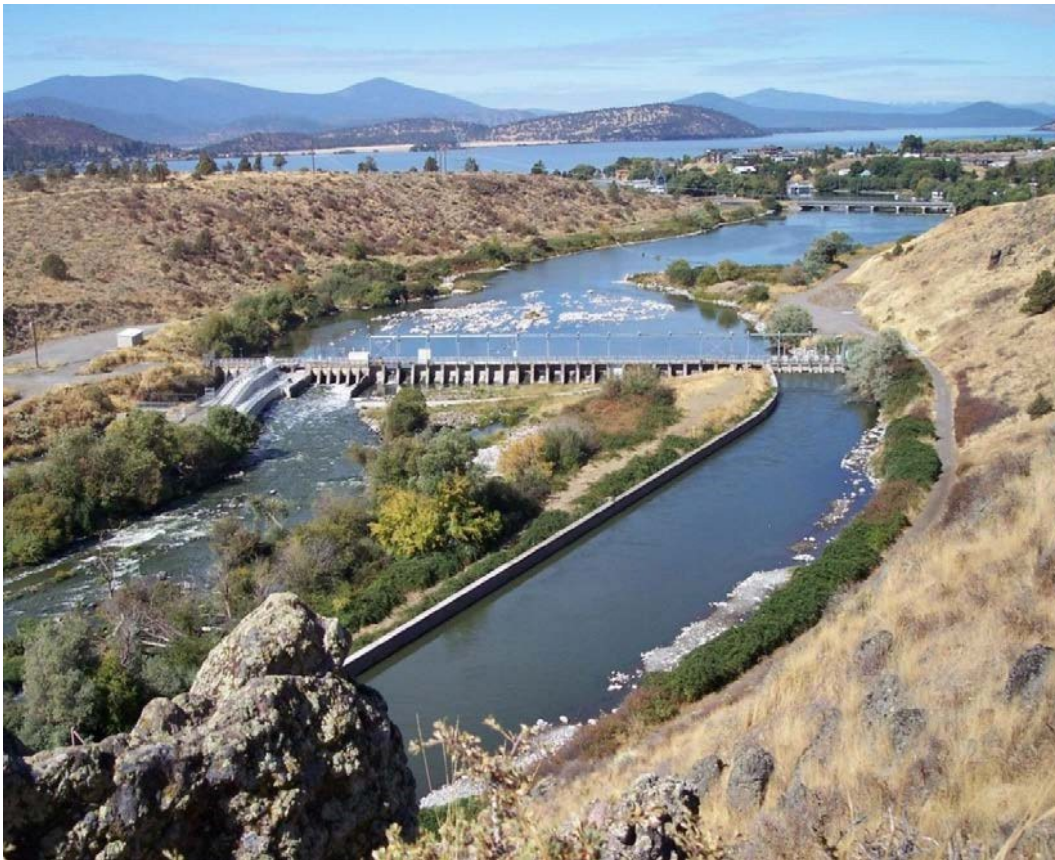




— BUREAU OF —
RECLAMATION

2024 Annual Operations Plan

Klamath Project, Oregon-California
Interior Region 10 - California-Great Basin



Mission Statements

The U.S. 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 and related resources in an environmentally and economically sound manner in the interest of the American public.

Introduction

The Bureau of Reclamation's (Reclamation) Klamath Project (Project) delivers water for irrigation and related purposes to approximately 230,000 acres in southern Oregon and northern California. This 2024 Interim Annual Operations Plan (Plan) describes Project operations that are anticipated to occur between April 1 and September 30, 2024¹ (as further described below), based upon current and projected hydrologic conditions. The Plan must be complied with and is enforceable against Project contractors.

The United States operates the Project pursuant to the Reclamation Act of 1902, ch. 1093, 32 Stat. 388, and acts amendatory thereof and supplementary thereto, commonly known and referred to as Federal Reclamation Law, as well as other federal laws and regulations, including but not limited to the Endangered Species Act of 1973 (ESA), 16 U.S.C. §§1531-1544, 87 Stat. 844, as amended.

