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September 4, 2008

## DECISION MEMORANDUM

**TO:** Fish and Wildlife Committee Members

**FROM:** Mark Fritsch, project implementation manager

**SUBJECT:** Step 1 review of Hood River Production Program

### PROPOSED ACTION:

- I. The staff recommends that the Fish and Wildlife Committee approve the Revised Master Plan for the Hood River Production Program to proceed with Phase I activities associated with the spring Chinook salmon comparative release evaluation study; and with the loss of the Powerdale fish trapping facility in 2010.
- II. It is recommended that the Fish and Wildlife Committee call for additional information to be developed that fully addresses the issues raised by the independent science review panel including a revised master plan for consideration during the finalized step 1 (master plan) review anticipated in 2013. It is understood that this submittal will build upon the studies associated with the Phase I activities and will seek a decision to address the long-term spring Chinook salmon production strategy for the Hood River Production Program.

### SIGNIFICANCE:

The master plan submitted by the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO) and Oregon Department of Fish and Wildlife (ODFW) is intended to reflect the co-managers' needs associated with the evolving Hood River Production Program (HRPP) and to address findings based on the HRPP Review (2003), on-going M&E studies, and the Subbasin Planning effort as well as tribal harvest goals. Results of these studies, reviews and plans indicated that the current program was not achieving the HRPP's performance criteria relative to the program's original numerically-defined biological fish objectives. The alternative approach (i.e., phased) outlined in the revised master plan incorporates best practices recommended by the Hatchery Scientific Review Group (HSRG), Independent Scientific Advisory Board (ISAB), and Independent Scientific Review Panel (ISRP). In addition, the pending 2010 decommissioning and removal of Powerdale Dam will render the Powerdale trap inoperable - a key tool to the program. Therefore, new trapping facilities are needed in order to continue HRPP broodstock collection and M&E activities.

**BUDGETARY/ECONOMIC IMPACTS**

Estimated construction costs associated with the short-term alternative total \$965,000. These costs include the minor renovations at the Parkdale Fish Facility, the water intake structure at Moving Falls on the West Fork Hood River, and the construction weirs and traps at Moving Falls and on the lower East Fork Hood River. Total costs as outlined in the revised master plan for the long-term alternative are estimated at \$3,193,750, but would depend upon a future decision based on a finalized master plan. Planning since 2001 has cost \$1,190,000 and includes program review, conceptual engineering designs, and staffing to complete necessary work for the submission of this revised master plan.

The budget estimate used in the revised master plan has a variance of +/- 25 percent. The costs will be refined as part of the next submittal (finalized master plan). The construction costs reflect planning, design, and environmental compliance, but does not include land easement costs associated with trapping facilities and Moving Falls acclimation site.<sup>1</sup>

Annual operation and maintenance costs associated with the short-term alternative range from \$650,000 in 2009 to \$830,000 in 2014. Annual monitoring and evaluation costs range from \$1,120,000 in 2009 to \$1,420,000 in 2017.

Funds for the CTWSRO portion of the suite of projects addressed in the master plan are reserved in Memorandum of Agreement (MOA) budgets associated with the projects in the Hood River subbasin.<sup>2</sup>

The following cost figures (millions) are based on estimates from CTWSRO, ODFW, HDR/FishPro Engineering, and Bonneville. These estimated costs have been aligned, based on environmental review, permitting and future decision points

**Costs to Date**

<b>FY</b>	<b>02</b>	<b>03</b>	<b>04</b>	<b>05</b>	<b>06</b>	<b>07</b>	<b>08</b>
<b>Planning/Design</b>	.50	.29			.12	.20	.08
<b>O&amp;M</b>	.93	1.16	.55	.74	.83	.67	1.28
<b>M&amp;E</b>	.69	1.07	.75	.71	.90	.94	.82

**Future Costs**

<b>FY</b>	<b>09</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>
<b>Planning, Design and Construction</b>	.97 <sup>3</sup>				.43	1.55 <sup>4</sup>			
<b>O&amp;M</b>	.65	.72	.75	.77	.80	.83	TBD <sup>5</sup>	TBD	TBD
<b>M&amp;E</b>	1.12	1.13	1.29	1.20	1.26	1.28	1.34	1.36	1.42

<sup>1</sup> If additional costs are needed to address easements the co-managers will submit a request to BOG.

