

Puget Sound Steelhead Advisory Group (PSSAG) Meeting Notes

January 18, 2018, Noon – 7PM

Embassy Suites, Lynnwood, Washington, 98036

Drafted by Cole Caldwell and James Scott

Key Messages to Stakeholders Agreed at Meeting Conclusion

- Wild broodstock hatchery programs are complicated to implement.
- Research on the early marine survival of Puget Sound steelhead (Salish Sea Marine Survival Study) is providing valuable information on the sources of the high mortality and potential management actions.
- The supplemental funding request for the Salish Sea Marine Survival Study currently under consideration by the legislature would provide additional information helpful in the identification of management actions and the development of the recovery plan.

Agenda Items discussed at the meeting:

1) Introduction

2) Puget Sound Steelhead Early Marine Survival Study (Michael Schmidt, Long Live the Kings; Erik Neatherlin, WDFW; Paul Hershberger, USGS)

- Review results from studies looking at the factors affecting the survival of juvenile steelhead as they migrate from their natal stream out the Salish Sea.

3) Complete Discussion of Central & South Puget Sound Portfolio

- Review information regarding the presence of steelhead in the North Lake Washington population.
- Discuss options for White River and complete draft portfolio informed by coarse scale assessment presented in November.

4) Overview of Northern Cascades Major Population Group

- Review issues, populations, status, and TRT guidance

5) Overview and Preliminary Analysis of Potential Skagit Hatchery Steelhead Program

- What is the potential program and what are the results from the preliminary analysis?

6) Looking Ahead

7) External Messages

- What are the 3-5 messages regarding this meeting that we want to provide to other interested stakeholders?

8) Public Comment

9) Thoughts on Meeting

Advisors Attending

Al Senyohl

Curt Kraemer

Roger Goodan

Rob Masonis

Rich Simms

Jonathan Stumpf

Gary Butrim

Curtis Wilson

Derek Day

Jamie Glasgow

David Yamashita

Public Attending

Jesse Salsberry
Nick Chambers
Conrad Gowell

Staff Attending

Jim Scott (co-facilitator), Cole Caldwell (co-facilitator)
Jennifer Whitney
Tara Livingood
Anja Huff
Aaron Bosworth

NOAA Fisheries Staff Attending

David Price

Presenting

Erik Neatherlin, WDFW
Michael Schmidt, Long Live the Kings
Paul Hershberger, United States Geological Survey
Gary Marston, WDFW

Notes from the meeting per agenda item:

1) Introduction

- Jim distributed the agenda to the group and discussed the agenda items that the PSSAG would be working on at the meeting.
- The PSSAG members asked question about the Skagit River fishery workshops and public comments.
 - PSSAG will have an opportunity at the Feb 1st PSSAG meeting to review the public comments and provide any additional suggestions for the 2018 recreational fishery rule.
 - Jim pointed out that the WDFW process regarding the fishery rules for the potential recreational fishery is separate from the NOAA NEPA and ESA-reviews of the comanagers' proposed resource management plan (RMP) for steelhead fisheries on the Skagit River. NOAA must find the proposed plan consistent with ESA-requirements for WDFW and the tribes to implement fisheries. If the RMP is approved, the Department has responsibility for the specific rules governing the recreational.

2) Puget Sound Steelhead Early Marine Survival Study

- Michael Schmidt, from Long Live the Kings; Erik Neatherlin, from WDFW; and Paul Hershberger, from USGS presented on and reviewed results from several studies looking at the factors affecting the survival of juvenile steelhead as they migrate from their natal stream out the Salish Sea (see meeting handouts for complete presentation).
 - Legislative actions passed in 2014 that laid the path for these studies.
 - The presenters specifically reviewed what research work has happened to date and will be continuing in the future.
 - Early marine survival summary
 - Researchers are seeking to isolate and determine what factors are impacting survival.
 - Steelhead, Coho, and Chinook are all in decline within the Salish Sea