There are several anomalous circumstances impacting the Plan. Removal of four dams on the lower Klamath River by the Klamath River Renewal Corporation (KRRC) is impacting and will continue to impact 2024 operations. Removal of Copco #2 Dam was completed in November 2023, and the remaining three mainstem dams (J.C. Boyle, Copco #1, and Iron Gate) were breached between January 2024 and February 2024. As a result, the Klamath River has become nearly free flowing, except that site conditions at the breaches during removal are restricting flow to a maximum rate of less than 2,000 cubic feet per second (cfs). Reclamation cannot release flow rates much larger than 1,000 cfs from Keno (1,400 cfs at IGD) without backing up water and jeopardizing restoration work within the footprints of the old reservoirs and potentially endangering KRRC life and property. The consequences of this flow structure include challenges for flood control, sediment movement, and meeting certain requirements from the 2019 NMFS BiOp and 2023 USFWS BiOp (defined below) and the Interim Operations Plan (IOP), first adopted in 2020 and as modified.

Reclamation is currently planning to operate the Project consistent with the conditions anticipated to occur for species listed as threatened or endangered under the ESA in Upper Klamath Lake (UKL), Gerber and Clear Lake reservoirs, and the Klamath River, as specified in the National Marine Fisheries Service's (NMFS) *Endangered Species Act (ESA) Section 7(a)(2) Biological Opinion*, and *Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response* (2019 NMFS BiOp), issued on March 29, 2019, as extended by letter dated March 26, 2024, and the U.S. Fish and Wildlife Service's (USFWS; collectively Services) *Biological Opinion on the Effects of the Proposed Interim Klamath Project Operations Plan, effective October 1, 2023, through October 31, 2024, on the Lost River and Shortnose Sucker* (2023 USFWS BiOp), issued on September 30, 2023.

¹ It is recognized that although the operating season and water year ends on September 30 of each year, a limited amount of final spring/summer diversions continue until mid-November for some irrigators to finish crop production.

Hydrologic conditions immediately preceding the time period covered by the Plan may provide an opportunity for the USFWS to implement its project to reconnect Agency Lake/Barnes Ranch to UKL in the Spring. Otherwise, this action is anticipated to be completed by the Fall of 2024. The initial filling of the project area would reduce lake levels by 0.19 to 0.46 feet (2.3 to 5.5 inches), depending on the lake elevation when infill begins. Depending on timing, this action could potentially impact Reclamation's ability to meet certain UKL elevation thresholds.

Initial Hydrologic Conditions

Hydrologic conditions setting the stage for this year's Plan include recent flood control operations from the third week of March, the upper basin snowpack, the 50% NRCS inflow forecast with supplementary input from the CNRFC forecasts, and the elevations of the Project's primary reservoirs, UKL, Clear Lake Reservoir, and Gerber Reservoir.

The Klamath Basin received normal to slightly above normal precipitation over the fall/winter period preceding this Plan, with 116% of median snow water equivalent and 102% of precipitation median at SNOTEL sites as of April 8 and 97% of average precipitation at the Klamath Falls airport on the basin floor as of April 4. Based on the April 1 forecast, the anticipated March-September UKL inflow according to the NRCS 50% exceedance estimate as required by the IOP is 402-thousand-acre feet (TAF), 67% of the 1991-2020 median.

As of April 7, UKL elevation is 4,142.60 feet, representing 498 TAF of storage; Clear Lake Reservoir is at 4,526.45 feet with 134 TAF of storage, and Gerber Reservoir is at 4,819.08 feet with 40 TAF of storage. All elevations are in Reclamation datums.

At the time of release of the Plan, Reclamation is releasing water from UKL under flood operations. Due to the aforementioned Klamath River channel structure, Reclamation's ability to quickly release water to avoid overfilling UKL is largely limited to what can be accommodated elsewhere in the upper basin. The limited capacity of upper basin facilities requires a more conservative approach by releasing more limited quantities of water earlier and for a longer period of time to match UKL releases with inflows. Reclamation anticipates this condition to persist through April, and is managing flood operations through early charging of canals, early water deliveries, and sending water to the Tule Lake and Lower Klamath National Wildlife Refuges (NWR).