<sup>2</sup> Memorandum Of Agreement among the Umatilla, Warm Springs and Yakama Tribes, Bonneville Power Administration, U.S. Army Corps of Engineers, and U.S. Bureau of Reclamation. April 2008. Reserved funds associated with the four Hood River projects total \$26,170,678.

<sup>3</sup> Reflect short-term alternative (Phase I) costs.

<sup>4</sup> Reflect the proposed costs outlined in the long-term alternative (FY 2013-2014).

## **BACKGROUND**

The Hood River subbasin supports two species of Pacific salmon, Chinook (*Oncorhynchus tshawytscha*) and coho (*Oncorhynchus kisutch*), as well as steelhead (*Oncorhynchus mykiss*). These three species of anadromous fish are composed of five stocks: two Chinook (spring and fall runs); two steelhead (summer, winter); and one coho stock. It is believed that winter and summer steelhead are the only remaining endemic naturally spawning anadromous species in the basin. Native spring Chinook salmon were extirpated prior to the 1960's. It likely that the native Coho and fall Chinook populations were functionally extirpated during the same period. Hood River coho salmon, winter and summer steelhead and Chinook salmon are part of the Lower Columbia Evolutionarily Significant Unit (ESU). They have been listed as threatened under the Endangered Species Act. Hood River spring Chinook salmon is not listed under the ESA because they are re-introduced from a non-listed out of basin donor stock.

The naturally spawning spring Chinook salmon currently present in the subbasin are progeny of Deschutes stock. Prior to the HRPP, the historical Hood River subbasin hatchery steelhead program, utilized out-of-basin stocks for many years.

Pacific lamprey (*Lampetra tridentatus*) is another anadromous species of interest and cultural importance in the Hood River subbasin. While its historic distribution is unknown the current distribution is limited to below Powerdale Dam.

Resident fish in the Hood River include rainbow, cutthroat (*O. clarki*), brook (*Salvelinus fontinalis*) and bull trout (*S. confluentus*). Naturally reproducing populations of rainbow and rainbow / cutthroat hybrids are found throughout the basin. Isolated coastal cutthroat populations are present upstream of barriers to anadromy. Brook trout were introduced into the subbasin, primarily in high mountain lakes draining into the West Fork Hood River. A small fluvial population of bull trout is present in the Middle Fork Hood River. Bull trout are listed as threatened under the Endangered Species Act (ESA).

### **I. History and development of the Hood River Production Program**

As part of the 1987 Program the Council recommended that Bonneville fund the development of a Master Plan for artificial production facilities that could be used to rear hatchery production for the Hood River subbasin (Section 703(f)(5)(A) in NPPC 1987).<sup>6</sup> To accomplish this recommendation, Bonneville funded the development of two Master Plans which outlined the rationale and general approach to enhance and restore wild and natural populations of anadromous fish within the Hood River Subbasin. The Hood River Production Master Plan and the Pelton Ladder Master Plan were both completed in 1991 and subsequently approved by the Council in 1992.

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<sup>5</sup> Information not provided as part of the revised master plan (FY 2015 - 2017).

<sup>6</sup> The 1987 Northwest Power Planning Council (NPPC) Fish and Wildlife Program was amended to include a measure to develop artificial production facilities which would produce between 2.3 and 3.0 million Chinook salmon and steelhead smolts designated for release into the Hood, Umatilla, Walla Walla, Grande Ronde, and Imnaha River subbasins and elsewhere. Measure 703(f) (5) (A), known as the Northeast Oregon Hatchery Program (NEOH), required that prior to design of facilities, a master plan be developed for each subbasin by the tribes and state fishery agencies. The Council separated the Hood River program from the other NEOH programs in 1991.

