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Department of Energy
Bonneville Power Administration

GRANDE RONDE BASIN ENDEMIC SPRING CHINOOK SALMON SUPPLEMENTATION PROGRAM

Action: Finding of No Significant Impact (FONSI) and Floodplain Statement of Findings.

Summary: Bonneville Power Administration (BPA) proposes to fund a program designed to prevent the extinction and begin the recovery of spring chinook salmon stocks in the Grande Ronde River Basin in the Upper Grande Ronde River, Lostine River, and Catherine Creek in northeastern Oregon. These stocks comprise part of the population of Snake River spring/summer chinook salmon listed under the Endangered Species Act (ESA) by the National Marine Fisheries Service (NMFS) in 1992 as threatened. This proposed program, the Grande Ronde Basin Endemic Spring Chinook Salmon Supplementation Program, would be funded by BPA and implemented in cooperation with the Oregon Department of Fish and Wildlife (ODFW), the Nez Perce Tribe, and the Confederated Tribes of the Umatilla Indian Reservation.

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Supplementary Information: Under the provisions of the Pacific Northwest Electric Power Planning and Conservation Act of 1980, BPA protects, mitigates, and enhances fish and wildlife and their habitats affected by the construction and operation of the Federal hydroelectric system in the Columbia River Basin. This is accomplished through funding of measures that are consistent with the Northwest Power Planning Council's (Council) Fish and Wildlife Program and other purposes of the Act [16 U.S. 839b(h)(10)(A)]. The site-specific fish and wildlife mitigation projects that BPA funds are intended to help reach the Council's mitigation goals and are "in addition to, not in lieu of, other expenditures authorized or required from other entities under other agreements or provisions of law." Under the ESA, BPA also has an obligation to avoid jeopardizing the existence of a listed species and will use its authorities to conserve listed species (16 U.S.C. 1531, 1536).

The Proposed Action is for BPA to fund the efforts to prevent the extinction and begin the recovery of spring chinook salmon stocks in the Grande Ronde River Basin in the

Upper Grande Ronde River, Lostine River, and Catherine Creek in northeastern Oregon. Funding would allow:

- hatchery spawning and rearing of the fish and their release into the Upper Grande Ronde, Lostine River, and Catherine Creek tributaries;
- purchase of equipment and upgrades to facilities for the purpose of capturing adults, rearing, acclimation, and release of the smolts into the three tributaries; and
- a comprehensive monitoring and evaluation program.

As part of the Council's Fish and Wildlife Program, the Northeast Oregon Hatchery Program (NEOH) was the initial planning effort by the fishery co-managers to recover anadromous fish runs in Northeast Oregon. Part of NEOH planning was an effort to recover spring chinook into the Grande Ronde Subbasin. After a time, this project evolved into one of the 15 high-priority supplementation projects approved by the Council in March 1996. This project is also consistent with the Draft Recovery Plan for Snake River Salmon (NMFS, 1995), which includes the Grande Ronde Basin spring chinook salmon within its scope.

To fully achieve the Proposed Action in the Environmental Assessment (EA) prepared in February 1998, one adult collection facility and one acclimation facility would be constructed along each of the three tributaries of the Grande Ronde. In addition, the Manchester Hatchery (in Puget Sound near Bremerton, Washington) and the Bonneville Hatchery (at Bonneville Dam) are currently being upgraded to accommodate additional facilities that could be used to implement the proposed Grande Ronde Basin Endemic Spring Chinook Salmon Supplementation Program.

The use of the supplementation program raises several potential environmental concerns, such as genetic hazards, exposure to disease, and the potential negative interactions between hatchery and wild fish. Four types of genetic hazards may be associated with any supplementation program: extinction, loss of within-population variability (genetic variation), domestication, and loss of population identity. However, only the first three pose a risk with the project because it does not propose use of an introduced stock.

If successful, the Proposed Action would reduce the risk of extinction of the Upper Grande Ronde Spring Chinook. The species is currently listed as threatened under the ESA; however, implementing the Captive Broodstock portion of the supplementation program may stabilize the run until it is strong enough to implement the conventional supplementation portion. Taking the no-action alternative risks extinction of the species in the Upper Grande Ronde River Basin because the population declines have been similar to the declines in the Snake River runs (ODFW, 1996). In 1997, only 19 spring chinook salmon redds were observed in the Upper Grande Ronde River, along with 46 redds in Catherine Creek and 49 redds in the Lostine River.

Genetic variability impacts would have the potential for a low negative effect, because the supplementation program would take broodstock that temporally and geographically represent the wild spawning run. These impacts are not as prominent as the risk of

extinction. The proposed supplementation program would have a positive impact on overall genetic variation in the Upper Grande River Basin because it would maintain the population's genetic variability until natural recruitment is strong enough to sustain itself.