2024 Project Operations

The Klamath River channel structure and Agency Lake/Barnes Ranch reconnection activities may result in extraordinary hydrologic conditions outside the scope analyzed by the Services in their respective BiOps. If extraordinary hydrologic conditions present themselves, under Term and Condition (T&C) 1A of the 2019 NMFS BiOp and T&C 1d of the 2023 USFWS BiOp,

Reclamation will confer or consult with the Services to communicate the impact of these non-Reclamation activities on Reclamation's ability to operate in conformance with the IOP, and to coordinate on the corrective actions by which Reclamation may adaptively manage to protect ESA listed species. This conversation will also include stakeholders engaged in the Klamath Basin Collaborative technical and management teams, including Klamath Basin Tribes (Yurok, Hoopa, Karuk, Klamath, Resighini and Quartz Valley tribes), the Klamath Water Users Association, Project contractors, the Services, Oregon Water Resources Department (OWRD), the Bureau of Indian Affairs, KRRC, and leadership from the Department of the Interior and the Department of Commerce.

Under current hydrologic conditions, Reclamation will operate the Project to allow for irrigation, flood control measures, and benefits to ESA-listed species based on real-time monitoring and forecasting information. The information that Reclamation will use to guide Project operations will include observed hydrologic conditions, inflow forecasts, and biological monitoring related to ESA-listed species and their designated critical habitat. Reclamation will continue to coordinate Project operations with the Services, and any deviations from the Plan will be addressed as they arise, in conference with the Services when required.

As in previous years, Reclamation retains discretion to update or amend the Plan as conditions change or as new information becomes available. Reclamation will communicate substantive changes to the Plan to stakeholders in writing, which may affect previously estimated allocations among other material aspects of operations.

Upper Klamath Lake & Klamath River

Upper Klamath Lake

During the irrigation season, UKL will be operated such that water surface elevations will remain at or below the flood operations curve and will meet the multiple lake elevation requirements of the 2023 USFWS BiOp, including the end of season minimum elevation of 4,138.00 feet. Reclamation will monitor UKL elevation and the projected elevation trajectory relative to flood control and irrigation diversion rates and may order a reduction in diversions if the trajectory indicates a challenge in meeting any 2023 USFWS BiOp elevation conditions. Reclamation will use a forecast informed by several sources including the California Nevada River Forecast Center (CNRFC) but will be no more optimistic about inflow than the Natural Resources Conservation Service (NRCS) 50th percentile noted in the IOP.

Flood control operations occurred during March and will require continued coordination through at least April due to the Klamath Project's limited options for storage and conveyance of flood flows. Unique flood control constraints this year have also included dam removal activities limiting downstream conveyance capacity. Diversions to refuges and agriculture are also limited at this time of year and the possibility of a Spring Agency Lake/Barnes Ranch reconnection is still uncertain.

Agency Lake/Barnes Ranch reconnection will alter UKL's area-capacity relationship. While in

the short term this would result in a greater volume of water stored per increment of lake elevation than previously, it also means that subsequently refilling the lake to prescribed elevations will require more water. Reclamation will invoke the meet and confer process with USFWS to address any unavoidable deviations from the IOP or the Plan that arise from the Agency Lake/Barnes Ranch reconnection.

Klamath River

In support of dam removal and with KRRC's concurrence, Reclamation will maintain minimum spring/summer Klamath River target flows at Iron Gate Dam (IGD) gage. As analyzed in the 2019 NMFS BiOp, these consist of flows of 1,325 cubic feet per second (cfs) during the month of April; 1,175 cfs in May; 1,025 cfs in June; 900 cfs in July and August; and 1,000 cfs in September. However, with the breaching of the Klamath River dams below Keno, Reclamation's ability to precisely meet these flow rates at the IGD gage will be impacted due to releases occurring 43 miles farther upstream and associated travel time, attenuation, increased flow proportion made up of side-channel accretions, as well as other dam demolition contingencies.

Environmental Water Account

Reclamation has determined that limitations on Klamath River flows due to the channel structure may present challenges to full expenditure of the EWA as identified in T&C 1A of the 2019 NMFS BiOp through October 31, 2024. The 2021 BiOps issued to KRRC for dam removal (NMFS and USFWS) allowed for different river flow conditions during dam removal activities. For example, the NMFS and USFWS BiOps for dam removal limits flows through the remaining dam structures to avoid refilling the reservoirs and assumed river flows would remain at minimums until the dams were completely removed in October. Reclamation will track its release of the EWA from UKL storage and will invoke the meet and confer process with the Services to address any unavoidable deviations from the IOP that arise from the KRRC dam removal activities.