The HRPP is jointly implemented by the Confederated Tribes of the Warm Springs Indian Reservation of Oregon (CTWSRO) and the Oregon Department of Fish and Wildlife (ODFW). The primary goals of the HRPP original master plan are to: (1) re-establish and maintain naturally sustaining spring Chinook salmon in the Hood River subbasin, (2) rebuild and maintain naturally sustaining runs of summer and winter steelhead in the Hood River, (3) maintain genetic characteristics of Hood River fish populations, (4) restore degraded fish habitat, (5) provide fish for sustainable harvest by both sport and tribal fishers, and (6) ensure minimal adverse effects of the program on indigenous fish populations. As a condition to the Council's 1992 approval of the original master plan, sponsors adopted a three-phased approach, which included collecting baseline information, project implementation and facilities construction, and follow-up monitoring and evaluation studies. In addition, in 2003, a 10-year programmatic review was conducted for BPA-funded programs in the Hood River to satisfy a requirement of the March 1996 Hood River Fisheries Program EIS.

The Bonneville-funded supplementation program for winter steelhead began in 1991, spring Chinook in 1992, and summer steelhead in 1997. Three hatcheries are currently used for these programs: two in the Deschutes Basin - Round Butte/Pelton Ladder and Oak Springs, and one in the Hood Basin - Parkdale Fish Facility (PFF). All rearing is completed at existing facilities in the Deschutes Basin, while only the collection and spawning of adults and final acclimation of smolts at the time of release are conducted at the PFF and acclimation sites in the Hood River basin.

For Fiscal Year 2001, projects in the Columbia Gorge Province, including the Hood River subbasin were subject to the initial in-depth provincial review. The Hood River subbasin supports a suite of closely related projects, but the primary focus is on the Hood River Production Program. As part of the Council's FY 2001-2003 funding decision for the Columbia Gorge Province, the co-managers proposed a significant new initiative to expand the PFF to shift juvenile incubation and rearing of spring Chinook from the Round Butte Hatchery.

The Council's approval in 2001 had two principal issues regarding the co-managers proposed activities in the Hood River subbasin. The first issue pertained to the proposal to centralize spring Chinook production facilities at Parkdale. The Council's second issue pertained to the ISRP comments on the monitoring components of the HRPP. The ISRP called for an overall monitoring and evaluation plan and improved presentation of the results of past work. The Council concurred with the ISRP's concerns and requested a report on a coordinated plan as part of the anticipated Hood River Production Program review (HRPP Review)<sup>7</sup> and that the expansion of the PFF depended upon the results of the Three-Step Review Process.

In 2003, Bonneville completed the Hood River Production Program Review to satisfy the requirements of the Hood River Fisheries Program EIS. The results of the review showed that, based on ongoing monitoring and evaluation results, carrying capacity for Chinook and steelhead in the Hood River subbasin were less than originally thought and described in the initial Hood

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<sup>7</sup> The primary objective of the HRPP Review was to determine if program goals were being met, and if modifications in program activities would be necessary in order to meet or revise program goals. Habitat parameters, water quality, and other attributes were used to develop a carrying capacity model called the Unit Characteristic Model. This model was compared to other estimates of carrying capacity, including outmigrating smolt estimates and other previous modeling exercises.

River Master Plan. The co-managers studied the status, progress, and the possible need for modification of various aspects of the HRPP and agreed upon the future direction of the HRPP. Based upon the results of the review, the Hood River Subbasin Plan presented a set of revised biological fish objectives for some aspects of the program. Overall, the revised objectives are lower than originally proposed.

An additional complication for the program stems from the pending 2010 decommissioning and removal of Powerdale Dam, which will render the Powerdale trap inoperable. Therefore, the program will require new trapping facilities to continue HRPP broodstock collection and monitoring and evaluation activities.

