



**U.S. Fish and Wildlife Service - Pacific Region
Columbia River Basin Hatchery Review Team**

Columbia River Basin, Columbia Cascade Province
Wenatchee, Entiat and Methow River Watersheds



**Leavenworth, Entiat and Winthrop National Fish Hatcheries
Assessments and Recommendations**

**Final Report, Appendix D:
Complete Text of Comment Letters Received from Stakeholders**

April 2007

Appendix D: Complete Text of Comment Letters Received from Stakeholders



Colville Confederated Tribes
Fish & Wildlife Department
P.O. Box 150
Nespelem, WA. 99155
Phone: 509-634-2118
Fax: 509-634-2126



November 13, 2006

Douglas DeHart
Vice-Chair
Columbia River Basin Hatchery Review Team

The Colville Tribal Fish and Wildlife Department appreciates the opportunity to comment on the U.S. Fish and Wildlife Service's document, "Mid-Columbia NFH Assessments and Recommendations Report – October 2006".

We would like to commend the review team for their effort in developing this report and with involving the anadromous fish co-managers in the Mid-Columbia as the report was prepared.

In reviewing this document, the Tribe was pleased to notice a stronger commitment on the part of the FWS to help meet the initial Chief Joseph Hatchery broodstock requirements for spring Chinook. We are also aware, that as you identified in your response to our initial comments, that the implementation process is where the decisions dealing with broodstock transfers will occur. However, it is imperative that as part of the hatchery reform process, that the Chief Joseph Hatchery spring Chinook broodstock needs be included.

The Leavenworth Hatchery recommendations include a transition from the existing Carson stock to an upper Wenatchee listed stock, contingent on an ESA permit from NOAA that allows for fishing on the Icicle River. The Colville Tribe would be interested in the surplus fish at Leavenworth Hatchery and would be interested in knowing that if fishing is permitted on these fish would the ability to surplus them also be allowed. One of the few benefits the Tribe currently realizes from this program is surplus fish and we have been obtaining them from Entiat Hatchery over the past

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

several years. With that facility identified for a transition to summer Chinook, the only potential source of surplus spring chinook may possibly be Leavenworth Hatchery.

The Entiat Hatchery spring Chinook program overview section identifies 100 adults as being collected for an experimental restoration study by the Colville Tribe. This was discussed several years ago, but was never initiated. However, over the past several years the Tribe has received 50,000 spring Chinook pre-smolts in late October for over-winter acclimation and release in Omak Creek that were reared at one or more of the Leavenworth Complex Hatchery facilities. This program, while discontinued this year, has provided a benefit to the Colville Tribe and should be included in the report as such. Adult spring Chinook have returned in small numbers to Omak Creek, a tributary to the Okanogan River that is located entirely within the bounds of the Colville Indian Reservation and provided the Tribe the ability to conduct a “First Salmon Ceremony”, the first such ceremony in over sixty years. The Tribe would be interested in re-initiating this program as an interim measure at one of the hatchery facilities, until the Chief Joseph Hatchery spring Chinook adults return to Omak Creek.

The Tribe looks forward to working with the FWS on this hatchery reform process.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007



Confederated Tribes and Bands
of the Yakama Nation

Established by the
Treaty of June 9, 1855

Date: November 28, 2006

To: Don Campton and Doug DeHart, Co-Chairs
USFWS Hatchery Review Team

From: Steve Parker and Tom Scribner
Fisheries Resource Management
Yakama Nation

RE: Review of Leavenworth, Entiat and Winthrop National Fish Hatcheries

The Yakama Nation appreciates the opportunity to comment on the U.S. Fish and Wildlife Service's (FWS) draft report on the Leavenworth, Entiat and Winthrop National Fish Hatcheries (NFH). Our general comments are summarized below for each hatchery.

Leavenworth NFH

As noted in the report, the Leavenworth NFH provides an extremely significant fishery benefit to the Yakama Nation. The current spring Chinook program at the Leavenworth NFH is integral to the tribe's harvest regimes. Spring Chinook are highly valued by the Yakama Nation, and Icicle Creek is essentially the only location in the mid-Columbia region where the Yakama Nation can fish for spring Chinook. We support the conclusions of the FWS Review Team that preservation of those fishery benefits in Icicle Creek should be of the highest priority.

Consequently, the Yakama Nation would be resistant to any changes at the Leavenworth NFH that would reduce or jeopardize the existing fishery benefits in Icicle Creek. We believe the current spring Chinook program at the Leavenworth NFH is an extremely valuable one with great smolt-to-adult survivals and adult returns. We further believe: "If it ain't broke, don't fix it." On the other hand, we do recognize the need to consider other issues and management goals.

Rearing densities. The Yakama Nation is opposed to any reductions in program production to achieve lower rearing densities of spring Chinook that would result in reduced numbers of returning adults back to Icicle Creek. Before any change in the production program is

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

implemented, an experimental “side by side” test should be conducted for at least a couple of broodyears. We understand that low water flows and high temperatures increase fish health risks during the summer months. However, we do not believe reducing the size of the spring Chinook program at the Leavenworth NFH is the solution. Alternatively, we believe additional sources of water need to be found or allocated to the hatchery so that existing programs can be maintained at their current mitigation levels.

Broodstock transition. The current spring Chinook broodstock at the Leavenworth NFH represents more than two decades of local propagation and adaptation to the hatchery and Icicle Creek. As stated above, the tribe believes that the current program is very successful. Consequently, we have reservations about “transitioning” to another broodstock. We believe that increasing the robustness of upper Wenatchee River stocks should be a higher priority than transitioning to a new broodstock at the Leavenworth NFH. On the other hand, we are not opposed to the principle of transition, but only as long as harvest benefits are retained at current levels.

The following conditions and uncertainties need to be resolved before we could endorse transitioning to a new spring Chinook broodstock at the Leavenworth NFH.

- A detailed contingency plan for developing and maintaining a new broodstock would need to be developed for comanager review. This plan would need to have clear numerical guidelines (e.g. via a sliding scale) for disposition of adult spring Chinook trapped at Tumwater Dam and the Leavenworth NFH. For example, if the Chiwawa River program was not able to meet its escapement or broodstock goals in low adult return years, we would need guarantees that fish returning to the Leavenworth NFH would not be automatically used to meet those goals without comanager and tribal agreement. We believe there could be significant comanager pressure to reduce the number of adult spring Chinook retained for broodstock at the Leavenworth NFH in low return years to meet broodstock and escapement goals in the upper Wenatchee River.
- The performance of the new broodstock at the Leavenworth NFH would need to be evaluated side-by-side with the existing broodstock. This would require the propagation of both stocks at the Leavenworth NFH for at least a couple of broodyears. Only if the new broodstock is capable of achieving post-release survivals and adult returns comparable to the existing broodstock would the Yakama Nation accept transition to the new broodstock.
- The Yakama Nation would need guarantees that adult fish from the new broodstock could be harvested in Icicle Creek and other locations at the same levels that are currently allowed for the existing hatchery stock.

Differential marking/tagging of Leavenworth and Chiwawa Hatchery fish. The Yakama Nation does not agree with the conclusions of the FWS Review Team that fish from the Leavenworth NFH pose a “significant” genetic risk to naturally spawning populations in the upper Wenatchee River. From the Nation’s perspective, the issue is primarily one of management, not biology. Consequently, we endorse the Review Team’s recommendation to differentially mark spring Chinook produced for the Chiwawa River and Leavenworth NFH

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

programs so that the latter fish can be selectively removed at Tumwater Dam. Differential marking/tagging is much simpler than transitioning to a “Wenatchee River broodstock” at Leavenworth NFH.

Fish passage in Icicle Creek. The Yakama Nation has concluded that the opportunities to maintain a self-sustaining natural population of spring Chinook in Icicle Creek are extremely limited. We concur with the FWS Review Team that potential habitat for spring Chinook terminates at the boulder field at RM 5.5. Although we agree in principle with providing passage to upstream migrating salmonids in Icicle Creek, this passage should not reduce harvest opportunities for spring Chinook if the Leavenworth NFH transitions to a within-ESU stock.

Relocation of the hatchery’s water intake. We briefly reviewed the options for relocating the hatchery’s intake facilities on Icicle Creek. Possible relocation of the intake facilities to the headgate area near the top of the bypass canal appears at first glance to be a good alternative to the current location as long as a reconstructed fish sorting and bypass facility remained at Structure 5. We have reservations about relocating the water intake below Structure 5 because of uncertainties regarding its potential impact on tribal fisheries.

Entiat NFH

We concur with the FWS Review Team’s assessment that the current spring Chinook program at the Entiat NFH is not providing tangible harvest benefits. Therefore, we are not opposed to its termination as long as it can be replaced with a program (or programs) that do provide benefits. We also concur that summer Chinook would be one alternative that could provide harvest benefits. However, we are opposed to a weir at the hatchery. We believe all fish should be free to volitionally move upstream.

The Yakama Nation currently depends on the adult holding and spawning facilities at the Entiat NFH for the tribe’s coho restoration program. At the present time, the spawning of spring Chinook is complete before the adult facilities are needed for coho salmon. However, summer Chinook spawning would present a facilities conflict with coho holding and spawning. Before we formally endorse a summer Chinook program at the Entiat NFH, we would need assurances that the use of hatchery facilities for the coho restoration program would not be affected. Additional adult holding infrastructure would be needed if the program included summer Chinook. We expect the number of summer chinook hatchery programs in the Upper Columbia to substantially increase due to: 1) the development of hatcheries at Chelan Falls and near Chief Joseph Dam and 2) Grant County PUD mitigation. For this reason, we encourage the FWS and BOR to reconsider changing the program at Entiat NFH to a coho program (an identified alternative). Such a proposal would be supported by the YN.

Several large summer Chinook hatchery programs already exist within the region (e.g. Turtle Rock). However, the number of program options available at the Entiat NFH are limited

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

under current ESA conditions. As noted above, a significant reservation are options that require a weir in the Entiat River.

Winthrop NFH

Spring Chinook. Issues for spring Chinook in the Methow River are complex. We believe these issues within the Methow River need to be resolved before fish are used to help restore spring Chinook in the Okanogan River or are used to develop a new hatchery program at Chief Joseph Dam.

We have reservations about the effectiveness of all tributary weirs in being able to efficiently follow agreed to adult collection protocols especially those in the Methow basin. Before major funds are invested in the reconstruction of Foghorn Dam or construction of a new weir structure in the Methow River to trap wild fish for inclusion in the Methow Composite stock, a thorough evaluation of pros and cons of trapping at these sites versus Wells Dam (100% effective) should be completed. We currently believe Wells Dam is the easiest and most expedient location to trap wild spring Chinook adults for integration into the Methow Composite broodstock.