The impacts of hatchery practices on the population, either selection of broodstock, or mating and rearing practices, can lead to artificial selection for certain characteristics (domestication). However, this potential impact would not be significant because hatchery operating plans and genetic management plans for the captive broodstock and conventional supplementation aspects of the program will be in existence in order to minimize the risks of domestication. For example, in order to reduce genetic risk, the Integrated Hatchery Operations Team-recommended hatchery techniques will be used when handling fish in the hatcheries. Conventional supplementation or natural spawning will eventually supplant captive broodstock when the results of the monitoring and evaluation and consultation with the NMFS indicate that the risk of extinction is sufficiently lowered.

The potential for disease impacts on the spring chinook population from implementing the proposed action would not be significant. The salmon supplementation program would employ fish culture practices, policies, and procedures developed for anadromous salmonid hatcheries. A draft monitoring plan has been submitted to NMFS, designed to reduce the risk of fish disease being transmitted within captive broodstocks or being transmitted to naturally produced stocks. The plan includes the most recent disease-control protocols, including low rearing densities, daily observation, and, when necessary, removal of individuals to prevent the spread of disease both within the group and ultimately to naturally produced stocks. BPA will adopt all changes to the monitoring plan recommended by NMFS.

Predation by introduced fish on native spring chinook salmon or other fish is likely to be minor. Fish size plays a major role in fish predation, as small fish are unlikely to be predatory on other fish unless the size difference is large. Juvenile spring chinook salmon in streams feed primarily on insects. Their small size precludes the possibility of predation on all but the smallest fish, and juvenile spring chinook salmon rarely consume fish while in freshwater. Because of their small size and preference for insects, incidental predation by juvenile spring chinook salmon on resident or other anadromous stocks would not be significant.

Overall, the proposal would not have a significant effect, either direct or indirect, on inter-specific competition in the Upper Grande Ronde River Basin. Because the fish released will be of hatchery origin, their migration rate is expected to be more similar to that of other hatchery fish than to naturally produced fish in the Grande Ronde Basin. The migration rate is therefore likely to be similar to spring chinook salmon from the Lookingglass Hatchery, which rapidly migrate out of the system, typically arriving at Lower Granite Dam in about 14 to 21 days. While the large number of spring chinook released may cause some reduction of local headwater stream food sources, the rapid migration of these fish would result in only minor effects to naturally produced spring

chinook salmon and other fish species because of their short period of residence in the stream. Therefore, the introduction of released smolts would be a short-term effect, but would not constitute an abnormally competitive situation over the long term.

Potential environmental impacts resulting from the facility upgrades at the Manchester Hatchery (in Puget Sound near Bremerton, Washington) and the Bonneville Hatchery (at Bonneville Dam) would not be significant because all work would be done within the confines of the existing hatchery properties. No new property would be acquired, so land uses would not change. The ground has already been disturbed at each site, so any excavation required is unlikely to uncover cultural resources. In the unlikely event that cultural materials are uncovered during construction, work in the immediate vicinity of the project would stop, the ODFW would consult with the State Historic Preservation Officer and a qualified archaeologist BPA, the tribes, and the hatchery managers will ensure that any human remains encountered are treated in accordance with applicable laws.

As discussed in the paragraphs below, potential environmental impacts resulting from the construction of the adult collection and juvenile acclimation sites would not be significant. All of the proposed sites would involve construction activities on the banks and within the channels of the three target streams; however, impacts to water quality would not be significant for the reasons given below. Disturbance of the soils could cause minor wind or water erosion and sedimentation, but this would be short lived as the soils have low potential for erosion, and would be mitigated through the use of best management practices. The construction would affect very little aquatic habitat along the banks because the only structures located on the stream banks would be 8- to 30-inch-diameter water intake and discharge/fish release pipes. Thus, bank erosion and aquatic habitat modification are not concerns. The flow diversion through pipes for the juvenile acclimation and release facilities would cause an increase in water velocity at the pipe outlet. This could locally scour small areas of the streambed or stream banks. However, this would likely have a minimal impact due to the small discharge flow (maximum of 8,494 liters/minute or 5 cubic feet per second) through the outlet pipes.