On May 13, 2008, the Council received from the CTWSRO and ODFW an updated master plan addressing the current needs of the Hood River Production Program.

## **II. Summary of the Primary Master Plan Elements**

The revised master plan addresses modifications to the HRPP as approved and implemented in 1991. Proposed changes to the current HRPP include:

- An increase in the total number of spring Chinook smolts released from 125,000 to 150,000.
- Cessation of the summer steelhead program with last smolt release in spring 2009. The need to resume supplementation will be evaluated after two generations of post supplementation wild returns.
- Continue the existing winter steelhead program with a smolt release of approximately 50,000 unless a significant change in return or harvest rates occurs. An evaluation to determine if a change in production numbers is warranted is scheduled for 2010.
- A two phase approach to upgrades to the existing production facilities at PFF to meet the revised spring Chinook production goal. Phase I will consist of upgrades at PFF to provide an additional water source and upgrades to the hatch house to raise 30k full term smolt and infrastructure development for a temporary acclimation facility at Moving Falls in the West Fork Hood River. This will include design and construction of a headbox and water delivery system to acclimation ponds prior to 2010 releases. Pending the results of the comparative rearing evaluation in 2013, Phase II planning, design and construction will commence. This may include an expansion of the Parkdale facility and development of the Moving Falls site to produce 150k smolt entirely inbasin.
- Comparative release study of spring Chinook with rearing at Carson National Fish Hatchery, Round Butte Hatchery and the PFF to determine the smolt quality associated with and cost to benefit ratio of various strategies for rearing hatchery spring Chinook salmon for release as smolts in the Hood River subbasin. The study will also determine the potential for in-basin rearing at the PFF and a new facility at Moving Falls on the West Fork.
- The addition of two new seasonal adult trapping facilities (floating weirs) to replace facilities lost due to the removal of the Powerdale Dam. One trap will be located at Moving Falls on the West Fork, and one will be located on the Lower East Fork.

### **A. Goals and Objectives**

The original HRPP master plan goals include: 1) increasing production of wild summer and winter steelhead trout (*Oncorhynchus mykiss*) commensurate with the subbasin's current carrying capacity, 2) re-introducing spring Chinook salmon (*Oncorhynchus tshawytscha*) into the Hood River Subbasin, and 3) providing tribal and recreational fisheries for winter and summer steelhead and spring Chinook salmon.

The HRPP's primary goals are to re-establish spring Chinook and to help rebuild runs of winter and summer steelhead. Specific numerical objectives established to reach those goals were originally developed for each stock in the 1991 Master Plan. Though the original goals remain, based on the HRPP Review, the Hood River Subbasin Plan (e.g., Ecosystem Diagnosis and Treatment Model), data collected from the HRPP since 1992 (e.g., observed SAR estimates), and recent understandings regarding viable hatchery programs and the HSRG Production Guidelines, the updated HRPP Master Plan proposes new biological objectives for spring Chinook, and winter and summer steelhead.

The following table (Table 1) compares the numerical objectives for spring Chinook, summer steelhead and winter steelhead to the HRPP's biological performance criteria presented in the original 1991 Master Plan for: 1) average observed HRPP data, and 2) the proposed objectives derived from a summary of escapement, harvest, broodstock, and survival. The number of smolts required to support production is based on escapement objectives, survival, and harvest rates. Data collected through the implementation of the HRPP was used to develop survival and harvest rates.

