

## **Puget Sound Steelhead Advisory Group (PSSAG) Meeting Notes**

March 29, 2018, Noon – 7PM

Embassy Suites, Lynnwood, Washington, 98036

Drafted by Cole Caldwell and James Scott

### Key Messages to Stakeholders Agreed at Meeting Conclusion

- 1) PSSAG has work to do to complete the Northern Cascades portfolio.
- 2) Steelhead stakeholders and anglers are more diverse than the steelhead.

### Agenda Items discussed at the meeting:

#### **1) Introduction**

#### **2) Coarse Scale Assessment of Draft Northern Cascades Portfolios**

- Distribute summary table.

#### **3) Analysis of Potential Skagit Integrated Hatchery Program**

- Density dependence, hatchery releases and environmental conditions explain annual variation in productivity of Skagit River wild steelhead (Joe Anderson)
- Assessment of potential pHOS resulting from precocial males and residuals (Bethany Craig)
- Additional Questions from PSSAG

#### **4) Discussion of Skagit River as Component of Northern Cascades Portfolio**

#### **5) Potential New Hatchery Programs Identified by Subgroups (Gary Marston)**

- Stillaguamish Winter Conservation Program
- Skykomish Winter Conservation Program
- Replacement of Reiter Ponds Skamania Program

#### **6) Looking Ahead**

#### **7) External Messages**

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

#### **8) Public Comment**

#### **9) Thoughts on Meeting**

### Advisors Attending

David Yamashita

Jamie Glasgow

Derick Day

Rob Masonis

Mark Spada

Curtis Wilson

Andy Marks

Jonathan Stumpf

Al Senyohl

Roger Goodan

Rich Simms

Gary Butrim

Curt Kraemer

### Public Attending

John McMillan

Conrad Gowell

Jesse Salisbury

## Staff Attending

Jim Scott (Facilitator), Cole Caldwell (co-facilitator)

Bethany Craig

Joe Anderson

Edward Eleazer

Brett Barkdull

## Notes from the meeting per agenda item:

### **Introduction**

- Jim distributed the agenda, multiple handouts, and the draft Northern Cascades Portfolios to the group and then discussed the meeting agenda and tasks that the PSSAG would be working on for the meeting.

### **Analysis of Potential Skagit Integrated Hatchery Program**

- Bethany Craig presented an assessment of the projected pHOS resulting from precocial males and residuals associated with the potential Skagit Integrated Hatchery Program (see handouts).
  - Residuals and precocious males were projected to result in a pHOS of approximately 0.13 resulting in a total (including adult hatchery-origin fish spawning in the river) of approximately 0.16.
  - The projection requires several assumptions and did not consider spawners from resident *Oncorhynchus mykiss*. The true pHOS will likely vary according to wild population demographics, hatchery residualization rate and survival schedules.
  - Sensitivity analysis based on residual and precocious males assumptions suggests a plausible range for total pHOS from residuals of approximately 0.06 – 0.27.
  - The projected pHOS is less than the 0.30 limit associated with a population that is important for conservation and recovery.
- Joe Anderson presented how density dependence, hatchery releases and environmental conditions help explain annual variation in productivity of Skagit River wild steelhead (see handouts):
  - The analysis used historical data on hatchery releases of early winter steelhead, environmental conditions, harvest, spawners to address three research questions:
    - Is there evidence for density dependent productivity of wild Skagit River steelhead?
    - Is there any relationship between wild Skagit River steelhead productivity and river discharge or marine conditions?
    - Is there any relationship between wild Skagit River steelhead productivity and releases of early winter hatchery steelhead?
  - Conclusions from the analysis:
    - There is evidence for density dependence in wild Skagit steelhead:
      - Growing appreciation that resource limitation is common in low abundance, threatened populations.
      - Density dependence can operate at small spatial scales due to clumping.
    - There exists a negative correlations between the number of early winter hatchery steelhead released and productivity of wild population:
      - The mean number of smolts released across all years was 328,000, and the standard deviation was 124,000 smolts. The model predicts that an increase of production to 452,000 early winter steelhead would result in a 25%-30% decrease in wild productivity.