We do not believe the size of the spring Chinook program at the Winthrop NFH should be reduced until all conservation options within the Methow River have been exhausted. Rather than constructing a weir on the Methow River, we believe greater release efforts should be expended to recover spring Chinook in the Methow River basin. Multiple release sites throughout the watershed – with or without acclimation facilities - may be necessary to spread returning adults into all available spawning habitats and maximize natural reproduction by hatchery-origin adults.

Steelhead. We do not support increasing the scope and/or size of the steelhead program at the Winthrop NFH at the expense of spring Chinook production. From the tribe's perspective, spring Chinook is the first priority species in the Methow River and the region.

Summary

We appreciate the opportunity to comment on the Fish and Wildlife Service's draft report on the Leavenworth, Entiat, and Winthrop NFHs. Preserving existing harvest opportunities and increasing future harvest opportunities is the top priority of the Yakama Nation. In general, we believe the FWS Hatchery Review Team has done a good job at identifying the issues and providing options and recommendations for future implementation. The Yakama Nation supports those recommendations to the extent that they preserve harvest opportunities for the tribe and increase opportunities in the future. The Yakama Nation looks forward to continuing to work with the FWS in support of the federal government's tribal trust and fishery mitigation responsibilities.

USFWS Columbia Basin Hatchery Review Team
Leavenworth NFH Complex Assessments and Recommendations Report – April 2007



State of Washington
DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: 600 Capitol Way N • Olympia, WA 98501-1091 • (360) 902-2200, TDD (360) 902-2207
Main Office Location: Natural Resources Building • 1111 Washington Street SE • Olympia, WA

November 13, 2006

Donald Campton
Project Chair, Hatchery Review Team
U.S. Fish & Wildlife Service
Abernathy Fish Technology Center (AFTC)
1440 Abernathy Creek Road
Longview, WA 98632

Doug DeHart
Vice Chair, Hatchery Review Team
U.S. Fish & Wildlife Service
Fisheries Resource
911 NE 11th Ave.
Portland, OR 97232-4181

Dear Mr. Campton and Mr. Dehart,

Subject: Comments to the Hatchery Review Recommendations for the Leavenworth Hatchery Complex Facilities

The Washington Department of Fish and Wildlife appreciates the collaborative nature the Fish and Wildlife Service has approached for their hatchery review process, and values the opportunity to provide formal comment. An underpinning of hatchery reform is to reduce the overall risk a hatchery program poses to natural production. Setting clear and measurable goals, linked with scientific defensibility of the program strategy, which is then vetted through an informed decision making process will ensure any changes we make in the future achieve the desired outcome.

Leavenworth National Fish Hatchery (LNFH)

The Washington Department of Fish and Wildlife (WDFW) strongly supports the continuation of a segregated strategy for spring Chinook production at the LNFH. The sport fishery in the Icicle River is the only consistent spring Chinook sport fishery in the Upper Columbia River region and provides important economic value and recreational opportunity. Additionally, the Icicle River fishery meets an important harvest objective for the Yakama Nation. WDFW supports further discussion amongst the Joint Fishery Parties (JFP) for transitioning the existing

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Campton and Dehart
Page 2 of 4
November 13, 2006

broodstock to one genetically integrated with the Wenatchee River e.g. locally derived broodstock according to the proposed “stepping stone” model in which fishery opportunities are maintained. This strategy should reduce the overall risk of the hatchery program on natural production; yet maintain the fishery interests valued by the co-managers. In short, the preservation of fishing opportunity is paramount to both the co-managers and we will work collaboratively with the FWS to ensure these interests are preserved while working to reduce the overall risk of the facility to natural production within the basin.

The risk of the current program at LNFH to native stocks is loss of genetic variability (i.e., between populations) due to non-local hatchery fish interbreeding with local stocks on the natural spawning grounds. The conversion of broodstock source at LNFH from non-local to local stocks would likely reduce the genetic risks to local stocks. However, this assumption should be compared with actual stray rates observed between local and non-local broodstocks over to time to ensure the expected outcome is observed. The WDFW encourages the FWS to conduct a PIT tagging study during the transition period to monitor stray rates of non-local and local derived fish. Assuming no significant increase in stray rate is detected, the reduction in risk to the naturally spawning population upstream of Tumwater Dam would be realized.

Under the transition to a native broodstock, the presence of an external mark on all hatchery fish, regardless of program source, is essential for future management options and monitoring and evaluation programs developed to assess the efficacy of supplementation (i.e., integrated) hatchery program upstream of Tumwater Dam. This approach is consistent with historic marking practices and represents a tool for balancing recovery with fishery objectives.

Successful conversion of LNFH to a locally derived broodstock is contingent on improvements to the water supply at the hatchery, sufficient availability of locally derived hatchery spring Chinook and National Marine Fisheries Service (NMFS) assurance that Chinook originating from the LNFH program are produced for harvest. Given the current status of local spring Chinook stocks, the WDFW would encourage the FWS and Bureau of Reclamation (BOR) to develop an accelerated implementation program of the specific facility improvements, and attain NMFS assurance of harvest priority for the LNFH program. In addition, the FWS should convene a meeting of the JFP to identify the best strategies for accomplishing shared objectives with an agreed to timeline for implementation.

Entiat National Fish Hatchery (ENFH)

WDFW concurs that the current spring Chinook program poses genetic and ecological risks to the local spring Chinook population designated for recovery in the regional salmon recovery plan, though the WDFW has also identified a mechanism to reduce those risks by development of a terminal area sport fishery-targeting hatchery spring Chinook. However, the WDFW remains open to conversion of the program to another species besides spring Chinook with the recognition that conversion to another species would be a deviation from the original goals applied to those hatcheries associated with the Grand Coulee Fish Maintenance Project (GCFMP). Therefore, thoughtful and deliberate consideration for appropriate species will be important to ensure hatchery risks are minimized while the integrity of the original intent of the goals remain intact. Two species for further consideration include summer Chinook and coho.

USFWS Columbia Basin Hatchery Review Team
Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Campton and Dehart
Page 3 of 4
November 13, 2006

Winthrop National Fish Hatchery (WNFH)

Spring Chinook

The development of a joint comprehensive or coordinated Hatchery Genetic Management Plan (HGMP) for Methow Basin spring Chinook, including the goal(s), objectives, and operational details for both hatcheries is an important next step towards minimizing the risks the hatchery program(s) pose to the natural production while ensuring the facilities operate in concert towards achieving their overall goal(s). The WDFW understands that under the recommended alternative all fish released from WNFH would be adipose fin clipped and subject to fisheries (i.e., no eyed egg or unmarked fish released at any size). In addition, all returning hatchery fish would be either collected at WNFH or removed at the improved Foghorn Dam fish trap. Hence, spring Chinook from WNFH would not be allowed to spawn naturally in the Methow River, but could be used in other locations. The WDFW Methow Fish Hatchery would assume the primary role in rebuilding naturally spawning populations, though it seems quite possible that hatchery fish (i.e., Methow Composite) in excess of broodstock and escapement goal needs could be collected and transported to the WNFH to maintain a strong genetic link. Adult escapement goals would need to be formalized (abundance and origin composition) in order to determine the number of spring Chinook above the broodstock and natural spawning needs. In addition, sport fisheries conducted in the terminal area can be a useful tool at further reducing the risk hatchery fish pose when they exceed natural spawning and hatchery broodstock needs pose. The WDFW would like to discuss the possibility of developing a small terminal fishery in the WNFH outfall stream.

Steelhead

WDFW does agree that a local steelhead broodstock using a greater proportion of wild fish would reduce genetic risks to the local populations. An increase in the number of steelhead released into the Methow River from WNFH would require adjustments to the current Wells steelhead program to comply with the cumulative production of Upper Columbia River (UCR) steelhead above Wells Dam authorized through ESA permits 1395, 1396 and 1412. Due to the potential changes as a result of this alternative, the WDFW would like to review the current program at WNFH (i.e., size at release and SAR) prior to any increase in production and subsequent decrease in production from Wells FH. Currently, steelhead released from WNFH are marked similarly to those released from Wells FH (i.e., adipose fin clipped). Differential marking schemes should be developed and implemented immediately in order to estimate the emigration and survival rates of the WNFH steelhead independently from those fish reared at Wells FH.

Selective recreational fisheries have been authorized under Section 10 Permit #1395 as a tool to reduce the number of hatchery fish spawning naturally in the Methow and Okanogan rivers. Development of a local broodstock in the Methow River (i.e., not using Wells Dam as a collection location) would require a similar level of collaboration between the Joint Fishery Parties (JFP), and subsequent development of a comprehensive or coordinated HGMP.

WDFW may support a change from the current program provided that improvements to Foghorn

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Campton and Dehart
Page 4 of 4
November 13, 2006

Dam result in an adequate broodstock trapping opportunity. Migration timing of steelhead upstream of Foghorn Dam is currently unknown, but it is highly probable most of the broodstock would be collected in the spring. This may pose challenges to achieving optimal release sizes. The WDFW would value review of any information concerning efficacy of rearing two-year-old hatchery steelhead smolts. Limited hatchery rearing space could also comprise total release number. The Hatchery Review Team did not address the use or need of steelhead acclimation ponds. It is unclear from the recommendation whether fish would be released directly from the hatchery or trucked and released offsite. An appropriate spawning distribution of returning hatchery steelhead would be fundamental in an integrated program. If all hatchery steelhead were to be released directly from the hatchery, returning adults would be destined to spawn in the upper Methow River. The JFP would be an appropriate body to validate if a 200,000 smolt release is biologically appropriate given current or near term habitat conditions and natural production potential of wild steelhead in the basin.

Summary

WDFW generally supports the recommended alternatives developed by the HRT. Once implemented these alternatives would maintain or increase the level of harvest opportunities while reducing the risks to local populations. That being said, those alternatives that may impact existing hatchery programs would require additional consultation between the JFP and funding entities. WDFW is encouraged and applauds the HRT for their hard work, responsiveness to co-managers objectives, and willingness to make the needed changes to assist in recovery of listed stocks.

Sincerely,



Heather Bartlett
Hatchery Reform Coordinator



Joe Miller
Regional Fish Program Manager

Cc: Steve Parker, Yakama Nation
Joe Peone, Colville Confederated Tribes
Mike Delarm, National Marine Fisheries Service
Lew Atkins
Jo Wadsworth
Bill Tweit
Carmen Andonaegui
Andrew Murdoch
Casey Baldwin
Kirk Truscott

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

National Marine Fisheries Service Comments on USFWS Columbia River Basin Hatchery Review Team draft document Leavenworth, Entiat, and Winthrop National Fish Hatcheries Assessments and Recommendations.

Comments are provided by section and page number of the September 2006 review draft.