**Table 1: Numerical Fish Objectives and biological performance criteria for the Proposed Program, Showing Comparison to 1991 Objectives and Observed Averages for Each HRPP Stock**

	1991 Objective		10 Year Average		Proposed Objective by 2018	
	Wild	Hatchery	Wild	Hatchery	Wild	Hatchery
<b>Spring Chinook</b>						
Adult Escape to Mouth of Hood R.	1,700		99	399	300	600
Adult Escape to Natural Production	400		98 <sup>1</sup>	148 <sup>1</sup>	205	8
Broodstock Collection	220		1	108	20	180
Harvest (Tribal & Sport)	1,080		U	83	30	318
Pre-spawning Mortality	NA		U	60	45	90
Smolt production	24,000	250,000	U	120,380	15,000	150,000
Egg-to-Smolt Survival	U	U	U	U	4.4%	78%
Smolt-to-Adult Survival	0.68%	0.68%	U	0.24%	2.0%	0.40%
Pre-Spawn Mortality	10%	10%	15% <sup>2</sup>	15% <sup>2</sup>	15%	15%
Tribal & Sport / Incidental Harvest	63%	63%	1% <sup>1</sup>	21% <sup>1</sup>	10%	53%
HOR Natural Spawn (<5%)	NA	NA	NA	151% <sup>1</sup>	NA	4%
HSRG Rules (>0.70)	NA	NA	NA	0.02 <sup>1</sup>	NA	0.73
<b>Summer Steelhead</b>						
Adult Escape to Mouth of Hood R. <sup>3</sup>	8,000		300	852	510	NA
Adult Escape to Natural Production	2,400		210	175	408	NA
Broodstock Collection	160		35	3	0	NA
In-Basin Harvest (Tribal & Sport)	5,440		1	110	51	NA
Pre-Spawning Mortality	NA	NA	27 <sup>1</sup>	22 <sup>1</sup>	51	NA
Smolt Production		40,000	3,921	38,585 <sup>4</sup>	7,500	NA

	1991 Objective		10 Year Average		Proposed Objective by 2018	
	Wild	Hatchery	Wild	Hatchery	Wild	Hatchery
Egg-to-Smolt Survival	NA	NA	0.58% <sup>1</sup>	71.0%	1.0%	NA
Smolt-to-Adult Survival	NA	NA	7.5%	2.1% <sup>5</sup>	5%	NA
Pre-Spawn Mortality	NA	NA	10% <sup>2</sup>	10% <sup>2</sup>	10%	NA
Tribal & Sport / Incidental Harvest	NA	NA	0% <sup>1</sup>	10% <sup>1</sup>	10%	NA
HOR Natural Spawn (5%)	NA	NA	NA	5% <sup>1</sup>	NA	NA
HSRG Ratio (>0.7)	NA	NA	NA	0.67 <sup>1</sup>	NA	NA
<b>Winter Steelhead</b>	<b>Wild</b>	<b>Hatchery</b>	<b>Wild</b>	<b>Hatchery</b>	<b>Wild</b>	<b>Hatchery</b>
Adult Escape to Mouth of Hood R.	5,000		662	1,003	656	1,000
Adult Escape to Natural Production	2,400		515	370	465	24
Broodstock Collection	90		68	24	60	0
In-Basin Harvest (Tribal & Sport)	2,510		2	365	66	876
Pre-Spawning Mortality	NA		60 <sup>1</sup>	63 <sup>1</sup>	66	100
Smolt Production		85,000	8,718	57,286	9,370	50,000
Egg-to-Smolt Survival	NA	NA	0.9%	66.4%	1.0%	75%
Smolt-to-Adult Survival	NA	NA	8.1%	1.1% <sup>6</sup>	7.0%	2.0%
Pre-Spawn Mortality	NA	NA	10% <sup>2</sup>	10% <sup>2</sup>	10%	10%
Tribal & Sport / Incidental Harvest	NA	NA	0% <sup>1</sup>	58% <sup>1</sup>	10%	88%
HOR Natural Spawn (<5%)	NA	NA	NA	75% <sup>1</sup>	NA	5%
HSRG Ratio (>0.7)	NA	NA	NA	0.64 <sup>1</sup>	NA	0.95

<sup>1</sup>Computed value; <sup>2</sup> Assumed value; <sup>3</sup>Estimate assumed 10% catch and release mortality; <sup>4</sup>Average for Hood stock releases (1992- 2005); <sup>5</sup> Based on 1998-2002 five year average; <sup>6</sup> Based on 1993-2002 ten year average  
U= unknown; NA = Not available

