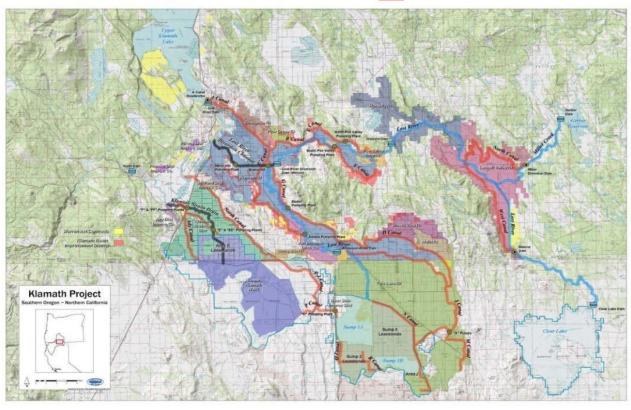
## **RECLANATION** Managing Water in the West

**Draft 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

### **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 Opinion
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CLNWR	Clear Lake National Wildlife Refuge
CLR	Clear Lake Reservoir
EA	Environmental Assessment
EO	Executive Order
LKNWR	Lower Klamath National Wildlife Refuge
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NWR	National Wildlife Refuge
NWS	National Weather Service
Project	Klamath Project
Reclamation	Bureau of Reclamation
TLNWR	Tule Lake National Wildlife Refuge
UKL	Upper Klamath Lake
U.S.C.	United States Code
USFWS	U.S. Fish and Wildlife Service

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## **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 50,000 acre-feet (AF) of surface water from district entities within the Klamath Project (Project) for use for fish and wildlife purposes. The water would be used within 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 will also be used to inform Reclamation's decision-making within the scope of the Proposed Action.

#### 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. It covers territory in Klamath County, Oregon and Siskiyou and Modoc counties in California, and it is comprised of the towns of Klamath Falls, Merrill, Malin, Bonanza, and Tulelake. The primary water storage facilities in the Project are Upper Klamath Lake (UKL), Clear Lake Reservoir (CLR), and Gerber Reservoir, which collectively serve approximately 200,000-230,000 acres of croplands.

#### **1.3 Purpose and Need for the Proposal**

The purpose of the surface water acquisition is to protect and maintain habitat for the benefit of 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 SNOTEL sites. The minimal snowpack melted approximately 1-2 weeks earlier than normal. May precipitation was 76 percent of average resulting in a streamflow forecast for June – 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 Oregon Basin Outlook Report, June 1, 2018).

Due to the continuing drought conditions, there is a shortage of surface water from Upper Klamath Lake for the Project resulting in unreliability of water supply to all users, and serious concerns regarding availability of late season deliveries. Drought conditions have reduced and will likely continue to limit the availability of water for the NWRs in 2018. The constraints on water will reduce habitat 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.

Given the current constraints on water for the NWRs as a result of drought conditions, Reclamation proposes to obtain up to 50,000 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 within the Project that have legal and physical access to water that they are willing to make available to the United States for use for fish and wildlife purposes. The actual amount acquired would depend upon the ability and willingness of district entities to make the water available to the United States for use for fish and wildlife purposes, but is likely to be less than 50,000 AF. The analysis is based up the maximum that could be acquired.

#### 1.4 Authority

The proposed acquisition is being undertaken pursuant to Title I of the Reclamation States Emergency Drought Relief Act of 1991 (Drought Relief Act) (Pub. L. 102-250, 106 Stat. 53, 43 U.S.C. §§2211-2217). Part (c) of section 101 of the Drought Relief Act (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 Drought Relief Act (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 surface water from district entities within the Project for use for fish and wildlife purposes within the NWRs. The amount and timing of water available for the NWRs would continue to be limited through the remainder of 2018. Habitat and food sources for migratory birds and other wildlife within the NWRs would be reduced in 2018, including for the fall and winter waterfowl migration. The water would instead be available for irrigation and other uses.

#### 2.2 Proposed Action Alternative

The Proposed Action is for Reclamation to enter into contracts with district entities within the Project for the temporary (i.e., one year) acquisition of up to 50,000 AF of available surface water for use for fish and wildlife purposes within the NWRs. The water would be used consistent with the USFWS's existing management plans for the NWRs.

The water to be acquired would potentially come from a variety of water sources. Two potential sources of surface water to be acquired are UKL and CLR. Stored 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 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 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 within the Project.

