

**USFWS and NMFS Crooked River Act
Final Recommendation for 2023 to 2024 / August 9, 2023**

The following is the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) final recommendation for 2023 to 2024, pursuant to the consultation requirement under Section 4 of the Crooked River Collaborative Water Security and Jobs Act of 2014 (CRA). The FWS and NMFS (collectively the Services) are submitting our final proposed annual release schedule for the uncontracted (fish and wildlife) storage account and contracted City of Prineville groundwater mitigation account per the CRA. The CRA requires the Bureau of Reclamation (Reclamation) to consult with the Services to develop an annual release schedule that "...maximizes, to the maximum extent practicable, benefits to downstream fish and wildlife."

In addition to the Services' obligation under the CRA, the FWS and NMFS concluded the Deschutes Basin Habitat Conservation Plan (DBHCP) development and approval process on December 31, 2020, and October 18, 2022, respectively, and issued Incidental Take Permits^{1,2} to the City of Prineville and eight Central Oregon irrigation districts (collectively the Permittees). The DBHCP was designed to work with the CRA and we have considered the applicable elements of the DBHCP while drafting our CRA recommendation.

Reclamation has determined that the Day of Allocation for Prineville Reservoir occurred on May 30, 2023. Reclamation's "Letter and Final 2023 Storage Allocations" is available at: <https://www.usbr.gov/pn/cao/projects/PrinevilleResStorage/PrinevilleResStorage.html> This year Prineville Reservoir filled to 148,633 acre-feet (acft) which provides the following storage quantities for release as fish and wildlife flows: 1) 60,095 acft of uncontracted storage; and 4,902 acft of Prineville groundwater mitigation storage for a total of 64,997 acft. These storage amounts are lower than those available during other years of full reservoir fill due to Reclamation's accounting for reservoir storages losses from sedimentation and evaporation. These effects are being applied to storage accounts. The Services believe that the following 2023 to 2024 recommendation most effectively achieves the CRA's goal of maximizing, to the maximum extent practicable, the benefits to downstream fish and wildlife.

USFWS and NMFS 2023 to 2024 Instream Flow Recommendation

The Services consider the following 2023 to 2024 recommendation to most effectively achieve the CRA's goal of maximizing, to the maximum extent practicable, the benefits to downstream fish and wildlife. Our recommendation would leave about 21,757 acft as uncontracted storage carryover for the 2024 to 2025 water year. Our recommendation also incorporates Reclamation's request to release about 11,000 acft of fish and wildlife storage by November 15

¹ <https://www.fws.gov/project/deschutes-river-basin-habitat-conservation-plan>

² <https://www.fisheries.noaa.gov/west-coast/habitat-conservation/habitat-conservation-plans-west-coast>

to assist Reclamation to meet their required winter flood control storage level of 88,640 acft. The Service's recommendation for Irrigation Season and early Storage Season flows from July 26 to November 15 will draw about 12,060 acft from reservoir storage by November 15, which is comprised of 4,902 acft of City of Prineville groundwater mitigation storage and 7,158 acft of uncontracted storage. In addition, we estimate that about 1,031 acft of uncontracted storage was released before July 26; thus a total of 13,091 acft fish and wildlife storage will be released by November 15. The Services recognize that NUID's irrigation storage releases may vary during the remainder of the 2023 irrigation season and that Reclamation's guidelines for requesting flow changes may require minor adjustments to start dates for our recommended flows. We recommend that Reclamation adjust releases from the Prineville mitigation storage and uncontracted storage accounts as needed to maintain the recommended target flows.

The Services and Reclamation are continuing our efforts to provide instream protection for fish and wildlife releases from uncontracted storage. Beginning in June of 2023 the Service, Reclamation, Deschutes River Conservancy, Oregon Water Resources Department (OWRD), and others had drafted an instream lease application to protect releases from uncontracted storage. The application was filed with the OWRD on June 14, 2023. However, on July 14 the OWRD concluded that the instream lease approach would not be approved. Previously on June 8, 2021, Reclamation had also filed an application for a secondary water storage right (S-89128) with the OWRD to protect uncontracted storage releases from diversion. That application is still pending before the OWRD. As a result 2023 to 2024 uncontracted storage releases will not be protected instream. The Service's Irrigation Season flow recommendation takes this lack of protection into account. Our recommended flows are summarized in Table 1 below.