- Additional examples of the effects of hatchery programs on productivity for Oregon coho salmon, Snake River spring Chinook salmon, and Clackamas River steelhead.
  - Freshwater and marine indicators also explain some variation in wild productivity.
- Additional Questions from PSSAG (see handouts)
  - The cost of implementing an integrated hatchery program:
    - The cost was estimated to be \$208,204 per year.
    - Several group members requested additional monitoring, including the collection of information on the spatial distribution of residuals and the number, distribution, and response of predators to the release of hatchery smolts.
    - Increased monitoring effort would increase the total cost per year.
  - Recreational catch and season impacts of an integrated program:
    - The analysis was conducted using historic data and assumed that the recently submitted co-management RMP would be approved by NOAA.
    - Predicted catch of ~60 to 400 hatchery-origin steelhead depending upon abundance of wild steelhead.
    - If the integrated hatchery program was initiated, it is projected to reduce the length of the season when the abundance of wild fish is less than 6,000
  - Economic benefits of an integrated hatchery program for recreational fishery:
    - Coarse scale analysis with primary value of comparing alternatives, not the exact economic benefits.
    - If the integrated hatchery program was initiated, it is projected to reduce the economic value of the recreational fishery when the abundance of wild fish is less than 6,000.
  - Tribal fishery season impacts of an integrated program:
    - If the integrated hatchery program was initiated, it is projected to increase the length of the tribal fishery when the abundance of wild fish is 4,000 - 8,000.

### **Discussion of Skagit River as Component of Northern Cascades Portfolio**

- The advisors split into two groups (see handout): Group A addressed the question “What would the Skagit River look like with an integrated hatchery program? Group B addressed the question “What would the Skagit River look like without an integrated hatchery program?”
- Group A identified the potential challenges resulting from an integrated program and how these challenges might be addressed:
  - Challenge: Shorter Catch & Release Season
    - Minimize effects on the catch & release fishery by either:
      - Restricting the catch and keep fishery to near the Marblemount Hatchery to maximize the ratio of marked to unmarked fish; or
      - Rear and release the juveniles in the Baker River and have the catch and keep fishery in the Baker River to maximize the ratio of marked to unmarked fish.
  - Challenge: Insufficient Funding to Implement Integrated Program (or fishery)
    - Require a special permit to fish the Skagit River. Anglers would be required to record the number of steelhead released and fishing privileges on the Skagit River would be revoked for illegal fishing activity.
  - Challenge: pHOS Projected to be ~ 0.16
    - Mandatory retention of hatchery fish

- Allow fishing after April 30 in the vicinity of the Marblemount Hatchery
    - Liberalize rules for the retention of hatchery fish.
  - Challenge: Competition/Predation Reduce Productivity of Wild Fish
    - Implement volitional release to maximize number of juveniles that quickly migrate to marine waters.
    - Grade juveniles and put small fish in lakes.
    - Synchronize release time with runoff to promote rapid migration from the river.
  - Challenge: Broodstock Collection Reduces Natural Spawners and Available Fishery Impacts
    - Scale program size to number of returning adults (i.e., smaller program when runsize is small).
    - Combine recreational fishery with broodstock collection.
    - Recondition broodstock before release.
  - Challenge: Maintain Spatial Structure and Tributary Spawning
    - Do not collect broodstock near tributaries.
- Group B identified alternative options to provide a diversity of fishing opportunities:
  - Identify hatchery options on other rivers, including programs that use wild broodstock.
    - Restoration of releases in the Samish River is one option
  - Presence of an integrated program on the Skagit River is likely to result in more fishing opportunity in low abundance years.

#### **Potential New Hatchery Programs Identified by Subgroups**

- Discussion of this agenda item was not initiated as no further time was available.

#### **Looking Ahead**

- PSSAG will be working on the agenda items that were not finished at this meeting
- PSSAG will finish up the Skagit River discussion
- PSSAG will finalize the habitat strategies and actions developed at the February 22 meeting.

#### **External Messages**

- PSSAG has work to do to complete the Northern Cascades portfolio.
- Steelhead stakeholders and anglers are more diverse than the steelhead.