The following examples approximate the types of activities anticipated to occur under this Proposed Action. Changes in the specifics of these activities are possible due to multiple considerations such as operational, ESA, litigation, and contracting requirements.

#### 2.2.1 Upper Klamath Lake

Reclamation proposes to contract for and acquire up to 20,000 AF of stored water from UKL for use 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. Reclamation has no specific knowledge of how this reduction in demand will be achieved, 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 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.

Acquired water stored in 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 right to use the Ady Canal for deliveries of water to LKNWR.

District entities that have contracts with Reclamation for water from UKL 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 Improvement Company, and Ady District Improvement Company. The amount of water available to each of these entities 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 2,200 AF of stored water to remain in CLR for use for fish and wildlife purposes within CLNWR. 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. Controlled releases from the reservoir are made via the outlet works on Clear Lake Dam. Water retained in CLR would support and benefit fish and wildlife resources within CLNWR. Depending on precipitation in the upcoming winter of 2018-2019, this benefit may carry over to future years. Benefits and/effects are further described in Section 3.

District entities that have contracts with Reclamation for water from CLR are: Langell Valley Irrigation District, Horsefly Irrigation District, Klamath Irrigation District, and Tulelake Irrigation District.

Districts contracting with Reclamation to retain water in CLR will accomplish this by reducing their demand for CLR water. Reclamation has no specific knowledge of how this reduction in demand will be achieved, 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 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.

#### 2.2.3 Return Flows

In addition to stored water in Project reservoirs, 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.

#### Tulelake Irrigation District:

Reclamation proposes to contract for and acquire up to 15,000 AF of recaptured return flow, made available by Tulelake Irrigation District, for use for fish and wildlife purposes within either TLNWR or LKNWR. Tulelake Irrigation District 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 reuse either for irrigation or for 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.

Approximately 5,000 acres would be flooded in the fall in TLNWR (October or later), depending upon water availability. It is expected that irrigation return flows purchased late in the year would contribute to this flooded acreage. It is possible some of the acquired water could be stored in TLNWR earlier in the season to be used for this purpose as well.

Tulelake Irrigation District 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.

On LKNWR, the Proposed Action would allow additional lands to be maintained (irrigated) for wildlife food purposes over the summer and additional acres to be flooded for fall waterfowl use.

#### Klamath Drainage District:

Reclamation proposes to contract for and acquire up to 5,000 AF of recaptured return flow, made available by Klamath Drainage District, for use for fish and wildlife purposes within LKNWR.

Klamath Drainage District has access and facilities to capture return flows associated with irrigation. Klamath Drainage District has constructed a pumping plant and related drainage infrastructure within the district which can be used to capture return flows and make them available for reuse within the area served by the Ady Canal, including portions of the LKNWR in both Oregon (Area K) and California.

Contracted water would be produced by running the pumping plant to recirculate irrigation return flows accumulating in the Klamath Straits Drain back into the Ady Canal for delivery to

the LKNWR that would otherwise have been pumped to the Klamath River. Recirculation is a common practice within Klamath Drainage District, consistent with the 2013 BiOp. Reclamation will coordinate with Klamath Drainage District and the USFWS to ensure recirculation return flow management is consistent with the 2013 BiOp.

## Section 3 Affected Environment & Environmental Consequences

This section identifies the potentially affected environment and the environmental consequences involved with the Proposed Action as compared to the No Action Alternative.

#### 3.1 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 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).

#### 3.2 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 would not restrict access to or use of Indian sacred sites, nor result in adverse effects to any sacred site.

#### 3.3 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 Action is

partially encompassed within the Klamath Tribal Designated Statistical Area. The Proposed Action, however, includes the issuance of contracts to acquire, from Project district entities, up to 50,000 AF of surface water that is currently stored in Project reservoirs or recirculated within Districts to support water supply needs for local NWRs. As such, no impacts to Indian hunting or fishing resources or water rights are anticipated. It is reasonable to assume that the Proposed Action will not have any impacts on ITAs.

#### 3.4 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.

Under the No Action Alternative, limited availability of Project water 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.

The Proposed Action 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 up to 11,100 acres more than would occur under the No Action Alternative. However, this maximum figure (10,000 acres of land irrigated from UKL to produce 20,000 AF and 1,100 acres of land irrigated from CLR to produce 2,200 AF) is unlikely to occur due to irrigators' aversion to land idling. Furthermore, because this acreage is a small fraction (less than 5.3%) of the Project's 210,000 irrigated acres, Reclamation anticipates that the Proposed Action would result in no significant changes in agricultural employment compared to the No Action Alternative, and therefore no significant indirect effects with respect to environmental justice.