Summary

Page viii – in the program overview “this program *is intended to operate* as segregated-harvest program”

Page ix – the risks should be listed in the order of risks considered on page 24 and in relation to the intent of the review, which on page vii is to ensure programs and facilities meet conservation goals, contribute to harvest, and mitigation goals. A primary risk of the Leavenworth program to conservation is the straying of program fish to spawning areas above Tumwater Dam. This risk is not created because Chiwawa Program fish are marked similarly, rather the risk is created by Leavenworth fish straying. The demographic risk associated with water intake and lack of passage in Icicle Creek also relate to conservation risks. Potential facility failures are a risk to the program and could affect the ability of the program to meet harvest goals.

Last paragraph – remove the word “special” before ESA permits, an ESA permit would be necessary, but it would not be a “special” permit

Page x - in the program overview “this program *is intended to operate* as segregated-harvest program”

Risks: The risk of program fish straying into the natural environment is the primary genetic risk of the program. The presumed cause is that rearing the fish on well water and not on Icicle Creek water reduces their homing fidelity

Program alternatives: “Such a program *would be* expected....”

Page xiii – quoted numbers of natural-origin steelhead “intercepted at Wells Dam” does not seem correct. WDFW reports in their *Oncorhynchus mykiss: Assessment of Washington State’s Anadromous Populations and Programs* Edited by James B. Scott, Jr., William T. Gill, dated July 21, 2006 historical database appendix for UCR steelhead that the 1998-2000 average natural origin escapement was 368 and the 2001-2004 average natural-origin escapement was 835. Adding in the estimated contribution to fisheries, the run sizes for the two periods are 375 and 931 natural-origin steelhead, respectively. That report is available on their web site.

Page 21 – Indicates that the short and long-term goals were important to understand, but these goal timeframes do not appear to be carried forward in the rest of the document.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Wenatchee River Watershed

Pages 32-33 - NMFS suggest having Table 2 (Icicle Creek) before Table 1 and then combining Tables 2 through 6 into a single table (a new Table 2) because the review addresses two spring Chinook populations. The Wenatchee population is made up of five spawning aggregates, some of which have hatchery programs associated with them. The Stock Goals sections of the spawning aggregate tables are the composite of information provided in the current Table 1. Any unique information for a specific spawning area in one of the four categories could be included in the revised table. This is suggested because on Page 34 - Table 3 repeats the habitat capacity data from Table 1 that could lead readers to believe that the habitat capacity is higher than in reality is. Also, the acronyms EDT, APRE, and AHA are not defined at first use. The Chiwawa facility name should be Chiwawa Ponds. In the secondary purpose it mentions “terminal harvest following upgrade to threatened species.” This could be misleading and is not part of the program operational plan at the current time.

The tables do not provide consistent information. The population viability data is not comparable among the tables. Table 1 provides R/S data for natural populations of spring Chinook salmon in the Wenatchee Basin. This data includes all natural spawning aggregates above Tumwater Dam (i.e., it is the combined data for Chiwawa, White, Little Wenatchee, and Wenatchee River and Nason Creek. Table 2 provides an R/S for the Leavenworth program. These two R/S data do not represent the same things. If possible provide the R/S data by spawning aggregate. Also, it might be helpful to provide the R/S of the Chiwawa Program.

Page 35 –Table 4 the White River program is currently at FWS facilities so it is incorrect to identify this program as “operated by WDFW” in the Federal Authorization section. The broodstock is native broodstock, collected as eggs from the White River.

Page 36 – Tables 5 and 6 could be combined with Table 1 to encompass all spawning aggregates of the Wenatchee spring Chinook population.

Page 44 – Tumwater Dam is owned by **Chelan PUD** not Cowlitz PUD. Trap operations is not dependent on availability of personnel.

Page 46 – FWS is authorized to handle ESA-listed steelhead through a section 7 incidental take statement (ITS) rather than a permit (permits are issued under ESA section 10)

Page 47 – The marking scheme for the Chiwawa spring Chinook salmon program should not be the focus of assessing Leavenworth NFH program impacts. The adipose fin-clip is used throughout the Pacific Northwest as an indicator of hatchery origin fish. The salient issue is that Leavenworth NFH program fish stray and are a risk to ESA-listed spring Chinook.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

In recent discussions in the Habitat Conservation Plan (HCP) Hatchery Committee, FWS staff have indicated that the culling of egg based on titer levels of Bacterial Kidney Disease (BKD) antigen have reduced the prevalence of *R. salmoninarum* in the Leavenworth NFH program, this is not reflected in this report.

Page 48 or 49 – What percentage of Icicle Creek monthly flow is diverted to the Leavenworth NFH?

What percentage of Nada and Snow Lakes water is diverted to the facility?
What is the smolt survival rate from release to McNary and/or Bonneville Dam?

Facility security is not mentioned as an issue; however 200 adult salmon were stolen from the facility this year. Lack of facility security is a risk to the hatchery program.

Page 50 – What was the smolt production in Peshastin and Ingalls Creek following the adult plants into those creeks?

Page 52 – NMFS does not believe that Leavenworth NFH spring Chinook are a “potential back-up” stock for recovery of the Wenatchee River population as they are not included in the ESU (70 FR 37160) and therefore are not appropriate for use for conservation or recovery purposes. Based on research conducted on the reproductive success of highly domesticated hatchery stocks, NMFS would not expect the Leavenworth NFH salmon to be appropriate for use to restore natural populations.

Page 55 – Recommendations: The review/recommendation should focus on changes that could be implemented to FWS programs rather than suggesting changes to non-FWS programs. Following that tenet, recommendation LE1a should identify a unique mark or tag that could be applied to Leavenworth NFH fish.

Page 55 - Footnote 28 states “The Review Team believes that the Leavenworth Hatchery Evaluation Team – as a whole, or task teams and/or with outside assistance and expertise – will be the logical body to implement most of the following recommendations.” When can we expect the changes to be implemented? Will they be implemented when this report is finalized?

Page 56 – The risk of Leavenworth NFH strays into the natural environment could also be reduced by reducing the program size. This possibility is mentioned on the next page relative to limited water for rearing, but should be considered as one potential option in relation to the genetic risks to the ESA-listed population.

Recommendation LE3 of selective breeding for an early return timing does not appear to be consistent with the FWS preferred alternative 3 of transitioning broodstock to surplus returns from the Chiwawa Program.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

We did not review the assessment and alternatives of fish passage and water supply. We assume that water issues are primarily being resolved in another process.

Page 69 – Alternative 2 would require an ESA permit under section 10 of the Act, but not a “special” permit.

Page 70 – Pros- The ‘stepping stone’ approach would still be a direct take of ESA-listed spring Chinook salmon; it would not result in take of natural-origin salmon. The phasing out of the program is not clear. We assume that to mean if hatchery fish from the Chiwawa Program area available to completely replace the broodstock at Leavenworth in any given year, then the broodstock would be replaced in it’s entirely. It would only be in years where there was not sufficient surplus fish at Tumwater Dam that any fish returning to the Icicle would be used.

Page 71 – Cons- Again, the word “special” is not needed; it would require an ESA section 10 permit. Current fisheries already require an ESA section 10 permit. The hatchery program is currently authorized under an ESA section 7 incidental take statement; this alternative would require a section 10 permit. Since new information indicates that Leavenworth NFH fish are straying at a higher rate than previously thought, re-initiation of ESA consultation is probably warranted, so pro or con, a new ESA process should be anticipated.

Page 72 – Alternative 5: NMFS supports the variable program level alternative to the spring Chinook program and believes that if this approach is taken in the next few years, the likelihood is that sufficient numbers of spring Chinook from the Chiwawa Program would be available and little reduction of the Leavenworth program would be anticipated other than what has been proposed related to the limited water supply.

Again, remove the word “special” before permit.

Summer Chinook may not return to Icicle Creek and then would pose a risk to the summer Chinook population in the Wenatchee River by increasing the proportion of hatchery fish in the spawning populations (i.e., decreasing the PNI).

Page 73 – Alternative 6: NMFS supports the re-introduction of Coho salmon in the upper Columbia Basin.

Alternatives

NMFS agrees with FWS recommendation of developing a unique mark for Leavenworth NFH fish. I, if steps were taken in the future, none are currently taken now, to remove stray fish at Tumwater Dam or some other location in the Wenatchee basin, the basis for identifying Leavenworth NFH fish should be a positive mark, rather than a negative or lack of identifier as would be the case if the Chiwawa Program received an additional mark. Concomitant with an additional mark on the Leavenworth NFH spring Chinook should be the removal of stray Leavenworth NFH fish by FWS staff at Tumwater Dam. Removed fish could be included with fish that return to the Leavenworth facility that are provided to the tribes.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

An integrated spring Chinook program at Leavenworth NFH would reduce the risks associated with the straying of fish from the current program. We believe that the integrated “stepping stone” program concept has merit and should be further pursued. Considering the release levels of spring Chinook from the Chiwawa program in recent years and the good return levels, a transition to the local stock could occur relatively quickly.

Page 75 –The releases of spring Chinook from the Chiwawa Program in recent years should be sufficient to provide broodstock for the Leavenworth NFH program. Because the Chiwawa Program is likely to be reduced, at least by 2013, the FWS should not delay a transition to local stock.

A terminal harvest on spring Chinook salmon not needed for recovery purposes can be authorized under the ESA in a section 10 permit, as was done with UCR steelhead, not through a *Memoranda of Understanding*. A determination of an “experimental population” would preclude activities such as harvest by regulation.

Entiat NFH Review

Page 81 – How do the tables summarize the “future” status of Entiat fish stocks?

Page 82 – Table 14 since the program is intended to operate as a segregated program, the description of habitat should be the hatchery habitat, not the natural environment. This could be addressed by reworking at least the Tables 14 & 15 into one table, as suggested for the Wenatchee section above. Based on reading of Tables 14 and 15 one might erroneously conclude that since the R/S is so much higher in the hatchery, that natural populations and their environments are not necessary.

Page 90 – Operational Considerations: The low average run size of Entiat NFH fish is not mentioned as a consideration in the assessment although it is mentioned in several places in the text. The 25-year average run size or contribution to fisheries should be added to Table 14.

Page 95 – Error in footnote should be corrected.

Alternatives

NMFS agrees with FWS recommendation that the Entiat NFH spring Chinook program as it currently exists should be discontinued.

Alternative programs should be explored further. Implementing a summer Chinook salmon program at Entiat NFH should be evaluated cognizant of high numbers of summer Chinook already being released from other hatchery programs in the vicinity. Additionally, changes to the Turtle Rock summer Chinook program operated by WDFW are undergoing feasibility studies. The pending change to the Turtle Rock summer Chinook program will replace subyearling and yearling releases of summer Chinook from Turtle Rock in the Columbia River with a 600K yearling release of summer Chinook at the Chelan Falls area. This

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

programmatic change is anticipated to increase the survival to adult of the program fish and because of the Chelan River water source to increase homing fidelity of adult to the release area in order to provide a localized fishery. According to assessments of historic populations the Entiat River is not thought to have supported many summer Chinook. This combined with the potential change in the Turtle Rock summer Chinook program should be part of the process to determine the most appropriate alternative for the Entiat NFH.

