

United States Government

Department of Energy
Bonneville Power Administration

memorandum

DATE: September 17, 2008

REPLY TO
ATTN OF: KEC-4

SUBJECT: Supplement Analysis for Yakima Fisheries Project, Early-Run Fall Chinook Program
(DOE/EIS-0169-SA-15)

TO: Patricia Smith
Project Manager - KEWL-4

Proposed Action: Establishing an Early-Run Fall Chinook Population in the Yakima River Basin

Project No.: 1995-063-25 and 1997-013-25

Location: Various locations throughout the Yakima River Basin; Benton and Yakima counties, Washington

Proposed by: Bonneville Power Administration (BPA) and co-managed by the Yakama Nation (YN) and the Washington Department of Fish and Wildlife (WDFW)

Introduction: The Yakima Fisheries Project Final Environmental Impact Statement (YFP EIS) (DOE/EIS-0169, January 1996) analyzed impacts of undertaking fish research and mitigation activities in the Yakima River Basin. The EIS focused on the impacts of construction and operation and maintenance of anadromous fish production facilities established to conduct supplementation research for spring Chinook, and the initial coho reintroduction feasibility studies. Subsequent supplement analyses (SA) addressed the fall Chinook program (SA-1, SA-4, and SA-10). The purpose of this SA is to determine if a supplemental EIS is needed to establish an early-run fall Chinook run in the Yakima Basin.

Description of the Proposed Action: The Yakima Fisheries Project is co-managed by the YN and the WDFW. The project consists of the collection of salmonid broodstock, incubation of eggs and rearing of fry in hatcheries, the acclimation and release of smolts, and related ecological analyses of natural production. The proposed action to be analyzed under this SA is converting a portion of the existing late-run fall Chinook program to an early fall Chinook run in the Yakima Basin.

The objectives of the proposed action are 1) to develop a naturally spawning adult population of early-run fall Chinook in the Yakima River between Sunnyside Dam and Roza Dam and in the lower Naches River from the mouth to the Tieton River, and 2) to increase the number of natural-origin returning early-run adults in the lower Columbia and the lower Yakima River, contributing to harvest augmentation for both the tribal and sports fishery. The early-run fall Chinook are part of a larger Evolutionary Significant Unit (ESU) that includes all late run (summer and fall) ocean type Chinook salmon from the mainstem Columbia River and its tributaries.

To accomplish these objectives, 250,000 early-run fall Chinook eggs would be transferred from the WDFW Wells Hatchery located at RM 535 of the Columbia River to the Yakama Nation Prosser Hatchery located at RM 47 on the Yakima River. YN staff would conduct the spawning operation at Wells Hatchery and then transfer the eggs/milt to the Prosser Hatchery. Milt and green eggs would be transferred to Prosser Hatchery for fertilization, incubation and rearing.

These 250,000 eggs would be a direct replacement of 250,000 eggs normally taken for the Prosser Hatchery in-basin fall Chinook program. These fish would be sampled for pathogens at Wells Hatchery by either USFWS pathologists for the Yakima basin, or by YN staff. The eggs would be quarantined until lab results confirm the females are negative for virus. Eggs from an individual female testing positive for virus would be eliminated.

Fish would be released into the Yakima River as sub-yearlings/yearlings in April. Initial releases would be from acclimation sites at Billy's pond at Yakima RM 113 and Stiles pond at Naches RM 3.4. Skov pond, at Yakima RM 122.5, is also a preferred acclimation site. Skov, Billy's and Stiles ponds are currently being used as late-run fall Chinook acclimation sites. In addition to these sites, additional acclimation sites in the Yakima River between Union Gap (RM 113) and Roza Dam (RM 127.9) and in the Naches from RM 3.7 and RM 17.5 (mouth of the Tieton River) may be identified in the future.

The released fish would be 100% coded-wire tagged (CWT) and 10,000 of the released fish would be tagged with a Passive Integrated Transponder (PIT tagged) at Prosser Hatchery for monitoring and evaluation. As smolts leaving the Yakima River, PIT tagged fish would be monitored at Prosser Dam and the Chandler Juvenile Monitoring Facility, as well as at the major dams in the lower Columbia River. Returning adults would be monitored at McNary and Prosser Dams. Chinook passing through the Denil ladder at Prosser would be scanned for CWT and DNA and scales for age analysis would be collected. During the program's initial years, all fish returning to the Prosser Denil ladder would be collected and used to develop a local broodstock population. In later years, a portion of adults returning to the Denil may be radio tagged to evaluate migration and spawning patterns above Prosser Dam.