For spring Chinook, the revised biological objectives are a result of increased smolt release targets, which are based on revised smolt-to-adult survival rates (SARs). The HRPP had assumed an optimistic SAR objective of 1%, which has not been achieved on average over the past 10 years. To develop a more realistic SAR, co-managers considered average SARs observed for other hatchery spring Chinook programs at several national hatcheries including Carson and Little White Salmon. From 1996 through 2000, the estimated SAR ranged from 0.09% to 0.66%, and averaged 0.31%. This average survival estimate was used as a starting point for the HRPP spring Chinook SAR objectives and increased slightly to 0.4% to reflect assumptions that shifting production to in-basin rearing and the removal of Powerdale dam and associated unscreened penstock may increase smolt quality and survival.

Using the revised SAR, co-managers decided to increase the smolt release guideline from the current 125,000 to 150,000 smolts. The new production release guideline is lower than the 1991 guideline of 250,000 smolts. The co-managers believed the revised smolt release would increase adult returns and ensure sufficient fish for a consistent tribal and sport fishery. The revised release guideline strikes the balance between the HRPP's harvest and wild production objectives and ensures sufficient returns for complete in-basin broodstock collection and could, if necessary, supplement the wild population in the upper headwaters if necessary. Instrumental to the production release guideline is the inclusion of a 100%-efficient spring Chinook barrier in the West Fork at Moving Falls. The barrier will limit the number of hatchery spring Chinook migrating upstream to protect wild fish from an over-seeding of hatchery fish in the upstream habitat.

## B. Two Phased Implementation Approach

**1. Short-Term Alternative (Phase I)**

The co-managers have concerns that full production at the PFF and an unproven remotely located new facility (Moving Falls) might not initially be as successful as rearing at existing facilities (Table 2). Therefore, prior to employing a long-term alternative, the co-managers propose a comparative hatchery release evaluation that evaluates the size at release, rates of precocial maturation, and SARs of spring Chinook released in the Hood River Basin that are reared at one of three facilities: 1) the Round Butte Hatchery / Pelton Ladder in the Deschutes Basin (OR); 2) the Carson National Fish Hatchery in the Wind River drainage (WA); and; 3) the PFF in the Hood River Basin.

**Table 2: Proposed HRPP Spring Chinook Salmon Comparative Release Strategy<sup>8</sup>**

<b>Facility</b>	<b># Reared</b>	<b>Life Stage Delivered To Acclimation Site</b>	<b>Type of Release</b>
Round Butte Hatchery / Pelton Ladder	75,000	Pre-smolt	March-April Acclimation – Forced Release
Carson National Fish Hatchery	45,000	Pre-smolt	March-April Acclimation – Forced Release
Parkdale Fish Facility	30,000	Pre-smolt	March-April Acclimation – Forced Release

The results will provide the necessary information for co-managers to determine a long-term, biologically sound and cost effective spring Chinook production strategy for the Hood River Basin that balances harvest with ecological considerations (i.e., long-term alternative). The objective of this evaluation is to provide managers with the information necessary to determine the most cost effective approach (or combination of approaches) for: 1) rearing HRPP spring Chinook smolts to an average size of 15-18 fish per pound at release; and 2) increasing the average SAR to 0.4%. If the results of the trial determine that in-basin rearing is the most effective strategy, the co-managers would implement the preferred long-term production alternative. If full in-basin rearing does not meet program objectives managers will consider full or partial out-of-basin rearing at one of the two out of basin hatcheries evaluated.

The short-term test phase would require the construction of a 4cfs intake structure at Moving Falls for acclimation of spring Chinook smolts and piping a well at PFF for egg and early rearing. In addition, the design and construction of two new seasonal adult trapping facilities (floating weirs) to replace facilities lost due to the removal of the Powerdale Dam will be accomplished during Phase I implementation.