NMFS is supportive of exploring the potential use of the Entiat NFH to carry out the Coho reintroduction program and as a facility to jump start Okanogan basin programs.

Winthrop NFH

Page 104 – Conservation: a fishery on adipose fin-clipped steelhead is dependent on meeting a minimum tributary escapement level of natural origin steelhead. The management strategy of the hatchery programs is intended to protect and promote natural reproduction. Combined with protection and restoration of habitat, these actions contribute to the recovery of the steelhead population in the Methow basin.

Pages 107 & 108 – Table 22: What is the basis for estimating the habitat in the Chewuch and Twisp Rivers as *low to moderate* compared to the habitat in the Methow rating of *Medium to High*? As suggested in the previous sections, the tables could be combined into one table for the spring Chinook salmon populations.

Page 114 – Release goal from Methow Hatchery acclimation ponds is 183,000 yearling smolts per year per acclimation site.

Page 118 – Facility security is not mentioned as an issue; however adult salmon were stolen from the facility in previous years such that lack of facility security is a risk to the hatchery program.

Page 127 – Remove the word “special” in reference to ESA permits in two places.

Alternatives

NMFS concurs that the Winthrop NFH spring Chinook program as it is currently operated poses domestication and demographic risks to the natural population.

Each of the three sections has a footnote that indicates that the Hatchery Review Team is the logical body to implement most of the recommendations. NMFS agrees that many of the recommendations could be implemented by the FWS. However, it is not clear what the time frame for implementation would be. Additionally, many of the alternatives could not be implemented without co-manager participation and no time frame for that work has been identified.

Page 144 – Conclusions: The transition of the Leavenworth NFH program to local stock would be the result of determining that returning Chiwawa program spring Chinook salmon are surplus to ESA recovery needs. Therefore the conclusion reached in the second paragraph

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

that such a transition cannot occur until all water issue are resolve because of a high risk to the ESA stock may not be correct. The run forecast for the next few years based on the release levels from Chiwawa are likely sufficient to expect Chiwawa hatchery fish will return at levels in excess of recovery needs.

The reduction of stray Leavenworth NFH fish into the areas above Tumwater Dam is important to lower the risk to the ESA-listed population. Recommending a change to the Chiwawa Programs marking strategy does not adequately address this issue as it would not be a positive indicator of Leavenworth NFH fish and no sorting or removal of spring Chinook occurs at Tumwater Dam (except for broodstock collection for the Chiwawa Program) at this time.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

May 7, 2006

Sent via Email

To: Don Campton. Chair, USFWS Columbia Basin Hatchery Review Team

From: Chris Jansen Lute, Deputy Manager, Resources and Technical Services
Pacific Northwest Region, Bureau of Reclamation

Through: Stephen Grabowski

Subject: Bureau of Reclamation Comments on USFWS Review Team draft Report -
Leavenworth, Entiat and Winthrop National Fish Hatcheries, September 2006.

We appreciate the opportunity to review the subject document and offer the following general and page-specific comments. Given the Bureau of Reclamation's (Reclamation) mitigation obligations for the construction of Grand Coulee Dam we are very interested in hatchery options that might affect how we meet those obligations. We may provide additional input during the public comment period due to the relatively short deadline for review of this document.

If you have questions about our comments please contact, Stephen Grabowski, technical point of contact for this review at (208) 378-5030. We look forward to working with you as you refine the report recommendations. Our comments follow.

GENERAL COMMENTS

4. We recognize the complexity of the USFWS hatchery review and found that the draft report presents a relatively thorough and comprehensive examination of the programs and associated facilities at the three hatcheries that comprise the Leavenworth National Fish Hatchery complex. It lists existing issues and provides some recommendations that address these issues. It also provides a broad range of alternatives and selected immediate and long-term recommendations for reforming operations and addressing outstanding infrastructure issues for each of the programs.
5. The short-term and long-term recommendations for each facility, derived from the suite of alternatives presented, have merit in relation to achieving mitigation obligations or providing for conservation and recovery of the ESA-listed salmon ESU and steelhead DPS. However, the actual alternatives selected for implementation will need to be based on discussions among the hatchery operators and funding agencies.
6. Related to item 2, Hatchery operators and funding agencies need to know what the range of costs are likely to be associated with program alternatives and recommendations, as this will affect the viability of alternatives and/or the rate in which an alternative(s) can be implemented. It is also important to know the

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

anticipated date for implementation and the length of time the implementation will take for each recommended action/alternative. It is essential that Reclamation be a part of follow up discussions related to alternative selection and implementation.

7. In the summary and elsewhere (pages 33, 42, 82, 106, 111), the draft report erroneously lists the authorization for the hatchery complex as the Grand Coulee Fish Maintenance Project of 1937 and the Mitchell Act of 1938. As submitted previously, Reclamation asserts that mitigation for the loss of anadromous salmonid production upstream from the site of Grand Coulee Dam was authorized under the Grand Coulee Dam Project, 49 Stat. 1028, August 30, 1935, as part of the Rivers and Harbors Act; reauthorized under the Columbia Basin Project Act, 57 Stat. 14, March 10, 1943; and the Fish and Wildlife Coordination Act, 60 Stat. 1080, August 14, 1946. We request that this error be corrected wherever referenced in the draft report. Correct characterization of the origin of the hatchery complex is important.
8. The draft report needs to identify the actions that may require substantial NEPA, ESA, easements, permits, etc. (special considerations).
9. Recommendations should also consider the relationship of the operation of the hatchery programs to other ongoing or completed ESA consultations such as that for the Federal Columbia River Power System, changes or reforms contained in the draft Hatchery and Genetic Management Plans that have been submitted to NOAA Fisheries, and other factors.
10. In addition, the merits of components of other alternatives should be discussed or considered in the context of implementing changes that continue to meet mitigation obligations of the hatcheries and contribute to conservation of ESA-listed salmon and steelhead.
11. Related to item 7, the draft report occasionally mentions the mitigation obligation fulfilled through the Leavenworth NFH complex. This should be emphasized in the report. In proposing alternatives to the current program, for example, the mitigation obligation of the hatchery complex for Grand Coulee Dam should be mentioned. We need to assure that changes to hatchery operations that may provide conservation and address ESA recovery goals, also continue to fully meet Reclamation's Grand Coulee mitigation obligations.
12. Reclamation may need to explore whether current authority allows for payment to USFWS for implementation of ESA recovery activities. Speculating, if the selected alternative(s) leads to production of anadromous fish and provides harvest opportunities either locally or downriver (Reclamation's mitigation goal), authority may not be an issue. If the selected alternative(s) deviates from original mitigation goals (for example, leads to extensive monitoring and studies to assure the ESA goals are being reached) our authority to fund such activities may be questioned. As

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

alternatives are further explored it will be important to assure that Reclamation has authority to fund activities.

13. Reclamation is well aware of the deteriorating condition of some of the infrastructure at the Leavenworth Hatchery and has been considering how to rectify the situation, especially the hatchery water supply system.
14. What is the estimated quantity and quality of habitat in Icicle Creek that would be available to anadromous salmonids if passage were provided above the boulder field at RM 5.6?
15. The discussion and various references to straying of Leavenworth spring Chinook salmon upstream in the Wenatchee River needs to be clarified. On page 47 the report states that the stray rate is 2.6%, and in other places it indicates a larger stray rate. These should be consistent.
16. Research, monitoring and evaluation are mentioned without providing much detail or discussion regarding the types or nature of experiments that might be conducted to evaluate the implementation of new programs at the hatcheries, such as the productivity of hatchery-origin fish from a conservation program spawning in the wild, productivity of wild by hatchery-origin fish spawning in the wild, etc.
17. Reclamation would like to know more about the decision to provide adult salmon broodstock surplus is provided to Columbia River tribes, food banks, and Trout Unlimited.
18. The draft review report needs to include references; many sweeping statements are made without citation.

SPECIFIC TECHNICAL COMMENTS

1. "... chinook ..." should be "...Chinook salmon..." throughout the report.
2. The Pacific lamprey is *Lampetra tridentata*.
3. Page 17, line 2, says viability and abundance. Does viability in this context refer to the viable salmonid population framework of NOAA Fisheries? If so, abundance is already a component of this framework. Also on page 21 the report uses four population parameters that differ from the VSP framework.
4. The appendix tables are not included in the draft report, which makes an informed review of the draft report difficult.
5. Page 23, Habitat section. How does this relate to hatcheries? The report should indicate if it is speaking in general ecosystem terms or how it relates to hatcheries.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

6. Page 24, under Demographic Risks. Specify whether these refer to integrated or segregated hatchery programs. And what are risks to wild ESA-listed stocks?
7. Page 25, bottom. The report incorrectly refers to authorization of the complex. See related comment under *general comments*.
8. Page 29, Fisheries paragraph. More detail regarding number of fish harvested and their value would be appropriate here. This paragraph should also acknowledge that spring Chinook salmon at Leavenworth NFH are the out-of-basin Carson stock, and that the initial concept of the Grand Coulee Fish Maintenance Project was to capture adult salmon at Rock Island Dam and transfer them to tributaries downstream from Grand Coulee Dam to spawn naturally.
9. Page 30, under Habitat. The report should note that quality and quantity of suitable salmon habitat would be opened up in Icicle Creek as well as in the greater Wenatchee subbasin.
10. Page 32 Table 1. The discussion in the right hand cell associated with population viability needs additional detail and explanation. The geometric mean of 417 at the time of listing doesn't indicate the time period over which the geomean was calculated. The current text talks about a range of 12-year geometric means, but doesn't indicate if this is a rolling 12-year geomean from 1960 to 2003, or what. The same point applies to the recruits per spawner.
11. Page 39, Table 9. The discussion regarding the geometric mean and recruits per spawner needs additional detail as described above.
12. Page 40, Table 10, Hatchery Program. The text in the cell associated with Federal Authorization doesn't make sense.
13. Page 42, Table 13. Pacific lamprey is *Lampetra tridentata*, also in line 2 under the table, and on table 20, page 86; table 29, page 113. Last two lines should state that the introduced hatchery stock is a downriver Carson stock.
14. Page 47, third bullet. States that the stray rate is 2.6%, but it's hard to determine what the rest of the sentence really means. Page 54 under Genetic Risks says stray rate from Leavenworth NFH is 9% of natural spawners in the Chiwawa River, Chickmin Creek and Rock Creek; 53% in the Little Wenatchee River; 18% in Nason Creek, and 3% in the White River, Napeequa Creek and Panther Creek. This is confusing. Does it mean that the return of natural-origin fish to these areas is so low that the 2.6% of the LNFH strays constitute such a high percentage of the fish spawning in those rivers and creeks? The draft report should clarify this.
15. Page 47, second to last bullet. The report should note why carcasses are no longer outplanted for nutrient enhancement.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

