BUREAU OF RECLAMATION

Finding of No Significant Impact

Implementation of Klamath Project Operating Procedures 2024-2029

Klamath Project, Oregon/California

Interior Region 10 California-Great Basin

CGB-ED-2024-018

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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; 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.

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Implementation of Klamath Project Operating Procedures 2024-2029

Klamath Project, Oregon/California

Interior Region 10 California-Great Basin

Prepared by

Industrial Economics, Inc. under U.S. Bureau of Reclamation Contract No. 140R2021P0047

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Introduction

In accordance with Section 102(2)(c) of the National Environmental Policy Act of 1969 (NEPA), as amended, the U.S. Bureau of Reclamation (Reclamation) has prepared an Environmental Assessment to examine the potential impacts to the affected environment associated with Reclamation's proposal to implement new operating procedures for water management on the Klamath Project (Project) from 2024 to 2029. The proposal is intended to continue operation of the Project consistent with contractual and water right delivery obligations while complying with federal laws, including the Endangered Species Act (ESA). This Finding of No Significant Impact is supported by Reclamation's Environmental Assessment Number CGB-ED-2024-018, which is attached and incorporated by reference.

Background

Reclamation is proposing to modify certain aspects of its water management for the Project under the Proposed Action Alternative. New existing environmental conditions and updated datasets have led Reclamation to review and revise its operational procedures, resulting in the attached Environmental Assessment and the associated Biological Assessment (Reclamation, 2024a). These new existing conditions and datasets include the 2023-2024 removal of four dams downstream of Keno Dam (and the associated need to change the operational compliance point[1] to Keno Dam, under the Proposed Action Alternative), the U.S. Fish and Wildlife Service's (USFWS's) December 20, 2024 reconnection of the Agency Lake and Barnes Units (ALB) of the Upper Klamath National Wildlife Refuge (NWR) to Upper Klamath Lake (UKL), and the availability of updated bathymetric data for UKL.

On June 14, 2024, Reclamation formally initiated consultation under Section 7(a)(2) of the ESA on the continued operation of the Project under the Proposed Action. The National Marine Fisheries Service (NMFS) provided its 2024 Biological Opinion on October 28, 2024 (NMFS, 2024), and USFWS provided its 2024 Biological Opinion on November 15, 2024 (USFWS, 2024). The biological opinions concluded that the Proposed Action is not likely to jeopardize the

[1] The compliance point is the location from which flow data are collected to ensure that flows are adequate to comply with ESA (16 U.S.C. 1531-1544) requirements.

continued existence of federally-listed species nor destroy or cause adverse modification of their designated critical habitat.

Alternatives Evaluated Including Proposed Action

No Action Alternative

The No Action Alternative represents an operational approach that is substantially similar to Reclamation's operations in recent years under the 2020 Interim Operations Plan (IOP) (Reclamation, 2020a). Like the IOP, the No Action Alternative is based on the Klamath Basin Planning Model (KBPM) and has its compliance point for measuring flows at the Iron Gate gage. The No Action Alternative does, however, include certain changes to the 2020 IOP. Some of these changes are necessary to reflect the new existing conditions (e.g., dam removal and ALB reconnection), while others are intended to ensure use of the best available information. The Proposed Action Alternative shares many elements with the No Action Alternative, such as its core management elements, service area, applicable legal requirements, and Project facility maintenance. Both alternatives reflect the new existing conditions and updated datasets noted above. The two alternatives are also identical with respect to Reclamation's operations on Gerber Reservoir, Clear Lake, and the Lost River above Harpold Dam.

Proposed Action Alternative

The Proposed Action Alternative would differ from the No Action Alternative with respect to operations affecting lands downstream of Harpold Dam on the Lost River (which are served by water from UKL) and lands south and east of the Klamath River between Klamath Falls and Keno Dam. These operational changes would also affect UKL, the Klamath River, Lower Klamath NWR, and Tule Lake NWR. The Proposed Action Alternative was developed in collaboration with the NMFS and USFWS in order to provide benefits to listed species where feasible.