The 2019 NMFS BiOp states that unspent EWA volumes are not retained as interannual carryover and, for 2024 EWA spending specifically, "Reclamation, NMFS, FWS, and members of the FASTA team have discussed an adaptive flow management strategy. Under this strategy, as in past years, NMFS expects that Reclamation will maintain the minimum Klamath River flows as set out in the 2019 Opinion and will shape and release additional flows in conferral with the Services and the FASTA team. Also, according to this strategy, flows will be shaped to allow dam removal activities to proceed and to facilitate sediment evacuation while reducing these dam removal effects on SONCC coho salmon and SRKW. Should additional extraordinary unanticipated conditions arise, NMFS expects that through the meet and confer provisions with NMFS, Reclamation will be able to take appropriate corrective actions to meet its ESA obligations in a responsive manner." (2019 NMFS BiOp Extension Letter dated March 26, 2024, at p.3).

Surface Flushing Flow and Augmentation

Reclamation and NMFS are in agreement that the elevated Klamath River flows which occurred during the reservoir drawdown phase in January and February 2024 accomplished the purposes of a Surface Flushing Flow for 2024. Reclamation will confer with the Services should there be challenges to implementing augmentation flows under the 2019 NMFS BiOp.

Boat Dance

Reclamation intends to operate the Project consistent with the Yurok Tribe's Boat Dance ceremony in late summer to the extent possible given the Klamath River's channel structure. Reclamation will therefore reserve the water in UKL necessary to support the Boat Dance, which is anticipated to be no less than 7,000 acre-feet, and confer with the Yurok Tribe to determine actual timing and achievable flow rates this year.

Project Supply

Reclamation will manage the Project supply in accordance with the IOP. The Project supply estimate for 2024 is based on the NRCS 50% April 1 forecast. The April – September NRCS 50% exceedance forecast is 305 TAF. The observed UKL inflows for March are 119 TAF. This results in a total March – September volume, projected and observed, of 424 TAF. Adding this volume to the observed lake volume at the end of February (435 TAF), and utilizing the calculations identified in the Biological Opinion, the resultant project supply is 230 TAF. This takes into account the required end-of-season lake elevation of 4,138.0, made more certain through an operational buffer of 0.88 (60 TAF) specified in the calculations of the Biological Opinion. The project will also be operated to comply with the Biological Opinion's requirement of a 400 TAF EWA and 7 TAF boat dance (as identified below). Assuming BiOp requirements for UKL elevations and minimum Klamath River flows compatible with dam removal activities are met, the Project supply may need to increase or decrease to meet ESA requirements. These adjustments are usually made at the start of May and the start of June as necessary, depending on hydrologic forecasts.

Reclamation has determined that the Project supply from UKL and the Klamath River for the 2024 spring/summer irrigation season will likely provide full deliveries to Repayment and Settlement Contractors ("A" Contractors), with limited water available for Warren Act Surplus Water contractors and annual water rental contractors. Irrigation diversions will commence on or about April 1, 2024, to account for present flood operations, but Project supply will be made available starting April 15, 2024.

Reclamation will monitor diversion rates relative to UKL elevation and the projected elevation trajectory and may order a reduction in diversions if the trajectory indicates a challenge in meeting the UKL elevation boundary conditions.

As in past years, Reclamation will monitor for unauthorized or out-of-priority diversions of water that may impact operations and will decrease Project supplies accordingly. All surface water diversions from the Klamath River that originate from UKL and are applied to Project lands, regardless of the priority of the contractor or claimed source of water rights, will be

counted against Project supply in UKL unless the reason for release is flood operations. As in years past, Reclamation will monitor compliance with the Plan to determine a Project contractor's eligibility for financial assistance.

Distribution

The distribution of the Project supply will be adaptively managed through a collaborative effort with Project contractors and the Services. The actual available Project supply will be dependent on observed inflows and UKL elevations during the spring/summer period and is subject to curtailment to meet legal requirements. Distribution is to be carried out in accordance with the Drought Plan (should one be issued) and other agency directives, consistent with applicable federal and state laws.

Canal Charging

Canal charging has been occurring since late March as part of Reclamation's flood operations. Continued charging prior to official notification of the start of the irrigation season will be allowed only insofar as it does not adversely affect Klamath River flows or UKL elevations, as determined by Reclamation.