16. Page 50, second to last bullet. Correct the name of the office to Mid-Columbia Fisheries Resources Office.
17. Page 56, Recommendation LE3. We believe that selecting for early return timing in hatchery spring Chinook salmon is not a particularly good idea, even in a segregated hatchery program because it results in reduced genetic diversity of the population and the various consequences that are associated with reduced genetic diversity.
18. Page 74, second bullet under Cons. There is a need to estimate production potential in Icicle Creek. Other than bull trout and steelhead, were other anadromous salmonids documented to have used Icicle Creek? Please clarify.
19. Page 80, second to last paragraph, fourth line. "...butt trout..." should probably be "... bull trout..."
20. Page 83, Table 15. The text accompanying Population Viability needs to provide additional information, including: 1. where were the fish counted? 2. more discussion about the 12-year geometric mean, etc. Likewise on table 17.
21. Page 89, under Harvest Goals, mention mitigation obligation for Grand Coulee Dam.
22. Page 97, first Pro. This states that a summer Chinook salmon harvest program would provide a local fishery in the Entiat River, but elsewhere it's stated that there is little public access on the lower Entiat River. Does this imply that there could be a fishery above the hatchery or that fisherman access would be provided?
23. Page 116, first bullet under Broodstock Choice. The conclusion of this paragraph is confusing and needs to be clarified. If the Methow Composite stock has 30% of its ancestry derived from hatchery-origin Winthrop-Carson stock and 70% derived from natural-origin fish in the Methow River subbasin, and the goal is to reduce the percentage of Winthrop-Carson ancestry by including natural-origin adults in the broodstock annually, then in the last line, "... latter..." should be "...former..." since it refers to reducing the 30% Winthrop-Carson component of the Methow Composite ancestry. Please clarify.
24. Page 129, Alternative 6, second Pro. This Pro is somewhat confusing. If Alternative 6 would reduce large excesses of released spring Chinook salmon that are in excess of the supplementation needs and the carrying capacity of the Methow River, how does this relate to recovery of that population of spring Chinook salmon? If carrying capacity is met or exceeded, does that mean that the population is self-sustaining or that additional habitat actions need to be taken to improve additional habitat?

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Letter from David Morgan of US Fish & Wildlife Service, Ecological Services Office in Wenatchee – November 24, 2006

Doug,

Thanks for the opportunity to give a presentation to the review team a few months ago, and to comment on the draft report. You may recall that I work in the ES office in Wenatchee, and that I am working with LNFH to evaluate and minimize effects on bull trout per ESA. Therefore my comments here will emphasize bull trout.

Summary Report

1. Page v: The team's recommendation for a holistic solution for both hatchery water supply and fish passage is warranted. However, devising this sort of solution is typically time-consuming. That might run counter to the recommendation to replace the water intake system ASAP. To what degree to choices about the intake system constrain options available for holistic solutions?
2. Page v: I am confused why the description about the benefit of the ENFH fishery differed from LNFH. I realize there is no fishery at the former, and the tribal fishery is unique to the latter, but both hatcheries raise the same unlisted stock, so potentially shouldn't (or couldn't) they be the similar?
3. Page vi: ES disagrees that (paraphrase) "a weir is necessary to monitor the bull trout population in the Entiat basin". There are other ways to monitor bull trout, such as the radio-telemetry and redd surveys that are already underway. I will comment on the proposed Entiat weir later (see #16).
4. Page vii: I will comment on the recommendation about increased trapping in the Methow later.
5. Miscellaneous: Regarding structures that impede fish migration in Icicle Creek, the reader of the main document would probably notice the complexities of fish passage at LNFH, and to a lesser extent the consequences for bull trout. However, many readers will only read the summary, and in this section there are only two sentences about this topic. They are widely spaced and don't convey the importance. I suggest adding a line or two, or instead include a specific note to the reader to refer to section ABC in the main document, so that someone who does not have time to read the long version would not miss this essential point.

Main Document- Wenatchee

6. Page 15: If requested, I can provide a report from Bryant and Parkhurst 1950, which relies upon field work done in 1935. In your third paragraph you might mention that the natural fish barrier in Icicle Creek was somewhere between rm 25 and 30 (the map and narrative in this report do not match).

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

7. Page 26: Regarding the recovery-delisting goals for bull trout, it is important to note that the Upper Columbia Recovery Plan, which I presume to be the source for the figures cited here, is not an official recovery plan for bull trout. NMFS officially adopted the plan for anadromous species, but USFWS did not officially adopt this plan for bull trout. Therefore, the figures cited elsewhere in this section for ESA-listed anadromous species are firm, but in contrast the figures for bull trout could be different when the official bull trout recovery plan is completed, date TBD. Also, the 2002 draft USFWS recovery plan indicates that in addition to abundance, other delisting considerations are likely to include spatial distribution, genetic structure, and habitat conditions (particularly connectivity). This comment would also apply to pages 72 (Entiat) and 98 (Methow).
8. Page 31, 32: The fourth bullet and the first paragraph, respectively, refer to unmarked, natural origin spring Chinook in Icicle Creek which enter the hatchery, and the transportation and release of these fish above LNFH. I am not aware of this occurring in recent memory.
9. Page 32: The last bullet refers to section 7 consultation with NOAA for steelhead, but does not mention the same for bull trout. Effective 8/31/06 there is a section 7 permit for bull trout.
10. Page 33: The sixth bullet should mention that structures 2 and 5 are used to facilitate broodstock collection and the terminal fishery at LNFH, by preventing upstream passage for all large-bodied fish from about 5/15 to 7/7. It should also mention that this time period largely overlaps with a critical period during the bull trout life cycle—their spawning migration. The seventh bullet should mention that by the time these structures are modified to allow passage, the boulder area is, or will soon be, impassable due to low flows. We believe this area is only passable when flows are moderately high. Beginning in 2007 LNFH will attempt to address this by installing a trap at dam 5, and if this is successful, bull trout will be released upstream of structure 2 when flows are still high enough to surmount the boulder area.
11. Page 34: The third paragraph should not refer to “extremes” of temperature. During low flow conditions downstream of the water diversions Icicle Creek experiences elevated water temperatures due in part to very low ISF. For example, according to data collected by MCFRO, daily mean temperatures readings during the summer of 2005 just above Snow Creek were as high as 17 Celsius. This is higher than ideal for bull trout and other salmonids, but not necessarily extreme. There are other locations in the Wenatchee basin where water temperatures exceed the ideal for salmonids, and yet they are used by salmonids. Releases from Snow Lakes and well water by LNFH help to ameliorate this condition somewhat. Likewise in the winter Icicle Creek can be very cold, but not “extremely” so compared to other local watersheds, including some that produce large numbers of salmonids.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

12. Page 44: In the fall of 2006 the BOR hosted PASS meetings (not PATH as referred to on page 129) with representatives from BOR, Ecology, ES, LNFH, MCFRO, NMFS, WDFW, Washington Trout, and YIN. The group has not completed its work, but it is investigating several of the options described in this section, plus a few other ideas, to address the water supply and fish passage issues. We hope to complete our work in a few months. It might be worthwhile to add something in the main body here in case the reader does not make it to page 129 (See #20). Contact me if I you want more info.
13. Page 61: The social and economic benefits to the community at large could still exist regardless of the alternative chosen. Public outreach, education, skiing, theatre, festivals, etc. are not necessarily dependent on the alternative chosen.
14. Page ?: Somewhere in this section I thought there was a reference to modifying the boulder area near Snow Creek to facilitate upstream passage, but I can't find it now. Based on observations of migratory-sized bull trout upstream from this location, this is probably not necessary, at least for this species. Once passage is provided in lower Icicle, I suggest we wait several years and see what happens before considering this.

Main Document- Entiat

15. Page 72: See #7
16. Page 82: The proposed trap will benefit hatchery management goals, but it may harm bull trout. At best, traps require handling bull trout and delaying their migration. Sometimes bull trout will avoid a trap entirely. For example, a USFWS study observed 23 radio tagged bull trout passing the weir on the lower Chiwawa River, which is used for spring Chinook management. This weir was operated so that it was up for a few days, and then down for a few days. Six fish were trapped on the first night, two on the fourth. Fourteen fish passed when the weir was down, and four for of these fish approached the weir for at least one night before passing when it was down. Contact me if you want the report. See #3.

Main Document- Methow

17. Page 98: Regarding the biological significance of Methow basin bull trout, the way it is presented here is inconsistent with pages 26 (Wenatchee) and 72 (Methow). What is the basis for the conclusion that they have no known unique or distinctive biological attributes? Has there been enough genetics work or other analysis to support this?
18. Page 98: See #7.
19. Page 107: See #16.
20. Page 129: See #12.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Entiat Watershed Planning Unit Comments on USFWS Columbia River Basin Hatchery Review Team Draft Document: Leavenworth, Entiat and Winthrop National Fish Hatcheries Assessments and Recommendations, October 2006.

Summarized by Sarah Walker, Entiat Watershed Planning Unit (EWPU) coordinator.

Important Note: This document reflects landowner and technical steering committee member input; however, the comments in this document do not reflect the thoughts of all representatives to the EWPU.

USFWS PRIMARY RECOMMENDATION:

The USFWS primary recommendation is to cease spring Chinook production at the Entiat National Fish Hatchery (ENFH) and implement Alternative 3: Integrated summer Chinook harvest program. Landowner steering committee members support this recommendation because the USFWS document states Alternative 3 “would support a local fishery in the lower Entiat River, particularly at the mouth and immediately upstream, and a downstream selective fishery in the mainstem Columbia River”.

There is strong community concern that the switch to late-run Chinook will not provide a meaningful terminal fishery on the Entiat River. Landowner support of USFWS Alternative 3 is tied to its potential harvest benefits. In past fisheries management discussions WDFW staff noted that, based on their life-history strategy, late-run Chinook are difficult to catch once they enter the tributaries. In addition, a “Con” listed for Alternative 3 is that the “...majority of harvest would occur outside the Columbia River basin because nearly two-thirds of hatchery-origin summer Chinook from the mid-Columbia Region are currently harvested in Alaska and Canada commercial fisheries” (USFWS, draft October 2006). Residents of the Entiat community are interested in exploring all options to enhance fisheries opportunities in the Entiat River watershed, including fisheries not directed at salmon or at ENFH hatchery surplus stock.

Of all 4 Hs – Hatchery, Hydro, Habitat and Harvest – there is least certainty around or information about the issue of commercial fisheries and harvest levels, and their relationship to upper Columbia River fisheries and harvest opportunities. In Appendix A, there is a summary of All-H Analyzer (AHA) output for salmon and steelhead stocks in the mid-Columbia Region. The EWPU would like USFWS and/or other appropriate staff to share information about the AHA model, its inputs and assumptions, and modeling results at an upcoming quarterly EWPU meeting to facilitate communication about how the effects of out-of-subbasin effects are being evaluated by the co-managers and recovery planners.