The life history traits of early-run fall Chinook are similar to late-run fall Chinook that return to the Yakima River. The primary difference is that as adults, early-run fall Chinook return earlier to spawn. Based on spawn timing for the Wells stock, peak spawning would likely occur in late September to early October. In contrast, current fall Chinook peak spawning occurs mid to late October. Early-run fall Chinook, like late-run fall Chinook, are "ocean-type" Chinook, emigrating downstream in the spring as age 0. The early-run fall Chinook used for this proposal would be released in April, the same time both Yakima River hatchery and wild fall Chinook are leaving the system.

If 250,000 early-run fall Chinook eggs are produced with an 85% survival to yearling smolt, approximately 212,500 smolts will be released from Prosser Hatchery. With a smolt-to-adult return (to the Columbia River mouth) rate of 0.5%-1.5% (YKFP 2008), and harvest rates of 50%, 6.4% and 13.3%, respectively, in marine, non-Indian fisheries below Bonneville Dam and tribal fisheries between Bonneville and McNary Dams (YKFP 2008), the annual return to the Columbia River mouth from Yakima program releases could range from 500 to 1,600 adults with cumulative harvest below McNary Dam averaging about 100-300 fish annually.

Assuming conversion from Bonneville Dam through the McNary reservoir of 80% (5% loss per project), average escapement to the Yakima River once this program is fully established and successful could range from about 350 to 1,000 fish annually. Adult return survival in this range should allow the program to quickly transition to local brood capture and production, alleviating the need for long-term transfer of fish from Wells Hatchery. Re-establishment of an early-run fall Chinook population in the Yakima River would enhance the viable salmon early-run fall Chinook population, thus making this population more robust and enhancing overall productivity in the long term.

Given the known temporal and spatial distribution of upper Yakima spring Chinook at spawn timing and the assumptions made for early-run fall Chinook, a maximum of 3% of the spring Chinook redds in the Upper Yakima system could have early-run fall Chinook present both temporally and spatially.

The fall Chinook program goal is to maintain an annual release of approximately 2.1 million fall Chinook. The initial 250,000 late-run fall Chinook release would be part of the 2.1 million release goal.

Analysis:

- The environmental impacts of research and supplementation projects in the Yakima Basin have been considered in other documents. The effects of a fall Chinook program in the Yakima Basin were first evaluated in SA-1 to the YFP EIS, and subsequently in SA-04 and SA-10. The proposed number of fish for the early-run fall Chinook program would not exceed the level identified for the fall Chinook program in the YFP EIS SA-1 and recommended by the Northwest Power Planning Council as consistent with its Columbia Basin Fish and Wildlife Program. Because the early-run fall Chinook program would replace fish from the existing fall Chinook program (currently all late-run fall Chinook) there would be no expansion in numbers of the current program or need for additional funding.
- Subsequent to the YFP EIS, BPA completed a Fish and Wildlife Implementation Plan EIS (FWIP EIS, DOE/EIS-0312, April 2003) and Record of Decision (ROD). The goal of the FWIP EIS was to develop a comprehensive and consistent policy to guide the implementation and funding of BPA's fish and wildlife obligations under existing statutes and policies. In the FWIP ROD, BPA adopted the Proposed Action 2002 alternative that characterized the policy direction BPA would take. This policy direction focuses on enhancing fish and wildlife habitat, modifying hydroelectric power operations and structures, and reforming hatcheries to both increase populations of listed fish stocks and provide long-term harvest opportunities. The proposed changes to the fall Chinook program would be consistent with the FWIP EIS and ROD, as the changes would increase the number of fall Chinook adults in the Columbia and the lower Yakima rivers contributing to harvest augmentation for both the tribal and sports fishery. The cumulative effects of artificial production programs in the Columbia River basin, including the Yakima Fisheries Project, are also addressed in the FWIP EIS.
- The shift in run timing of some fall Chinook from late-run to early-run would have a minimal effect on other fish species in the Yakima River. BPA has determined that the early-run fall Chinook program may affect, but is not likely to adversely affect bull trout and Middle Columbia River Steelhead. A Biological Opinion (BO) was issued by the United States Fish and Wildlife Service (USFWS) for impacts to bull trout and bull trout critical habitat on October 31, 2007 for the Yakima Fisheries Project. BPA "incorporated by