Table 1 Recommended 2023 to 2024 Instream Flows (cfs) by Storage Account

	July 26 *	Aug	Sept 10*	Oct *	Nov	Dec	Jan	Feb	Mar	April 14
Uncontracted Storage	0	0	20 / 60	60 / 100	100	100	100	100	100	100
Groundwater Mitigation Storage	20	20	20 / 60	0	0	0	0	0	0	0
Total	20	20	20 / 60	60 / 100	100	100	100	100	100	100

*July 26 to September 10 release 20 cfs from groundwater mitigation account

*September 11 to October 6 release 60 cfs from groundwater mitigation account

*October 7 to October 14 release 60 cfs from uncontracted storage

*October 15 to April 14 release 100 cfs from uncontracted storage

Irrigation Season

Our recommendation should provide a minimum flow of 60 cfs at the CAPO gauge in Prineville at RM 46.7 for the remainder of the 2023 Irrigation Season. As noted above, Reclamation has informed the Services that we would need to release about 11,000 acft of fish and wildlife storage by November 15 to help Reclamation to reach their required winter flood control level storage level of 88,640. The releases proposed below meet instream flow needs for fish and wildlife and are also consistent with Reclamation's request.

July 26 to September 10

During this period the North Unit Irrigation District (NUID) anticipates drawing 45 cfs per day from their irrigation storage account, though this amount may vary. This water will remain instream from Bowman Dam at RM 70.5 to NUID's pumps at about RM 22.4. We recommend releasing an additional 20 cfs of flow to augment NUID's release to provide a 60 cfs flow at CAPO RM 46.7. We recommend making this release from the City of Prineville's 4,902 acft groundwater mitigation account since flows from this account have instream protection. Releasing 20 cfs during this 47-day period will use about 1,864 acft of mitigation storage which will leave about 3,038 acft in the mitigation account.

September 11 to October 6

NUID estimates that their 45 cfs releases of irrigation water from reservoir storage will end on about September 10. To maintain instream flows of 60 cfs at CAPO during this 26-day period we recommend releasing the remaining 3,038 acft of mitigation storage in combination with uncontracted storage. The 3,038 acft of mitigation storage will provide a flow of 60 cfs from September 11 to partial day October 6. From October 6 to 14 the 60 cfs flow at CAPO will be maintained by releasing about 1,009 acft of uncontracted storage. We recommend that the 3,038 acft of remaining mitigation storage be released first since flows from this account have instream protection. After that account is empty the 60 cfs flow will be maintained by releases from uncontracted storage.

Storage Season

We recommend that 100 cfs of fish and wildlife flow be released from Bowman Dam from October 15, 2023, to April 14, 2024. Our recommendation would use about 36,298 acft of Prineville Reservoir uncontracted storage from October 15, 2023, to April 14, 2024. During the period from October 15 to November 15 this release will draw about 6,149 acft from uncontracted storage which together with our recommended Irrigation Season releases is consistent with Reclamation's request to release about 11,000 acft of fish and wildlife storage by November 15.

2024 Smolt Outmigration Flow and/or Flow Enhancement

The Services will determine what smolt outmigration or supplemental instream flows will maximize the benefits to steelhead, bull trout, spring Chinook, and other native fish species in

the Crooked River after consulting and coordinating with the Confederated Tribes of the Warm Springs (CTWS), the Oregon Department of Fish and Wildlife (ODFW), and the Pelton Round Butte Project Fish Committee. Flows could either be supplemented to increase Storage Season flows and/or provide water to perform 'pulse flows' to assist spring Chinook and steelhead smolts migrating out of the Crooked River system in late winter/early spring of 2024. The specific details of these releases will consider the best available real-time information on river conditions, smolt out-planting dates, and other habitat and climate conditions at the time. The Services and our partners will seek to educate the public regarding these flow changes using existing public outreach strategies.

City of Prineville Groundwater Mitigation Storage Account

We recommend that the 4,902 acft of mitigation storage be released to provide an additional 20 to 60 cfs of flow from July 26 to October 6. Details regarding these releases are provided above. We also recommend that Reclamation request that the OWRD ensure that flows released from the 4,902 acft account are fully protected as instream flow after they are released from Prineville Reservoir. It is our understanding that Reclamation as the party holding the secondary water right for the 4,902 acft must request this protection every year.

Rationale for USFWS/NMFS 2023 to 2024 Recommendation

Our recommendation is based on the following rationale:

- 1) Our recommendation takes into consideration that releases of fish and wildlife flows from uncontracted storage are considered "live flow" under Oregon state law. This is because uncontracted storage releases do not have the protection of a secondary water right. As a result, they may be diverted by parties downstream of Bowman Dam that may have unmet live flow diversion rights. Since these flows are vulnerable to diversion, particularly during the Irrigation Season, their benefits to fish and wildlife are maximized by retaining them for Storage Season release, or as carryover for the next water year. Alternatively, Irrigation Season flows can be maintained by releases from the City of Prineville's groundwater mitigation account since releases from this account have instream protection. As previously noted, efforts to provide instream protection to releases from uncontracted storage have so far been unsuccessful.
- 2) Our recommendation will allow Storage Season flows to be maintained at higher levels. During the winter Storage Season flows from Prineville Reservoir are needed to support fish species from Bowman Dam at river mile 70.5 to the river's confluence with Lake Billy Chinook, since at this time of the water year there is no irrigation flow to augment fish and wildlife instream flows. In particular, the approximately 26 miles of the

Crooked River downstream of Bowman Dam to the confluences of Ochoco and Mckay Creeks are almost entirely dependent on Prineville Reservoir fish and wildlife flows.