It is noted that a switch to late-run Chinook may involve construction of a weir. The EWPU would like more information about how hatchery weirs operate, their functional and research benefits, and where/how a weir in the Entiat might operate. In addition, the EWPU requests that future discussions that may occur about placement of a weir be coordinated with the Planning Unit to assure good discussion and communication about the issue.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

From a technical standpoint, the timing of a terminal late-run Chinook fishery, were it to occur, would likely result in the lowest potential for incidental take of ESA-listed spring Chinook, steelhead and bull trout. Switching to late-run Chinook production could assist with recovery of ESA listed spring Chinook by reducing competition between hatchery and naturally spawning adults on the spawning grounds and genetic commingling of hatchery and natural stock.

The USFWS collects genetic samples from spring Chinook that return to spawn in the Entiat subbasin. Some analysis has been performed (Ford et al 2004); however the number of samples that were analyzed was deemed too small and from too few generations to provide significant information about the genetic composition and similarity of naturally-reproducing spring Chinook to hatchery origin spring Chinook in the Entiat. The Planning Unit recommends the USFWS continue to collect genetics samples as well as provide adequate resources for the analysis and publication of the findings. This is especially important since the issue is still unresolved due to insufficient data/analysis of existing samples. There is strong EWPU desire to use the best available information to guide fisheries management decisions.

USFWS SECONDARY RECOMMENDATION:

Implementing Alternative 4: Conservation facility for upriver stocks was the USFWS' secondary recommendation. It would involve using the ENFH for propagation of Upper Columbia River basin species of high conservation or harvest concern, including – but not limited to – reintroduction of spring Chinook to the upper [mainstem] Columbia and Okanogan Rivers. While this Alternative could help with the restoration and recovery of spring Chinook in the mid and upper Columbia Region, and would accrue additional tribal and recreational harvest benefits to the mainstem Columbia River, it falls short of meeting USFWS and community goal of a terminal harvest opportunity in the Entiat River.

The USFWS draft document also describes the current role of the ENFH in supporting the Yakama Nation's Master Plan with respect to Coho reintroduction, and how it may also be managed to assist with LNFH production. The EWPU asks that USFWS staff make a presentation to the Planning Unit about the ENFH and its operational mandates and goals, its role as part of the Leavenworth Complex, and how ENFH management decisions fit within larger co-manager goals and discussions.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007



VIA EMAIL

November 20, 2006

Doug DeHart
USFWS
911 NE 11th Ave.
Portland, OR 97232

RE: Leavenworth Hatchery Complex Review

Dear Doug:

Thank you for the opportunity to comment on the U.S. Fish and Wildlife Review's draft Columbia River Basin Hatchery Review Team's Assessments and Recommendations for the Leavenworth Hatchery Complex (LHC Assessment). We are very grateful for the efforts that the USFWS has made to involve Trout Unlimited (TU) in the ongoing review of the Columbia Basin Hatcheries. We are extremely appreciative of the openness and access you have granted to our consultant during this review, and the extra time you provided to us to complete these comments. We believe the review and time has given us a much better insight into the complexity of the program, and certainly informed our recommendations. We hope you find these comments beneficial.

As you know, Trout Unlimited has an extensive program dedicated to hatchery reform, including the promotion of the "landscape concept" based on Williams et al. (2003), compliance monitoring pursuant to the Endangered Species Act (ESA), the National Environmental Policy Act (NEPA), recovery needs of threatened and endangered salmon and finally, as a mitigation requirements pursuant to FERC licensed facilities. Although our membership is primarily recreational fishermen, our mission is to conserve, protect and restore our nation's trout and salmon to their coldwater habitat. Thus, our perspective compliments USFWS and our long time, national and regional friendship with the agency. The Leavenworth Hatchery Complex review is a complicated morass of competing mandates for harvest, tribal needs, hydropower operations and aiding endangered and threatened fish. We certainly sympathize and understand the difficulty in reviewing the hatchery system as well as making reasonable recommendations. In the past USFWS has balanced these interests, however with the advent of newer science, the development of recovery plans across the region, and the Columbia River BiOp litigation remand process, the emphasis has shifted towards a new

TU Comments on USFWS Draft Leavenworth Hatchery Complex Assessment
National Fish Hatchery Review
November 17, 2006

Page 1 of 13

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

affirmative mandate to recover listed salmon. Our response to USFWS' assessment and recommendations and TU's recommendations to the agency are guided by this new emphasis and we hope help USFWS find the appropriate new balance in the region.

In 2003, Williams et. al. published a report on behalf of Trout Unlimited proposing a new approach to hatchery reform, one that takes into account the totality of the landscape and imbeds hatcheries into their landscape with the intention of conserving and recovering imperiled fish species. This report has guided Trout Unlimited's response to the USFWS review of Warm Springs Hatchery in Oregon (Deschutes River), and our approach to the Leavenworth Hatchery Complex review. One of our major criticisms of the Warm Springs review was that it did not look at the larger watershed or downstream cumulative effects. USFWS has responded in the LHC Assessment by reviewing the federal hatchery system affecting an entire species' domain, including some analysis of the related state and tribal hatcheries in the same region.¹ The final analysis benefits immensely from this expanded review. The LHC Assessment also incorporates to a greater degree, the findings of the Interior Columbia Technical Recover Team (ICTRT), which has identified recovery criteria. By doing so, the Assessment provided a much better description of the status of the native, wild fish and their habitat.² The "Stock Goals/Management Premises" tables are concise, user friendly snapshots of the populations affected. One of our other major criticisms of the Warm Springs review generally was that it did not question the goals of the program, but rather took the goals at face value and attempted to better fit the hatchery to the goal. In this LHC Assessment, the review team looked at multiple alternatives, including a "no hatchery" alternative, which was an improvement over the previous assessment. Nonetheless, the various alternatives were gauged based on how well they met the stated goals and not whether the goals were in fact a good fit for the watershed and the recovery needs of the species – this is one of the main areas of difference in Trout Unlimited's recommendations.

To complement USFWS regional approach, we hired an independent scientist, Chuck Huntington, to provide the larger watershed context to the Upper Columbia River system and, to the greatest extent possible, look at the Leavenworth complex in the context of the landscape hatchery approach. This context provided the framework by which we reviewed the more detailed analysis done by USFWS. Our comments and recommendations to USFWS are guided by that report, which we include here in its entirety, and the recovery mandates under the ESA.

We began this process with what now seems to be a somewhat naïve belief that we could apply the principles of the "Landscape Hatchery" concept to the Leavenworth

¹ Despite the inclusion of the other hatcheries in the region, USFWS was limited to making recommendations to their own hatcheries instead of cumulative recommendations to all hatcheries. A comprehensive review and set of recommendations for all of the hatcheries would be more preferable to ensure that changes to one hatchery are not negated by changes to another hatchery within a different jurisdiction.

² TU would encourage the USFWS to include a member of the TRT in future Assessment Teams and/or utilize the TRT to provide peer review of the LHC Assessment.

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Hatchery complex. As we learned of the magnitude and complexity of hatchery operations in the upper Columbia River, we were stunned by the intractable management issues, the seeming lack of concern with which the ESA is treated by fish managers, the lack of urgency towards recovery of the most endangered chinook populations in the entire Columbia River system, the redundancy of some of the hatchery programs, and the extent the hatchery tendrils intrude into the five main watersheds. A quick summary of the LHC Assessment reveals that in the five main watersheds of the Upper Columbia River system, there are 16 hatchery programs, 236 raceways (at a conservative estimated average length of 50 feet each, this is over 2 miles of raceways), 141 ponds, 185 tanks and at least 8 incubation centers. Despite the 23 million salmon released from these programs (Huntington, 2006), the USFWS concluded that only the spring chinook program at the Leavenworth facility is providing fishery (harvest) benefits. We have become convinced that a hatchery-by-hatchery review in this region makes little sense. If the government is serious about restoring the endangered spring chinook and steelhead³ in the region, then it will start over, literally wiping the slate of competing interests clean and examining the totality of hydropower, habitat, hatcheries and harvest in the name of recovering the listed fish. While we believe that such a basin-wide approach is necessary to bring about meaningful hatchery reform, we nevertheless understand that FWS is working in a system where it controls only a part of the hatchery production and is attempting to find a balance among these competing interests and competing mandates. Our recommendations are offered in that light, and try to find a different balance than that laid out in their Assessment for the hatchery programs – a balance that focuses on the imperative of restoration of listed salmon stocks. Nonetheless, we have *significant* reservations about the ESA compliance of even our own recommendations and we are quite certain that the USFWS' preferred alternatives are not compliant with the ESA.

Recommendations

Context

- Trout Unlimited does not believe that industrializing the surrounding landscape is an appropriate nor effective solution to salmon problems posed by an industrialized Columbia River and 7-9 hydroelectric dams.
- TU does not question the good intentions of those working hard to provide artificial support to declining salmon populations, but believes too much effort is being directed toward active and aggressive hatchery intervention in response to a lack of sufficient effort to fix the problem at its primary source: the industrialized river. All of the region's hatcheries must be viewed in their totality and cannot be separated from the harvest and hydropower impacts to the watersheds. Even the

³ While the Upper Columbia Steelhead distinct population segment (DPS) was recently re-listed as threatened under the ESA, Trout Unlimited and others are challenging that conclusion in court, believing that the steelhead are biologically and legally endangered pursuant to the ESA. Thus, for the purposes of these comments and our review, we treat the UCS DPS as if it were endangered.

USFWS Columbia Basin Hatchery Review Team
Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

best run hatchery will fail if all of the fish are lost to downstream hydropower and harvest impacts.

