



WILLAPA BAY

The regional implementation progress report for Willapa Bay was authored by WDFW. There are no tribal co-managers in this region. This region was reviewed by the HSRG in 2003.

HSRG Synopsis and Response

General Description of Region and Hatchery Programs/Issues:

The Willapa Bay region, located in coastal southwest Washington, drains numerous rivers and creeks. The watershed is noted for an abundance of rainfall and timber harvest, the latter of which has resulted in habitat degradation. Hatcheries are located on each of the three largest rivers—the Willapa, Naselle and Nemah. Unlike all other regions reviewed by the HSRG, Willapa Bay does not have tribal harvest, and there is no commercial harvest of steelhead. Unlike the Puget Sound and Hood Canal regions, there are no ESA-listed stocks in this region. Much of the fish harvest is commercial, and there are large hatchery Chinook and coho programs. Hatcheries in this region require considerable capital construction to comply with passage/intake requirements and pollution abatement, or just to continue to operate. Naselle Hatchery (which has difficulty trapping Chinook) needs to be either completely rebuilt or abandoned. Nemah Hatchery impairs wild chum during coho returns. The biggest challenge for managers in the region will be to develop strategies to operate large programs to meet their harvest needs, while meeting conservation goals for stocks with limited natural habitat productivity.

General Overall Comment about the Manager Report:

Progress has been made in some areas in this region, including improved monitoring and identifying hatchery programs as integrated or segregated. However, it appears that less progress has been made in implementing hatchery reform in this region than in many others. Of particular concern is the uncertainty as to whether clear goals have been defined for each of the stocks within the region. Another major obstacle is the continued lack of ability to identify hatchery- and natural-origin adults. WDFW cites the time requirements necessary to implement significant capital improvements and limited resources as the principal constraints to complete implementation of HSRG recommendations. The HSRG recommendations have been used to garner funding, and many recommendations have been implemented. Funding has been identified for marking fish to ascertain hatchery/wild run compositions, beginning in 2006. The comments below do not pertain to steelhead programs. As discussed elsewhere the co-managers are reviewing the HSRG system-wide recommendations for steelhead and will address them in a forthcoming white paper. Operational recommendations for steelhead have generally been met for all programs in the region.

1. Stock goals and the role of hatcheries

- a) Are short- and long-term management goals/premises for habitat and conservation and harvest of all regional hatchery- and naturally-spawning**



salmonid stocks clearly stated? Have specific questions raised in the regional review been adequately addressed?

Goals for all hatchery- and naturally-spawning stocks in this region were identified during the regional review process. The progress report provided by WDFW addressed the HSRG's program-specific recommendations. Focusing only on those recommendations makes it difficult to assess progress in regard to developing clear stock goals or determining how programs will be managed over time. The managers state that until fish are marked and adult fish return, clear goals cannot be defined. The managers also state that decisions about the role of hatcheries in this region are complicated by the fact that an engineers' assessment of Naselle Hatchery recommended either abandoning or completely rebuilding the facility. This assessment of the facility is consistent with the HSRG's review. The managers need to be clear what they will do if funds are not provided for improving this facility. It is not clear to the HSRG whether the managers in this region clearly understood the distinction between stock goals and hatchery program types (integrated or segregated). The managers should clarify goals for all stocks in this region and develop interim plans for operating programs while better information is collected that will allow them to refine stock goals and hatchery program roles.

b) Is the purpose (harvest, conservation, education, etc.) of each hatchery program stated? Have specific questions raised in the regional review been adequately addressed?

Purposes for all hatchery programs in this region were identified during the regional review process. Most questions raised by the HSRG regarding the purposes of hatchery programs have been addressed.

c) Is the program type (integrated vs. segregated) identified and explained for each hatchery program? Have specific questions raised in the regional review been adequately addressed?

Every hatchery program in the region was designated as either integrated or segregated during the regional review process. WDFW reports that these designations are being reviewed for programs across the region, and this may result in major changes. For example, a plan for integrating Willapa Basin hatchery winter steelhead is being considered.

