexibility for implementation consistent with the scope of the environmental analysis and consistent with the authorities and obligations of districts as well as Reclamation. In this regard, we recommend the following specific modifications.

In section 2.2, modify the second through fourth paragraphs as follows:

The water to be acquired would potentially come from a variety of water sources. ~~P~~Two potential sources of surface water to be acquired ~~are~~include UKL and CLR, and return flows from Project deliveries, as discussed more specifically in sections 2.2.1 and 2.2.3. ~~Stored w~~Water in these two reservoirs is available to district entities within the Project for use for irrigation purposes. District entities within the Project would agree by contract to forego the use of a portion of the ~~stored~~

Comment

[continued from previous]

water. The water acquired would then be retained in reservoirs for fish and wildlife purposes or delivered to the Refuges in coordination with, and consistent with, existing USFWS refuge management plans.

Because the Proposed Action serves mainly to reallocate existing surface water supplies ~~within~~served by facilities of the Project, no additional surface water would be used than what is currently provided in the Biological Opinions on the Effects of Proposed Klamath Project Operations from May 31, 2013, through March 31, 2023, on Five Federally-Listed Threatened and Endangered Species (2013 BiOp) (USFWS and NMFS, 2013).

No new construction or modification of existing facilities would occur in order to complete the Proposed Action. Reclamation's action is administrative in nature and serves to optimize the use of limited ~~Project surface~~ water supplies among existing lands served from Project facilities within the Project.

In section 2.2.1. (Upper Klamath Lake), modify text as shown below:

Reclamation proposes to contract for and acquire the ability to make use of up to 20,000 AF of ~~stored~~ water that would be released from UKL ~~for use and used~~ for fish and wildlife purposes within TLNWR and LKNWR. Districts contracting with Reclamation to make ~~stored~~ surface water available from UKL will accomplish this by reducing their demand for ~~that stored~~ surface water below what would otherwise be available under the Project Allocation. Reclamation has no specific knowledge of how this reduction in demand will be achieved or occur, but understands that it may involve some combination of land idling, groundwater pumping, and conservation, each of which may be a source of indirect effects of this Proposed Action. Reclamation cannot estimate the timing or magnitude of each of these activities because they are not under Reclamation's control; any attempt to do so would be speculative and beyond the scope of this analysis.

Also, aAcquired use of water ~~stored in~~related to UKL would initially support lake levels at higher elevations than would otherwise occur under the 2013 BiOp for the benefit of ESA-listed Lost River and shortnose suckers, however, is expected to be within the scope of analysis in the 2013 BiOp. From August to November, consistent with the 2013 BiOp, water would be released from the reservoir through Link River Dam and delivered via existing Project and district facilities to TLNWR and LKNWR to provide critical resting and feeding habitat for migratory waterfowl.

Water deliveries from UKL to TLNWR are made through the Lost River Diversion Channel, Anderson-Rose Dam, the J Canal system, and the Tule Lake Sumps (Sump 1A and 1B), all of which are Project facilities. Water deliveries from UKL to LKNWR are made via the Ady Canal, which is operated and maintained by the Klamath Drainage District. The United States has a legal-contractual right to use the Ady Canal for deliveries of available water to LKNWR.

District entities that have contracts with Reclamation for water from UKL and Klamath River system are: Klamath Irrigation District, Tulelake Irrigation District, Klamath Drainage District, Klamath Basin Improvement District, Shasta View Irrigation District, Malin Irrigation District, Enterprise Irrigation District, Pine Grove Irrigation District, Sunnyside Irrigation District, Plevna District Improvement Company, Pioneer District Improvement Company, Midland District

Response

Edits considered for inclusion in the final EA.

Comment

Response

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Edits considered for inclusion in the final EA.

Improvement Company, and Ady District Improvement Company. The amount of water available to each of these entities contractually varies based on the associated irrigated acreage, as well as the specific terms of their respective contracts.