- Hatchery programs within the Columbia Cascade Province should be organized and managed carefully because they have diverse objectives, the expectations for both conservation and harvest mitigation are substantial, and spatially segregating programs is a challenge due to the limited geographic extent of the area.
- Most of the existing hatchery programs in the Columbia Cascade Province are best categorized as experimental, and those intended to prevent near-term extinctions of at-risk populations appear to threaten longer-term prospects for these populations to sustain themselves without artificial support. The primary goal of conservation-oriented hatchery programs within the Province should be maintaining native salmon and their fitness while conditions in the Columbia River are improved.
- All hatcheries should provide passage (with adequate trapping capability) and have NOAA-compliant screens at all intakes and outfall sources.
- There are few areas within the Province where salmon are not being affected by hatchery programs, and most of these programs continue to operate outside of science-based Best Management Practices (BMPs) for conservation-oriented artificial propagation activities.
- TU recognizes and appreciates that there have been improvements in hatchery management and monitoring within the Province. However, we have serious concerns about multiple issues that remain to be addressed if the natural fitness of the area's salmon populations is to be conserved, including:
 - *recognition and resolution of conflicts between conservation objectives and the legitimate harvest mitigation objectives of the Tribes and others;*
 - *the need for meaningful reserved (control) areas for hatchery experiments and for a geographic distribution of harvest mitigation programs that reduces potential conflicts with conservation efforts;*
 - *the scale and anticipated duration of conservation-oriented hatchery programs;*
 - *the conservation (in)adequacy of existing facilities;*
 - *use of appropriate fish rearing practices in hatchery programs where artificially propagated salmon are "integrated" with natural populations;*
 - *the need for better control of hatchery fish returning to natural spawning areas.*

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Preliminary Recommendations for Leavenworth NFH

- Reduce output to minimize the high unintended natural spawning of hatchery fish, and lessen disease and water pollution concerns while altering rearing strategies to continue high adult returns despite reduced output.
- Given the high quality habitat above Tumwater Dam, those streams should be maintained as wild-salmon reserves to the greatest extent possible (i.e. no new programs such as the White River and Nason Creek programs and the existing program on the Chiwawa should be terminated as soon as the conservation objectives are met). If existing programs are not progressing towards their conservation objectives, they should be phased out to prevent further biological losses.
- Control strays at Tumwater Dam by implementing a manageable differential marking strategy between programs.
- Provide fish passage (up and downstream) in Icicle Creek.
- Improve/consolidate the water supply so as to increase Icicle Creek flows.
- Restore the Icicle Creek channel to the degree practicable.
- Do what is necessary to get an NPDES permit.
- We note that one of the best conservation roles for Leavenworth NFH, given its location and facilities, would probably be to provide adult handling, egg incubation, and progressive rearing support to tightly managed conservation hatchery programs in the Wenatchee subbasin. These programs would operate for only a limited time. However, it is not clear how this role matches the facility's stated objectives nor how it might fill this role given that ongoing hatchery reforms do not seem to be addressing programmatic or facility shifts among the differing agencies managing hatcheries.
- To support conservation of listed fish in the watershed for a set duration of time, use half of Leavenworth NFH's capacity to either (1) use an appropriately sized stepping-stone program (~150K smolts) to develop a native broodstock for reintroduction efforts below Tumwater Canyon or (2) provide a low-density rearing facility for the Chiwawa or any other pre-existing spring chinook conservation program in the Province (the intent here would not be to initiate a new program). Use the progressive rearing and other techniques that keep being suggested (but rarely used) for conservation-oriented hatcheries. The objective of this program would be to help minimize/slow losses of natural fitness while fish passage issues (downstream) are resolved, and to avoid the negative impact of industrialized rearing at Eastbank Hatchery, an off site facility.
- Recognizing the important harvest benefit, dedicate the remainder of the hatchery's capacity to: (1) supporting the Yakamas' coho program, (2)

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

maintaining the terminal spring chinook fishery in lower Icicle Creek, and/or (3) somehow helping support a terminal fishery below Chief Joseph Dam or in an appropriate tributary near that dam. Harvest mitigation should continue with a tightly controlled, well-managed, segregated, unlisted Carson stock. Efforts at harvest mitigation clearly need to have better spatial segregation from conservation programs within the Columbia Cascade Province. Multiple factors argue for moving the harvest mitigation program out of the Wenatchee subbasin (fewest mainstem dams downstream, strongest salmon populations with the greatest species diversity in the Province, good habitat, etc.) or concentrating it in the lower river where there are fewer opportunities for recovery while simultaneously avoiding the “gauntlet effect” for those native, wild fish returning to the upper Wenatchee system. Because of the potential harvest-conservation conflict, these programs must have a strict monitoring and evaluation program with built in thresholds for reducing the programs if there are unacceptable impacts to ESA listed fish.

- The summer chinook programs in the Columbia Cascade Province are already quite large, including the program in the Wenatchee system. Adding a segregated-for-harvest program to the already integrated program in the lower Wenatchee would seem undesirable because it would move the system toward an increase in potential conservation-versus-harvest conflicts.

Preliminary Recommendations for Entiat NFH

- Develop a weir and improved fish trapping/sorting facility so that stray adults can be excluded and the subbasin’s fish populations can be studied.
- Establish the Entiat as a Columbia-Cascade Province refuge from hatchery fish, with the potential for shifting intermittently to an extremely tightly controlled, short-term conservation hatchery program if pre-defined criteria are met. Strays from outside areas would be excluded. At some point a shift to another spring chinook stock might become appropriate, but in the nearer term the existing Entiat-adapted stock should be more closely examined and monitored.
- Over the long term, focus the Entiat NFH on (1) the Yakama coho program for one or more other subbasins, (2) multiple roles in supporting harvest programs restricted to areas close to Chief Joseph Dam, or (3) providing flexible, low-density progressive rearing for existing conservation-oriented programs in other subbasins within the Province.
- Conduct research upon and monitor the Entiat’s salmonid populations for comparison to ongoing hatchery experiments in other subbasins, and to help understand their response(s) to habitat restoration efforts.
- Integrated summer chinook programs are already common in the Province and the Entiat is the only sizeable subbasin without one. There are already numerous

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

summer chinook programs that maintain escapement levels and harvest rates. We are not convinced that another summer chinook program is needed and are concerned that added more programs will drive the summer chinook populations closer to a listing under the ESA.

Preliminary Recommendations for Winthrop NFH

- Install improved collection facilities or weirs in the Methow system so that population components can be managed separately.
- Develop new acclimation/release sites as appropriate.
- Shift to an integrated steelhead program better coordinated among participating entities, with greater emphasis on conservation and the use of local broodstock. This would require establishing time durations for each program, carefully metered to measures of conservation success. This programmatic shift would require changes by WDFW (and the PUD) so as to assure reasonable (i.e., lower) levels of hatchery production and that the use of out-of-subbasin fish for broodstock (e.g., from Wells Dam) would end. The steelhead program should focus on keeping fish from separate areas of the subbasin separate, if possible, using satellite facilities, and minimize the use of hatchery fish for broodstock until the relative fitness between the basin's hatchery and wild fish is better understood. The USFWS should also consider integrating hatchery production with only a subset of the production areas within the basin at any given time, or during low ocean cycles, and disconnecting from the populations when abundance reaches some agreed-upon level. These fish would not be available for harvest.
- For spring chinook, TU would like to obtain clear assurances that the integrated Methow spring chinook program is not permanent and to establish binding triggers for disconnecting the hatchery program(s) from the natural population(s) if/when the Methow's natural population is large. It would be best if the Winthrop NFH took full responsibility for one of the three major branches of the Methow spring chinook population. Because of the endangered status of spring chinook in the Methow, these fish would not be available for harvest in any circumstances.
- If a workable solution cannot be developed through coordination with WDFW and the PUD, focus the hatchery's spring chinook program on conservation in areas within the Okanogan subbasin or as a tightly controlled, spatially segregated, harvest mitigation program in areas as close as possible to Chief Joseph Dam using broodstock from Entiat NFH or Leavenworth NFH.
- Improved monitoring (see the Chiwawa Program in the Wenatchee system) of the conservation effort is needed.
- Support the Yakamas' coho reintroduction program if so desired by the Tribes.

USFWS Columbia Basin Hatchery Review Team
Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Specific Comments and Responses to the LCH Assessment

Pg. 6 - As mentioned above, the ESA creates an affirmative mandate for recovery in the region, which is especially pressing in a region with the most endangered fish, Upper Columbia River spring chinook and steelhead, in the Pacific Northwest. The USFWS has made significant improvements in analyzing the hatcheries relative to the status of the fish and habitat conditions. However, notably missing from the *biological significance* category is a sub category on *recovery significance*. As indicated in the description, the biological significance may be different (and lower) than the recovery significance. While it is vitally important to maintain and track the biological significance, it is equally important to meter management objectives and programs to the recovery significant. In other words, a stock with low biological significance may be, and in the case of the Upper Columbia usually is, essential to the recovery of the species. This designation would alter the management objectives and strategies in the watersheds as they apply not only to hatcheries but harvest, hydropower and habitat as well.

It is also critically important to note that the recovery goals identified by the ICTRT are premised on self-sustaining natural spawners and they have specifically identified a recovered population as one that does not require artificial propagation to achieve the recovery goals. (McElheny et. al., 2000). To that end, we recommend sunset provisions for all conservation hatcheries aimed at improving the status of listed stocks. These sunset provisions do not need to be a date certain, but can be in response to meeting certain conservation thresholds.

Pg. 7 – The harvest description must include a delineation of the impact of harvest on hatchery and wild origin fish. There is a significant incidental impact from harvest on listed wild fish returning to this region. Similarly, as noted by Huntington (2006), WDFW has put forward proposals that would result in significant increases in harvest impacts on listed fish.

Trout Unlimited is particularly disturbed by the poorly veiled attempt in this Assessment to seemingly make every fish available for harvest, going as far as suggesting a special permit from NOAA Fisheries to take ESA listed endangered fish in new fisheries (e.g. pg.58, 62), and in other areas possibly designate as “experimental” other populations geared towards recovery so that “excess” fish may be harvested. We believe that both of these approaches are highly illegal under the ESA and irresponsible. These endangered spring chinook and steelhead are nearly gone. Every effort should be made (and is legally required) to put the right fish back onto the spawning grounds. The priority of distribution for wild fish and conservation hatchery fish should not be: hatchery, creel, habitat, but rather: habitat, hatchery, creel. “Excess” conservation directed hatchery fish indicate that the hatchery is oversized for the available habitat or that habitat restoration efforts need to be stepped up, in which case those “excess” ESA listed fish could be used for habitat conditioning in preparation for additional spawners in the following years. Instead, some of the proposed alternatives attempt to solve the question “how do we use wild fish to keep the hatchery going?” instead of “how do we

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

use the hatchery to keep the wild fish going?” even in the face of recognition that most of the hatcheries are not meeting their stated goals. Indeed, if the ESA recovery mandate was given its proper prioritization, the decommissioning alternative to the various hatchery programs would have had much different (and more extensive) pros and fewer cons (notably we are not supporting the decommissioning alternative in many cases, but do believe that the Assessment needs to be more honest about the pros and cons of this alternative).

Harvest in the Upper Columbia is an important and legal objective (although subject at all times to the ESA). As our recommendations above indicate, harvest programs should be kept segregated by stock and space. Because of the dire conditions for listed fish, the conservation programs should be carefully integrated but should not be complicated by additional harvest objectives. Indeed, it is our belief that there will be greater harvest opportunities on unlisted segregated stocks because the listed integrated stocks will be, rightly so, severely hampered by ESA restrictions.

Pg. 8 – the benefit and risk assessment must look beyond the demographic and genetic risks and benefits to include the VSP criteria (McElheny et. al., 2000) as well as behavioral, phenotypic, life history and nutrient risks and benefits. Furthermore, these should be relative to the wild, native stocks, not the hatchery or propagated stock as is prevalent throughout the Assessment.