#### 3.5 Water Resources

#### 3.5.1 Affected Environment

The primary storage facilities in the Project relevant to the Proposed Action are UKL and CLR. UKL is regulated by Link River Dam, located just west of Klamath Falls, Oregon. The facility was constructed 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. The dam is a reinforced concrete slab structure with a height of 22 feet and a crest length of 435 feet. The reservoir has a capacity of 873,000 acre-feet and is operated under contract by PacifiCorp, subject to Reclamation direction.

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 Tule Lake National Wildlife Refuge. The dam is a roller compacted concrete structure constructed in 2002 with a height of 42 feet and a crest length of 840 feet. The reservoir has a capacity of 527,000 acre-feet. The dam protects the restricted sumps of Tule Lake, reclaimed for agricultural use, and the Tule Lake National Wildlife Refuge. The reservoir created by the dam has a very large surface area, 25,760 acres (104.2 km<sup>2</sup>), and its average depth at maximum capacity is only about 20 feet (6 m), so it has a very high rate of evaporation.

Storage of surface water in these water bodies is dependent on winter and spring snowpack and runoff in the surrounding mountains and landscape, which decreases from west to east and from north to south across the Klamath Basin. As a result, UKL experiences higher annual inflows than CLR. Project reservoirs are supported by a network of 701 miles of canals and laterals, as well as 728 miles of drains owned by both the United States and Districts. Groundwater is another source for water supply but is managed by the respective states.

The Klamath Basin, similar to much of California and Oregon, had a prolonged dry winter. The minimal snowpack melted approximately 1-2 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 June 21, UKL is currently at 74 percent capacity or 4,141.66 feet and is projected to exceed the remaining end of month threshold elevations (calculated pursuant to the 2013 Biological Opinion (2013 BiOp)) during the spring/summer operating season.
- CLR is currently at 51 percent capacity and is anticipated to end the 2018 irrigation season well above the minimum lake elevations contained within the 2013 BiOp.

As of June 21, the National Weather Service's (NWS) 6-10 day forecast predicted below average to average precipitation and above average temperatures, and its 8-14 day forecast predicted below average precipitation and above average temperatures. The NWS has issued updated July and 3 month-ahead forecasts, both calling for equal chances below or above average precipitation and above average temperatures.

#### 3.5.2 Environmental Consequences

#### Surface Water:

Under the No Action Alternative, surface waters would be maintained 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, which contributed 11,700 AF to support required Klamath River flows earlier in 2018, would not be refilled.

Under the Proposed Action, UKL would be maintained up to approximately 0.3' higher than would occur under the No Action Alternative until such time as the purchased water is diverted for delivery to the TLNWR and/or LKNWR. After such diversion, UKL would end the season at an elevation similar to what would be expected under the No Action Alternative, with no subsequent implications for 2018 or 2019 operations under the 2013 BiOp. Water diverted from UKL to TLNWR and LKNWR would be held in those refuges and managed in accordance with the USFWS refuge management plan to provide fish and wildlife benefit, including replacement of the 11,700 AF previously obtained from LKNWR. Reclamation would continue coordination

efforts with the USFWS to ensure activities are within the scope of analysis in the 2013 BiOp.

CLR would be maintained up to approximately 0.11' higher than would occur under the No Action Alternative, providing incremental fish and wildlife benefit.

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.

Indirect effects anticipated on surface water due to actions taken by Project districts to reduce demand on stored surface water are limited to transport of pumped groundwater through Project facilities. Reclamation cannot estimate the magnitude of this transport, but expects it to occur within the scope of excess capacity available in Project facilities, analyzed in a previous environmental assessment (#2018-EA-005) not to have significant impacts.

#### Groundwater:

Under the No Action Alternative, it is anticipated Project irrigators will 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. 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.

Implementation of the Proposed Action will 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 sold to 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.

#### 3.6 Land Use

#### 3.6.1 Affected Environment

The Project primarily consists of 200,000-230,000 acres of irrigated farmlands, including farmed portions of the Refuges, which also consist of open water and wetland areas.

#### 3.6.2 Environmental Consequences

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.

Implementation of the Proposed Action 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.

