



United States Department of the Interior



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

IN REPLY REFER TO:

KO-100
2.2.4.21 (WTR-4.10)

MAY 5 2020

VIA ELECTRONIC MAIL ONLY

Thomas M. Byler, Director
Oregon Water Resources Department
725 Summer St. NE, Suite A
Salem, OR 97301

Subject: Initial Response to the Request for Information

Dear Mr. Byler:

The U.S. Bureau of Reclamation (Reclamation) hereby provides this Initial Response to the Request for Information issued by the Oregon Water Resources Department (OWRD) on May 1, 2020. Because of the extremely short time available to respond to the OWRD Request for Information, Reclamation is submitting this Initial Response, and intends to follow up in the near future with a Supplemental Response or Responses as needed. Counsel for Reclamation was notified and obtained the acknowledgement of counsel for OWRD regarding this phased response process. Due also to the compressed timeframe provided to assemble and report the information requested, Reclamation reserves the right to correct or modify the information submitted herein as necessary to ensure accuracy and completeness.

Accordingly, Reclamation provides the following Initial Responses to the OWRD Request for Information:

Water Storage Data

1) BOR's measurements and estimates regarding the total cumulative volume of stored water in UKL after January 1, 2020, through the date on which the water level in the lake reached the highest elevation;

On January 1, 2020 the volume of stored water in Upper Klamath Lake was 271,810 Acre-Feet (AF). Peak storage of 452,095 AF occurred on April 8-9, 2020. The estimated storage values were derived using the 2017 bathymetric layer of Upper Klamath Lake that is utilized by Reclamation for operations and planning purposes.

2) BOR's measurements and estimates regarding the volume of stored water currently in UKL; As of May 3, there was 391,418 AF of active storage within Upper Klamath Lake. This estimate was also produced using the 2017 bathymetric layer for Upper Klamath Lake.

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* PARTIAL

3) BOR's calculation of how much stored water is allocated to the Klamath Project under the 2020 Operations Plan, including subtotals for irrigation use, stock-water use and domestic use.

Based on Reclamation's March 27, 2020 Interim Operations Plan for operation of the Klamath Project for Water Years 2020-2022, and consistent with the 2019 and 2020 Biological Opinions issued under the Endangered Species Act (ESA) by the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS), respectively, Reclamation initially calculated a Project Supply from Upper Klamath Lake of approximately 147 Thousand Acre-Feet (TAF). The Project Supply is the amount of water available for diversion from UKL through the Project's five main points of diversion (i.e., A Canal, Station 48, Miller Hill Pumping Plant, Ady Canal, and North Canal). Further adjustment to the 147 TAF Project Supply allocation was necessary to determine the volume of Project Supply available for diversion from UKL through the Project's five main points of diversion listed above. Specifically, 7,436 AF was initially subtracted from the 147 TAF Project Supply, to account for Project diversions from the Lost River Diversion Channel and Klamath River other than at Station 48, Miller Hill Pumping Plant, North Canal, and Ady Canal. To the extent that Reclamation determines and verifies that diversions of Project Supply at these other points of diversion are less than 7,436 AF, the difference will be added to the Project Supply available at the five main points of diversion identified above. After accounting for diversions in the Lost River Diversion Channel and Klamath River, the April 1 Project Supply allocation was therefore approximately 140 TAF.

Reclamation does not attempt to track the distribution and use of the 140 TAF based on beneficial use type (irrigation, stock-water, or domestic uses). Reclamation only tracks the gross diversions at the aforementioned five main points of diversion. Furthermore, the 140 TAF represents a combination of stored water in Upper Klamath Lake, along with projected inflows to Upper Klamath Lake for the duration of the 2020 irrigation season. Please see the 2020 Annual Operations Plan for details on Project Supply calculations relative to the contribution of both stored volume within Upper Klamath Lake and projected inflows to the reservoir (i.e., live flow).

4) BOR's measurements and estimates regarding the volume of stored water which was already delivered to the Klamath Project in 2020, including subtotals for irrigation use, stock water use and domestic use.

Through May 3, 2020, Reclamation delivered 20,291 AF of Project Supply from Upper Klamath Lake to the Klamath Project, as measured at the Project's five main diversion points listed above. The 20,291 AF does not include additional diversions that were provided, or offset, by flows from the Lost River Diversion Channel and Klamath Straits Drain.

The 20,291 AF of Project Supply delivered to the Klamath Project is a combination of stored volume and live flow into the reservoir. With those delivered volumes, Reclamation does not attempt to provide a proportional breakdown of contribution between live flow or stored volume. Again, Reclamation does not track the distribution and use of the available Project water supply based on beneficial use type. Reclamation only tracks the gross diversions at the five main points of diversion for the Klamath Project.

Natural Flow Data

5) BOR's determinations regarding how much natural flow water is allocated to the Klamath Project under the 2020 Operations Plan.

Reclamation does not specifically allocate volumes of live flow to the Klamath Project. The allocation to the Klamath Project, as required under the 2019 and 2020 Biological Opinions from NMFS and FWS, respectively and the Interim Operations Plan, is relative to Upper Klamath Lake. However, natural flow in the Klamath River downstream of Upper Klamath Lake is diverted to the Klamath Project in combination with the allocation released from Upper Klamath Lake. The total volume of natural flow that will be available for diversion cannot be accurately projected. Therefore, the volume of water from natural flows that will be available during the 2020 irrigation season is unknown and cannot be reliably added to the overall estimated Klamath Project water supply. However, as previously stated, natural flows in the Klamath River are diverted to the Klamath Project in real-time in combination with the allocation available from Upper Klamath Lake. The total volume allocated to the project under the 2020 Operations Plan is 147,400 AF (Project Supply plus ungauged diversions).

