



United States Department of the Interior

BUREAU OF RECLAMATION
Klamath Basin Area Office
6600 Washburn Way
Klamath Falls, OR 97603-9365



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VIA ELECTRONIC and USPS

MEMORANDUM

To: Field Supervisor, U.S. Fish and Wildlife Service
Attn: Mr. Daniel Blake

From: Jeffrey Nettleton JEFFREY
Area Manager NETTLETON

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JEFFREY NETTLETON
Date: 2020.03.27
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Subject: Transmittal of Proposed Interim Operations Plan for operation of the Klamath Project for Water Years 2020-2022

The purpose of this letter is for the Bureau of Reclamation (Reclamation) to describe and transmit a proposed Interim Operations Plan (Interim Plan) developed to allow for the continued operation of the Project during the ongoing reinitiated consultation effort under Section 7 of the Endangered Species Act (ESA).

Background

On March 29, 2019, Reclamation completed reinitiated consultation with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS; collectively the Services) pursuant to Section 7(a)(2) of the ESA on the effects of a five-year plan of operations for the Klamath Project (Project) (2019-2024) on Federally-listed species and their critical habitats, including the listed Southern Oregon/Northern California Coast evolutionarily significant unit of coho salmon (SONCC coho), Southern Resident Killer Whales, and Lost River and shortnose suckers. As a result, the Services provided Reclamation with written biological opinions (NMFS 2019 BiOp and USFWS 2019 BiOp) concluding the proposed 2018 Operations Plan was not likely to jeopardize the continued existence of SONCC coho salmon and Lost River and shortnose suckers nor destroy or adversely modify their critical habitat.

Reinitiation of Consultation

Based on information related to Weighted Usable Area (WUA) curves provided by a third party, which were confirmed in October 2019 and revealed effects of the 2018 Operations Plan on listed species or critical habitat (specifically to SONCC coho salmon) in a manner or to an extent not previously considered, Reclamation requested reinitiation of formal consultation with both Services on November 13, 2019, under Section 7 of the ESA (50 C.F.R. § 402.16 (a)(2)). In written letters dated November 14, 2019 and December 9, 2019, NMFS and FWS, respectively, accepted Reclamation's request to reinitiate consultation.

As part of the reinitiated consultations, on February 7, 2020, Reclamation transmitted a *Final Biological Assessment on the Effects of the Proposed Action to Operation the Klamath Project (Project) from April 1,*

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2020 through March 31, 2024 on Federally Listed, Threatened, and Endangered Species (2020 Biological Assessment (2020 BA)) to both Services on Project operations during the period of April 1, 2020 through March 31, 2024. Reclamation requested that the formal consultations be completed by March 31, 2020. However, Reclamation and the Services agree that it is in the public interest that additional time be provided to complete the consultations on Project operations. Subject to Reclamation's final approval of the Interim Plan, Reclamation will develop and submit to the Services a modified or new proposed operations plan in lieu of the one set forth in the 2020 BA, informed by a collaborative process similar to the consultation process that was conducted in regards to the 2012 operations plan and Biological Assessment. Representatives of the Yurok Tribe have informed Reclamation staff that they have convened a team of individuals with demonstrated technical expertise in modeling and operations to exchange technical information and provide input to Reclamation for consideration in the development of a subsequent proposed action. Reclamation and the Services will participate and provide technical assistance, including Klamath Basin Planning Model runs and other support, to this workgroup throughout the reinitiation process.

While Reclamation completes the consultations that it reinitiated with the Services in 2019, it proposes to operate the Project in accordance with the Interim Plan, which it believes would be consistent with the Services' 2019 BiOps and the associated October 11, 2019, amendment, with the exception of specific deviations described below.

