

The Washington Department of Fish and Wildlife developed the Voights Creek Fall Chinook Hatchery and Genetic Management Plan (HGMP), placed a draft version on our web page on December 19, 2012, announced its availability, and solicited public comment through January 18, 2013.

Two individuals or organizations subsequently provided comments to WDFW during the public comment period. The comments ranged from short paragraphs to extensive reviews, and were received from Mr. Andy Appleby and Dr. Peter Paquet representing the Hatchery Scientific Review Group – Washington and from one member of the general public via email. Their comments are posted under separate cover, and our responses are appended below.

Response to Comments by the Hatchery Scientific Review Group – submitted to WDFW January 18, 2013:

Comment 1. *Section 6.2.3, page 25: The population was identified as a Stabilizing population and this should be stated clearly near the front of the document. “The Puyallup River natural Chinook population is managed as a stabilizing population. The goal for the hatchery program is to attain the HSRG standards for a stabilizing population which is to keep pNOB, PNI and pHOS values at current level.”*

WDFW Response: It is appropriate to follow the NOAA-Fisheries format for HGMPs, and identification of the Puyallup Chinook as a Stabilizing population will be re-stated in HGMP section 1.2.

Comment 2. *The HGMP lacks specific quantifiable goals for contribution to specific fisheries. Section 1.7 identifies the goal of the program as “Harvest Augmentation”. Section 1.10 Table 1.10.1 further identifies the goal as “co-manager harvest” and “Program contributes to fulfilling tribal trust responsibility mandate.” Managers should specify numbers of fish contributed to specific fisheries, or at a minimum total number of fish expected to be harvested.*

WDFW Response: It is inappropriate to state goals specific to harvest in individual fisheries goals in the HGMP. Targets for fisheries are dynamic on an annual basis, and are controlled by interactions among international, ocean, pre-terminal and terminal Puget Sound fisheries, as negotiated during annual Pacific Salmon Commission and Pacific Fisheries Management Council/North-of-Falcon planning and agreements, alluded to in HGMP section 3.3.

Table 3.3.1.1 describes the contribution to fisheries and escapements as calculated from recoveries of coded-wire-tags placed on 2002-2004 brood year sub-yearlings from Voights Creek Hatchery. A smolt-to-adult return rate of 0.65% (Table 3.3.1) applied to the release goal of 1,600,000 smolts should return 10,400 adult Chinook to fisheries and escapement.

Comment 3. *Section 3: The HGMP cites U.S. v Washington and the Puget Sound Salmon Management Plan (PSSMP 1985) as providing the legal framework for coordinating hatchery programs in the Region (Section 3.2, page 18). However, these plans are aimed at coordinating harvest and harvest opportunity and do not reflect the conservation issues that may arise from large scale hatchery programs in most of the watersheds within Puget Sound.*

Several salmon recovery planning processes are listed (Section 3.4, page 19), but no description is provided as to how they may affect hatchery production at Voights Creek Hatchery.

WDFW Response: The Puget Sound Salmon Management Plan (PSSMP) provides the legal framework for harvest of natural and hatchery-produced salmon populations. Changes in

hatchery production must be agreed by the co-managers. Providing harvest opportunities is an important, legally-defined role for hatcheries. In *United States v. Washington* the court concluded:

“The hatchery programs have served a mitigating function since their inception in 1895. 506 Supp. at 198. They are designed essentially to replace natural fish lost to non-Indian degradation of the habitat and commercialization of the fishing industry. Under these circumstances, it is only just to consider such replacement fish as subject to allocation. For the tribes to bear the full burden of the decline caused by the non-Indian neighbors without sharing the replacement achieved through the hatcheries, would be an inequity and inconsistent with the Treaty.” *United States v. Washington*, 759 F.2d 1353m 1360 (9th Cir. en banc), cert. Denied, 474 U.S. 994 (1985).

The court-ordered PSSMP provides the framework for coordinating these programs, treaty fishing rights, artificial production objectives, and artificial production levels.

The co-managers and the National Marine Fisheries Service have adopted a Recovery Plan for Puget Sound Chinook (NMFS 2007, Ruckleshaus et al. 2005) that states abundance and productivity goals for each population, which are the ultimate objectives for all aspects of recovery planning. The Recovery Plan addresses all factors affecting the survival and recovery, including the management of fisheries and hatchery production, and conservation and restoration of freshwater and marine habitat, all of which are necessary to achieve recovery goals (PSIT and WDFW 2010).