In general, *[Commenter]* strongly supports federal actions to increase water supplies for the Klamath Basin's National Wildlife Refuges during drought. We also strongly support the return of the 11,700 acre-feet of publicly owned Lower Klamath National Wildlife Refuge water diverted this spring – without compensation – for the benefit of private Klamath Project irrigators. This diversion was detrimental to the refuge's purposes, habitat, and natural resources. As you are aware, the Klamath's refuges have been particularly hard hit by recent droughts, and have annually received just a fraction of their recognized water right claims for fish and wildlife purposes, resulting in repeated waterfowl disease outbreaks and die-offs due to lack of water. At the same time, we are deeply concerned by recent findings by the U.S. Department of Interior's Office of the Inspector General that the U.S. Bureau of Reclamation "wasted" of \$32.2 million in taxpayer funds – funds intended to provide water to aid struggling Klamath Basin fish and wildlife populations between 2008 and 2015 – to the detriment of the environment. This report's findings were corroborated in a review by the U.S. Office of Special Counsel sent August 8, 2017 to the President of the United States as well as the Chairs and Ranking Members of the Senate Committee on Energy and Natural Resources and the House Committee on Natural Resources.

General comment that requires no response.

In this context, we urge the Bureau to produce a final EA for this proposal that provides the maximum possible transparency to the public, and plainly lays out the basis for each action while clearly quantifying the specific benefits to fish and wildlife purchased at taxpayer expense.

While the draft EA Section 1.4 does clearly identify the relevant authority for this proposal, it lacks information regarding the specific source of funds and/or the amount of funding available for this proposal. Section 1.3 states that the Bureau believes a maximum of 50,000 acre-feet of water could be made available under this proposal, but it is not clear how this figure was estimated. For example, is this maximum amount based on an estimate of the maximum amount of water which could be purchased using available funds, or rather the Bureau's estimate of the maximum available water from willing sellers under any reasonable budget? We understand that there is a great deal of uncertainty surrounding Klamath Project water supply from Upper Klamath Lake in 2018 due to ongoing litigation. However, this uncertainty does not extend to Clear Lake, which is not a subject of current litigation, but is a source of water under the proposed action described in Section 2.2.2. Given the uncertainty of the water year, providing a concrete funding figure will help the public better understand the basis for each Bureau action.

Language has been added to the EA indicating the source of funds. The quantity of water which could be made available is calculated based on the maximum quantity estimated to be available from each of the sources identified in section 2.2 of the EA. Quantifying the amount available from each source is the result of hydrologic analysis as well as preliminary negotiations with the districts with which Reclamation would be contracting.

For the proposed actions under 2.2.1 and 2.2.2, we understand that it is the Bureau's intention to acquire surface water from willing sellers willing to forego some portion of their surface supply during 2018. However, the EA suggests in both these sections that willing sellers will have the option to replace any foregone surface water supply with groundwater

The Drought Relief Act clearly states that "the Secretary may purchase water from willing sellers, including, but not limited

pumping: "Reclamation has no specific knowledge of how this reduction in demand will be achieved, but understands that

Comment

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it may involve some combination of land idling, groundwater pumping, and conservation..."

Further, in Section 3.5.2 the Bureau acknowledges that "indirect effects are possible if Project districts compensate individual irrigators for increasing private, state approved, groundwater pumping beyond levels anticipated under the No Action Alternative to replace water sold to Reclamation under this program."

If willing sellers under this proposal turn to groundwater supplies to replace foregone surface water supplies, this would not meet the requirements of the cited authority for this proposal, the Reclamation States Emergency Drought Relief Act of 1991, Part (c) of section 101, which states:

In order to minimize losses and damages resulting from drought conditions, the Secretary may purchase water from willing sellers, including, but not limited to, water made available by Federal Reclamation project contractors through conservation or other means with respect to *which the seller has reduced the consumption of water*. (Emphasis added.)

