

STUDY NO. 6: EVALUATION OF ANADROMOUS FISH HABITAT ABOVE BOWMAN DAM

6.1 Goals and Objectives - §5.9(b)(1) — Describe the goals and objectives of each study proposal and the information to be obtained

ODFW Proposal:

Information and analyses of salmonid fish spawning and rearing habitats along with riparian assessments, water quality, water temperature, and hydrological data above Bowman Dam would be reviewed and summarized. To the extent supported by the existing information, a summary of: 1) total area of habitat, and 2) the relative quality of habitat to produce summer steelhead trout and spring Chinook salmon, was prepared. Existing limitations and/or impairments to habitat described in existing documents, such as unscreened diversions and blockages to fish movement, would also be noted.

OID Response:

OID will be submitting an application for a waiver of the requirement to install fish passage at Bowman Dam. OID acknowledges the need to assess potential habitat for migratory fishes above Bowman Dam in order to determine the value of mitigation efforts proposed in the waiver. As a result, the application will include an analysis of existing information regarding native migratory fish habitat and water quality upstream of Bowman Dam.

6.2 Relevant Resources Management Goals - §5.9(b)(2) — If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.

ODFW Proposal:

ODFW's wildlife policy (ORS 496.012) establishes wildlife management policy to prevent serious depletion of any indigenous species and maintain all species of fish and wildlife at optimum levels. The wildlife diversity program's goal is to maintain Oregon's wildlife diversity by protecting and enhancing populations and habitats of native wildlife at self-sustaining levels throughout natural geographic ranges (OAR 635-100-0010). The Fish and Wildlife Habitat Mitigation Policy (OAR 635-415-0010) requires or recommends, depending upon the habitat protection and mitigation opportunities provided by specific statutes, mitigation for losses of fish and wildlife habitat resulting from development actions.

ODFW has multiple resource management goals derived from Oregon statute and adopted rules that guide our recommendations in hydro licensing processes. Permeating each of these policies is the goal of protecting and restoring native fish and wildlife populations for use and enjoyment by present and future generations. Key directives to ODFW for implementing fish and wildlife strategies include; avoidance of impacts to these populations, protection of genetic diversity, and protection and restoration of natural habitats on which these populations are dependent.

ODFW's Crooked River Basin Plan identifies reconnecting isolated and fragmented populations of redband trout by restoring and improving passage over manmade barriers as a goal (OAR 635-500-1850c). Prior to the construction of Bowman Dam, the upper Crooked River was inhabited by anadromous mid-Columbia spring Chinook Salmon (*Onchorynchus tshawytscha*) and summer steelhead (*Onchorynchus mykiss irideus*). These species persisted in the lower Crooked River until the construction of the Pelton-Round Butte Dam complex in 1958-1964. Through relicensing of this

FERC project, the joint applicants are proposing the reintroduction of both chinook and steelhead into the Crooked River subbasin. The Basin Plan further states the goal of restoring anadromous and migratory resident migratory fish to their historic range in the Crooked River basin by improving upstream and downstream passage over artificial barriers OAR 635-500-1850b. The Basin Plan also directs evaluating passage over Ochoco and Bowman dams, if passage is restored successfully over Pelton, Round Butte and Opal Springs hydroelectric dams.

OID Response:

OID recognizes ODFW's management goals for the restoration of populations of redband trout, Chinook salmon, and summer steelhead.

6.3 Background and Existing Information - §5.9(b)(4) — Describe existing information concerning the subject of the study proposal, and the need for additional information.

ODFW Proposal:

Anadromous fish access to the upper Crooked River and its tributaries has been blocked since construction of the Pelton-Round Butte Dam complex in 1958-1964 and Bowman Dam in 1961. The upper basin above Bowman dam currently supports native redband trout, and is has the capacity of supporting reintroduced anadromous salmonid fishes as well. Ongoing efforts to re-establish steelhead trout and spring Chinook salmon above the Pelton Round Butte Project combined with the providing of fish passage at the Opal Springs Hydroelectric Project (as of August of 2019) and other barriers on the mainstem Crooked River below Bowman Dam give both species access to Crooked River upstream as far as Bowman Dam. Fish passage at the dam could extend the ranges of both species into the upper Crooked River watershed.

