

## **PART I - ADMINISTRATIVE**

### **Section 1. General administrative information**

|   |                                 |
|---|---------------------------------|
| <b>Title of project</b><br>Hood River Production Program-Pelton Ladder-Hatchery   |                                 |
| <b>BPA project number</b>   | 8902900                         |
| <b>Contract renewal date (mm/yyyy)</b>  | October, 1999 - September, 2000 |
| <b>Multiple actions? (indicate Yes or No)</b>   | No                              |
| <b>Business name of agency, institution or organization requesting funding</b><br>Oregon Department of Fish and Wildlife  |                                 |
| <b>Business acronym (if appropriate)</b>  | ODFW                            |
| <b>Proposal contact person or principal investigator:</b>   |                                 |
| <b>Name</b>   | Tony Nigro                      |
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| <b>NPPC Program Measure Number(s) which this project addresses</b><br>Measure 703 (f)(5) of the NPPC 1987 Fish and Wildlife Program recommended BPA investigate the feasibility of developing artificial production facilities for spring chinook salmon and steelhead in the Hood River.   |                                 |
| <b>FWS/NMFS Biological Opinion Number(s) which this project addresses</b><br>N/A  |                                 |
| <b>Other planning document references</b><br>CRITFC. 1996. WY-KAN-USH-MI WA-KISH-WIT, Cited: Volume II:25-26.<br><br>Department of Natural Resources, Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO), October, 1993. Hood River/Pelton Ladder Master Agreement. Cited: entire document.<br><br>DOE and BPA. March, 1996. Draft Environmental Impact Statement (DOE/EIS-0241). Cited: entire document.<br><br>DOE and BPA. July, 1996. Final Environmental Impact Statement (DOE/EIS-0241). Cited: entire document.<br><br>ODFW and CTWSRO. September, 1990. Hood River Subbasin Salmon and Steelhead Production Plan.<br><br>NPPC. 1992. NPPC approval letter for the Hood River Master Plan. April 16, 1992. |                                 |

**NPPC. 1994. Columbia River Basin Fish and Wildlife Program. Adopted November 15, 1982. Amended December 14, 1994.**

**O'Toole, P., and ODFW. 1991a. Hood River Production Master Plan. Cited: entire document.**

**Short description**

**Incubate and rear Hood River destined spring chinook at Round Butte Hatchery and Pelton Ladder. This is a project to re-establish a self-sustaining spring chinook salmon population in the Hood River subbasin. Broodstock is collected at the Powerdale Fish Facility and held and spawned at the Parkdale Facility. Eggs are transferred to Round Butte Hatchery for final incubation and rearing to smolt size prior to transfer and release into the Hood River system.**

**Target species**

**Spring chinook**

**Section 2. Sorting and evaluation**

**Subbasin**

**Hood River**

**Evaluation Process Sort**

| <b>CBFWA caucus</b>  |                 | <b>CBFWA eval. process</b>                                    |   | <b>ISRP project type</b>            |                               |
|----------------------|-----------------|---|---|-------------------------------------|-------------------------------|
| X one or more caucus |                 | If your project fits either of these processes, X one or both |   | X one or more categories            |                               |
| X                    | Anadromous fish | X   | Multi-year (milestone-based evaluation) | Watershed councils/model watersheds |                               |
|                      | Resident Fish   |   | Watershed project eval.                 | Information dissemination           |                               |
|                      | Wildlife        |   |   | X                                   | Operation & maintenance       |
|                      |                 |   |   |                                     | New construction              |
|                      |                 |   |   |                                     | Research & monitoring         |
|                      |                 |   |   |                                     | Implementation & mgmt         |
|                      |                 |   |   |                                     | Wildlife habitat acquisitions |

**Section 3. Relationships to other Bonneville projects**

***Umbrella / sub-proposal relationships.*** List umbrella project first.

| <b>Project #</b> | <b>Project title/description</b>                              |
|------------------|---|
| 20513            | Hood River / Fifteenmile Creek Umbrella Proposal              |
| 9301900          | Powerdale, Parkdale, and Oak Springs O&M                      |
| 9500700          | Pelton Ladder Hood River Production/PGE O&M                   |
| 8805303          | Hood River Production Program/CTWS M&E                        |
| 8805304          | Hood River Production Program/ODFW M&E                        |
| 9802100          | Hood River Fish Habitat/Implement habitat improvement actions |