Idling of lands served by UKL could involve as much as 10,000 acres if all of the 20,000 AF in demand reduction were to be accomplished through land idling (assuming 2 AF/ac). Idling of lands served by CLR could involve as much as 1,100 acres if all of the 2,200 AF in demand reduction were to be accomplished through land idling (assuming 2 AF/ac). Between the two, a maximum of 5.3 percent of Project acreage may be idled. Given this figure, and Reclamation's expectation that districts will choose not to rely heavily upon land idling to achieve the contracted reduction in surface water demand, indirect effects on land use practices from implementation of the Proposed Action are judged to be not significant. Additionally, it is unknown how many acres of land are already idled due to drought conditions earlier in the season. However, those same acres may continue to be idled, and their allocation (based on the 2018 Operations and Drought plans) for the remainder of the year sold. Thus, the percent of additional land idling resulting indirectly from the Proposed Action is expected to be potentially even less than 5.3 percent.

#### 3.7 Biological Resources

#### 3.7.1 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. Due to a high concentration of nutrients, the lake is hypereutrophic, resulting in summer blue-green algae blooms over the lake (largely *Aphanizomenon flos-aquae*). The algae blooms turn the water an opaque green in the summer and reduce the opportunity for recreational uses of the lake. Nevertheless, the lake is a vital stop for waterfowl along the Pacific Flyway, and is known for its rainbow trout fishery. UKL provides critical habitat for ESA-listed Lost River and shortnose suckers.

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 Lost River and shortnose suckers, species listed under the Endangered Species Act (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 Klamath Project, with water levels regulated by Reclamation in accordance with the 2013 BiOp. (https://www.fws.gov/refuge/Clear Lake/about.html)

TLNWR is located in the fertile and intensely farmed Tule Lake Basin of northeastern California. It was established in 1928 by President Calvin Coolidge 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 (Public Law 88-567). Permit holders farm an additional 1,900 acres in cooperation with the USFWS. Endangered Lost River and shortnose suckers 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. (https://www.fws.gov/refuge/Tule\_Lake/about.html)

LKNWR, located in rural northeastern California and Southern Oregon, was established by President Theodore Roosevelt in 1908 as the Nation's first waterfowl refuge. The refuge, with a backdrop of 14,000-foot Mount Shasta to the southwest, is listed in the National Register of Historic Places as a National Historic Landmark. 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. All refuge waters are delivered through a system of diversion or irrigation canals associated with the Project. However, LKNWR has no water delivery contract with Reclamation, and receives water only when other Project contractual needs have been met. In dry years such as 2018, it is possible that the LKNWR might receive no water at all. (https://www.fws.gov/refuge/Lower\_Klamath/about.html)

The Kuchel Act, enacted in 1964, dedicated the lands within the boundaries of Tule Lake and Lower Klamath NWRs 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 the two national wildlife refuges. This unique program provides for economic gain and wildlife benefits (e.g. migratory bird food sources from grain production, etc.).

#### 3.7.2 Environmental Consequences

Under the No Action Alternative, UKL, CLR, and TLNWR will continue to be managed in accordance with the 2013 BiOp at levels which provide fish and wildlife habitat at levels approximating historic norms. LKNWR will not receive water, to the detriment of fish and wildlife habitat, with the consequence that availability of resting and feeding habitat for migratory waterfowl will be significantly reduced.

Under the Proposed Action, up to 20,000 AF of water would be retained in UKL over the course of the summer. As a result, UKL will be up to approximately 0.3' higher during the period of June through August, compared to the No Action alternative. This will result in a slight increase in aquatic habitat, as well as an increase in flooded bulrush/cattail marsh habitat for the benefit of fish and wildlife species dependent on it for nesting and rearing, including larval and juvenile

Lost River and shortnose suckers. 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 will 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, up to 2,200 AF of water would be retained in CLR. As a result, CLR will be up to approximately 0.11' higher, providing slightly deeper open water habitat for the benefit of ESA-listed Lost River and shortnose suckers as well as other 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 this benefit over to future years. All CLR elevations are well within historic ranges.

Under the Proposed Action, Reclamation would acquire up to 15,000 AF 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 suckers (Sump 1A) will not experience any elevation change from already planned management. LKNWR will receive water to provide food and/or habitat availability for migratory waterfowl in the fall and winter period (September-December) consistent with USFWS's 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 will increase.