- Steelhead have declined significantly since the 1990's
- RESEARCH QUESTION: Why are juvenile steelhead dying in the Salish Sea?
 - H1 = Food availability influences
 - H2 = Predation influences
 - H3 = Other compounding ecological factors (e.g., disease, contamination, etc.)
 - Other important considerations include small and large-scale factors
- There have been 15 studies to date to assess various aspects of the research
- An Acoustic Telemetry Study was implemented to determine how many juvenile fish survive.
 - Over 85% of juvenile fish die before they reach the Pacific Ocean.
- Contamination Factors
 - Freshwater contamination residuals are generally low in steelhead but vary across watersheds (see slides for reference).
 - Laboratory experiments have determined that contaminants can alter thyroid production in fish
 - A primary identified contaminant is flame retardant chemical(s)
 - WDFW has identified the Nisqually has a high priority zone and is working on identifying the source(s) of these contamination sites.
- Disease Factors
 - Studies have determined that a Nanophyetus (parasite) can impact kidneys of fish
 - Nanophyetus is associated with freshwater and has been found to be in high concentrations in particular watersheds.
 - High prevalence and parasite loads impact fish survival.
 - The parasite has a complex lifecycle (mollusk/snail-based).
 - Parasitic exposure spans across spring and summer months, but peaks in November.
 - This disease impacts both wild and hatchery fish.
 - Experiments have determined that infected fish have slightly lower survival (as expected), but natural condition survival is likely hindered more than experimental fish.
 - In other words, higher parasite loads = increased negative impacts on survival.
 - Different water treatments are available to assist managers in managing the disease in controlled environments.
- Genetic Predisposition Factors
 - Some fish may have a genetic predisposition for increased mortality or survivability reduction associated with the Omy05 loci.
 - Some genotypic relationships may be impacted and/or contributing to survival, but currently researches have low sample sizes, found limited genotype information, and low inference from findings associated with other parameters.
- Predation Factors

- Harbor seal movement and diet data is suggestive that harbor seals are eating steelhead.
- Prey Factors
 - Anchovies, herring and other forage fish abundance is correlated with steelhead survival.
- Hatchery Release Influence on Seal Response Factors
 - Hatchery release may attract and/or buffer harbor seal behavior.
 - Date and time of release were correlated to juvenile survival initial studies, but do not appear to be in more recent years.
- WDFW staff and others will take these contamination, disease, genetic, predation, and prey parameters of identified watersheds into consideration when applying future specific management actions and will incorporate all study results into recovery plans.

3) Complete Discussion of Central & South Puget Sound Portfolio (North Lake Washington and White River)

- PSSAG members reviewed information regarding the presence of steelhead in the North Lake Washington population.
 - A handout was provided to the group summarizing information regarding juvenile smolt trap data
 - 10 years' worth of data indicate very low encounter rates.
 - King County study findings also indicate very low encounter rates.
 - KEY RESULT
 - Steelhead are not likely using North Lake Washington tributaries at high frequencies
 - PSSAG did not change the previous provisional group decision (with qualifications, provisionally designated as a Stabilizing Population with a Segregated Hatchery Program as a pilot project).
- PSSAG members discussed options for White River and completed the draft portfolio informed by the coarse scale assessment presented in November.
 - Jim reiterated that the group was not being asked to approve the specifics of the fishery, rather the proposal to designate the White River as a Primary population, with an integrated hatchery program releasing 60,000 smolts, and a catch and release fishery under limited conditions. For example, the breakout group had suggested that a catch and release fishery be initiated when the projected spawners exceeded 75% of the spawner objective. That level of specificity (trigger of 75% of management objective) will require additional analysis.
 - The White River integrated hatchery program operated by the Muckleshoot and Puyallup tribes.
 - The tribes are supportive of maintaining this program.
 - PSSAG would like a follow-up and look at HGMP information (goals, objectives, strategies, etc.) about how the hatchery operates and when it would be discontinued.
 - There is limited access to the river.
 - KEY RESULT
 - With these qualifications, PSSAG members provisionally designated as a Primary Population, an Integrated Hatchery Program releasing 60,000 smolts, and a Catch and Release Fishery.

