



2. Critical Research Needed for Step 2 Planning





Critical Research Needed for Step 2 Planning

The purpose of this chapter is to summarize required and critical information needs that must be addressed in the Step 2 CJDHP planning process. The Colville Tribes request that the Council consider inclusion of these five items as part of a recommendation to proceed with Step 2 planning for the CJDHP.

Two of the five items listed below, completion of NEPA review, and completion of ESA review are required by the Council and will not be further discussed in this chapter. The other three items represent areas where critical uncertainties have been identified as a corollary to the CJDHP Step 1 conceptual design work.

Targeted research to resolve these uncertainties is essential to successful Step 2 planning. Without answers to these questions, or at least a narrowing of the window of uncertainty, the necessary level of planning refinement for Step 2 and Step 3 can not be accomplished.

Required and Critical Information for CJDHP Step 2 Planning:

1. Completion of NEPA review
2. Completion of ESA review
3. Confirmation of water supplies
4. Implement radio-telemetry study
5. Implement research on live-capture, selective gear for broodstock collection

2.1 CONFIRM WATER SUPPLY

The conceptual design of the Chief Joseph Dam Hatchery relies on a combination of reservoir water from the Rufus Woods Lake and groundwater from two additional sources to meet the various rearing program temperature and biological flow requirements.

In their preliminary water supply study, the U.S. Army Corps of Engineers (COE) identified three preferred water sources that in combination meet the CJDHP requirements. These sources include water from Rufus Woods Lake, groundwater from a relief tunnel in the Chief Joseph Dam, and groundwater from a possible well site located in a state park approximately 2.5 miles upstream of the proposed hatchery site.

Water from Rufus Woods Lake will be used to rear fish at the Chief Joseph Dam Hatchery and possibly to provide fish attraction water at a fish collection facility. Water from the well site at the state park and from the relief tunnel will be used for temperature mixing at the hatchery. In addition, water from the state park well field might be used to provide potable water for the hatchery facility and associated housing.

Additional detail regarding the preliminary water supply study is presented in Chapter 11 and in Appendix F.

2.2 IMPLEMENTATION OF RADIO-TELEMETRY STUDY

Completion of radio-telemetry research to determine where and when summer/fall Chinook migrate, where they congregate, and the extent to which they are spatially separated from other population components will be necessary to implement the CJDHP. Additionally, research to determine whether the timing of passage over Wells Dam is related to timing and location of subsequent spawning, must be completed. This information is critical to the development of broodstock protocol and subsequent acclimation of progeny.

The research objectives for this radio-telemetry study would include:

1. Identification of the locations and arrival time of summer/fall Chinook salmon spawning in the upper portion of the Columbia Cascade Province relative to their time of passage at Wells Dam.
2. Description of the migratory patterns of Chinook salmon as they approach Chief Joseph Dam and identification of the final destinations of fish that encounter the dam in order to best identify preferred locations for collection facilities.

In general the approach for accomplishing these objectives will be to describe the distribution, timing and final fates of tagged fish upstream from Wells Dam. Activities undertaken through this research will identify:

- Key holding areas in the mainstem prior to fish entering tributaries
- The timeframe fish enter the tributaries
- Holding areas within the Okanogan and Similkameen rivers
- Dates of arrival on spawning grounds
- The proportion of the tagged population destined for specific spawning areas
- The final destination or disposition of tagged fish
- Shoreline orientation as fish approach Chief Joseph Dam
- Extent of cross-over between shorelines for fish migrating to Chief Joseph Dam
- Movement of tagged fish within the Chief Joseph tailrace

Chapters 5, 6 and 9 in this Master Plan provide additional context for this research. A detailed study proposal to implement this radio-telemetry study is included in Appendix E.

2.3 IMPLEMENTATION OF RESEARCH ON LIVE-CAPTURE BROODSTOCK GEAR

The third piece of information critical to the success of the proposed CJDHP integrated recovery program is research to test live-capture, selective fishing gear for summer/fall Chinook salmon broodstock collec-

tion in the Okanogan, Similkameen, and Columbia rivers. The outcomes of this research will also be important to successful implementation of the CJDHP integrated harvest program.

This proposed study is designed to test the ability of different live-capture methods to collect 1,130 adults in order to initiate a local broodstock. The success of the live-capture methods will also be vital to controlling the ratio of hatchery to natural fish on the spawning grounds.

This live-capture, selective fishing gear study will include targeted research on the use of different selective fishing gear matched to specific sites in the Okanogan and Similkameen rivers, and in the Columbia River above Wells Dam. This research will include evaluation of diver set tangle nets in the lower Okanogan River in the vicinity of Monse bridge to Lake Pateros; beach seines at multiple sites on spawning grounds in the Okanogan River, primarily upstream from Omak Creek, as well as sites near the Similkameen Pond; floating trap-nets in the Columbia River below the Okanogan River confluence; fish wheels possibly along the south shore of Lake Pateros between the HWY 17 bridge and Chief Joseph Dam, and also possibly along the west shore of Janis Rapids; and dip net combinations on the Okanogan River at Janis Rapids or McLaughlin Falls, and on the Similkameen River in the area below Enloe Dam.

Chapters 5, 6 and 9 in this Master Plan provide additional context for this research. A detailed study proposal to implement research on live-capture broodstock is included in Appendix E.