Under the Proposed Action, Reclamation would acquire up to an additional 5,000 AF from Klamath Drainage District for use for fish and wildlife purposes within LKNWR. Reduction of drainage in the Klamath Straits Drain could temporarily reduce flow in Klamath River unless offset by increased releases from UKL in order to maintain compliance with the BiOp. If such a release threatens violation of the 2013 BiOp or attainment of end-of-month BiOp elevation thresholds in UKL, return flow recirculation will be halted until such time as it can be safely resumed. Recirculation is a common practice within Klamath Drainage District, consistent with the 2013 BiOp. However, Reclamation will coordinate with Klamath Drainage District and the USFWS to ensure recirculation return flow management is consistent with the 2013 BiOp.

Indirect effects may occur due to district efforts to offset foregone Project water through land idling, groundwater pumping, and/or conservation. The effects of an additional 11,100 acres of land idling on biological resources are likely insignificant in that this practice will directly impact a maximum of 5.3 percent of the Project's irrigated acreage. Groundwater pumping within the scope of the states' management programs will have no effect on biological resources. Conservation efforts are expected to be minor in scope, and any impact therefore insignificant.

#### 3.8 Endangered Species

#### 3.8.1 Affected Environment

Appendix D contains a list generated from the U.S. Fish and Wildlife Services Ecological Services' website (USFWS, 2018) 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).

#### 3.8.2 Environmental Consequences

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.

Under the Proposed Action, impacts (direct or indirect) to ESA-listed species or their habitats are not expected as the Proposed Action does not change land status or historic water delivery services within and between the Project and Klamath Basin Refuges. Reclamation's acquisition of water for NWR purposes is being coordinated with USFWS's refuge management and Ecological Services offices to ensure it has no effect on refuge fish and wildlife, migrating birds protected under the Migratory Bird Treaty Act (16. U.S.C. §§703-711), and that water deliveries for fish and wildlife purposes are consistent with the 2013 BiOp and/or analyzed under a separate ESA Section 7 consultation. This analysis and coordination is ongoing, and prior to execution of any contracts for acquisition of water for delivery to refuges, Reclamation will document coordination and any relevant agreements with USFWS.

#### 3.9 Recreation

#### 3.9.1 Affected Environment

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

#### 3.9.2 Environmental Consequences

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

Implementation of the Proposed Action will 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, maintaining recreational opportunities at historic norms.

Indirect effects due to activities conducted by Project districts to deliver the contracted quantities of surface water are not expected to be significant.

#### 3.10 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.

Because this is a one year Proposed Action, and because the effects on the NWRs are all within average historic ranges, no significant cumulative impacts, direct or indirect, will occur.

### Section 4 Consultation and Coordination

#### 4.1 Public Review Period

Reclamation will provide a two week public review and comment period for this EA. The public comment period will be accompanied by an issuance of a Reclamation news release. The EA will be available online at https://www.usbr.gov/mp/nepa/nepa\_base.php?location=kbao and in hardcopy at the following location:

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

#### 4.2 Persons or Agencies Consulted During Development of EA

- USFWS (Ecosystem Restoration and Klamath Basin Refuge Complex offices)
- Irrigation districts (i.e. Klamath Irrigation District, Klamath Drainage District, Horsefly Irrigation District, Langell Valley Irrigation District, Tulelake Irrigation District, etc.)
- Klamath Water Users Association

## **Section 5 References**

United States Fish and Wildlife Service, 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

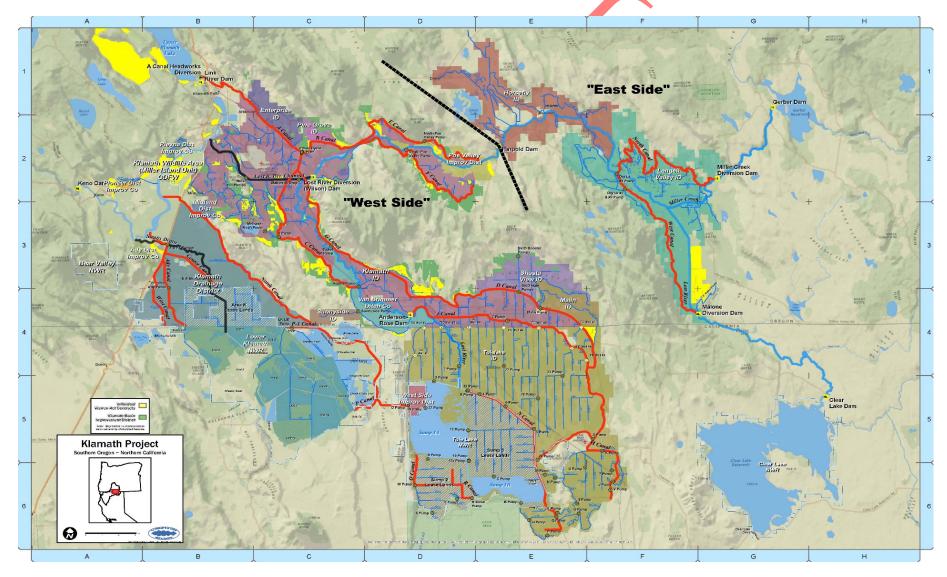
United States Fish and Wildlife Service, 2018. Clear Lake National Wildlife Refuge. About the Refuge. Website: https://www.fws.gov/refuge/Clear\_Lake/about.html