The No Action and Proposed Action alternatives have different operational approaches. Briefly, unlike the No Action Alternative, the Proposed Action Alternative would use a year-round operational strategy for making water management decisions, which would entail continuous real-time tracking of hydrologic conditions. The Proposed Action Alternative would replace the KBPM with the Keno Release Model, which would combine forecasts from Natural Resource Conservation Service, California Nevada River Forecast Center, and the Normalized Wetness Index models to improve accuracy of forecast inflows. When compliant with applicable legal requirements, the Proposed Action Alternative would allow for deferred use operations whereby water that could have been used from UKL at one point in time could instead be retained in UKL

for a specific future use, including future Project diversions or future releases to the Klamath River. Deferred use operations would create more operational flexibility. Environmental Water Account and pulse flows would be replaced by a Flexible Flow Account, which would also create greater flexibility. In addition, under the Proposed Action Alternative, both Tule Lake NWR and Lower Klamath NWR would receive water from return flows or other authorized sources throughout the year to provide desired habitat, while under the No Action Alternative, neither refuge would be guaranteed this supply. As such, the Proposed Action Alternative is intended to provide benefits to the Tule Lake and Lower Klamath NWRs in support of ESA-listed species inhabiting each water body.

Findings

In accordance with NEPA, Reclamation has determined that implementation of the water management approach for the Project for 2024 to 2029 is not a major federal action that would significantly affect the quality of the human environment. Consequently, an Environmental Impact Statement is not required. This Finding of No Significant Impact determination is based on the following factors:

Water resources: The Proposed Action Alternative would not affect the overall quantity of water in the Klamath River Basin relative to the No Action Alternative but would affect the distribution of water among UKL, Klamath River flows, NWRs, and Project agriculture diversions. Modeling suggests that median UKL elevations under the Proposed Action Alternative would be approximately 0.4 to 1.0 feet lower than under the No Action Alternative. These decreases in elevation would range from 0.4 to 0.6 feet in March through July and 0.9 to 1.0 feet in September through January. The Proposed Action Alternative would likely increase median Project diversions during the primary irrigation season (April-October) by over 10% (i.e., by approximately 23,500 acre-feet [AF]) compared to the No Action Alternative and would provide a designated supply to Tule Lake NWR and Lower Klamath NWR, unlike the No Action Alternative. Because similar water shortages to agriculture are anticipated under both alternatives, the difference in demand for groundwater pumping between the alternatives would be negligible, resulting in continued impacts to groundwater under both alternatives. Compared to the No Action Alternative, the Proposed Action Alternative would likely also result in slightly higher minimum Klamath River flow levels across all months, somewhat lower median flows in spring (March through May), and slightly higher median flows in other months. The Proposed Action Alternative is not expected to substantially affect water quality relative to the No Action Alternative.

In summary, there are no significant impacts to water resources associated with the Proposed Action Alternative.

Biological resources: The effects of the Proposed Action Alternative on biological resources would result from impacts on surface water resources. Under the Proposed Action Alternative,

UKL elevations would likely fall below the known biologically significant habitat boundary conditions[2] targeted in the modeling for listed sucker species at certain times of the year, a situation that is not projected to occur under the No Action Alternative. Endangered Lost River and Shortnose suckers (*Deltistes luxatus* and *Chasmistes brevirostris*) inhabiting UKL may experience adverse effects with respect to habitat availability with a modest increase in risk of mortality and morbidity from stressors such as desiccation, disease risk, and predation due to water management. Populations of suckers in UKL will likely experience high mortality due to senescence regardless of water management. However, the Proposed Action Alternative supports USFWS's efforts to establish redundant populations in Tule Lake and Lower Klamath NWRs from a designated water supply for those refuges to potentially result in a population-level net benefit. In addition, USFWS expects that the reconnection of ALB will provide significant benefits to the sucker populations in UKL, particularly in relation to the improvement of and access to additional rearing and cold-water habitat, foraging resources, and refuge from predation, as described in detail in the *USFWS Final Environmental Assessment of Wetland Restoration on Upper Klamath National Wildlife Refuge Barnes Unit, Agency Lake Units and Adjacent Lands* (Stantec, 2023) and the USFWS November 15, 2024 Biological Opinion (USFWS, 2024).