**a. Parkdale Fish Facility**

Proposed for 2009:

- Add pump and plumb existing well to facility (early action).
- Construct a pump house equipped with emergency backup power source.

<sup>8</sup> Juvenile rearing will begin in brood year 2008 with smolt releases in 2010. Eggs would be collected from the 2008-2013 broods to be raised at each facility. The final release would occur in 2015. Results would be evaluated after the return of age 5 adults from the 2008 brood in 2013.



- Re-plumb incubation building to accommodate well water and retrofit copper pipe with PVC or similar inert material.
- Supply well water to hatchery building, early rearing trough and acclimation/late rearing ponds.
- Install water heater to facilitate incubation and early rearing.

**b. Moving Falls**

Proposed for 2009:

- Secure site access agreements with landowner and improve access road.
- Build intake structure and pipeline with a 4 cfs maximum capacity.

**c. Adult Trapping Facilities**

Proposed for 2009:

- Acquire easement for trapping sites on West Fork (Moving Falls) and East Fork Hood River.
- Design, construct, and install floating weirs and traps for each trapping site.

**2. Long-Term Alternative (Phase II)**

The long-term alternative describes what is believed to be the best balance of improving SARs, providing reasonable harvest levels, and balancing costs. However, what is presented here may be altered based on information gathered during implementation of the short-term alternative (5 years). The long-term alternative requires upgrades to PFF to increase rearing space and the construction of a new late rearing / acclimation facility at Moving Falls with concrete raceways. Under this alternative, the majority of fish hatched at the PFF would be transferred to Moving Falls at 300 fpp fry, reared to 15 fpp and force-released. Up to 20% of the production would remain at the PFF for rearing until release into the Middle Fork. This alternative would include the components described below.

**a. Parkdale Fish Facility**

Proposed for 2014:

- Plumb up to eight Canadian rearing troughs to allow for early rearing.
- Build Waste Treatment system.

**b. Moving Falls**

Proposed for 2014:

- Build water filtration system to limit possible infection by diseases such as BKD.
- Build six raceways capable of rearing up to 150,000 smolts at 15 fpp with release.
- Build storage shed and security fence.

**II. Major Project Review (The Three-Step Process)**

On August 22, 2008, the ISRP provided their review to the Council of the Revised Master Plan for the Hood River Production Program (ISRP document 2008-10). The ISRP found that the revised master plan “Meets Scientific Review Criteria – In Part (qualified)”.

The ISRP stated that the master plan is “an impressive step forward in concept, decision-logic, organization, and scientific justification”. They found the submission to be a big improvement from the original 1991 plan and that it had more substantiated sets of goals and objectives within

an adaptive ecosystem management framework. In addition, the ISRP expressed how the revised master plan incorporated best practices recommended by the Hatchery Scientific Review Group, Independent Scientific Advisory Board, and ISRP. The ISRP appreciated the realistic appraisal of the current program's limited effectiveness at achieving the biological objectives proposed within the original master plan. They noted the rigorous and detailed HRPP monitoring and evaluation (M&E) program provided the co-managers the ability make the revisions to the existing program.

The Panel's "In Part (qualified)" assessment regarded the following:

- using acclimation ponds to volitionally release steelhead in the mid/upper watershed where released fish can residualize
- using hatchery-origin adults for broodstock when natural fish are low in abundance
- insufficient justification for assessment methods for the monitoring component.

The ISRP recommended "in-part" because the construction of the proposed six production ponds at Moving Falls cannot be scientifically justified until the experiment is complete in 2018 and data analyzed.