- 3) Our recommendation will provide about 21,757 acft of uncontracted storage carryover for the 2024 to 2025 water year.
- 4) Our recommendation will provide chinook, steelhead, redband rainbow trout habitat during the Irrigation Season and Storage Season.
- 5) Irrigation Season: The remainder of the 2023 Irrigation Season covered by our recommendation is from about July 26 to October 14. Our recommendation to release 20 cfs of flow from the groundwater mitigation account from July 26 to October 6 will, in combination with NUID's 45 cfs release of irrigation storage, maintain a flow of about 60 cfs through the Crooked's low flow reach. This reach extends about 6.4 miles from People's Diversion at about RM 49.4, past the CAPO gauge at RM 46.7, and down to the confluences of Ochoco and Mckay Creeks between RM 43.9 to RM 43. From October 6 to October 14 the 60 cfs flow will be maintained by releases from uncontracted storage.

The Hardin IFIM study (Hardin, 1993) focused on redband rainbow trout habitat, and in 2001 Hardin used the 1993 data to generate IFIM habitat quantities for Chinook and steelhead (Hardin, 2001). The IFIM study for the Crooked River divided the Crooked River into three reaches which are: 1) Upper Canyon Reach from Bowman Dam RM 70.5 to Stearns Diversion Site at RM 59; 2) Valley Reach from Stearns Diversion RM 59 to the NUID Pumps RM 22.4; and 3) Lower Canyon reach from NUID pumps RM 22.4 to the Highway 97 bridge RM 12.4. The percent of total habitat available for life stages of Chinook, steelhead, and redband rainbow trout are shown below in Table 2.

Table 2 60 cfs Flow Steelhead, Chinook, and Redband Rainbow Trout Habitat

	Upper Canyon %	Valley %	Lower Canyon %
Juvenile Steelhead	81.5	80.1	83.1
Spawning Steelhead	29.8	86.8	21.7
Juvenile Chinook	81.9	80.1	90.2
Spawning Chinook	12.3	71.9	17.8
Redband Fry	47.0	27.8	42.4
Redband Juvenile	58.9	54.9	61.7
Redband Adult	13.2	18.9	15.0
Redband Spawn	0.4	0.9	0.9

6. Storage Season: From October 15, 2023, to April 14, 2024, we recommend releasing 100 cfs of flow from the uncontracted storage account. This will maintain minimum instream flows from Bowman Dam at RM 70.5 to the confluences of Ochoco and Mckay Creeks between RM 43.9 to RM 43. Inflow from these creeks will further increase instream flows. The percent of total habitat available for life stages of Chinook, steelhead, and redband rainbow trout are shown below in Table 3.

Table 3 100 cfs Flow Steelhead, Chinook, and Redband Rainbow Trout Habitat

	Upper Canyon %	Valley %	Lower Canyon %
Juvenile Steelhead	94.0	95.1	96.7
Spawning Steelhead	74.9	92.5	71.2
Juvenile Chinook	97.4	95.6	99.1
Spawning Chinook	49.8	99.2	57.4
Redband Fry	45.1	26.6	40.5
Redband Juvenile	62.4	58.6	66.7
Redband Adult	20.7	28.5	22.2
Redband Spawning	0.5	0.8	1.4

USFWS and NMFS Coordination with Oregon Fisheries Co-Managers

The Services have been coordinating with the CTWS and the ODFW regarding Crooked River instream flows since spring of 2023. On May 25 we shared an outline of our draft 2023 to 2024 Crooked River flow recommendation with both parties and requested comments to help inform our final recommendation. The ODFW replied to us on June 8 and the Service's replied to ODFW's question and comments on June 9. The CTWS has not replied to our May 25 message. On July 25 the Service's sent our updated draft 2023 to 2024 Crooked River recommendation to the CTWS and ODFW and requested comments by July 28. On August 2 we received additional comments from the ODFW which we replied to on August 6. We have not received any comments from the CTWS.

Conclusion

The Services believe that this 2023 to 2024 CRA recommendation most effectively achieves the Crooked River legislation's goal of maximizing, to the maximum extent practicable, the benefits to downstream fish and wildlife. Please let us know if you have any questions or would like additional information.

Citations

Hardin, T. 1993. Summary Report Crooked River Instream Flow Study. Prepared for the Oregon Department of Fish and Wildlife, U.S. Bureau of Land Management, and U.S. Bureau of Reclamation.

Hardin, T. 2001. Physical Habitat for Anadromous Species in the Crooked River Below Bowman Dam. Prepared for the Pacific Northwest Region U.S. Bureau of Reclamation.