reference” the early-run fall Chinook program to the BA and the USFWS concurred on our finding of may effect, not likely to adversely effect bull trout and bull trout critical habitat. Potential adverse effects to Middle Columbia River Steelhead are addressed in the YKFP Draft Fall Chinook Hatchery and Genetic Management Plan, and are expected to be minimal. As described above, there would only be small overlap between early-run fall Chinook and spring Chinook. Since stream dwelling salmonids in North America evolved in sympatry and developed mechanisms to promote coexistence and partition available habitat, the occurrence of any spatial and temporal overlap between spring and fall Chinook on the spawning grounds does not imply the occurrence of a negative impact. Straying of the early-run fish to other basins would be minimized by acclimating them prior to release, as is done with the current fall Chinook program.

- The Confederated Tribes of the Colville Reservation (Colville) were briefed on the proposed early-run fall Chinook program by the YN, and BPA subsequently received comments from the Colville on the proposed program. The Colville are concerned that the total Columbia River fall Chinook run could be increased and thereby increase overall harvest rates in the Columbia River fisheries pursuant to the *U.S. v. Oregon* harvest schedule. The Colville are concerned that this would increase harvest mortalities on upper Columbia River fish populations, specifically the Okanogan population (which is not listed for protection under the ESA). The Colville also expressed concerns about the use of Wells Hatchery eggs for the proposed program since this action would move upriver mitigation fish downriver.

Because of numerous comments received on fisheries management issues during drafting of the YFP EIS, Appendix E was added to the EIS to discuss harvest management issues. However, as described in the EIS, harvest and fisheries management issues are outside the scope of the YFP EIS. The harvest issues tend to focus on allocation among tribes or user groups, so while the social consequence may change with different harvest regimes, the environmental impacts typically do not. Moreover, BPA is not a fish management agency and does not have any involvement in *U.S. v Oregon* or authority over harvest and fisheries management issues. Although the *U.S. v Oregon* process has continuing jurisdiction over fisheries in the lower Columbia River, it does not directly control fish production and harvest management for the Colville, who are not a party to the litigation. Instead, hatchery production and harvest coordination occur annually between WDFW and the Colville pursuant to the procedures described in *Agreement between the Confederated Tribes of the Colville Reservation and the Washington Department of Fish and Wildlife on Jointly Managed Salmon and Steelhead Populations* signed on June 5, 2007.

Because the *U.S. v. Oregon* litigation arose in part to allow tribal fishers to catch a fair proportion of the region’s harvestable salmon surplus and the parties to that litigation now co-manage those resources amicably, BPA expects that those parties generally, and WDFW in particular through its agreement with the Colville, will use their skills at resolving *U.S. v. Oregon* conflicts to integrate the Colville into regional production and fisheries management processes.

Findings: As documented in this SA, the proposed action of establishing an early-run fall Chinook program has been examined, reviewed and consulted upon and is not substantially different from the action discussed in the Yakima Fisheries Project EIS (DOE/EIS-0169), Record of Decision, and Supplement Analyses (SA-01 through SA-14). Furthermore, the proposed action is consistent with the FWIP EIS and ROD. The Colville raised issues related to harvest allocations, yet their issues do not appear to present significant new information or circumstances relevant to environmental concerns that bear on the proposed action. In addition,

BPA discussed harvest issues in the YFP EIS and found them to be outside the scope of the EIS. Therefore, no further NEPA analysis is required.

There are no new circumstances or information relevant to environmental concerns and bearing on the proposed actions or their impacts. Therefore, a supplement to the Yakima Fisheries Project EIS is not needed.

/s/ Rachel A. Rounds

Rachel A. Rounds

Environmental Protection Specialist – KEC-4

CONCUR:

/s/ Katherine S. Pierce

Katherine S. Pierce

NEPA Compliance Officer

Date: September 15, 2008

References:

Davis, M.J., D.E. Fast, W.J. Bosch, C. Fredericksen, and P. Spurgin. March 21, 2008. The Feasibility of Establishing an Early-Run Fall Chinook Population to the Yakima River. Yakama Nation-Yakima/Klickitat Fisheries Project, Toppenish, WA.

cc:

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