For the threatened Coho Salmon (*Oncorhynchus kisutch*), the effects of the Proposed Action Alternative are expected to be minor and adverse compared to the No Action Alternative. While the impacts to anadromous species from the Proposed Action alone are expected to be adverse but minor, they have been considered in the context of the recently completed dam removal, which has substantially improved conditions for anadromous species relative to pre-dam removal conditions. Southern Resident Killer Whales (*Orcinus orca*) may experience minor adverse effects as a result of a decrease in prey availability (Chinook Salmon, *O. tshawytscha*). Compared to the No Action Alternative, the Proposed Action Alternative may affect, but is not likely to adversely affect, other federally-listed aquatic species or their designated critical habitats except the candidate species Northwestern Pond Turtle (*Actinemys marmorata*), which may experience adverse effects but about which little is known of abundance and distribution within the Project's boundaries.

Relative to the No Action Alternative, the Proposed Action Alternative would result in minor adverse impacts to UKL wetlands by increasing the proportion of years where those wetlands are projected to be without standing water in fall months. The effects are expected to be minor in part due to the overall context in which they occur, including the 2024 ALB reconnection. The Proposed Action Alternative would provide benefits to Lower Klamath NWR wetland habitats in most, but not all, years by supplying these wetlands with more water. Structural differences

[2] Boundary conditions, such as certain lake elevations, were used as a modeling target as a consideration for habitat requirements of listed sucker species. Targeted boundary conditions were used for modeling purposes only and are not considered mandatory lake elevation requirements of the ESA.

between the No Action and Proposed Action models prevent a direct comparison of deliveries to Tule Lake NWR under the two alternatives. Under the Proposed Action Alternative, however, the Tule Lake NWR would receive sufficient water to support all of its wetlands.

Effects on wetlands are expected to impact their associated aquatic and aquatically linked biota. The minor adverse effects to UKL wetlands are expected to result in minor adverse effects on other fish and wetland birds that make use of UKL wetlands (and would occur in the context of the expected beneficial effects of the 2024 ALB reconnection).

Migratory birds and non-migratory waterbirds at the Tule Lake and Lower Klamath NWRs would benefit from the availability of more wetland habitat at these refuges. Birds at these refuges often experience disease outbreaks, which have resulted in bird die-offs during the summer (Audubon California, 2020).

Therefore, implementation of the Proposed Action Alternative would have less than significant impacts on biological resources.

Irrigated agriculture: Under the Proposed Action Alternative, median Project diversions (230,227 AF) would be higher than under the No Action Alternative (206,769 AF). However, under both alternatives, Project diversions would be lower than the historical median irrigation demand of 397,912 AF for most of the simulated study period years (i.e., for 30 out of 32 simulated years under the Proposed Action Alternative, and 32 out of 32 years under the No Action Alternative). Under the Proposed Action Alternative, sustainable use of groundwater would meet total irrigation water demands in two additional years, meaning water demands would be met through a combination of surface and groundwater in 13% of the simulated study period (4 of 32 years), compared to 0 years under the No Action Alternative.

Under the Proposed Action Alternative, 43% (on average) of all Project cropland would be fallowed due to water shortages, compared with 56% under the No Action Alternative. Consequently, average annual agricultural revenues would be $30.8 million higher under the Proposed Action Alternative than under the No Action Alternative, corresponding to $45.3 million higher total economic output, $16.0 million higher labor income, and additional demand for 232 jobs in the regional economy. Altogether, the Proposed Action Alternative is anticipated to provide beneficial impacts to irrigated agriculture compared to the No Action Alternative.