***Other dependent or critically-related projects***

| <b>Project #</b> | <b>Project title/description</b> | <b>Nature of relationship</b> |
|------------------|----------------------------------|-------------------------------|
|                  |                                  |                               |
|                  |                                  |                               |
|                  |                                  |                               |

**Section 4. Objectives, tasks and schedules**

***Past accomplishments***

| <b>Year</b> | <b>Accomplishment</b>  | <b>Met biological objectives?</b>  |
|-------------|--|--|
| 1996        | Converted a portion of Pelton Ladder into rearing cells for Hood River spring chinook. | Yes. Rearing cells have been in used for spring chinook rearing since 1996.  |
| 1993        | Initiated releases of Deschutes stock spring chinook in the Hood River subbasin.       | Yes. 100,000 - 129,000 smolts have been released into Hood River since 1996. |
| 1997        | Hood River Production Program EIS completed.   | Yes. The EIS established interim spring chinook production objective.        |
| 1997        | Spring chinook brood collected from adults and jacks returning to Powerdale Dam.       | Yes. Broodstock has been collected since 1997 at Powerdale Dam.              |

***Objectives and tasks***

| <b>Obj 1,2,3</b> | <b>Objective</b>   | <b>Task a,b,c</b> | <b>Task</b>   |
|------------------|--|-------------------|---|
| 1                | Achieve an interim adult return of 850 hatchery spring chinook to the mouth of Hood River. (See <b>Hood River / Fifteenmile Creek Umbrella Proposal</b> for long range run size objectives). | a                 | Incubate approximately 165,000 eyed spring chinook eggs received from Parkdale Fish Facility. |
|                  |  | b                 | Rear and mark 125,000 spring chinook at Round Butte Hatchery.                                 |
|                  |  | c                 | Transfer fish to Pelton Ladder cells for final rearing.                                       |

| Obj<br>1,2,3 | Objective | Task<br>a,b,c | Task   |
|--------------|-----------|---------------|--|
|              |           | d             | Transport 125,000 smolts to acclimation facilities in Hood River subbasin. |

**Objective schedules and costs**

| Obj # | Start date<br>mm/yyyy | End date<br>mm/yyyy | Measureable biological objective(s)                                 | Milestone   | FY2000 Cost % |
|-------|-----------------------|---------------------|---|---|---------------|
| 1     | 10/1/99               | 9/30/00             | Produce 125,000 spring chinook smolts for reslease into Hood River. | 100,000 - 129,000 smolts have been released into Hood River since 1996. | 100%          |
| 1     | ongoing               | ongoing             | produce 125,000 smolts  | 850 chinook return to Hood R.   | \$141,739     |

|   |
|---|
| <b>Schedule constraints</b><br>None anticipated |
| <b>Completion date</b><br>Ongoing               |

**Section 5. Budget**

|   |                  |
|---|------------------|
| <b>FY99 project budget (BPA obligated):</b> | <b>\$132,467</b> |
|---|------------------|

**FY2000 budget by line item**

| Item  | Note                | % of total | FY2000 (\$) |
|---|---------------------|------------|-------------|
| Personnel   | Salaries            | 36.6%      | \$42,059    |
| Fringe benefits   | OPE @ 40%           | 15.6%      | \$17,996    |
| Supplies, materials, non-expendable property                              | Including fish feed | 17.0%      | \$19,606    |
| Operations & maintenance  |                     |            |             |
| Capital acquisitions or improvements (e.g. land, buildings, major equip.) |                     |            |             |
| NEPA costs  |                     |            |             |

|                                   |                                     |       |                  |
|-----------------------------------|-------------------------------------|-------|------------------|
| Construction-related support      |                                     |       |                  |
| PIT tags                          | # of tags:                          |       |                  |
| Travel                            |                                     |       |                  |
| Indirect costs                    | 35.5%                               | 18.7% | \$21,550         |
| Subcontractor                     |                                     |       |                  |
| Other                             | Fin-clipping and coded wire tagging | 12.0% | \$13,818         |
| <b>TOTAL BPA REQUESTED BUDGET</b> |                                     |       | <b>\$115,029</b> |