United States Fish and Wildlife Service, 2018. Tule Lake National Wildlife Refuge. About the Refuge. Website: https://www.fws.gov/refuge/Tule\_Lake/about.html

United States Fish and Wildlife Service, 2018. Lower Klamath National Wildlife Refuge. About the Refuge. Website: https://www.fws.gov/refuge/Lower\_Klamath/about.html

## 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 JOANNE GOODSELL Digitally signed by JOANNE GOODSELL Date: June 22, 2018

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.

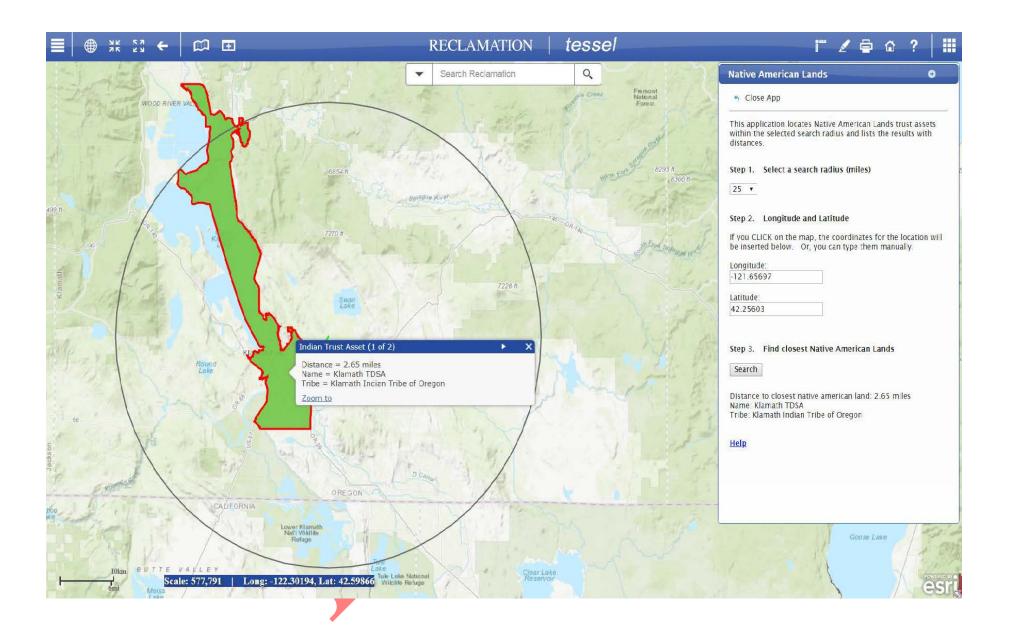
Reclamation determined the proposed action constitutes a Federal undertaking, as defined at 36 CFR § 800.16(y), that has no potential to cause effects on historic properties pursuant to 36 CFR § 800.3(a)(1). As such, Reclamation has no further obligations under Title 54 U.S.C. 306108, commonly known 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 reques Deputy Regional Re Date: 6/5/2018	t to your office's ITA designee or to MP-400, attention sources Manager.
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)	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. 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.
	•