In summary, there are no significant impacts to irrigated agriculture associated with the Proposed Action Alternative.

Recreation: To the extent that increases in flows under the Proposed Action Alternative would improve conditions for wildlife such that visitor experiences at the refuges would be improved, the Proposed Action Alternative would be beneficial to recreation, including wildlife viewing, upland game hunting, and waterfowl hunting in these areas. Changes to flow conditions in the Klamath River under the Proposed Action Alternative that would increase flows in some months could provide marginal benefits to some recreational boating activities. Because flow rates at Keno Dam would be similar to the No Action Alternative, impacts on whitewater rafting and

boating under the Proposed Action Alternative relative to the No Action Alternative are anticipated to be negligible. Recreational fishing is considered below.

In summary, there are no significant impacts to recreation associated with the Proposed Action Alternative.

Population: Effects of the Proposed Action Alternative on irrigated agriculture relative to the No Action Alternative would be beneficial, resulting in a beneficial impact on population size.

In summary, there are no significant impacts to population associated with the Proposed Action Alternative.

Income, employment, business, and industrial activity: As noted above, implementation of the Proposed Action Alternative as compared to the No Action Alternative would have beneficial impacts on irrigated agriculture. As such, the Proposed Action Alternative would have a beneficial impact on regional economic activity.

In summary, there are no significant impacts to income, employment, business, and industrial activity associated with the Proposed Action Alternative.

Commercial, recreational, and Tribal fishing: Because there would be negligible to moderate adverse effects on salmonid populations under the Proposed Action Alternative compared to the No Action Alternative, there could also be negligible to moderate adverse impacts to commercial, recreational, or Tribal fishing opportunities. However, these potential effects would occur in the context of the expected beneficial effects of the recent dam removals.

In summary, there are no significant impacts to commercial, recreational, or Tribal fishing associated with the Proposed Action Alternative.

Tribal Nations and Tribal economies: Fish are important food sources as well as components of cultural, spiritual, and economic health for the Klamath Basin Tribes. While sucker harvests are currently limited to two individuals per year by the Klamath Tribes for ceremonial purposes due to the existing condition of the species in UKL, implementation of the Proposed Action Alternative may further limit the likelihood of recovery of sucker populations in UKL to harvestable levels due to the adverse effects on suckers relative to the No Action Alternative (while recognizing that these potential effects would occur in the context of the expected beneficial effects of the 2024 ALB reconnection). As such, the Klamath Tribes may experience adverse effects related to the potential for the species to reach harvestable levels despite the potential net benefit to the species due to establishment of redundant populations in the Lower Klamath and Tule Lake NWRs. When compared to the No Action Alternative, the adverse effects would be minor because conditions under both alternatives related to recovery of the species to harvestable levels would be similar. Adverse effects to the downstream Klamath Basin Tribes and Tribal economies could result from implementation of the Proposed Action Alternative because negligible to moderate adverse effects on Klamath River salmon populations relative to the No Action Alternative may further limit the likelihood of recovery of listed species populations

(while recognizing that these potential effects would occur in the context of the expected beneficial effects of the recent dam removals).

In summary, there are no significant impacts to Tribal Nations or Tribal economies associated with the Proposed Action Alternative.

Environmental justice: On average, the population in the three-county study area (Klamath, Modoc, and Siskiyou counties) has lower median household incomes, a higher unemployment rate, a higher poverty rate (adults and children), more households receiving food stamps/ supplemental nutrition assistance program (SNAP) benefits, lower educational attainment, and more elderly residents compared to larger Oregon and California and United States populations. The Klamath Falls and Altamont populations are and would continue to be more vulnerable than either Klamath County or the study area as a whole and are considered to be communities with environmental justice concerns. These communities as well as Klamath Basin Tribal communities have the potential to be affected by changes to UKL suckers, Klamath River salmon, and agriculture, as described below.

