

Hatchery Scientific Review Group

Pacific Salmon Hatchery Reform

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July 27, 2012

Mr. Jon Anderson
Washington Department of Fish and Wildlife
600 Capitol Way North
Olympia, WA, 98501

Subject: Review of the Draft Elwha Summer/Fall Chinook Hatchery and Genetic Management Plan (HGMP)

Dear Mr. Anderson,

The HSRG has reviewed the updated draft Elwha Summer/Fall Chinook HGMP dated June 4, 2012 and is providing the following general and specific comments.

General Comments:

The restoration of the Elwha River has to date consumed many millions of dollars and many years of work by hundreds of people, but much is left to do. Hatchery and Genetic Management Plans are designed to provide critical direction to hatchery operations and overall fisheries management and should be an aid in the successful restoration of the Elwha River. The success of the investments in Elwha River restoration will depend not only on dam removals and habitat restoration but also on complementary fisheries management.

The HSRG is pleased to see the adoption of four biologically based phases of restoration compared to the three temporally based phases described in the original HGMP. The HSRG is also pleased to see adoption of HSRG standards for operating the hatchery program for a "Primary" population during the "local adaptation" phase and beyond. In addition, the development, at least conceptually, of biological triggers based on Viable Salmonid Population criteria for determining when to transition between the four biological phases also improves the HGMP.

The HSRG did find the current draft lacking in two important areas noted below. In general, the lack of specificity prevented a more detailed review. The HSRG would have preferred to see a more detailed and aggressive experimental approach towards re-colonization and conservation. For example, while the HSRG was pleased to see that all juvenile releases were to occur at the hatchery to minimize negative ecological interactions, it was disappointed to see that the transporting of adults into the upper watershed was not being prioritized.

Specific Comments:

1. Draft Elwha Monitoring and Adaptive Management Plan-Example Performance and Trigger table, p. 43):

The key biological triggers must be worded clearly within a decision tree structure and adopted as management standards that can be adjusted via adaptive management based on results from a sound biological monitoring and evaluation program. These critical decision rules and triggers should be firm and not presented as “examples”. The HGMP would be improved if the biological rationale were also provided that describes how the triggers were developed. The HSRG cannot provide comments on the triggers themselves without knowing the biological rationale behind them.

- a. Triggers should be included within carefully worded decision rules as to when the management moves from one biological phase to another.
- b. The decision to move from the Preservation to Recolonization Phase should be based on removal of barriers and most of the sediment load, **and evidence** of natural production. Triggers should not include productivity measures that indicate population sustainability that would not be expected during this Phase.
- c. The abundance and productivity triggers are too high to direct transition from the Recolonization to Local Adaptation Phase, (i.e., >5,000 adults spawning naturally (HOR+NOR) for four years before transition to the Local Adaptation Phase). Escapement to the river has not exceeded 5,000 adults from all sources (hatchery and wild) since 1990 when the hatchery program was much larger. One would not expect such levels of abundance and sustaining productivity until the Local Adaptation Phase or even the final Self-Sustaining Population Phase.
- d. Management actions in the Recolonization Phase will likely require more than just producing and releasing programmed numbers of juveniles from the hatchery. To improve distribution, abundance, and productivity sufficient to move the population into the Local Adaptation Phase will require flexibility in hatchery and fish management to allow improved pNOB and pHOS when possible. Otherwise, the population may remain in the Recolonization Phase.
- e. While the HGMP commits to a pHOS standard, it is not identified in the Performance and Trigger table and no pHOS objective is provided. In addition, there are no actions provided in the HGMP to actively manage for this standard (e.g., more terminal selective harvest, removal of hatchery fish at the weir, reduced hatchery production, etc.).

2. Marking plan for hatchery fish:

The two keys to successful local adaptation are 1) accurately identifying and 2) actively managing for hatchery-origin and natural-origin recruits in the hatchery broodstock and escapement to habitat. This requires first, a clear plan on marking. Section 10.7 details a history of the previous marks applied and the planned marking for the 2011 brood. This planned marking will not allow for non-lethal identification of returning adults by origin in the future, or the level of catch in northern fisheries. Both of these keys to successful adaptation were recommended by the HSRG during our recent review. Estimates of hatchery returns by non-lethal marking have not ever been possible and evidence of catch in northern fisheries not possible since the 1994 brood (Section 10.7). In addition, the proposed marking plan will not meet the standards described in the APR Performance Standards table (3.2.2) found in Section 1.10.2 of the draft HGMP. Application of marks/tags in the future to achieve these objectives is described in Section 1.16.2 as *“will be considered as the EMAMP becomes finalized and implemented.”* (p. 11).

Finally, the HGMP does not make it clear exactly what marks will be applied to hatchery releases in the near future. Section 7.3 indicates both an otolith mark and a blank CWT will be applied to all sub-

yearling and yearling smolts, while Section 10.7 indicates that sub-yearling smolts will receive only an otolith mark. The HSRG recommends a non-lethal identification method for all hatchery releases to commence with ensuing brood years.

3. The fourth phase of restoration is called two different things: "Self-sustaining exploitable populations" (p. 4) and "Full restoration" (p. 5, 6). We infer that the two names mean the same thing, but there should consistency for clarity.

4. Why are yearling fish going to be released, as opposed to releasing sub-yearlings only (p. 8)? Based on data presented (p. 9), there does not appear to be any survival/return advantage for yearlings versus sub-yearlings, but we assume releasing fish as yearlings increases disease risks and feed and maintenance costs.

We hope you find this information helpful.

Sincerely,



Peter Paquet Ph.D.
HSRG Co-Chair



Andy Appleby
HSRG Co-Chair

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