*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 Dis proposed action are located in Klamath C Modoc and Siskiyou County in California. included in the proposed action area (see	ounty, Oregon as well as both Multiple townships are
Kik Ung Signature	Printed name of preparer	b <u>bl8</u> Date
ITA Determination:		
is located within the <u>K</u> as a portion of Reclar extends into the TDS/ The proposed activity includes the issuance	Acquisitions for National Wildlife <u>Klamath Tribal Designated Statistic</u> nation's Klamath Project, and thus th A (see attached image in Exhibit A). is within the Klamath TDSA. The na- of contracts to acquire, from Klama	<u>cal Area (TDSA)</u> he activity area, ature of the action th Project
currently stored in Pro needs for Tule Lake, of National Wildlife Refu this purpose would ha these factors, no impa	to approximately 51,000 acre-feet o oject reservoirs or recirculated to sup Clear Lake, Upper Klamath, and Low ges for the 2018 water year. The wa ave otherwise been diverted for irriga acts to Indian hunting or fishing reso and it is reasonable to assume that any impacts on ITAs.	oport water supply wer Klamath ater acquired for ation uses. Due to urces or water
Jana fane (A Signature	Printed name of approver	Date 6/5/18
Indian Trust Assets Request Form 201	.5 (04-13-2015).docx	Page 2 of 4



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

RCH 3, 18	FISH AND WI Klamath Falls Fis 1936 California Avenue, (541) 885-8481	Artment of the Interior LDLIFE SERVICE sh and Wildlife Office Klamath Falls, Oregon 97601 FAX (541)885-7837 @fws.gov	TISH LS. TISH ACCOUNTS
		CANDIDATE SPECIES THAT MATH COUNTY, OREGON	
	idangered		
Phylum	Common Name	Scientific Name	Critical Habitat
Fish	Lost River sucker	Deltistes luxatus	Designated
Fish Mammal	Shortnose sucker	Chasmistes brevirostris	Designated
Plant	Gray wolf Applegate's milk-vetch	Canis lupus	
Plant	Greene's fuctoria	Astragalus applegatei Tuctoria greenei	Designated
FIAII	Greene's tuctoria	Tuciona greenei	Designated
Status: Th	reatened		
Phylum	Common Name	Scientific Name	Critical Habitat
Bird	Northern spotted owl	Strix occidentalis caurina	Designated
Bird	Yellow-billed cuckoo (Western DPS)	Coccyzus americanus occidentalis	Proposed
Fish	Bull trout	Salvelinus confluentus	Designated
	Oregon spotted frog	Rana pretiosa	Designated
Plant	Slender Orcutt grass	Orcuttia tenuis	Designated
Status: Pr	oposed		
Phylum	Common Name	Scientific Name	<b>Critical Habitat</b>
Mammal	Wolverine	Gulo gulo luscus	
Status: Ca	indidate		
Phylum	Common Name	Scientific Name	
Plant	Whitebark Pine	Pinus albicaulis	
Updated De	cember 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

Phylum	Common Name	Scientific Name	Critical Habitat
Fish	Lost River sucker	Deltistes luxatus	Designated
Fish	Shortnose sucker	Chasmistes brevirostris	Designated
Mammal	Gray wolf	Canis lupus	-
Invertebrate	Shasta crayfish	Pacifistacus fortis	
Plant	Yreka phlox	Phlox hirsute	
Plant	Greene's tuctoria	Tuctoria greenei	Designated
Plant	Gentner's fritillary	Fritillaria gentneri	Designated
Status: Th	reatened		
Phylum	Common Name	Scientific Name	Critical Habita
Bird	Northern spotted owl	Strix occidentalis caurina	Designated
Bird	Yellow-billed cuckoo (Western DPS)	Coccyzus americanus occidentalis	Proposed
Amphibian	California red-legged frog	Rana aurora draytonii	Designated
Amphibian	Oregon spotted frog	Rana pretiosa	-
Plant	Slender Orcutt grass	Orcuttia temuis	Designated
Status: Pr	oposed		
Phylum	Common Name	Scientific Name	Critical Habita
Mammal	Wolverine	Gulo gulo luscus	
Status: Ca	ndidate		
Phylum	Common Name	Scientific Name	
Plant	Whitebark Pine	Pinus albicaulis	

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	Deltistes luxatus	Designated
Fish	Shortnose sucker	Chasmistes brevirostris	Designated
Plant	Greene's tuctoria	Tuctoria greenei	Designated

#### Status: Threatened

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

#### Status: Proposed

	1		
Phylum	Common Name	Scientific Name	Critical Habitat
Mammal	Wolverine	Gulo gulo luscus	

#### Status: Candidate

Phylum	Common Name	Scientific Name
Plant	Whitebark Pine	Pinus albicaulis

#### 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 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