Proposal

Interim Operations Plan

Reclamation proposes an Interim Plan that would be in effect until the earlier of September 30, 2022, or the completion of reinitiated ESA Section 7 consultations on a modified or new proposed Operations Plan developed through the process described above to supersede Reclamation's 2018 Operations Plan analyzed by the Services in their 2019 BiOps and the Proposed Interim Plan, which Reclamation would request be completed by September 30th of the year preceding the start of the upcoming irrigation season to give time for a smooth transition from the Interim Plan to the new operations plan. The Interim Plan includes deviations from Reclamation's 2018 Operations Plan analyzed by the Services in their 2019 BiOps, specifically with the augmentation of the Environmental Water Account (EWA; water allocated for Klamath River flows) in certain water year types.

As part of the Interim Plan, Reclamation proposes to provide a base EWA augmentation of 40,000 acre-feet (AF) in water years with an Upper Klamath Lake (UKL) Supply at or above 550,000 AF and at or below 950,000 AF. The 40,000 AF of EWA augmentation would be comprised of 23,000 AF from Project Supply and 17,000 AF from storage volume in UKL. An initial determination on whether the 40,000 AF of EWA augmentation would occur will be based on the March 1 Natural Resources Conservation Service (NRCS) UKL inflow forecast and the resulting UKL Supply. A final determination of EWA augmentation would be made in early April, with the April 1 NRCS inflow forecast and the resulting UKL Supply. In the rare instance that a portion of the EWA augmentation volume is utilized in March, that volume would be subtracted from that available beyond March. If a volume of EWA augmentation is used in March and the subsequent April 1 EWA augmentation calculation does not provide EWA augmentation, then all water utilized in March above and beyond formulaic release of EWA (i.e., augmentation volume) would be counted against the EWA.

When the EWA augmentation is triggered, it would result in a reduction to Project Supply that is limited to, and shall not exceed, 23,000 AF. The EWA augmentation would not otherwise affect Project operations, including Project diversion rates and timing other than that caused by the above-described potential reduction in Project Supply during the spring-summer period.

The 40,000 AF of EWA augmentation included in the Interim Plan is in addition to an enhanced May/June flows provision in the 2018 Operations Plan as amended in February 2019 (as analyzed in the Services 2019 BiOps; NMFS 2019 BiOp pp. 33-34 and USFWS 2019 BiOp p. 27) as well as the October 11, 2019 amendment, although slight modifications to this provision are proposed below. As described in the 2018 Operations Plan, and as will continue under the Interim Plan, Reclamation proposes to provide up to a full enhancement volume of 20,000 AF, split evenly between Project Supply and from UKL (the split is even at all enhancement volumes). Reclamation would utilize the May UKL Supply volume, based on the May 1 NRCS inflow forecast and the resulting UKL Supply, to determine whether enhanced May/June flows would occur, and the actual volume available for flow enhancement. The enhanced May/June flows would begin to increase linearly relative to UKL Supply from zero at a UKL Supply of 625,000 AF, reaching a maximum volume of 20,000 AF between a UKL Supply range of 717,000 and 858,000 AF, then decreasing linearly relative to UKL Supply to zero at an UKL Supply volume of 950,000 AF.

As described in Reclamation's 2018 Operations Plan (as analyzed in the Services' 2019 BiOps), Reclamation would maintain a flexible approach to utilizing the proposed 40,000 AF of EWA augmentation and enhanced May/June flows. With the exception that the EWA augmentation water and enhanced May/June flows would be utilized within the March through June timeframe, Reclamation would allow for flexibility in the timing and distribution of augmentation volumes. EWA augmentation and enhanced May/June water use would be tracked separately from formulaic use of EWA during March through June. Any unused portion of the augmentation water would remain in the EWA after June and the formulaic approach to EWA release would be followed in the July through September period. The existing Flow Accounting Scheduling Technical Advisory (FASTA) process would be used to allow salmon and sucker biologists from Reclamation and the Services, as well as other Klamath Basin experts, to provide real-time operational input into the use of this water to maximize ecological benefits to SONCC coho and Southern Resident Killer Whales, whether those benefits be improved habitat conditions, minimized disease conditions, or both, while maintaining UKL elevations and conditions protective of Lost River and shortnose suckers.