### **Cost sharing**

| Organization                                      | Item or service provided  | % total project cost (incl. BPA) | Amount (\$)      |
|---|---|----------------------------------|------------------|
| BPA   | Spring chinook smolt rearing                                      | 95.5%                            | \$148,645        |
| Long View Fibre Company                           | Use of West Fork Hood River acclimation site and site preparation | 1.6%                             | 2,500            |
| CTWSRO Salmon Corps and AmeriCorp                 | Acclimation pond and water supply and discharge line assembly     | 3.2%                             | 5,000            |
| <b>Total project cost (including BPA portion)</b> |   |                                  | <b>\$155,645</b> |

### **Outyear costs**

|                     | FY2001    | FY02      | FY03      | FY04      |
|---------------------|-----------|-----------|-----------|-----------|
| <b>Total budget</b> | \$118,480 | \$122,035 | \$134,239 | \$138,267 |

## **Section 6. References**

|  |   |
|--|---|
|  | CRITFC. 1996. WY-KAN-USH-MI WA-KISH-WIT. The Columbia River Anadromous Fish Restoration Plan of the Nez Perce, Umatilla, Warm Springs, and Yakama Tribes. Portland, Oregon.   |
|  | CTWS and ODFW, cooperators. 1996. Annual progress report. Hood River and Pelton Ladder evaluation studies. Annual Progress Report of the CTWSRO and ODFW (Projects 88-053-03 and 88-053-04) to Bonneville Power Administration (BPA), Portland, Oregon. |
|  | CTWSRO and ODFW, cooperators. January 1998. Annual progress report. Hood River and Pelton Ladder evaluation studies. Annual Progress Report of the CTWS and ODFW (Projects 88-053-03 and 88-053-04) to BPA, Portland, Oregon.                           |
|  | DOE and BPA (U.S. Department of Energy and Bonneville Power Administration). March 1996. Hood River Fisheries Project. Draft Environmental Impact Statement (DOE/EIS-0241). Bonneville Power Administration, Portland, Oregon.                          |
|  | DOE and BPA (U.S. Department of Energy and Bonneville Power Administration). July 1996. Hood River Fisheries Project. Final Environmental Impact Statement (DOE/EIS-0241). Bonneville Power Administration, Portland, Oregon.                           |
|  | Northwest Power Planning Council (NPPC). 1987. Columbia River Basin Fish and Wildlife Program. Portland, Oregon.  |
|  | O'Toole, P., and ODFW. 1991a. Hood River Production Master Plan. Final report of the CTWSRO and the ODFW (Project 88-053-03, Contract DE-BI79-89BP00631) to BPA, Portland, Oregon.  |
|  | O'Toole, P., and ODFW. 1991a. Hood River Production Master Plan (Appendices). Final report of the CTWSRO and the ODFW (Project 88-053-03, Contract DE-BI79-89BP00631) to BPA, Portland, Oregon.   |

## **PART II - NARRATIVE**

## Section 7. Abstract

The goal of HRPP is to restore summer and winter steelhead trout populations and re-establish spring chinook using supplementation techniques in the Hood River subbasin in accordance with the Hood River Production Master Plan of July, 1991. This project addresses the spring chinook hatchery component of the Hood River Production Program (HRPP). The overall project objective is to achieve a level of production that will eventually result in an adult return of 1,700 hatchery spring chinook to the mouth of Hood River. To achieve this return of hatchery adults, it will require rearing 250,000 spring chinook smolts with a smolt to adult survival rate of 0.68%. The Northwest Power Planning Council (NPPC), in their approval of the HRPP, asked that managers “phase-in” hatchery production to allow evaluation of potential impacts. With this “phase-in” approach the interim objective, which was established in the HRPP Environmental Impact Statement, is to achieve an adult return of 850 hatchery spring chinook adults and jacks to Hood River. The interim hatchery program directs managers to rear and release 125,000 spring chinook smolts annually into Hood River through year 2002.