Project facility construction and operation impacts to fish would be minimized through best management practices (see the EA, p. 42, Construction Effects) and design of the facilities to minimize risks to migrating fish. Impacts to vegetation and wildlife would not be significant because the amount of habitat to be removed is small (approximate total of 1.9 hectare (4.9 acres) for the six sites), and the construction and operation periods would be short (about 2 months per year). No threatened or endangered species would be adversely affected, as concluded in the Biological Assessment/Biological Evaluation submitted to the U.S. Fish and Wildlife Service and the NMFS. While these two agencies have not yet concurred with this finding, BPA is committed to any adhering to any conditions required by these agencies in order for us to reach concurrence.

Impacts to land use would not be significant. The proposed uses are compatible with existing uses at most of the sites, and no existing uses would be displaced. The seasonal

use of temporary on-site housing would be a permitted or conditional land use, depending on county zoning provisions. The two sites on the Upper Grande Ronde River are located on lands within the Wallowa-Whitman National Forest and are administered by the U.S. Forest Service. The Forest Service will be issuing their own decision notice based on this EA on whether or not to amend the Wallowa-Whitman National Forest Land and Management Resource Plan and issue a special use permit. There would be minimal long-term effects on dispersed recreation and aesthetics, but these would be mitigated through design of the facilities in consultation with the U.S. Forest Service.

No significant negative impacts to cultural resources are anticipated. The sites have been surveyed and no sites or materials of archaeological significance were found. Therefore the construction or operation would not likely affect any cultural or historic sites. During construction, however, if sites are found, efforts will be stopped in the affected area, and the State Historic Preservation Office and tribal representatives would be notified. If impacts to a significant cultural site cannot be avoided, BPA would consult with the State Historic Preservation Office and tribes and prepare a historic property management plan for the site.

Monitoring and evaluation (M&E) activities would have a positive effect on the health and survival of the spring chinook. The activities are necessary and appropriate to evaluate the success of the proposed action and would not result in significant mortality or permanent adverse effects on the population. The proposed M&E component of the program is outlined in the draft long-term management plan for the Grande Ronde Basin. This plan is a condition of the ESA Section 10 permit already granted to the project proponents. All provisions of this plan, as it is finalized after consultation with NMFS, will be incorporated into the proposed program. The plan includes five primary parts: 1) a benefit/risk analysis of proposed actions; 2) a genetic management plan; 3) an adult collection plan; 4) a juvenile release plan; and 5) a M&E program to assess all phases of the Proposed Action Alternative. The information collected from the M&E aspects of the proposed program would be used to determine if the established performance criteria are being met.

Although the proposed action may be related to actions being addressed under the Impacts of Artificial Salmon and Steelhead Production Strategies in the Columbia River Basin Draft Environmental Impact Statement (EIS), it is not precluded by 40 C.F.R. 1506.1 or 10 C.F.R. 1021.211 because it is not a major Federal action and would not significantly affect the quality of the human environment. As discussed in Section 3.8 of the EA, the actions proposed are independent of the actions proposed under the Draft EIS and would not prejudice the ultimate decision on the program, as they are low-cost, low-tech, minimal-impact actions to be taken to address immediate concerns of extinction and recovery of the Grande Ronde spring chinook stocks. The information gathered from these actions, especially the monitoring and evaluation program, will be used to answer specific questions regarding the potential impacts of and viability of a supplementation/captive broodstock program for endangered or threatened salmonids.

Besides construction and operation activities occurring in the floodplains (addressed below), approximately 0.2 acres of palustrine-emergent wetlands were found on the three juvenile acclimation sites. Due to their very small size and the ability to avoid or minimize effects on them, no significant loss or disturbance is anticipated.

Floodplain Statement of Findings: This is a Floodplain Statement of Findings prepared in accordance with 10 C.F.R. Part 1022. A floodplain and wetlands assessment was incorporated in Section 6, Appendix A, of the EA. BPA proposes to fund the construction of adult collection and juvenile acclimation facilities in the floodplains of Catherine Creek, the Upper Grande Ronde River, and the Lostine River. The proposed facilities are to be located in the floodplain due to the biological needs of the fish. The only alternative to the proposed action that would not impact floodplains is the No Action Alternative. The proposed action conforms to applicable State or local floodplain protection standards. The steps to be taken to avoid or minimize potential harm to or within the affected floodplain are outlined in Section 6.0 of Appendix A of the EA.

BPA will endeavor to allow 15 days of public review after publication of this statement of findings before implementing the proposed action.

Determination: BPA has prepared an Environmental Assessment (DOE/EA ~~3018~~ 1173) evaluating the proposed project. Based on the analysis in the EA, BPA has determined that the proposed action is not a major Federal action significantly affecting the quality of the human environment, within the meaning of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.). Therefore, the preparation of an Environmental Impact Statement is not required and BPA is issuing this FONSI.

Issued in Portland, Oregon, on 4/9/98.

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