The linkage with habitat protection and recovery programs is that the goal of the hatchery program is to maintain chinook production in the watershed. We are cognizant of the potential risks to genetic integrity, related to interbreeding of hatchery- and natural-origin Chinook, and resulting lower fitness of their progeny. Domestication selection and other changes in genetic diversity occur in the hatchery environment, though improved cultural practices are being implemented to mitigate these risks. Hatchery programs have been operating for decades in this system. We lack empirical estimates of hatchery-related fitness loss, relative to the pristine state of populations, or of potential further decline in fitness. Indigenous populations have been extirpated in the Puyallup system. Recovery potential is further uncertain because it will depend on the adaptability of introduced stocks. We know that current productivity is very low in the system, and believe there is strong evidence that habitat condition is a significant cause. The additive risk of hatchery-related fitness loss is uncertain, but we assume that productivity will not recover significantly until the habitat constraints are addressed.

Comment 4. Section 1.7, page 2: *The program is identified as a Harvest program (“Harvest Augmentation”). Table 1.10.1 states that the number of hatchery fish spawning naturally will be recorded annually (sub section 3.3.2,) but there is no description of how this information will be used to limit adverse genetic, demographic or ecological effects on listed fish.*

WDFW Response: The population is designated as a Stabilizing population. WDFW intends to manage the hatchery program consistent with HSRG criteria for hatchery influence on Stabilizing populations, such that the current operating conditions are considered adequate to meet conservation goals. No criteria have been developed for PHOS or PNI to limit genetic, demographic or ecological effects on this population.

It is WDFW’s intention to monitor the program by mark type for hatchery proportions in the brood, monitoring the potential effects of domestication by including natural brood as available, recognizing that few unmarked Chinook return to the facility. WDFW and co-

managers also evaluate, using RMIS, the strays from this program into nearby watersheds. We will include the following table in the HGMP with the intent of monitoring the hatchery program and its effects on the Stabilizing Chinook population.

Table 1. Table 6.2.3: Voights Creek Fall Chinook Integration Results 2008 – 2012.

Year	pNOB	pHOS	PNI
2008	0.02	0.26	0.07
2009	0.05	0.67	0.06
2010	0.01	0.69	0.02
2011	0.02	0.62	0.04
2012*	0.05		
Avg	0.03	0.56	0.04

* pHOS and PNI estimates in progress.

Data Source: Hatchery Evaluation and Assessment Team Broodstock Tracking Tables 2013.

Comment 5. *The rationale to support the harvest goal is provided in several places (Section 1.8, Section 3.3), however, a footnote on page 9 indicates that up to 500 adults will be transferred above Electron Dam to re-introduce Chinook into the upper watershed. However, no rationale is provided as to why this effort will be successful. This effort should also be acknowledged in Section 1.7 (Purpose (Goal) of program).*

WDFW Response: The Resource Enhancement Agreement between the Puyallup Tribe and Puget Sound Energy was developed in 1997. The fish ladder at the dam was completed in 2000 and juvenile capture facilities went operational in 1998. WDFW was not a signature party to the agreement; however the components of the REA were vetted amongst all resource agencies including USFWS, NMFS and WDFW. Coho and Chinook rearing limits were set at 200,000 each when available and it was agreed that steelhead would be left alone to colonize and exploit available habitat without assistance. Evaluation of downstream passage at the Electron facility has been done (Bates et al. 2008, Mudd and Leigh 2008), and recommendations for potential improvement to passage were developed.

The transfer of surplus adult Chinook to the Puyallup Tribe is a cooperative action with the co-managers to re-introduce anadromous fish above a project which previously blocked passage, and is consistent with the recommendations of the 2003 HSRG Review to continue passage. It has not been agreed as a goal of the hatchery program to provide a consistent number of adults, but the number of surplus hatchery adults has been reduced as adult passage at the project has been improved. Development of a long-term plan, with associated criteria, for the management of the transported population has not yet occurred.

Comment 6. *Section 1.6, page 3: The program is identified as an integrated program.*

WDFW Response: Acknowledged. Both marked (adipose fin-clipped) and unmarked adults returning to the hatchery are used as broodstock in the proportion they return.