Re-introduction of spring chinook will be achieved through use of Deschutes stock, which are taken from an adjacent subbasin and best suited to habitat conditions found in the Hood River subbasin. Hatchery techniques, such as matrix spawning at the Parkdale Fish Facility, extended rearing at Pelton Ladder, acclimation and volitional releases should assist with the achievement of the biological objectives. Ongoing and planned habitat restoration activities will result in improved egg to smolt survival. Cooperation with other entities has already resulted in improved upstream and downstream fish passage within the Hood River subbasin.

The ultimate measure of project success will be the achievement of the spring chinook salmon biological objectives previously discussed and also found in the **Hood River / Fifteenmile Creek Umbrella Proposal**. The ODFW and CTWSRO Monitoring and Evaluation (M&E) projects (8805303 and 8805304) on Hood River have gathered five years of baseline information that will be used to evaluate project implementation.

## Section 8. Project description

### a. Technical and/or scientific background

The Hood River subbasin is home to four species of anadromous salmonids: chinook salmon, coho salmon, steelhead, and sea run cutthroat trout. Indigenous spring chinook salmon were extirpated from the Hood River subbasin during the late 1960's. Measure 703 (f) of the Northwest Power Planning Council's (NPPC) 1987 Fish and Wildlife Program recommended BPA investigate the feasibility of developing artificial production facilities for spring chinook salmon and steelhead in the Hood River. In 1991 the NPPC linked the Hood River portion of the Northeast Oregon Hatchery Project to the Pelton Ladder Project on the Deschutes River. This project, which had converted an unused section of the fish ladder into a rearing facility for spring chinook, was to provide a semi-natural rearing environment for the fingerling chinook. Initially broodstock for the project would come from Deschutes River stock returning to the Pelton fish trap on the Deschutes River. The NPPC, in accepting the HRPP Master Plan for this supplementation project, recommended adopting a three-phased approach which included the

collection of baseline information, project implementation (including facilities construction), and follow-up monitoring and evaluation (NPPC, 1992). Comprehensive data collection, including information on the life history and production of anadromous salmonid stocks and habitat availability and deficiencies (CTWS and ODFW 1997), began in the Hood River subbasin in 1991.

In Section 7 of the 1994 version of the Columbia River Basin Fish and Wildlife Program, the NPPC recommended that implementation of production and habitat projects be fully coordinated (NPPC, 1994). The Tribes, in Volume II of the Spirit of the Salmon Plan, support the NPPC in the need for a combination supplementation and habitat restoration project. "Restoration of the anadromous fish populations in the Hood River subbasin will need to incorporate a combination of improved natural fish production and supplementation with cultured fish. Improved natural production could occur through improvements in the screening of irrigation and hydro electric project diversions, habitat restoration and passage restoration (CRITFC, 1996)."

In 1996, The HRPP Environmental Impact Statement (EIS) was completed cooperatively by BPA, CTWSRO, and ODFW. A record of decision was completed on October 10, 1996 by BPA administrator Randy Hardy, which supports the NPPC goals.

Deschutes stock spring chinook were first released into the Hood River subbasin in 1993. In 1997 the spring chinook broodstock for the HRPP was collected from adults returning to the Powerdale Fish Facility. With completion of the Parkdale Fish Facility, the broodstock are now held and spawned at Parkdale. Eyed eggs are transported to Round Butte Hatchery for final incubation and rearing. The pre-smolts destined for the Hood River are transferred from raceway ponds to the modified Pelton fish ladder rearing cells in late fall. This strategy has demonstrated consistently higher smolt to adult survival than conventional rearing methods used at other hatcheries in the Columbia River basin. This plan, to use the production from ladder cells to re-establish spring chinook in the Hood River subbasin, also requires that the effects of this rearing on Deschutes River spring chinook production (Portland General Electric Co. [PGE] mitigation) in adjacent Pelton ladder rearing cells evaluated. This evaluation will be done as part of the HRPP - CTWSRO - M&E, Project 8805303.