6) BOR's measurements of mean daily live flow into UKL for 2020, and estimates and projections of mean daily live flow into UKL for the remainder of 2020, with a description of each surface water source and any measuring devices.

Mean daily live flow from October 1, 2019 through May 3, 2020 was 2,621 AF per day. Based on the Natural Resources Conservation Service's May 1, 2020, inflow forecast (forecast period of May 1, 2020 through September 30, 2020), the projected mean daily live flow into Upper Klamath Lake will be approximately 739 AF per day. Reclamation does not measure each individual inflow source into Upper Klamath Lake. Rather, Reclamation calculates total net daily inflow to Upper Klamath Lake based on known releases and changes in lake storage, which is influenced by evapotranspiration, seepage, as well as non-Project and ungauged diversions. Therefore, the actual live flow, or gross inflow, into Upper Klamath Lake is greater than the estimates provided above, as evapotranspiration from Upper Klamath Lake and the surrounding wetlands substantially decrease the calculated net inflow when evapotranspiration rates are high. (*Because of the large surface area of Upper Klamath Lake at approximately 66,000 surface acres, and the relatively shallow depth of the lake, evapotranspiration losses from Upper Klamath Lake can be in the range of 1,000 – 2,000 AF per day).

7) BOR's measurements and estimates regarding the total volume of natural flow water which was already delivered to the Klamath Project in 2020.

An estimated volume of 20,291 AF of water has been delivered from UKL to the Klamath Project from April 1 through May 3, 2020.

Diversions Data

8) A list of diversions (aka PODs) for the Klamath Project, including the quantity of water allocated by the 2020 Operations Plan for each diversion in 2020, whether they diverted stored and/or natural flow water, and whether the diversion has headgates or measuring devices. This

request includes all Klamath Project diversions from UKL and the Klamath River downstream from the Link River Dam (e.g. KDD).

Reclamation does not allocate water to specific points of diversion. Rather, Reclamation issues an allocation to the entire Klamath Project as a whole, consistent with the requirements outlined in the 2019 and 2020 Biological Opinions and the Interim Operations Plan. However, Reclamation tracks diversions at all five major delivery points using a variety of gages: A Canal (Klamath Irrigation District (KID) gauge), Station 48 (daily email report from Tulelake Irrigation District), Miller Hill Pumps (daily email report from KID), North Canal (USGS gauge), and Ady Canal (USGS gauge). All of the five main points of diversion listed above have headgates with the exception of Miller Hill Pumps.

Total water deliveries through each of the five main points of diversion thus far during the 2020 irrigation season are summarized in Table 1 below. As described above, these deliveries are a combination of natural flow in the Klamath River and the allocation available from Upper Klamath Lake.

Table 1. Klamath Project deliveries by point of diversion for March 1, 2020, through May 3, 2020. Please note, that

Point of Diversion	Volume, acre-feet
A Canal	15,533
Ady Canal	4,523
Miller Hill Pumps	1,702
North Canal	2,124
Station 48	6,140

9) A list of diversions from UKL, excluding diversions which are listed for the Klamath Project in response to question 8 above. This request includes the quantity of water for each diversion in 2020, whether they divert stored and/or natural flow, and whether the diversion has headgates or measuring devices.

In addition to the five major PODs listed in #8, a number of individual property owners divert water directly from the Keno Impoundment and the Lost River Diversion Channel. Reclamation has not tracked these PODs individually, but based on historical patterns, in aggregate, they are estimated to normally divert about 7.4 TAF.

10) BOR's determinations regarding how much stored water or natural flow has been released from UKL through the Link River Dam in 2020 for non-Klamath Project purposes, with a list of the reasons for and quantify of the release, including but not limited to water released for the federal Endangered Species Act (ESA), the Yurok Tribe's fishing rights, or other purposes.

Between January 1, 2020 and February 29, 2020, a volume of 50,093 AF was released through Link River Dam for non-Klamath Project purposes during the winter. From March 1, 2020

through May 3, 2020 a volume of 142,564 AF was released through the Link River Dam for non-Klamath Project purposes during the start of the irrigation season. Thus, the total volume of water released from Link River Dam for non-Klamath Project purposes since January 1, 2020 has been 192,657 AF. These releases or bypasses of flows have been made to satisfy legal requirements related to operation of the Klamath Project consistent with federal law, including but not limited to requirements associated with the 2019 and 2020 Biological Opinions under the ESA, as well as the Interim Operations Plan for the Klamath Project. Reclamation will respond further to items 1-10 from OWRD's Request for Information as it deems necessary as OWRD's investigation proceeds. Reclamation also intends to respond to the remaining items 11-18 in the Request for Information at its earliest opportunity.

Sincerely,

Jeffrey Nettleton
Klamath Basin Area Manager

cc: Mr. Tom Paul, Special Assistant to the Director
Oregon Water Resources Department

Mr. Michael Gheleta
Supervisory Attorney
U.S. Dept. of Interior, Office of Solicitor