Because suckers inhabiting UKL may experience adverse effects from the Proposed Action Alternative relative to the No Action Alternative, and because these fish represent an important component of cultural, spiritual, and economic health for the Klamath Tribes as well as an important historical and potential future food source, adverse effects to Klamath Tribes and Tribal economies could result from implementation of the Proposed Action Alternative, despite the potential net benefit to the species that could result if USFWS is able to establish redundant populations in Tule Lake sumps and Lower Klamath Lake.

Because the Proposed Action Alternative is expected to result in negligible to moderate adverse impacts to Klamath River salmonids, implementation of the Proposed Action may have minor impacts on local communities with environmental justice concerns that value these fish for recreational or cultural purposes.

When compared to the No Action Alternative, the Proposed Action Alternative is anticipated to have beneficial impacts to irrigated agriculture and beneficial impacts on regional economic activity. Impacts of the Proposed Action Alternative are expected to range from negligible to beneficial to communities with environmental justice concerns, compared with the No Action Alternative.

In summary, there are no significant impacts to environmental justice associated with the Proposed Action Alternative.

Cumulative Impacts: The Proposed Action will not have significant cumulative impacts (40 Code of Federal Regulations [CFR] 1508.27(b)(7)). Reclamation reviewed the cumulative impacts for the Proposed Action for all resource areas analyzed in the Environmental Assessment. There were no significant cumulative impacts identified for these resource areas.

Other Considerations:

- **Land Use**. The Proposed Action and No Action alternatives would not produce any terrestrial disturbances, would not result in the construction of new facilities or the modification of existing land-based facilities, and would not result in land use changes.
- **Cultural Resources**. The Proposed Action Alternative would not produce any ground disturbances, would not result in the construction of new facilities or the modifications to existing facilities, and would not result in land use changes. As a result, neither the Proposed Action Alternative nor the No Action Alternative have the potential to cause effects to historical properties pursuant to 36 CFR § 800.3(a)(1) of the National Historic Preservation Act.
- **Indian Sacred Sites**. No impacts to Indian Sacred Sites are anticipated under either the Proposed Action Alternative or No Action Alternative. Neither alternative would inhibit access to, or ceremonial use of, an Indian Sacred Site nor would alternatives adversely affect the physical integrity of such sacred sites.
- **Climate Change and Greenhouse Gases**. Climate change refers to change in measures of climate (e.g., temperature, precipitation, or wind) lasting for decades or longer. Greenhouse gas emissions, regardless of where they are generated, combine in the Earth's atmosphere, ultimately affecting global climate systems. The Proposed Action Alternative would not contribute to measurable increases in greenhouse gas emissions or other contributions to climate change.
- **Air Quality**. Air pollutants affect ambient air quality relatively close to their sources where they may more directly affect human and ecological health. Reclamation's actions under both alternatives would generally not be expected to increase air emissions such as fine particulate matter (PM2.5), although, fallowing of agricultural lands associated with changes in water deliveries under both alternatives has some potential to lead to temporary increases in airborne dust. The Proposed Action Alternative would not increase the amount of fallowed lands as compared to the No Action Alternative and, as such, would not adversely affect air quality, including dust levels.
- **Gerber Reservoir, Clear Lake, and the Lost River above Harpold Dam**. The Proposed Action Alternative would not affect Reclamation's operations on these surface water resources. Future Clear Lake and Gerber Reservoir elevations are expected to be similar to those seen in the past for storage and release of water for irrigation, under both alternatives.
- **Terrestrial Species**. Both the Proposed Action and No Action alternatives address surface water management and supporting operation, maintenance, and replacement activities. As such, neither alternative is expected to result in more than negligible impacts to terrestrial species. Moreover, any such effects, should they occur, are expected to be identical in both alternatives.