## **b. Rationale and significance to Regional Programs**

The NPPC, in the Columbia River Basin Fish and Wildlife Program, has approved a number of projects in the state of Oregon, Washington, and Idaho that are similar to HRPP. Several of these projects have been successfully implemented, including combinations of supplementation and habitat projects within the Umatilla and Yakima subbasins, involving state and tribal entities (CBFWA, 1997).

The Operation and Maintenance Project (O&M) for this supplementation project is designed to re-establish a self-sustaining spring chinook salmon population using a stock that is best adapted to the Hood River habitat conditions. Use of hatchery-reared smolts in the subbasin should help to jump start the spring chinook population by increasing the number of potential spawners that can take advantage of the subbasin's underseeded habitat.

The HRPP is consistent with several subsections of Section 7.0 of the NPPC's Fish and Wildlife Program. Specifically, the project is consistent with sections 7.0A, 7.4L.1, and 7.4L.2, with a combination of supplementation (HRPP, ongoing projects) and habitat restoration activities. The ultimate goal is to significantly increase natural fish production and survival. This goal will be achieved through a number of activities within the subbasin that will complement supplementation efforts. These activities include: acclimation and volitional releases of hatchery smolts; cooperative habitat restoration measures with private and public land managers; and watershed restoration activities coordinated through the Hood River Watershed Council. Improvements in adult fish passage, juvenile fish protection (i.e. screening), water quality and quantity will be achieved by working cooperatively with individuals, PacifiCorp and local agencies. These habitat improvements will increase the likelihood that the HRPP supplementation activities will be successful in achieving the project's biological objective.

The companion HRPP M&E projects (8805303 and 8805304) are assessing the affects of supplementation.

**c. Relationships to other projects**

The HRPP is composed of six separate projects (contracts) designed to increase production of wild summer and winter steelhead and to re-establish spring chinook within the Hood River subbasin. The six contracts, approved by the NPPC and funded by BPA, primarily provide four broad categories of activities. These include engineering, implementation (O&M), and monitoring and evaluation studies and habitat restoration. Funding for the engineering component of the HRPP provides for the design and construction of facilities at Powerdale Dam, Parkdale, Oak Springs Hatchery and Pelton Ladder that are needed to implement the HRPP. Funding for implementation provides for broodstock collection, holding, spawning, rearing, marking, tagging, and fish transport. Funding for monitoring and evaluation studies provides for the evaluation of the HRPP and any interaction the hatchery program may be having on wild fish populations. And finally, the Hood River Habitat Project is important in assisting species recovery by identifying and restoring fish habitat where opportunities exist in the Hood River subbasin.

There are a number of other, non-BPA funded programs in the subbasin that have direct positive impacts on the success of the HRPP. The Middle Fork Irrigation District (MFID) has provided a temporary adult holding facility adjacent to the Parkdale site. In addition MFID has cooperated in the construction of the Parkdale facility, including the water supply tap into their powerhouse tailrace. MFID, in cooperation with the U.S. Forest Service, has recently installed an upstream migrant fish trap at the base of Clear Branch Dam (Middle Fork Hood River). The Farmers Irrigation District (FID) has implemented instream habitat restoration on a major West Fork tributary. FID has been actively upgrading district fish screens and implementing water conservation measures that will benefit spring chinook, as well as other salmonids. The Mount Hood National Forest has had an active stream habitat restoration program throughout the upper reaches of the subbasin. Their work has included the placement of instream structures and large wood in each of the main Hood River tributaries with a goal of restoring instream habitat diversity. The Hood River Watershed Group is taking an active role in activities that will improve the overall condition of the Hood River watershed and streams. PacifiCorp has provided the land

needed for development of the Powerdale Fish Facility. PacifiCorp is currently involved in the Federal Energy Regulatory Commission (FERC) process for the re-licensing of the Powerdale Hydroelectric Project. Re-licensing should result in new downstream migrant screening at Powerdale Dam, improved water quality and increased instream minimum flows in the project diversion reach, and development of an Standard Operating Procedure (SOP) for Powerdale Dam. PacifiCorp earlier made improvements to the adult fish ladder.