Replacing consumption of surface water with similar or equivalent consumption of groundwater, in a basin where groundwater and surface water supplies are connected, is not a reduction in the consumption of water. To comply with the Drought Relief Act, the Bureau should require participants in this action to in fact reduce their consumption of water through land idling and/or conservation, and not allow them to simply swap consumption of surface water with the consumption of groundwater.

As the Bureau is aware, groundwater resources in the Klamath Basin, including the Lost River sub-basin, have undergone serious decline. This has been exacerbated by the 2001 and 2010, 2013, 2014, and 2015 droughts. See: "Ground-Water Hydrology of the Upper Klamath Basin," Oregon and California, Scientific Investigations Report 2007-5050, Version 1.1., April 2010, USGS, WRD; see also, The Oregonian, "Klamath Basin's water worries extend to wells," August 28, 2010, and "Klamath Basin Groundwater Levels Dropped 25 Feet Since 2001," Oregon Public Broadcasting, August 11, 2015. Heavy well use is also reducing stream flows. The proposed program could place further stress on an overstretched resource if willing sellers are not prohibited from replacing foregone surface water supplies with groundwater supplies.

The draft EA avoids addressing the proposal's likely impact to an already depleted aquifer by claiming in Section 3.5.2 the proposal will have "no direct effects on groundwater" after acknowledging in Sections 2.2.1 and 2.2.2 that it may result in groundwater pumping. These contradictory statements cannot be a basis for ignoring the groundwater impacts of the proposal. The Bureau has the power to ensure there are little or no groundwater impacts by complying with the Drought Relief Act and requiring proposal participants to idle land and/or conserve water, and prohibiting the replacement of surface water consumption with groundwater consumption.

to..." water made available through

Response

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conservation. Thus, conservation water is only one source of water which the Secretary may purchase; other sources, such as groundwater, are allowed as well.

Reclamation questions the assertion that heavy well use is reducing stream flows. A study commissioned by the Klamath Water and Power Agency (USGS Scientific Investigations Report 2012-5062) concluded that 56 TAF could be pumped annually with little (<0.2%) impact on stream flows. The EA makes a distinction between the direct effects of Reclamation's purchase of water from willing districts and indirect effects due to actions subsequently taken by the districts to make that water available; hence, groundwater pumping is an indirect effect of Reclamation's water purchase.

The EA further states in Section 3.5.2.

Comment

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In Oregon, impacts to groundwater are monitored and regulated by the Oregon Water Resources Department. In California, groundwater use is governed by the 2014 Sustainable Groundwater Management Act, which calls for the establishment of Groundwater Sustainability Agencies and Groundwater Sustainability Plans by 2022, with a goal, for the medium priority Tule Lake Basin, of sustainability by 2042. Because a majority of the Proposed Action area is within the State of Oregon, which has enforcement authority of groundwater usage, effects to groundwater are not expected to be significant.

This statement does not relieve the Bureau of its legal obligation to analyze potential impacts of the proposal. The Bureau also acknowledges here that there is currently no meaningful regulation of groundwater resources in the state of California, making the avoidance of a legal obligation to analyze impacts even more problematic. Finally, the claim that the majority of the Proposed Action Area is within Oregon is not substantiated and provides no meaningful basis for ignoring impacts to the large portions of the Action Area within California. In fact, the Action Area includes Lower Klamath, Tulelake, and Clear Lake NWRs, as well as Tulelake Irrigation District. All are within California. Indeed, all three of the proposed actions listed in the draft EA will directly impact Tulelake Irrigation District.

As noted previously, we would urge the Bureau to comply with the Drought Relief Act and require participants in this action to in fact reduce their consumption of water through land idling and/or conservation, and not allow them to simply swap consumption of surface water with the consumption of groundwater. This would also significantly reduce the effort required to meet the Bureau's legal obligation to consider groundwater impacts in this EA.