2. Steps taken (decisions made and actions taken) towards meeting short- and long term expectations

a) Has significant progress been made to achieve desired hatchery- and naturally-spawning proportions in the hatchery broodstock and on the spawning grounds for integrated and segregated programs?



WDFW has adopted the HSRG's guidelines for integration and segregation. All hatchery Chinook releases in the region will be identified through adipose fin clipping beginning in 2006. This will help to resolve uncertainty as to the degree of integration in many stocks (Chinook in particular). A process for documenting hatchery and wild coho in hatchery broodstock has begun. Spawning surveys have been increased. Significant strides have been made in identifying stocks via coded-wire tagging; Willapa, Nemah and Naselle river fall Chinook, and Nemah and Naselle river coho are now being coded-wire tagged. The HSRG strongly supports WDFW's request for adequate funding to upgrade facilities and on-going management and monitoring of stock composition on the spawning grounds and in the hatchery broodstock.

WDFW has made good use of available funds, including hatchery reform funding, but stable funding is needed to ensure that the benefits of proper integration and segregation continue into the future. In particular, resources needed to safely collect and transport natural-origin spawners, for incorporation in hatchery broodstock, must be a high priority.

b) Have steps been taken to size programs consistent with goals for all hatchery- and naturally-spawning stocks? Have specific questions raised in the regional review been adequately addressed?

No information has been provided regarding whether WDFW has resized or will resize hatchery programs in this region. The managers in this region have generally not developed goals for harvest contribution of hatchery programs explicit enough to specifically size the programs to meet these needs.

c) Have steps been taken to better meet hatchery operational guidelines, from broodstock collection through release? Have specific questions raised in the regional review been adequately addressed?

WDFW reports that it is committed to implementing HSRG operational guidelines. All programs in this region now employ single pair mating protocols, to maximize effective population size. The spawning protocol of using ten percent jacks for coho (as recommended by the HSRG) will commence in 2005. Stable funding for facilities and operations to sustain hatchery reform over time must be a high priority. For example, funds are needed to improve the handling and sorting of coho and Chinook broodstock at all three regional facilities, in order to allow those programs to operate as properly integrated. WDFW is to be complemented for conducting a steelhead recycling study at Forks Creek Hatchery in a timely manner, consistent with the HSRG's recommendations.

3. Steps taken to track progress toward expected outcomes

Please see general HSRG comments about managing for success. In this region, WDFW is working on developing a comprehensive monitoring plan to ensure continued success of their hatchery programs through adaptive management.



a) Will status of major stock goals (e.g. harvest and escapement) be monitored over time?

Harvest information will be greatly enhanced with the recent addition of coded-wire tagging of Naselle and Nemah stocks. There are increased spawning escapement surveys for stocks in the region. Marking of Chinook will increase the value of these surveys. The HSRG presumes that the evolving adaptive management plan for the region will include an assessment of the need to improve the accuracy and precision of these estimates.

b) Will contributions of each hatchery program towards its purpose be monitored over time (e.g. contributions toward harvest and escapement)?

The monitoring of hatchery contributions to harvest and natural spawning escapement is critical for tracking the success of both integrated and segregated programs. The co-managers have made the most of their available resources in this region, however the potential need to expand spawning ground surveys and stock identification sampling programs, in particular, should be reviewed as a part of the development of a comprehensive monitoring plan for the region. Stable funding is needed for long-term monitoring of stock composition on the spawning grounds. The monitoring of hatchery contributions to harvest and natural spawning escapement is critical for tracking the success of both integrated and segregated programs.

c) Will contributions of hatchery origin fish to broodstock and natural escapement be estimated with sufficient accuracy and precision over time?

Extensive stock identification programs need to be developed and implemented that meet statistical standards for precision and accuracy, using a range of marking methods to track the performance of hatchery stocks over time. As the needs associated with the implementation of new hatchery integration policies are evaluated the need for additional marking and mark sampling will be revisited. It is likely that additional spawning surveys and biosampling will be needed in this region, as in others, in order for adequate accuracy and precision to be achieved.