Real-Time Management

The real-time management approach consists of close monitoring and reporting of observed hydrologic conditions and will assist Reclamation, the Services, and other affected parties in determining if further adaptive management actions are needed in response to evolving environmental conditions. Overall, using real-time monitoring and forecast information, Reclamation will invoke the meet and confer process with the Services as necessary while updating and receiving input from affected Klamath Basin parties on the dynamic hydrologic conditions allowing timely action on opportunities to uphold contractual water supply obligations, prevent flooding, comply with ESA obligations, support dam removal efforts, and meet tribal trust responsibilities. Reclamation will conduct appropriate environmental compliance as necessary.

In the event that observed inflows or UKL elevations do not materialize as forecasted, net inflow volumetric shortfalls will be calculated, and diversions for Project purposes would be reduced to a rate allowing UKL elevations to remain safely above the relevant BiOp elevation boundary condition. If it is projected that a reduction in, or cessation of, Project diversions is necessary to comply with a BiOp elevation boundary conditions, Reclamation will confer with the Services to determine how to achieve the end of season elevation condition.

The estimated available water supply is tracked daily, with updates regarding remaining Project supply to Project contractors occurring approximately every week during the irrigation season or as needed. If the Project supply must be curtailed, Reclamation will provide notification in writing.

Reclamation will coordinate with Project contractors on the need for a Drought Plan. If Reclamation decides that conditions necessitate a Drought Plan, adaptive management and resulting deliveries made to irrigators will occur in accordance with contractual priorities. To the

extent that districts entitled to the Project supply decide not to split evenly or if otherwise all Project contractors mutually agree to allocate the available supply (as defined by Reclamation in the Plan or as modified in subsequent plans) in a different manner of priority outside the contractual priorities, it is incumbent upon the Project contractors to fully document and communicate to Reclamation such agreements. Reclamation retains the discretion to approve or disapprove any such agreements. To the extent any such agreement is to be formally approved, Reclamation will provide this approval in a written communication signed by the Regional Director.

Clear Lake Reservoir

The estimated water supply available from Clear Lake Reservoir is based on several factors, including current hydrologic conditions and projected inflows for April through September, the end of September minimum elevation analyzed in the 2023 USFWS BiOp, as well as the rate and volume of irrigation releases and non-beneficial losses (e.g., evaporation and seepage). The estimated available water supply is tracked daily, with updates to Project contractors occurring approximately every two weeks during the irrigation season or as needed.

Current Clear Lake Reservoir conditions were presented at the beginning of this document. The end of September minimum water surface elevation in Clear Lake Reservoir analyzed under the 2023 USFWS BiOp is 4,520.60 feet. With the anticipated inflows and estimated evaporation and seepage rates, Reclamation estimates there will be a full Project supply available from Clear Lake Reservoir during the 2024 spring/summer irrigation season. The average historic Project demand from Clear Lake Reservoir is approximately 35,000 AF, up to a maximum of approximately 40,000 AF.

Gerber Reservoir

Similar to Clear Lake Reservoir, the estimated Project supply available from Gerber Reservoir is based on several factors, including current hydrologic conditions, projected inflows for April through September, the end of September minimum elevation analyzed under the 2023 USFWS BiOp, as well as the rate and volume of irrigation releases and non-beneficial losses (e.g., evaporation and seepage). The estimated available water supply is tracked daily, with updates to Project contractors provided approximately every two weeks during the irrigation season or as needed.

Current Gerber Reservoir conditions were presented at the beginning of this document. The end of September minimum water surface elevation in Gerber Reservoir analyzed in the 2023 USFWS BiOp is 4,798.10 feet. With the anticipated rates of evaporation and seepage, Reclamation estimates there will be a full Project supply (approximately 35,000 AF) available from Gerber Reservoir during the 2024 spring/summer irrigation season.

Lost River

Natural runoff and return flows in the Lost River may also be available at certain times for irrigation use within the Project. Diversions from the Lost River during the spring/summer irrigation season are not included in the calculation of the Project supply available from UKL and the Klamath River. As such, the Project supply from the Lost River is primarily constrained by the physical availability of water, primarily from return flows. Reclamation does not estimate the available supply from the Lost River during the spring/summer irrigation season, but rather allows Project water users to divert the supply as it becomes available, consistent with the terms of their respective contracts and in accordance with the annual Drought Plan.