Comment 7. *The current production goal of 1.6 million smolts (plus 900,000 eggs to Clark Creek Hatchery) appears to be based on facility capacity and not on varying natural origin abundance, which is consistent with managing a Stabilizing population.*

WDFW Response: Acknowledged.

Comment 8. Section 1.7, page 2: *Management is consistent with a stabilizing population, but it is unclear why concern is expressed about minimizing adverse genetic, demographic or ecological effects on listed fish.*

WDFW Response: WDFW intent is to release fish from this program in a manner that will not adversely impact naturally-produced smolts in the river and in the near-shore. To that end, the WDFW endeavors to produce smolts consistent with best hatchery practices for size, condition, health, release timing, etc.

The potential for negative competitive and predation effects caused by Voights Creek Hatchery sub-yearling Chinook on listed Chinook salmon juveniles in the Puget Sound nearshore is mitigated by using targeted release dates for program sub-yearlings of May to June each year. As sub-yearling Chinook releases should be similar to the size of natural-origin smolts, any predation impacts on natural-origin fish should be minimal. Hatchery smolt release size and time are monitored to quantify/minimize predation effects on naturally produced Chinook (Seiler et al. 2000, 2002).

This text is included in HGMP section 10.11: The production and release of only smolts through fish culture and volitional release practices fosters rapid seaward migration with minimal delay in the rivers, limiting interactions with listed Chinook. To minimize the risk of residualization and impact upon natural fish, hatchery sub-yearlings from Voights Creek Hatchery are released as smolts in June at 80 fpp.

Fish are closely visually monitored for smolting activities to ensure that they are released fully smolted in order to actively migrate downstream. In addition, coefficient of variation (CV) for length at release of 10.0% or less is desirable in order to increase the likelihood that most of the fish are ready to migrate (Fuss and Ashbrook 1995). The average CV for release years' 2005-2009 was 6.8%.

WDFW also release smolts into the lower river, in an area below known Puyallup River wild fish spawning and rearing habitat. With fish from the Voights' facility being released at a similar size to migrating wild counterparts and after most of them have left the system, the potential for predation/competition with natural-origin listed fish is assumed low.

Comment 9. Table 3.3.1.1, page 19 *provides recent average harvest in Eastern Pacific fisheries and a total exploitation rate of approximately 67% (sub-yearlings). Given that the hatchery typically exceeds its broodstock requirements by 1,800 (Section 1.12, page 10), it does not appear that hatchery fish are managed to achieve "full" use.*

WDFW Response: Acknowledged. Harvest management is constrained by a number of factors relative to conservation of weak natural stocks and allocation among user groups. Because many of the pre-terminal fisheries are managed to achieve maximum exploitation rates on weak stocks, a surplus of hatchery fish at the terminal area may be expected. A combination of tribal fisheries and inefficient recreational fisheries in the terminal area may likely be insufficient to achieve 100% take of returning adults.

Comment 10. Table 7.4.2.1, page 26: *The program has achieved broodstock goals for at least the last 12 years.*

WDFW Response: Acknowledged.

Comment 11. Section 3: *of the HGMP describes the coordination of hatchery production in the Region to achieve adherence to U.S. v Washington, which provides the legal framework for*

*coordinating these programs, and the Comprehensive Management Plan for Puget Sound Chinook (WDFW 2004) for defining artificial production objectives. Neither of these documents addresses genetic or ecological impacts of hatchery production on natural populations (Voights Creek fall Chinook straying to other basins). In addition, Section 3.4 (Relationship to habitat protection and recovery strategies) incorrectly, we believe, identifies the Voights Creek Hatchery Program as being included under the co-managers' **non-Chinook** Resource Management Plan (RMP) for Puget Sound region **non-Chinook** salmon hatchery programs.*

The description of the Hatchery Action Implementation Plans (HAIPs) in this section does indicate considerations given to this topic; however, that document was not linked to the HGMP, nor provided.

WDFW Response: The *Comprehensive Management Plan for Puget Sound Chinook* (2010) did not note significant straying from the Voights Creek Chinook program to other basins.

HGMP section 3.4 should refer to the RMP for Puget Sound Chinook Hatcheries; this will be reflected in the final HGMP. The HAIP for the Puyallup-White watershed remains under development and has not yet been finalized with the Co-managers.