To provide additional certainty that the EWA augmentation volumes can be utilized at the time and in the manner that address disease and habitat concerns for coho salmon, Reclamation has coordinated with PacifiCorp on potential springtime water borrowing operations. The spring operations agreed to with PacifiCorp would assist in providing augmented river flows while safeguarding against UKL elevations below those that are sufficiently protective of spawning suckers, and releases from Upper Klamath Lake would repay the PacifiCorp reservoirs later in the season. Reclamation and PacifiCorp have finalized an agreement on how these operations would occur.

In the event PacifiCorp is unable to provide the water, and/or if modeling shows that implementation of the 40,000 AF of EWA augmentation releases is likely to result in UKL elevations below 4,142.0 feet in April or May, despite good faith efforts to rearrange the 40,000 AF of EWA releases within reasonable bounds, Reclamation will coordinate with the Services and PacifiCorp to best meet the needs of ESA-listed species as well as coordinate and obtain input from Yurok and other affected Klamath River Basin Tribes through government-to-government consultation on how to manage water.

If modeling shows that implementation of the EWA augmentation releases is likely to result in an annual minimum below 4,138.0 feet in a given water year, Reclamation will coordinate with the Services and PacifiCorp to ensure the annual minimum elevation in that water year is achieved as well as coordinate and obtain input from the Yurok and other affected Tribes through government-to-government consultation on how to manage water in a way that best meets the needs of Federally-listed species.

With respect to the above coordination and ensuing management of 40,000 AF of EWA augmentation releases and consequences for Upper Klamath Lake elevations, there can be no effect on Project irrigation supplies/water availability (e.g., no change in quantity, rate, timing) other than that caused by the above-

described potential reduction in Project Supply during the spring-summer period.

Hydrologic Modeling

Utilizing the Klamath Basin Planning Model (KBPM), the hydrologic modeling tool utilized in the 2019 consultation efforts, Reclamation has prepared final model output and a technical description of 40,000 AF of EWA augmentation and the enhanced May/June provisions (both enclosed). Reclamation used the final KBPM output to evaluate the Interim Plan's potential effects to Federally-listed species, which are further described below.

Evaluation

Upper Klamath Lake

Changes to UKL elevations included in the Interim Plan would alter the range of elevations that were analyzed in the USFWS 2019 BiOp. However, Reclamation closely coordinated with the USFWS in developing the Interim Plan to ensure that the resultant conditions in UKL proposed in the Interim Plan would continue to be protective of suckers. Additionally, PacifiCorp's commitment to adjust operations of the Klamath Hydroelectric Project to support river flows important to coho salmon downstream of Iron Gate Dam, while achieving certain UKL elevations, provides additional assurances that the Interim Plan would be protective of suckers in UKL.

Simulation of the Interim Plan within the KBPM results in both higher and lower end of month UKL surface elevations, but the overall trend is lower due to UKL contributions to 40,000 AF of augmented flows in years where UKL Supply is between 550,000 AF and 950,000 AF. A key hydrologic elevation for protecting sucker spawning habitat is maintaining UKL surface elevation above 4142.0 feet through the end of May, once this elevation has been achieved earlier in the spring. The 2018 Operations Plan maintains this elevation in 35 years out of the 39-year period of record. The Interim Plan would achieve this elevation in 33 years out of 39. In the additional two years that the Interim Plan would reduce UKL elevations (water year types experienced in 2005 and 2015), UKL surface elevations would be maintained above 4142.0 feet for portions of the April-May spring spawning period but would drop below this benchmark for multiple consecutive days. Even with implementation of the additional 40,000 AF of EWA augmentation included in the Interim Plan, the modeled output indicates that the frequency at which reduced habitat may concentrate spawning or compel suckers to skip spawning at the shoreline areas is relatively low (i.e., 6 out of 39 years or 15 percent).

Although KBPM simulations can help frame potential implications, in real-time operations, Reclamation would work with PacifiCorp to borrow water or modify augmentation releases in coordination with the FASTA process to ensure that UKL elevations would not fall below 4,142.0 feet during April and May during that water year.