#### **d. Project history**

Implementation of this O&M project began in 1993 with the first release of Deschutes spring chinook salmon into the Hood River subbasin. Prior to 1993, Carson stock was used in the Hood River. The decision to use Deschutes stock spring chinook for the Hood River re-introduction project was based on habitat similarities with the neighboring subbasin and the opportunity to use Round Butte Fish Hatchery and the Pelton Ladder in the reintroduction effort.

Rearing studies at Pelton Ladder in the early 1980's proved the ladder could be a feasible and successful means for increasing adult returns (e.g. with improved smolt to adult survival) [Lindsay et al., 1987 and 1989]. Spring chinook smolts rear well in the ladder, apparently benefiting from semi-natural and low density rearing conditions. In those early studies, Pelton Ladder reared spring chinook smolts averaged 1.6 percent smolt to adult return to the Deschutes River. Three additional Pelton ladder rearing cells were constructed in 1995 to provide rearing space for the Hood River spring chinook salmon rearing. One of the new cells is currently used for rearing a control group of fish to evaluate the effects of the Hood River rearing program on the Deschutes River smolt production (PGE mitigation) in adjacent cells. This control group is also released into the Deschutes River. This study and additional Pelton Ladder studies are conducted by the CTWSRO - M&E and is described in HRPP proposal 8805303.

In 1997, spring chinook broodstock for the HRPP were collected from Deschutes adults returning to Powerdale Dam on Hood River. Annual spring chinook smolt releases into the Hood River subbasin have averaged approximately 125,000 since 1993. Survival estimates of the first complete brood of ladder-reared Deschutes River spring chinook returning to the Hood River subbasin will not be available until 1999. However, preliminary return data for hatchery release groups has been less than the 0.68 percent objective. Powerdale Dam trap information has shown an average spring chinook return of 240 hatchery and 43 naturally produced fish between 1993 and 1997. These returns include both Carson and Deschutes stocks. This project (8902900) began transporting Deschutes stock spring chinook smolts to West Fork acclimation sites in 1996.

To date, a companion project (8805303) has completed and assimilated subbasin biological and physical habitat surveys showing that the available Hood River subbasin spring chinook habitat is underseeded. These surveys also identified areas in need of habitat restoration. Another companion project (9802100) has planned and undertaken some stream habitat restoration projects. Two potential projects recently identified that will improve spring chinook habitat involve replacing antiquated fish screens at major irrigation diversions in the West Fork and mainstem Hood River.

The ongoing HRPP M&E project provides the data feedback needed to modify project actions

when appropriate or necessary. For example, a broodstock selection and spawning protocol has been implemented to maintain natural genetic variability of the developing Hood River population.

The Hood River Production Program-Pelton Ladder-Hatchery Project expenditures for FY93 through FY98 totaled \$747,195. The FY99 budget is \$132,467.

HRPP reports and technical papers include the following:

CTWSRO and ODFW, Cooperators. 1997. Annual Progress Report. Hood River and Pelton Ladder evaluation studies. Annual Progress Report of the Confederated Tribes of Warm Springs Reservation of Oregon and Oregon Department of Fish and Wildlife (Projects 89-053-03 and 89-053-04) to Bonneville Power Administration, Portland, Oregon.

CTWSRO and ODFW, Cooperators. 1996. Annual Progress Report. Hood River and Pelton Ladder evaluation studies. Annual Progress Report of the Confederated Tribes of Warm Springs Reservation of Oregon and Oregon Department of Fish and Wildlife (Projects 89-053-03 and 89-053-04) to Bonneville Power Administration, Portland, Oregon.

CTWSRO and ODFW, Cooperators. 1995. Annual Progress Report. Hood River and Pelton Ladder evaluation studies. Annual Progress Report of the Confederated Tribes of Warm Springs Reservation of Oregon and Oregon Department of Fish and Wildlife (Projects 89-053-03 and 89-053-04) to Bonneville Power Administration, Portland, Oregon.

Bonneville Power Administration. 1996. Final Environmental Impact Statement. Bonneville Power Administration (Contract DOE/EIS-0241). Portland, Oregon.