Comment 12. *NPDES guidelines with regard to effluents are generally being adhered to but there have been a few instances at Voights Creek Hatchery where particulates and ammonia did exceed the permitted level (see Table 4.2.1).*

In addition, "Gravity water intake screens are not in use due to flood damage in 2009. Intake screens are in compliance with state and federal guidelines (NMFS 1995, 1996), but do not meet the current Anadromous Salmonid Passage Facility Design criteria (NMFS 2011) intended to minimize the risk of entrainment of juvenile natural-origin fish. WDFW received funding to rebuild/modify facility" (Table 1.8.1, page 3).

WDFW Response: The agency is currently obtaining permits and in planning stages, with construction of the new facility slated to begin this fall. The gravity water intake will be replaced with pumps, and a pollution abatement pond for clarifying the water from fish waste will be constructed.

Comment 13. *Fish appear to be released at a time and size aimed at maximizing survival for fall Chinook reared at Puget Sound hatcheries*

WDFW Response: Acknowledged.

Comment 14. *The HGMP describes a process for updating information on survival, contribution to fisheries and contribution to natural spawning areas for this program. However, due to lack of clear harvest goals, it is unclear how these data will be used to modify the program.*

WDFW Response: Because the program is managed in conjunction with a Stabilizing population, WDFW does not expect to modify the Voights Creek chinook program based on these parameters.

Comment 15. Section 12.1, page 35: *Current research is on-going in the Puyallup basin: "Surplus Chinook salmon from the Voights Creek Hatchery were chosen, in brood year 1999, as the "most suitable local source" of Chinook to re-introduce into the upper Puyallup watershed, barren of salmon since 1903 (due to Electron Dam). In 2000, the Puyallup Tribe initiated a*

smolt-trapping program to measure wild Chinook smolt production and hatchery Chinook smolt survival through out-migration”. However, this was not identified as a “goal” of the program.

WDFW Response: The 1999 Limiting Factors Analysis report for the Puyallup River system noted that the upper Puyallup River sub-basin has the potential to naturally produce significant numbers of coho, steelhead and chinook if passage problems at the Electron Dam were successfully addressed. With the re-establishment of salmon passage above Electron Dam, the production of chinook in the upper watershed is considered additive to production from the hatchery programs at Voights Creek and Clear Creek facilities. The Tribal monitoring program to address juvenile production, passage efficiency and mortality is not a specific goal of the Voights Creek hatchery program but is included in HGMP section 12 as supplemental information.

Comment 16. Section 11, Section 1.10: *While a list of data to collect for monitoring the program is briefly described, no description is given as to how this data will be used or a process to evaluate the performance. No performance targets were provided.*

WDFW Response: As noted in HGMP section 10.7, the application of coded-wire tags to 200,000 smolts released from Voights Creek Hatchery will allow evaluation of the program, consistent with the analysis provided in HGMP section 3.3.1 for the 2002-2004 brood year releases. Targets for returns to individual fisheries are not developed.

Comment 17. *This program has been ongoing since 1917 and there is no indication that it will be discontinued, regardless of risks or performance. Section 1.16 identifies alternatives considered for attaining program goals, but elimination of the program was not considered.*

WDFW Response: This program has been operating in cooperation with the co-managers under agreed production standards to return harvestable Chinook salmon to the terminal fishing area. Puyallup fall Chinook have been designated as a Stabilizing population, and under HSRG criteria, the current operating conditions are considered adequate to meet conservation goals, with no criteria developed for pHOS or PNI. Elimination of the program is not seen as a practical consideration.

References:

Bates, K., P. Christensen, and D. Postlewait. 2008. Electron Project downstream fish passage improvement concepts. Prepared for Puyallup Tribe of Indians, Tacoma, Wash. 43 pp.

Mudd, D.R., and C.S. Leigh. 2008. Electron Project downstream fish passage. Final Report. Prepared for Washington State Legislature pursuant to ESHB 2687, Sec. 307(39), Electron Fish Passage Legislative Work Group. Olympia, Wash. 30 pp.

National Marine Fisheries Service. 2007. Endangered and Threatened Species; Recovery Plans. 72 FR 2493 (January 19, 2007). Available online at:

<http://www.nwr.noaa.gov/Publications/FR-notices/2007/upload/72FR2493.pdf>

Puget Sound Indian Tribes and Washington Department of Fish and Wildlife. 2010. Comprehensive Management Plan for Puget Sound Chinook: Harvest Management Component. 230 pp.