The other key elevation is the minimum UKL surface elevation during the summer and fall. Modeling analyzed in the USFWS 2019 BiOp showed a minimum surface elevation of 4138.26 feet in water year 1981. The Interim Plan flow scenario would result in an UKL minimum surface elevation of 4138.00 feet, in water year 2016. While this is lower than the USFWS 2019 BiOp minimum of 4,138.26 feet, it exceeds the 2013 BiOp minimum of 4137.76 feet and still provides sufficient depth for suckers to access refugial habitat within Pelican Bay.

In general, the differences would result in an average decrease of 0.07 feet during sucker spawning from February to May and an average decrease of 0.15 feet for August and September that results in minimal reductions of habitat available to adult suckers in late summer in the preferred depths in the northern part of UKL.

Klamath River

Based on current available science utilizing 80 percent WUA as a conservation standard, increased flows as a result of the proposed 40,000 AF of EWA augmentation and enhanced May/June provision would likely improve rearing and outmigration conditions for juvenile coho salmon. The augmentation volumes would likely increase the amount of suitable habitat for juvenile salmonids and the amount of time the habitat conservation standard is met. Additionally, the ability to optimize the utilization of the augmentation volumes (timing and distribution) could allow for the volume used to coincide with the peak outmigration timing for coho and Chinook salmon. The additional volume could potentially reduce water temperatures (depending on timing) and dilute actinospore concentrations of the parasite *Ceratanova shasta* thereby reducing disease risk for juvenile salmon. Similarly, increased habitat availability, reduced water temperatures, and reduced actinospore concentrations could benefit coho salmon and designated critical habitat as well as essential fish habitat for coho and Chinook salmon (thereby benefitting the Federally-listed Southern Resident Killer Whale).

Conclusion

The Interim Plan as described above, is expected to provide additional habitat availability for SONCC coho salmon which would contribute toward meeting the habitat conservation standard and potentially reduce disease risk for this species. As such, Reclamation believes that implementation of the proposed Interim Plan would result in reduced effects from those previously analyzed in NMFS' 2019 BiOp and therefore be consistent with NMFS' determinations that Project operations are not likely to jeopardize the continued existence of SONCC coho salmon or destroy or adversely modify their designated critical habitat. The proposed Interim Plan may reduce sucker habitat and concentrate spawning or compel suckers to skip spawning at the shoreline areas, although these events would appear to be infrequent when examining the period of record. Regardless, for the duration of the Interim Plan, if the 40,000 AF of EWA augmentation is triggered on April 1 in any given year, UKL elevation will not drop below 4142.0 feet during the months of April and May in that water year.

Additionally, while implementation of the 40,000 AF of EWA augmentation could cause UKL minimum surface elevation to be reduced below elevation 4,138.26 to an elevation of 4138.0, that is expected to be an infrequent occurrence (modeled year 2016). This elevation would still be expected to provide sufficient depth for suckers to access refugial habitat within Pelican Bay. In general, the differences would result in an average decrease of 0.07 feet during sucker spawning from February to May and an average decrease of 0.15 feet for August and September that results in minimal reductions of habitat available to adult suckers in late summer in the preferred depths in the northern part of UKL. In addition, Reclamation believes that the ability to borrow water from PacifiCorp reservoirs provides assurances that the Interim Plan would be protective of suckers in UKL at critical life stages and associated UKL elevations (4,142.0 feet in April and May and 4,138.0 feet as an annual minimum) that avoid jeopardizing the continued existence of Lost River and shortnose suckers and does not destroy or adversely modify their designated critical habitat.

Overall, Reclamation believes this proposed Interim Plan meets Reclamation's ESA responsibility to not jeopardize Federally-listed species or destroy or cause adverse modification of their designated critical habitat.

Request for Confirmation of Reclamation's Conclusions

Reclamation requests the Services review the enclosed modeled output for the Interim Plan derived from the KBPM and provide separate responses related to confirmation of Reclamation's conclusions.

Reclamation is appreciative of the collaboration and inter-agency coordination that has taken place to date. If you have any questions, please contact Jared Bottcher at (541) 880-2544, or via e-mail at jbottcher@usbr.gov.

Attachment (1)

cc: Jim Simondet