Beyond this draft EA process, we urge the Bureau to avoid further serious decline of groundwater resources by setting a hard cap on the total allowable groundwater withdrawals consistent with the USGS advice to limit overall groundwater withdrawals within the Klamath Project area to 40,000 acre-feet per year.

In section 2.2.3, the draft EA proposes to pay Tulelake Irrigation District (TID) to pump roughly 10,000 acre-feet of water through Sheepy Ridge to Lower Klamath NWR. This figure aligns with the amounts pumped by TID in recent years (approximately 10,000 to 15,000 acre-feet per year) through Sheepy Ridge in the late summer or fall as part of drainage operations necessary for the maintenance of this district's operations. Further, the draft EA states in Section 3.6.2 that reductions in surface diversions under proposed actions for UKL and CLR could involve land idling, but is silent about any land idling being necessary for achieving the water volumes proposed to be pumped through Sheepy Ridge under Section 2.2.3.

If the Bureau intends to pay for the routine end-of-season D Plant pumping volume under this proposed action, as may be the case, and not in fact to augment deliveries to Lower Klamath NWR through land idling and conservation within the Project specifically for this purpose, this would appear to be a serious error. There does not appear to be any legal justification in the draft EA for taxpayers to pay TID for pumping operations this district will undertake anyway. It is hard

Reclamation has no jurisdiction over
Response

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groundwater, and therefore, no authority to dictate pumping levels or to control groundwater impacts, which are under the states' jurisdiction. Likewise, as previously explained, Reclamation has no requirement or authority under the Drought Relief Act (or any other law) to require purchased water to derive solely from conservation. Reclamation's statement with respect to the distribution of the Project area across the respective states (62% in Oregon and 38% in California) stands as fact, although Reclamation concedes it is of little relevance in predicting groundwater use patterns and resulting impacts.

The writer misconstrues the Proposed Action. Reclamation's action is to purchase water for fish and wildlife purposes. Actions taken by the districts to deliver that water are not Reclamation's; Reclamation is clear that the actions taken by districts to make water available are not known to Reclamation with enough certainty to analyze in detail, if at all. With respect to TID end-of-season D Plant pumping, it is Reclamation's understanding that in the absence of this proposed action,

to conceive how an action that will result in essentially no change to the amount of water coming to Lower Klamath NWR

Comment

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could be defined as a benefit to fish and wildlife worthy of taxpayer expenditure. This would simply be a benefit for irrigators. Further, it is not clear how this routine pumping would constitute reduced consumption of water as required by the Drought Relief Act cited as authority for this action.

The draft EA states in Section 3.7.2 that under the No Action Alternative, “LKNWR will not receive water...” This is not substantiated. The Bureau presents no evidence that TID is planning a radical departure in 2018 from decades of routine end-of-season D Plant drainage pumping to the Lower Klamath NWR area.

We urge the Bureau to strike this particular proposed action which, from the information available in the draft EA, will not result in additional water coming to Lower Klamath NWR than otherwise would without expenditure of taxpayer funds. The Bureau should shift available resources to other actions that will in fact result in reduced consumption of water on the Klamath Project and increased deliveries to Lower Klamath NWR and other refuges as intended under the Drought Relief Act.

Finally, if the Bureau does use taxpayer funds to subsidize routine TID pumping, it will likely undermine the water conservation gains resulting from the normalization of the pumping costs within the Project. This cost normalization has greatly incentivized conservation and reduced Klamath Project return flows via Sheepy Ridge from roughly 90,000 acre-feet per year to 10,000 to 15,000 acre-feet per year. As such, this action would contradict the language and intent of the Drought Relief Act.

The draft EA Section 3.3 states “no impacts to Indian hunting or fishing resources are anticipated.” This ignores the fact that the proposal will impact lake levels in Upper Klamath Lake which plainly have bearing on tribal trust hunting and fishing resources. Many basin residents are currently transfixed by litigation focused on the question of lake levels impacting tribal fishing resources. The EA must consider these impacts.

