

January 17, 2013

Hatcheries - Attn: Brian Missildine
Washington Department of Fish and Wildlife
600 Capitol Way North
Olympia, WA98501

Brian,

Thank you for the opportunity to respond to the Draft Green River Hatchery Genetic Management Plan (HGMP) on behalf of Wild Fish Conservancy (WFC), whom I represented on the WDFW Puget Sound Hatchery Action Advisory Group (PSHAAG). I first wish to note our concurrence with the principal concerns with the proposed HGMP expressed by Mr. Andrew Marks on behalf of CCA in his letter to you of January 17. The proposed HGMP for the Green River Chinook program is not in accord with the recommendations adopted by the PSHAAG, nor do we believe that it is consistent with Washington State Fish and Wildlife Commission's Hatchery and Fishery Reform Policy (C-3619). Most importantly, operation of the program as described in the HGMP has a very high probability of perpetuating and exacerbating the depressed fitness of the remnant wild, naturally spawning, population of Green River Chinook.

As noted by Mr. Marks in his letter, the HGMP lacks a clear population designation with respect to managing PNI and pHOS. The PSHAAG unanimously recommended the Green River population be designated and managed as a Contributing population. The HGMP, in effect, treats it as a Sustaining population. In this regard, I note that section 1.16 of the HGMP repeatedly references the Puget Sound Salmon Management Plan (PSSMP 1985) and related agreements or mandates as explanations for rejecting alternative scales of production that would facilitate treating the population as a Contributing population (e.g., reduction of the subyearling program to reduce ecological and genetic risks to NOR Chinook would "not meet fisheries enhancement objectives for the program, including treaty Indian fish right entitlements (US v Washington) and the Magnuson/Stevens Act for sustainable fisheries" (page 11)). In point of fact, this issue was discussed rather extensively by the PSHAAG, and the consensus was (as I recall) that fishery obligations could be achieved while the subyearling program was modified and reduced.

In any event, I believe that all members of the PSHAAG were in agreement in strongly emphasizing to Department staff the importance of clearly representing to the public the Department's management policy preferences in negotiations with the tribal co-managers, so that the public could clearly understand what the Department may have been required to negotiate away in order to reach agreement with the co-managers. I further believe that it was also the understanding of the PSHAAG that the consensus recommendations of the PSHAAG would be those adopted by the Department when it entered discussions with the co-managers. The HGMP provides no evidence that this was the case. I recognize that an HGMP is an ESA permit document, but this should not be an obstacle to including some text indicating what the Department's preferred management

scheme for each population is and some brief explanation as to why the specifics of an HGMP do not agree with that preference.

The program as characterized by the HGMP appears to me to pose several significant risks to the naturally-spawning Green River Chinook population. Most important, the scale of releases and the numbers and percentages of F1 hatchery-origin adults permitted to spawn naturally has throughout the history of the program likely depressed the fitness (reproductive success) of the naturally spawning population. The fact that the hatchery population is listed under the ESA due to its close genetic relationship to the remnant natural-spawning component of the population bears little relevance to the issue of the need to rebuild and recover the natural spawning fitness of the population to sustainable levels. This genetic relation is an artifact of both the history of the origin and management of the hatchery population – which has resulted in a highly domesticated population largely suited to a segregated (not an integrated) hatchery program -- and the attendant high level of spawning of this domesticated population with natural-origin fish. Undoubtedly, the vast majority, if not all, of the natural-origin spawners are likely progeny of F1 hatchery fish or the natural spawning progeny of natural-spawning F1's. Perpetuation of this status quo will only maintain the current depressed fitness of NOR Green River Chinook if not further depress it.

The low reproductive success of NOR spawners is commonly explained by Department staff and others as due to the poor quality of spawning and rearing habitat in the Green River. But this is at best a partial explanation. The natural spawning population must be relieved of the burden of repeated introgression by F1 and the progeny of naturally spawning F1's if it is to be given an opportunity to respond to the selection pressures imposed by the natural environment. This fitness rebuilding needs to occur in parallel with habitat restoration. The program as described in the HGMP will guarantee that natural spawning fitness remains depressed below sustainable levels – it is a self-fulfilling prophecy. This issue was raised by several PSHAAG members, including members of the HSRG, and discussed at some length. The pHOS levels provided in Table 2.2.2.8 of the HGMP (page 16) demonstrate how high this risk is, though even these levels under-estimate the depressive effect in light of the recent legacy of hatchery-origin genes in most, if not all NOR spawners and their progeny.

The high past and current levels of pHOS (which would only be sustained by the program under the HGMP) further indicate that the levels of NOR incorporated into the hatchery broodstock (Table 6.2.3.1, page 28) hardly qualify for characterizing the program as 'integrated' other than on paper. Both the genetic make-up of the majority of NORs and the low level of PNI cannot but result in the spawning of hatchery-origin adults in the wild continuing to have a depressing effect on the fitness of the natural spawning population. This is, of course, in conflict with the purpose of managing an integrated population to meet PNI standards.

In short, it would seem that the Green River hatchery Chinook stock cries out to be managed as a segregated program. And this would, of course, require significant program

reductions and changes to harvest management, especially the advance of selective fishing gears and rules.

A final concern I wish to note is the proposed releases of 1,000,000 to 2,000,000 subyearlings at Palmer. This is egregious. The odd and largely unexplained manner in which the actual numbers are tied to NOR escapements is also concerning, and at best not well explained. Regardless, this represents a significant increase in the size of the program that seems unjustifiable in light of the current condition of the natural spawning population. Again, this concern was raised, I believe, by all members of the PSHAAG who urged the Department to oppose these releases.

For these and other reasons that time does not permit me to address, Wild Fish Conservancy opposed the approval of the Draft HGMP and recommends that it be withdrawn and revised to better comply with the Commission Policy and the recommendations of the PSHAAG.

I realize that this is a very contentious and challenge program to manage and to reform. But that does not lessen the urgency of the reforms and program reductions that I believe is required. I, other staff at WFC, and I am sure other members of the PSHAAG are ready and willing to meet with you to further discuss these concerns with you.

Sincerely,

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