O'Toole, P., and Oregon Department of Fish and Wildlife. 1991. Hood River Production Master Plan. Final report of the Confederated Tribes of the Warm Springs Reservation of Oregon and the Oregon Department of Fish and Wildlife (Project 88-053, Contract DE-B179-89BP00631) to Bonneville Power Administration, Portland, Oregon.

Smith, M., and Confederated Tribes of the Warm Springs Reservation of Oregon. 1991. Pelton Ladder Master Plan. Final report of the Oregon Department of Fish and Wildlife and the Confederated Tribes of the Warm Springs Reservation of Oregon (Project 89-029, Contract DE-BI79-89BP01930) to Bonneville Power Administration, Portland, Oregon.

ODFW and CTWSRO (Oregon Department of Fish and Wildlife and Confederated Tribes of the Warm Springs Reservation of Oregon). September, 1990. Hood River Subbasin Salmon and Steelhead Production Plan.

Jennings, M.D. and M. Lambert. 1996. Acclimating salmonids in the wilds near Hood River, Oregon. Proceedings of the 47th Annual Northwest Fish Culture Conference. CTWSRO.

Lindsay, R.B. and B.C. Jonasson. 1989. An evaluation of spring chinook salmon rearing program at Round Butte Hatchery. Oregon Department of Fish and Wildlife, Fish Research Project F-88-R, Interim Report, Portland, Oregon.

Lindsay, R.B., B.C. Jonasson, R.K. Schroeder, and B.C. Cates. 1989. Spring chinook salmon in the Deschutes River, Oregon. Oregon Department of Fish and Wildlife, Information Report, Portland, Oregon.

Integrated Hatchery Operation Team (IHOT), Operation plans for anadromous fish in the Columbia River Basin, Annual Report 1995 BPA.

**e. Proposal objectives**

The ultimate objective of the HRPP is to re-establish a self-sustaining population of spring chinook salmon in the Hood River subbasin (**see Hood River/Fifteenmile Umbrella Proposal**), with an annual return of 1700 jack and adult spring chinook.

This specific project objective and tasks include:

**Objective 1.** Achieve an interim escapement of 850 adult and jack spring chinook to Hood River, with a spawner escapement of 400 fish.

Performance Measures: (1) Achieve an interim return of 850 spring chinook adults and jacks to Hood River with a spawner escapement of 400 fish. (This adult return is based on an expected smolt to adult return of 0.68 percent from a release of 125,000 smolts.)  
(2) Achieve an interim hatchery smolt production of 125,000 smolts for release into the Hood River subbasin.

**f. Methods**

The Hood River Production Program - Pelton Ladder - Hatchery Project will be implemented to achieve Objective 1 and tasks a, b, c and d, identified in **Section 4** of this proposal. A portion of the adult and jack spring chinook salmon returning to Hood River will be collected for hatchery broodstock (not to exceed 50% of the run) at the Powerdale Fish Facility. (Deschutes River returns could provide a backup if adults collected from Hood River fall short of total broodstock needs.) The broodstock will be transported to the Parkdale Fish Facility and held until matrix spawning occurs in late August and September. Eggs will be incubated to the eyed stage in incubators at the Parkdale Facility. Eyed eggs will be transported to Round Butte Fish Hatchery for final incubation and rearing.

Chinook fingerlings at Round Butte Fish Hatchery will experience standard fish rearing practices, including feeding and disease treatment. The fish will be marked with a fin clip and coded wire tagged prior to their fall transfer to the Pelton Ladder rearing cells for final rearing. Smolts, averaging approximately eight fish per pound, will be transported from the ladder cells to the Hood River subbasin acclimation facilities in late April to early May prior to their volitional release into Hood River tributaries.

The hatchery and ladder cell rearing program will be monitored and evaluated by Monitoring and

Evaluation Project (8805303, CTWSRO) contained within the HRPP. The rearing process will regularly monitor this spring chinook production group to evaluate fish health, length, weight, body condition, and overall progress toward achieving desired size by the target release date. Fish mortalities during the hatchery and ladder rearing will be recorded in order to accurately determine total production loss and accurately determine the number of smolts released. This evaluation will also include evaluation of the effect of this rearing program on the ongoing Deschutes River smolt production program (Portland General Electric Company mitigation) occurring in adjacent ladder rearing cells. Regular observations will be made of the physical hatchery and ladder rearing cell components. Any facility irregularities or maintenance concerns will be discussed immediately with Round Butte Fish Hatchery personnel.