As noted in detail above in these comments, the proposed action as described in the draft EA in fact would result in increased water withdrawals from overtaxed aquifers in a region where connection between surface flows and groundwater has been well established. Moreover, further groundwater depletion under the proposed action should be expected to decrease surface flows critical to the trust fisheries resources of a number of Native American Tribes, from the Klamath’s headwaters to its mouth. The draft EA indicates in Section 4.2 that no Tribes were consulted on any issues surrounding this proposal, including regarding potential impacts to trust fisheries. This should be corrected and all federally recognized Tribes within the Klamath Basin should have the option to be consulted regarding potential impacts to trust resources due to lake level and surface water impacts, as well as potentially increased groundwater depletion.

Given the over appropriated state of the groundwater resources of this basin, the documented connection to already over appropriated surface flows and the presence of threatened and endangered fish species in this basin (including coho

TID would operate its system in a more

Response

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conservative manner, accumulating less water in Sump 1A needing to be eliminated through Sheepy Ridge. The water acquisition contract would compensate TID for operating in a less conservative manner so that historic practices can continue.

The writer confuses the closely connected ground- and surface-water aquifers with the disconnected deep aquifers underlying the Project. There is no evidence that use of deep groundwater there impacts surface water flows.

USGS research indicates that groundwater use does not impact surface water flows;

salmon, Lost River sucker, and Short-nosed Sucker), the increased use of groundwater under this proposal – if allowed – Comment	the writer's assertion that increased Response
<p><i>[continued from previous]</i></p> <p>will likely be detrimental to these species. The Bureau should include a more thorough analysis of this issue in consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife Service.</p> <p>Given the extraordinarily over-appropriated state of water in the Klamath River Basin, further groundwater drawdown, if allowed, and the resulting impairment of surface flows under this proposal would most certainly impact this already overstressed waterfowl habitat, resulting in future adverse impacts to native wildlife. The Bureau should fully consider these impacts in consultation with the U.S. Fish and Wildlife Service.</p>	<p><i>[continued from previous]</i></p> <p>groundwater use will likely be detrimental to ESA-listed species is unfounded. In addition, Reclamation did comply with Section 7(a)(2) of the ESA and determined that the proposal would result in no effect to ESA-listed species, specifically suckers and coho salmon.</p>
<p>The draft EA fails to consider the proposal may result in economic harm or even injury to other water users, such as individuals or communities dependent upon shallows wells or springs, including minority and low-income basin residents as required by federal NEPA rules. In the Klamath River Basin, both surface and groundwater are dramatically over appropriated. Given the extraordinarily over-appropriated state of water in the Klamath River Basin, further groundwater drawdown (if allowed) could impact other water users. Groundwater depletion in the Klamath Project area has already forced some water users to pay for deepening wells, drill new wells, and/or lower pumps. See: “Klamath Basin Groundwater Levels Dropped 25 Feet Since 2001,” Oregon Public Broadcasting, August 11, 2015. All of these actions reflect economic impacts not considered by the Bureau in this draft EA.</p> <p>The Bureau should fully consider the potential economic impacts to minority and low income water users.</p>	<p>Between 2010 and 2015, Klamath Water and Power Agency provided funding to mitigate groundwater pumping impacts to approximately 150 wells. Groundwater pumping in 2016 and 2017 was not significant, providing some opportunity for recovery of groundwater levels. Reclamation does not anticipate well impacts due to groundwater pumping in 2018. In the event impacts do occur, impacted users can make claims against the districts conducting the pumping, with the caveat that Oregon groundwater law does not protect senior claims until their wells are as deep as those creating the impacts. Again, groundwater pumping is not part of Reclamation's proposed action, and indirect impacts due to groundwater pumping are beyond Reclamation's jurisdiction.</p>
<p>If the Bureau complies with the Drought Relief Act and mandates the use of conservation and land idling to achieve the acquisition of 20,000 acre-feet of water in Upper Klamath Lake for use on Lower Klamath and Tule Lake NWR, this would appear to provide a significant benefit to both these basin refuges as well as Project irrigators.</p> <p>However, given the extreme uncertainty over Upper Klamath Lake supplies due to ongoing litigation, as well as the lack of authority under the Drought Relief Act to subsidize routine D Plant pumping as described in this draft EA, we urge the Bureau to consider shifting some resources from one or both of these proposed actions to increase the proposed acquisition</p>	<p>Reclamation has no authority or requirement under the Drought Relief Act to mandate the use of conservation and land idling to achieve water acquisition. The quantity of water purchased to remain in Clear Lake Reservoir is subject to the willingness of districts receiving water</p>