Other Operational Considerations

Flood Operations

Until the Klamath River channel structure is relieved by subsequent dam removal activities, Reclamation's ability to release higher flows from UKL into the Klamath River is limited to a maximum of approximately 1,000 cfs at Keno; customary flood control releases in the past have been around 6,000 to 7,000 cfs. Reclamation cannot release flow rates much higher without backing up water and jeopardizing restoration work within the footprints of the old reservoirs and potentially endangering KRRC life and property. As stated previously, the reduction in Klamath River capacity has necessitated alternative measures to control Reclamation will communicate its flood operations with the Oregon Water Resources Department.

Klamath Project Drought Response Program

Reclamation has entered a two-year cooperative agreement with the Klamath Project Drought Response Agency (KPDRA), a joint powers state entity in Oregon and California organized in 2018 and comprised of representatives of Project contractors. KPDRA's primary function is to work with Reclamation to administer programs to align water supply and demand on the Project pursuant to the Klamath Basin Water Supply Enhancement Act of 2000 (114 Stat. 2221) as amended (132 Stat. 3886 and 134 Stat. 976).

Reclamation is providing up to \$8.53 million in funding to the KPDRA in 2024 for this purpose. 2024 programs are anticipated to focus on reducing demand for Project supply. As stated above, Reclamation retains discretion to determine eligibility for the financial assistance and evidence of unauthorized diversions may result in a finding of loss of eligibility.

All programs administered by the KPDRA under the cooperative agreement are subject to Reclamation approval, which would be conditioned on the ability of the proposed program to align Project supply and demand, available funding, and other considerations.

Voluntary Project Water Transfers

Reclamation supports voluntary transfers of Project water as a means of promoting flexibility in managing water supplies and maximizing Project benefits. Accordingly, subject to its approval as described below, Reclamation will allow transfers of Project water, within the limits of applicable federal and state law.

Reclamation's prior written approval is required to transfer Project water between Project contractors in accordance with the respective contracts. Project contractors also have the discretion to approve transfers of Project water within their designated service areas independent of Reclamation's approval process. Individual landowners who are interested in transferring Project water are advised to work with their respective districts to obtain Reclamation's approval of Project water transfers. Transfers of Project water to Lower Klamath NWR or Tule Lake NWR will also require the approval of USFWS. Compliance with other applicable federal and state laws may also be necessary.

Water transfers within the Project will also be contingent, in part, upon the ability to accurately measure corresponding water use, on both the transferring and receiving lands, in order to ensure that the amount of water used does not exceed the associated total available duty.

Finally, Reclamation may require that parties to a proposed transfer first demonstrate compliance with applicable state law. Reclamation will coordinate with OWRD to facilitate any transfers approved by OWRD.

Voluntary Water Conservation

There are a number of active conservation efforts that Project contractors can employ to conserve water and to extend available Project supply. Such strategies range from Project-wide actions, to district initiatives, to individual efforts at the farm or field level.

Reclamation works with districts and individuals to encourage independent initiatives aimed at conserving Project supply. District-level conservation initiatives may include rotating water use among irrigators that receive water from a particular canal or lateral, de-watering certain irrigation laterals when not in use, and limiting tailwater flows at the ends of canals and laterals. Individual, on-field, efforts may include planting less water intensive crops, using high-efficiency irrigation systems such as sprinklers or gated pipes, and employing "deficit" irrigation techniques, where water is applied at less than the full consumptive use demand of a particular crop type. Reclamation encourages Project contractors to employ all available tools to conserve water and keep demands at a minimum, especially when water shortages exist.

To assist in on-field conservation efforts, Reclamation operates AgriMet stations in the Klamath Basin, which use site-specific weather data to estimate evapotranspiration (i.e., crop water use) for various crop types typically grown within the Project. This information can be used to identify the required amount of water to apply to a crop based on current weather conditions and growth stage. AgriMet crop water use charts for the Klamath Basin are updated each morning,

and can be found online at: <https://www.usbr.gov/pn/agrimet/agrimetmap/agrimap.html>

Lower Klamath National Wildlife Refuge Deliveries

In accordance with this Plan, water from Project supply (as described above) is only available for delivery to Lower Klamath NWR when consistent with Reclamation's contractual and other legal obligations.

Voluntary transfers, exchanges, or other arrangements can also make water available to Lower Klamath NWR. Subject to these conditions, Lower Klamath NWR, including Area K, can use any portion of Project supply, when available to the rest of the Project, through November 30.