#### **g. Facilities and equipment**

Round Butte Hatchery is located on the Deschutes River at the base of Round Butte Dam, 10 miles west of Madras, Oregon. Rearing facilities include 10 Burrows ponds, 1 oval pond, 2 adult holding ponds and 30 starter tanks. Water is supplied to the hatchery from tunnels in the canyon wall that collect more than 20 cfs of seepage from the upstream reservoir (Lake Billy Chinook). This water is a constant 51°F (10°C) year around. Water is not re-used in any of the rearing units.

Pelton Ladder is operated as a satellite rearing facility. It is located at the base of Pelton Reservoir (Lake Simtustus), an impoundment on the Deschutes River at river mile 100.1. The facility is a former fish passage ladder which has some sections converted for rearing fish. Each cell is separated from the adjacent cells by divider walls and rotary fish screens. Round Butte Hatchery is staffed with 4 FTE's. This includes the personnel required to operate the Pelton Ladder facility.

The equipment used in incubation, rearing, transfers, and release operations is standard equipment found at most fish hatcheries.

#### **h. Budget**

The personal services portion of the budget funds the labor at the hatchery required to monitor egg incubation and conduct routine fish rearing procedures, including: fish feeding, disease detection and control, fish transfers, and report preparations. In addition, the personal services budget includes funds for regular fish health monitoring by fish pathologists. The supplies and materials section of the budget includes expenditures required for fish feed, pathological testing supplies, medication, fish transportation, and routine items associated with fish rearing. The other category includes funding associated with the purchase of coded wire tags, and fish marking.

### **Section 9. Key personnel**

The Round Butte Fish Hatchery manager is Bill Nyara. There are a total of four employees at the hatchery that spend the equivalent of one FTE working on activities associated with the Hood

River spring chinook salmon smolt production. The other hatchery workers include: hatchery foreman - Jim Struck, and hatchery technicians Paul Brown, and David Welch.

**Round Butte Fish Hatchery Manager  
Bill Nyara**

**Education:**

1975 - A.S. Fisheries Technology, Mt Hood Community College, Gresham, Oregon..

**Experience:**

3/87 – Present      Hatchery Manager, ODFW, Round Butte Fish Hatchery, 6825 S.W. Belmont Ln. Madras, Oregon.

Primary responsibilities are to supervise and effectively plan, coordinate, direct, and organize the operations of Round Butte Fish Hatchery. And the Pelton Ladder Satellite rearing facility. The hatchery’s annual fish production program consists of 454,000 spring chinook salmon smolts, 162, 000 summer steelhead smolts, 100,000 kokanee fingerlings, and 20,000 legal-sized rainbow. Develop and administer an annual budget of approximately \$350,000 from two funding sources, BPA and PGE. Develop maintenance and improvement plans for the hatchery, ladder, trap and residences.

1/85 – 3/87      F&W Manager 1, Siletz Fish Hatchery, ODFW.  
4/83 – 1/85      F&W Technician 2, Round Butte Fish Hatchery, ODFW.  
5/80 – 4/83      F&W Technician 1, Klamath Fish Hatchery, ODFW  
9/79 – 5/80      F&W Tech 1, Sandy Fish Hatchery, ODFW  
6/75 – 9/79      Full-time seasonal laborer, Marion Forks Fish Hatchery, ODFW.  
9/74 – 6/75      Part – time laborer, Sandy Fish Hatchery, ODFW.

**Section 10. Information/technology transfer**

Data collected during this project will be summarized and included in the annual HRPP report, which is distributed to fishery managers. HRPP personnel will present this information to other participants working on the HRPP, including: ODFW and CTWSRO staff, NPPC, CBFWA, and BPA. Project information will also be shared with watershed council’s, sports groups, and other interested parties.

**Congratulations!**