of surface water within Clear Lake NWR. This would be prudent because Clear Lake faces the least uncertainty in 2018.

Comment

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Moreover, this option also provides a win-win for the refuge and irrigators, by benefitting the refuge during drought and likely increasing carried over storage in Clear Lake for irrigation use in 2019.

If may be that the Bureau could choose to adopt a wait-and-see approach to going forward on Upper Klamath Lake acquisitions as opposed to Clear Lake acquisitions. However, it would seem reasonable to conclude that each passing day will make it that much more expensive to attract willing sellers, given accumulating inputs on farmlands.

It is also true that additional water acquired in Clear Lake could be used to benefit Lower Klamath NWR by routing this water out through the Lost River Diversion Channel and then into Ady Canal. This would provide delivery for water to the majority of refuge wetlands.

This option is not considered in this draft EA, but Section 101 of Drought Relief Act clearly indicates that during drought the Bureau has clear authority to move water from Upper Klamath NWR to Lower Klamath NWR using the Bureau facilities:

In order to mitigate losses and damages resulting from drought conditions, the Secretary may make available, by temporary contract, project and nonproject water, and may permit the use of facilities at Federal Reclamation projects for the storage or conveyance of project or nonproject water, for use both within and outside an authorized project service area.

The U.S. Fish and Wildlife Service for their part has already completed the necessary processes to move this Upper Klamath NWR water to Lower Klamath NWR under a temporary transfer approved by the State of Oregon. The Bureau previously took advantage of this by diverting a portion of this water supply this spring, without compensation, for the benefit of Project irrigators. The Bureau should now take steps via the Drought Relief Act, to achieve the transfer of the remaining amount of Upper Klamath NWR water available to Lower Klamath NWR this year, if any, in addition to making it possible to achieve this movement of water in future drought years.

The draft EA makes no mention of the potential impacts of the proposal on climate change. This issue cannot be excluded from an adequate analysis of this proposal, especially since this proposal as currently described would likely increase groundwater use and scientific studies have established that groundwater depletion contributes to climate change, including by increasing carbon dioxide emissions. See “Groundwater Depletion: A Significant Unreported Source of Atmospheric Carbon Dioxide,” Wood and Hyndman, *Earth’s Future*, 5, 1133 – 1135 (2017). The Bureau should correct this inadequacy of the draft EA by including consideration of climate change impacts of the proposal, including through consultation with the Oregon Department of Energy, the California Energy Commission, and/or other appropriate agencies.

from that source to reduce their usage
Response

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while remaining within biological opinion requirements for the operation of Clear Lake Reservoir.

Water moved this past spring was from the impounded area of UKNWR, Agency Lake Ranch/Barnes Ranch; this water source has been exhausted for 2018. Water from the un-impounded portion of UKNWR cannot be moved to LKNWR without impacting the elevation of UKL.

Since the issuance of Secretarial Order 3360, analysis of climate change is no longer required in EA analyses. Additionally, the magnitude of global groundwater-related greenhouse gas emissions in the reference provided is 0.03% of the leading greenhouse gas source, fossil fuel combustion; because groundwater pumping which might occur

Comment

indirectly as a result of this proposal is a
Response

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minute fraction of global groundwater pumping, any resulting greenhouse gas releases were determined to be insignificant.