4) Overview of Northern Cascades Major Population Group

- PSSAG members reviewed issues, populations, status, and TRT guidance materials that were provided to the group.
- Jim reminded the group of a two tasks that are unique to the Northern Cascades MPG:
 - At least one population still needs to be designated as a wild steelhead gene bank.
 - The PSSAG received in October a copy of a letter from NOAA regarding Skamania-stock summer steelhead segregated hatchery programs on the Stillaguamish and Snohomish rivers. The letter encouraged “the timely development of alternatives to using segregated Skamania broodstock in the Snohomish and Stillaguamish basins.”
- Jonathan asked Jim/WDFW to provide PSSAG with public comments from the 2015 wild steelhead gene bank public process.
- PSSAG requested that Dave Price mention to the Puget Sound Steelhead Recovery Team that the representatives of the PSSAG would like an opportunity to meet with the Recovery Team.

5) Overview and Preliminary Analysis of Potential Skagit Hatchery Steelhead Program

- WDFW staff presented to PSSAG about a preliminary modeling/analysis approach regarding a potential integrated Skagit River program (see meeting handouts for full presentation).
- PSSAG members reviewed and discussed the analyses and conclusions.
- WDFW staff stated that there needs to be additional technical analysis of the model to determine if, how, and where this potential program could occur.
- PSSAG requested that Gary’s/WDFW’s presentation be provided to PSSAG before the next PSSAG, February 1st meeting.
- The following follow-up tasks were identified:
 - What residual and stray rates have been observed in the Elwha River?
 - How would broodstock be collected across the entire run timing if broodstock are collected from above the Sauk River? Isn’t it likely that fish are holding in that area prior to moving to spawning locations?
 - Provide analysis regarding the potential interbreeding of precocious males from the hatchery program with natural-origin spawners.
 - What would a recreational fishery season look like with and without the potential hatchery program? What would be the associated program costs and economic benefits?
 - What would be the likelihood and potential effects of amplifying certain spawn- or run-timing components of the Skagit steelhead population?
 - What would be the likelihood and potential effects of localized areas of higher pHOS?
 - How would a rebuilding trajectory be affected by the potential hatchery program and associated fisheries?

6) Looking Ahead

- PSSAG wants to review all public comment related to watershed specific meeting for the Northern Cascades
- Jim will update PSSAG with the most up-to-date escapement data for the Northern Cascades and other watersheds.
- At the next meeting (Feb 1st) PSSAG members will be provided with a template similar to that used in other regions and begin working on North Puget Sound watershed draft portfolios.

- Jonathan asked Jim to provide PSSAG with data on historical wild broodstock programs on the Skagit River
- PSSAG needs to consider and assess economic benefits for North Puget Sound watersheds.

7) External Messages

- Wild broodstock hatchery programs are complicated to implement.
- Research on the early marine survival of Puget Sound steelhead (Salish Sea Marine Survival Study) is providing valuable information on the sources of the high mortality and potential management actions.
- The supplemental funding request for the Salish Sea Marine Survival Study currently under consideration by the legislature would provide additional information helpful in the identification of management actions and the development of the recovery plan.

8) Public Comment

- One member of the public suggested that PSSAG review and apply current research out of U.C. Berkley about integrated broodstock hybridization research.
- One member of the public pointed out and provided a handout to PSSAG that demonstrated that 91% of the public support the Skagit River as a wild steelhead gene bank.

9) Thoughts about the Meeting

- Hatcheries need increased funding, size, and capacity
- Support wild steelhead recovery
- Recreational opportunity needs to be looked at
- Proactivity is often better than reactivity
- Wild steelhead fishing opportunity should not be overlooked
- WDFW staff and others did well on the presentations
- Steelhead population trajectories need to be assessed critically
- WDFW is doing a good job and is taking a fair approach while looking at opportunity, economics, hatcheries, Tribes, etc.