OID Response:

OID recognizes that the addition of passage structures have increased access for Chinook salmon and steelhead in the basin, however, Rice Baldwin Dam is located downstream of Bowman Dam and is currently listed by ODFW as a level 4 barrier. As ODFW defines it, Rice Baldwin Dam is a barrier to some native migratory fish adults and/or species.

6.4 Project Nexus - §5.9(b)(5) — Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements

ODFW Proposal:

The State of Oregon recognizes the importance of passage to the continued persistence and viability of migratory resident and anadromous fish species (ORS 498.351 and 509.605). It is the policy of the State to provide for upstream and downstream passage for native migratory fish. Fish passage is required in all waters of the state in which native migratory fish are currently or have been historically present. A person owning or operating an artificial obstruction may not construct or maintain any artificial obstruction across waters inhabited by native migratory fish (ORS509.585). This statute further directs ODFW to “direct its enforcement authority toward priority projects, emergencies and “triggers””. In this case, the trigger is the conversion of an existing structure to include hydroelectric facilities (fundamental change in permit status). Given this mandate, the owner and or operator of the facility has three alternatives a) submit a proposal for fish passage to ODFW, b) apply to the Fish and Wildlife Commission for a waiver demonstrating alternatives to fish passage that provide a net

benefit to native migratory fish or c) file for an exemption with the Commission under subsection 9 ORS 509.585.

The information resulting from this study can be used by the Applicant in respect to potential options and providing fish passage at Bowman dam and/or the option of applying to ODFW for a fish passage waiver. The information gathered from this study will ODFW to likewise assess the fish passage options for the proposed Project and help guide ODFW in advising and analyzing the merits of any proposed fish passage option that OID may pursued.

OID Response:

OID will be applying for a fish passage waiver. An analysis of native migratory fish habitat and water quality upstream of Bowman Dam will be included in the application.

6.5 Proposed Methodology - §5.8(b)(6) — Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field seasons(s) and the duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.

ODFW Proposal:

The biological potential of the upper basin can be derived from available Federal, State, and local resource agency information and reports of habitat conditions for flowing waters upstream of Prineville Reservoir. Habitat assessments conducted by the USFS, by ODFW for their Deschutes River and Crooked River Fish Management Planning efforts, by the Northwest Power and Conservation Council in preparation of the Deschutes Subbasin Plan (NPCC 2004) and watershed assessments performed by the Crooked River Watershed Council (CRWC). Other potential information on exists on water quality, streamflow, water temperature, and fish passage data gathered from ODEQ, ODFW, the CRWC, US Geological Survey, Watershed Sciences, and Portland General Electric.

Information and analyses of salmonid fish spawning and rearing habitats along with riparian assessments, water quality, water temperature, and hydrological data above Bowman Dam would be reviewed and summarized. To the extent supported by the existing information, a summary of: 1) total area of habitat, and 2) the relative quality of habitat to produce summer steelhead trout and spring Chinook salmon, was prepared. Existing limitations and/or impairments to habitat described in existing documents, such as unscreened diversions and blockages to fish movement, would also be noted.

This type of analysis is consistent with other fish protection analyses completed during licensing proceedings for hydroelectric projects that have the potential to adversely affect resident and anadromous salmonids and ESA-listed fish species.

OID Response:

This desktop analysis will be completed for all native migratory fish in the Crooked River basin and will be included in OID's application for a fish passage waiver.

6.6 Level of Cost and Effort - §5.9(b)(7) —Describe considerations of level of effort and cost, as applicable, and why any proposed alternative studies would not be sufficient to meet the stated information needs.

ODFW Proposal:

The total cost for conducting the analysis and preparing the report is estimated to be approximately \$35,000. Two analysts would be expected to work for approximately 30 days on the analysis. Additionally, two analysts would be expected to work for approximately 7 – 14 days on the field investigations and two analysts would be expected to work for approximately two days incorporating agency comments into the final report.

The evaluation of anadromous fish habitat above Bowman Dam study would be completed during the 2020 study season with the draft report available for comment by the federal agencies and ODFW prior to December 31, 2020.

OID Response:

The level of effort proposed by ODFW appears to be accurate. However, because this study will be included in OID's application for a fish passage waiver, the timeline for completion will be much shorter than identified by ODFW in this proposal. A draft analysis will be available for comment by ODFW and federal agencies on October 15th, 2019.