Pg. 14 – Restoration of viable and sustainable populations of spring Chinook and steelhead is more than “important,” it is a priority management goal.

Pg. 18-26; 69-72; 92-98 - Based on the AHA models in Appendix A, the report itself should “grade” the hatcheries relative to their success in satisfying the best management practices (BMPs) under the particular types. (See e.g. Huntington, 2006 Table 3). Simply stating “integrated” or “segregated” is not very discerning relative to an evaluation (however, simply including the AHA graph is not very helpful to the general public either). In other words, most of the hatcheries are not as carefully integrated as they ought to be and thus hampering their contribution to their primary purposes well. (Appendices, Huntington, 2006). Interestingly, a review of the AHA results in Appendix A also demonstrates that the modeled alternatives do not improve the hatcheries very much towards the BMPs, as though following them is optional (Appendix A; Huntington, 2006). Additionally, more information is needed on the natural stocks in the upper Wenatchee, especially the non-listed stocks.

Pg. 31-

Summary of Current Programs – for each program under this section, for each river, there should be an extensive section on Research, Monitoring and Evaluation (RME). For example, the description of the Leavenworth Spring Chinook program states that all unmarked fish are transported above the hatchery and released. What is the annual average? Are any of these fish sampled to determine if they are merely mismarked Leavenworth Hatchery fish? At Tumwater Dam, how many tagged Leavenworth

USFWS Columbia Basin Hatchery Review Team
Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Hatchery fish are intercepted? What assurance is there that these fish are not mis-bred with Chiwawa fish at Eastbank Hatchery? All of these questions would and should be answered in an RME section.

It would also be very useful to have a section that compares the total adult returns (hatchery and wild) as compared to the EDT modeled carrying capacity. Our sense, as evident by the high surpluses that can return to hatcheries in some years, is that the hatcheries are very oversized for the carrying capacity which may result in significant but undocumented density dependence impacts on wild, listed fish. (Huntington, 2006).

Incubation and Rearing

It is notable that none of the programs have progressive incubation and rearing strategies, nor were any proposed. Williams et. al. (2003) suggests that naturalized incubation and rearing is necessary to improve contributions to recovery purposes and lessen other non-genetic impacts of hatchery fish on their wild counterparts. We have proposed this for many of the conservation-oriented programs.

Release and Outmigration

The statement on pg. 35 regarding “competition between hatchery and ESA-listed, natural original spring Chinook appears to be minimal” lacks complete support. How many of the hatchery fish are trucked or barged around the Columbia River hydropower system? What kind of intra- and inter-specific competition is increased as a result? (Levin and Williams, 2002).

Research, Education and Outreach

These laudable programs should continue and be expanded to include some of the necessary RME and habitat restoration in the watershed.

Pg. 37 – Benefit and Risk Assessment

While we agree that the report must identify benefits and risks to the propagated stock and local community, as well as other stocks, we are perplexed why the benefits and risks to the wild, ESA listed native stocks are not spelled out given the priority of protecting and recovering endangered spring chinook and steelhead.

Furthermore, we believe it is a legal and biological stretch to consider a highly domesticated, out of basin stock a “back up” to the local endangered stock, despite the length of time the broodstock has been in the system. In the event of some catastrophic losses in the Wenatchee that would preclude any other tributaries from providing seed stock for recovery, the Methow and Entiat spring chinook are more likely candidates as “back up” fish than the Leavenworth Hatchery stock. Furthermore, minimal harvest impacts (pg. 39) on listed endangered stocks is not a “conservation benefit” but rather neutral at best and in fact one we consider a biological and legal risk. If there are no direct, affirmative conservation benefits to the wild native stocks, simply state so honestly (compare to Entiat system, pg. 79 where no conservation benefits are described).

USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Under the risks section (pg. 39), we believe that there are additional risks that need to be explored such as behavioral, run timing, long-term fitness etc., that are related to the four VSP criteria of abundance, productivity, distribution and diversity. In addition, the numbers under genetic risk appear to be inconsistent with the reported numbers on pg. 33.

The demographic risks to the Chiwawa stocks include directed take as well since they are ad-fin clipped and not differentiated from the Leavenworth Hatchery stock, making them subject to the directed take on the Leavenworth Hatchery spring chinook. In addition, there is an unmeasured genetic risk to the Chiwawa Hatchery spring chinook because of the possible interbreeding with Leavenworth Hatchery fish because of the lack of a distinguishing mark, and the possible marked Leavenworth Hatchery fish that are mistaken for Chiwawa hatchery fish and passed upstream to spawn naturally with the Chiwawa natural spring chinook. Finally, the Assessment should identify the hatchery barriers (including unscreened intake and outfall pipes) as ecological risks because they impeded natural riverine function such as temperature pockets, movement of gravels and wood debris.

Specific Recommendations

Huntington (2006) reviewed the overall quality of habitat and Northwest Power and Conservation Council's guidelines for use of artificial propagation in particular habitats. Notably, none of those guidelines or reviews were present in the LHC Assessment. In that habitat review, the Upper Wenatchee, much of the Entiat and significant portions of the Methow stand out as very good habitat for listed spring chinook and steelhead. In these cases, the NPCC recommends a very different approach to hatcheries than currently operated or proposed by the Assessment. In addition, we are surprised by the review team's own analyses that demonstrate none of the preferred alternatives satisfy genetic management requirements of integrated programs (see Appendix A). Instead of tweaking the programs to reduce the risk posed by harvest programs, this is a critical opportunity to take a cumulative, multi-agency approach to shifting programs to help endangered salmon. In fact, it is required by the ESA and TU believes that most of the alternatives proposed and preferred in the LHC Assessment would violate the ESA, especially those that would take endangered fish from the wild to improve the broodstock of the hatchery for mainly harvest purposes.

With that in mind, we have rejected most of the alternatives proposed by the review team, identify those pieces below that we do support, and proposed our own alternatives identified above.

Leavenworth Hatchery

We agree with the use of terminal harvest opportunities for the segregated Leavenworth Hatchery spring chinook and propose looking at areas outside of the Wenatchee watershed to include sites below Chief Joseph Dam as well.

USFWS Columbia Basin Hatchery Review Team
Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

We are also highly supportive of restoring passage and water quality in Icicle Creek, but do not have the technical expertise to favor one approach over another. We support the development of an emergency fish rearing plan (LE7a).

We support the ability to differentiate between Leavenworth and Chiwawa fish and improved sorting at Tumwater Canyon.

Entiat

Pg. 63. Suggest labeling the falls on the map.

Pg. 75 – The description of the current program clearly demonstrates that the program is not contributing to a fishery and because of the lack of a sorting facility, its conservation benefit is not only immeasurable, but highly questionable given the huge number of hatchery fish present on the spawning grounds. We support the review team's conclusion to discontinue the current program (pg. 81), however we do not support the preferred alternative. Because of the high quality condition of the habitat in this system, we cannot see the justification for the continued stocking of fish in this system (although we do propose alternative uses for the facility itself). The Entiat should be set aside as a wild fish reserve. We do support Alternative 4 (pg. 83), using the hatchery facility as a progressive, landscape type conservation facility for upriver stocks, complete with a research component.

In all cases, we support a weir or other sorting facility on the Entiat.

Methow

Pg. 101 – the description of the Winthrop hatchery could use a section on results from any RME. While on pg. 105 a demographic boost is indicated, it is not apparent in the report if this is a result of the hatchery program or not. Further, has any RME been done to demonstrate improvements in productivity or distribution of the naturally-spawning populations? As such, we cannot support the statement (pg. 124) that the summer steelhead are playing a role in the restoration of upper Columbia summer steelhead, or that termination of the steelhead program does not have any benefits (pg. 127).

Pg. 106 – We agree with the assessment of the demographic risk from over-sizing the program and believe that this risk is far more prevalent than indicated in the LIIC Assessment.

We agree that there must be an effective adult collection facility in the system, which includes complete differentiated marking (not necessarily ad fin clipping if the purpose is conservation and the hatchery fish are intended to survive the harvest impacts and spawn naturally) for all artificially produced fish in the basin.

We also agree that there should be a segregated harvest program in the mainstem Columbia below Chief Joseph Dam, but do not believe that the source of these fish should be "excess" listed fish from the Winthrop NFH.

We also support the use of this and other facilities for the Yakima coho program.

Finally, the broodstock collection from all conservation programs should focus on in basin stocks and not from Wells Dam.

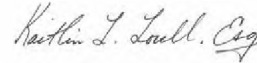
USFWS Columbia Basin Hatchery Review Team

Leavenworth NFH Complex Assessments and Recommendations Report – April 2007

Conclusion

Again, we thank the USFWS for the opportunity to be a part of the Assessment, review and provide comment on this document. While we may disagree with some of the findings and recommendations, this is a laudable attempt at teasing apart a very difficult web. We cannot emphasize enough how much better the fish would be by a multi-agency, multi-factor review. This Assessment is a start. We look forward to working with you in the implementation of some of the changes to restore these highly endangered icons.

Respectfully submitted,



Kaitlin Lovell

References

- Huntington, C. W. 2006. Hatchery production and reform in the Columbia Cascade Province: a landscape perspective. Final consultant report to Trout Unlimited, West Coast Conservation Office, Portland, Oregon. 17 November 2006.
- Levin, Phillip S. and John G. Williams. 2002. Interspecific Effects of Artificially Propagated Fish: an Additional Conservation Risk for Salmon. *Conservation Biology*. 16: 1581-1587
- McElhany, Paul, Tom Backman, Craig Busack, Steve Kolmes, Jim Myers, Dan Rawding, Ashley Steel, Cleve Steward, Tim Whitesel, Chuck Willis. July 2004. Status Evaluation of Salmon and Steelhead Populations in the Willamette and Lower Columbia River Basins. Northwest Fisheries Science Center, Seattle, WA. Available at: http://www.nwfsc.noaa.gov/trt/wlc_pop_eval_7_28_04.pdf
- Williams, Richard N., James A. Lichatowich, Phillip R. Mundy, and Madison Powell. 2003. Integrating artificial production with salmonid life history, genetic and ecosystem diversity: a landscape perspective. Issue Paper for Trout Unlimited, West Coast Conservation Office, Portland. 83 pp.

Pacific Region Fishery Resources
911 NE 11th Avenue
Portland, OR 97232
503/872.2763
E-Mail: Douglas_dehart@fws.gov

U.S. Fish and Wildlife Service
www.fws.gov

For Columbia River Basin Hatchery Review Information
www.fws.gov/pacific/Fisheries/Hatcheryreview/

The mission of the U.S. Fish and Wildlife Service is working with others to conserve, protect and enhance fish, wildlife, plants and their habitats for the continuing benefit of the American people.

April 2007