Puget Sound Salmon Management Plan. 1985. United States vs. Washington (1606 F. Supp. 1405)

Ruckelshaus, B., B. Ack, K. Berg, B. Cairns, D. Davidson, B. Kelly, R. Kinley, J. Koenings, P. Kremen, S. Lewis, B. Lohn, J. Manning, C. Mosher, B. Nichols, J. Ryan, R. Sims, M. Shelby, D. Troutt, and T. Williams. 2005. Puget Sound salmon recovery plan. Submitted by the Shared Strategy Development Committee, plan adopted by NMFS Jan. 19, 2007.

Response to Public Comments on the draft WDFW Soos Creek Chinook HGMP received by e-mail.

Comment from Mr. Steve Jones, member of the public, and response:

From: Steve Jones [steeliejones@hotmail.com]
Date: Wednesday, December 19, 2012 4:02 PM
Subject: steelhead release in voights creek hatchery

How can the state stop the steelhead hatchery program in a river that was in the past one of the best steelhead fishing rivers in Washington? If possible, could a brief explanation be provided so I might understand the reasoning behind inevitable complete elimination of steelhead from the Puyallup River system. Thank you for your time, Steve Jones.

From: Anderson, Jon (DFW)
Sent: Thursday, February 14, 2013 2:08 PM
To: steeliejones@hotmail.com
Cc: Aho, Randy T (DFW); Leland, Robert F (DFW); Phillips, Larry C (DFW); Missildine, Brian R (DFW); Hughes, Kirt M (DFW)
Subject: Voight Creek HGMP public comment: Puyallup River steelhead hatchery program

Dear Mr. Jones,

Thank you for your enquiry regarding the cessation of stocking steelhead in the Puyallup River system. I received your question as part of the public comment on the Voights Creek Chinook Hatchery and Genetic Management Plan.

This program released transplants from Puyallup Hatchery (Chambers Creek stock) into the mainstem Puyallup and Carbon rivers from the 1950s until the 1990s. The Puyallup Tribe maintained a separate winter steelhead program at Diru Creek until the late 1990s, using Chambers Creek origin stock. That program has since been eliminated. Beginning in the mid-1990s, 180,000 steelhead were acclimated and released from the Voights Creek Hatchery, to facilitate broodstock recovery and reduce adult straying. At that time, as well, poor adult returns were being experienced in wild and hatchery returns throughout Puget Sound – especially in central and south Sound – and the declining trends were attributed to probable poor ocean conditions.

The steelhead program at Voights Creek was terminated after 2009. That year, the steelhead fingerlings were released early due to flooding. Subsequently, the Washington Fish and Wildlife Commission adopted a Policy (POL-C3619), implementing Fishery and Hatchery Reform to advance the conservation and recovery of wild steelhead.

Among the Policy Guidelines were:

1. Use the principles, standards, and recommendations of the Hatchery Scientific Review Group (HSRG) to guide the management of hatcheries operated by the Department. In

particular, promote the achievement of hatchery goals through adaptive management based on a structured monitoring, evaluation, and research program.

- 2. The Department will prioritize and implement improved broodstock management (including selective removal of hatchery fish) to reduce the genetic and ecological impacts of hatchery fish and improve the fitness and viability of natural production working toward a goal of achieving the HSRG broodstock standards for 100% of the hatchery programs by 2015.

The Hatchery Scientific Review Group recommended that the agency and co-managers implement establish a regional system of wild steelhead management zones, where streams are not planted with hatchery fish and are instead managed for native stocks. Fishing for steelhead in these zones would not be incompatible with this approach, but no hatchery-produced steelhead should be introduced. Such zones would reduce the risk of naturally spawning fish interbreeding with hatchery fish, and provide native stocks for future fisheries programs. The Puget Sound Hatchery Action Advisory Committee was created in 2011 to advise WDFW on potential modifications to the State’s hatchery programs in Puget Sound, and has recommended that the Puyallup River be designated as a Wild Steelhead Management Zone (WSMZ), and that the White River be designated as a WSMZ when the native steelhead conservation supplementation program is sunset.

I hope that this answers your questions. Feel free to contact WDFW District 11 Fish Biologist Larry Phillips (360-902-2721) regarding steelhead populations and management in this watershed.

Sincerely,

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