In addition, the ISRP recommends that the project sponsors edit and update the Step One Revised Master Plan for the Hood River Production Program before proceeding to Step Two. The ISRP specifically requested that the co-managers update the current master plan to address not only the issues outlined above, but also the following four items:

1. Adding a section in *Chapter 3: Proposed Production Alternatives* on winter steelhead production alternatives that evaluates the effect broodstock collections have on winter steelhead population dynamics and also evaluates the acclimation versus direct release of winter steelhead smolts relative to residualization, subsequent harvest opportunities, and excess spawning abundance of hatchery-origin winter steelhead.
2. Further development of *Chapter 4: Proposed Trapping and Collection Alternatives* to document the level of trapping and enumeration of both adults and smolts required to provide analytical (statistical power) data to adequately assess the program, and consider additional electronic counting that may be valuable in this subbasin.
3. In *Chapter 5: Hood River Habitat Improvements*, consider in more detail passive habitat improvement actions and strategies beyond adding large woody debris to the system.
4. Develop in *Chapter 6: Hood River Production Program Monitoring and Evaluation* an assessment and evaluation for the habitat enhancements proposed in Chapter 5.

## **ANALYSIS**

As described in the revised master plan, the co-managers propose to proceed with an experimental approach (Phase I) to address the current needs of the HRPP. Therefore, implementation of the long-term alternative (Phase II) will depend upon the findings from the information gathered during this experimental period (2009 - 2013). The ISRP assumed a return of two brood years and associated SARs to formulate results from the comparative release experiment (i.e., expected in 2018). The co-managers are implementing a study to determine

smolt quality at release and will have results from three brood years at time of release by 2013.<sup>9</sup> It is anticipated that information collected and evaluated as part of this experiment will assist in the development of a long-term production strategy that will be presented in a finalized step 1 (master plan) that not only addresses the issues that the ISRP has requested (ISRP document 2008-10, especially the “qualified” issues), but the long-term needs of the HRPP.

The ISRP supports this short- and long-term approach and the direction taken by the HRPP in the revised master plan. The ISRP supports the elimination of the summer steelhead program, continuation of the winter steelhead production program, and the proposed experimental rearing and release of spring Chinook at the Parkdale Fish Facility and the related upgrades to accomplish this short-term alternative at the PFF and Moving Falls. They also understand and support the need to proceed with the construction of weirs and traps at Moving Falls on the West Fork Hood River and on the East Fork Hood River.

Based on the ISRP review and the approach as detailed in the revised master plan submitted by CTWSRO and ODFW, the Council staff recommends that the Fish and Wildlife Committee approve the Revised Master Plan for the Hood River Production Program to proceed with activities associated with the short-term approach (Phase I). Staff conditions this recommendation with the understanding that the co-managers will provide additional information requested by the ISRP as part of the future step submittal (i.e., finalized step 1 - master plan) that will address the long-term alternative for the HRPP.

It is important to note that the Bonneville and other federal agencies have developed a multi-year implementation plan (i.e., MOA) for activities in the Hood River Subbasin. This plan has implementation planning budgets for the four CTWSRO projects being addressed in the Hood River Subbasin and staff is uncertain about how these budgets align to the budgets presented in the revised master plan.<sup>10</sup> Though the MOA provides funding for CTWSRO production components, necessary expansion/upgrades (Phase I and II), comparative release studies and the CTWSRO’s portion of the M&E program, it is important to note that other critical funds for ongoing ODFW projects in this program are not covered (i.e., Project 1988-053-04, *Hood River Production Program - ODFW M&E*, and Project 1988-053-08, *Hood River Powerdale Dam Fish Trap/Oak Springs/Pelton Ladder - Operation and Maintenance*).

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<sup>9</sup> The investigation will be independently conducted by Don Larson of NOAA fisheries.

<sup>10</sup> -Project 1988-053-03, Hood River Production M&E - Warm Springs. Funds reserved in MOA  
- Project 1988-053-07, Hood R Prod O&M - Ws/Odfw. Funds reserved in MOA  
- Project 1998-021-00, Hood River Fish Habitat. Funds reserved in MOA  
- Project 2008-309-00, Master plan expansion and tributary weir development for Hood River facility. Capital funds reserved in MOA