Interior Columbia Technical Recovery Team Meeting #11, Pasco, WA November 4th & 5th, 2002
Members present: Cooney, Schaller, Petrosky, Spruell, Howell, Roper, Utter, Johnson
Non-members present: Carson, Holzer, Giorgi

I. Presentation of Steelhead Straying Analyses

Cory's analysis of hatchery CWT recoveries suggested low stray distances for Interior Basin steelhead, whereas Brett's review of an Oregon Coast steelhead study suggested higher rates. The two analyses may be useful to set minimum and maximum stray rates for Steelhead. Concerns:

1) Is the Oregon Coast system useful in comparison with the Interior Basin? (Fish are less likely to back out of coastal streams after fresh water acclimatization)

2) Are steelhead more prone to overshot than chinook, as Cory's analyses of both species suggest?

3) Cory will send raw data extracted from PSMFC database to Charlie (Idaho) and Rich (Oregon) to sort out questionable data points:

- Are Minthorn ponds fish marked differently than other Umatilla hatchery fish?
- Were the Kooskia fish that strayed to the Pahsimeroi released there?
- Were there other opportunities (sites) for CWT recovery that didn't recover any strays?

4) Alternative methods of estimating dispersal rates should be explored (depending on the results of (3).

5) Neither study produced "middle ground" data points (recovery areas within the range of 20-100 km from release areas) most useful in separating populations, the mid-range straying rates were unfortunately extrapolated from data which extreme distant or little straying.

II. John Day Steelhead Escapement vs. Habitat Analysis

Although the analysis showed a relationship between average redds/mile and gradient and some months' temperature and precipitation, the absence of any index areas on mainstem reaches does not resolve the most pressing question of mainstem spawning. Ideas:

1) Use Warm Springs as a case study, because there are total counts and redd counts that could give an idea of how many fish are unaccounted for after tributary spawning.

2) Try to correlate the basin size, stream width, or flow volume of indexes in the John Day to escapement, with the hopes of estimating escapement in larger, wider, higher flow mainstem reaches.

3) Mainstem steelhead spawning is documented in the South Fork Salmon, Wenatchee, Rogue, Umpqua, and Methow rivers, although relative success is not known. Review to determine of mainstem spawning is correlated with simple environmental conditions (e.g., width, flow, temperature).

III. Genetics subgroup report

Fred and Paul have synthesized a twelve-piece literature and sample set review and have taken a first crack at major genetic groupings. Defendable steelhead population divisions based on the genetic information will be larger-scale than chinook. For example, the Yakima Basin might be broken into the Naches (+ Little Naches and Rattlesnake Cr.), Upper Yakima and Lower Yakima populations and the Klickitat system might be broken into upper and lower groups.

IV. Middle Fork Salmon Fry Abundance Study

Damon's study found a strong correlation between steelhead fry abundance and Russ Thurow's designation of Middle Fork areas as "no", "scattered", or "optimal" spawning. Does this support theory that mainstem spawning in the Middle Fork is limited- or is there simply a lack of data?

1) Damon will re-do analysis, using a more complete data-set, including "zero" data points
2) Russ Thurow should be contacted to find out his specific criteria for "optimal" spawning areas.

V. Snake River Steelhead Population Identification

Grande Ronde Basin

Clear Genetic Divisions: 1) Joseph Creek populations 2) Prairie Creek 3) Mud Creek
4) Everything else

Key Questions: 1) Is Wallowa River genetic sample a Wallowa hatchery sample?
2) From which of two Dry Creeks in the basin was the genetic sample taken?
3) Regarding Prairie and Mud Creeks:
- Might they cluster more closely with resident genetic samples?
- Do they have a history of stocking?
- Is there anecdotal evidence of Steelhead returning there?

Option 1: 1) Joseph Creek
2) Rest of Basin- only this division is easily defended from genetic evidence

Option 2: 1) Joseph Creek
2) Wallowa populations (including Minam, Lostine, Prairie, etc.) – separated because of less strong genetic evidence, Juvenile outmigration timing evidence, and geographic distance. Prairie Creek included because of it's location in the basin and insufficient size to host an independent population.
3) Upper Grande Ronde (including Catherine, Lookingglass, Indian, Meadow, Fly, etc.) – separation from Wallowa populations due to reasons listed above.
4) Wenaha River and Lower Grande Ronde tribs. – separated from above populations due to presence of unique alleles

Option 3: 5) Separate Mud Creek and surrounding Middle Grande Ronde tribs from Wenaha River group due to Mud Creek's genetic uniqueness and the area's different geographic characteristics

Imnaha Basin

Although Camp Creek is a genetic outlier, there is little genetic or other evidence to divide this basin into more than one population

Clearwater Basin

Additional data sources: Alan Byrne (IDFG) age and growth study, Jay Hesse (Nez Perce) monitoring data, and USFWS service local office data on clearwater tribs size & age

1) North Fork Clearwater/ Dworshak – Genetic evidence, hatchery influence, passage barrier
2) Lochsa - Split from Selway due to large basin size and less strong genetic evidence
3) Selway - Split from Lochsa due to large basin size and less strong genetic evidence
4) Lolo Creek - geographic isolation of spawning area, separated pending further review
5) Mainstem, Lower South Fork, and Middle fork – designated A-run streams, similar geographic characteristics
6) Upper South Fork Clearwater – designated B-run streams, different geographic characteristics from population 5.

Salmon Basin

Additional data sources: Alan Byrne (IDFG) age and growth study, Charlie's age structure data

1) Little Salmon, Rapid River + lower mainstem tribs – area of influence from Rapid River hatchery, similar geographic characteristics
2) South Fork (minus Secesh River) – separated by presence of unique alleles
3) Secesh River – separated from rest of South Fork by strong genetic evidence
4) Chamberlain Creek – isolated spawning area of sufficient size
5) Lower Middle Fork (below Loon Creek)
6) Upper Middle Fork – Middle Fork separated from rest of basin by presence of unique alleles, basin divided in half by break in geographic characteristics
7) Mainstem tribs (Bargamin, Horse, etc.)
8) Mainstem tribs (North Fork + upstream) – two mainstem tributary groups separated by break in geographic characteristics and distance
9) Lemhi and Pahsimeroi – two similar basins, different from rest of drainage, different juvenile migration timing from downstream basins. Option – consider the Lemhi and Pahsimeroi as separate populations based on geographic distances.
10) East Fork + Upper Salmon – different geographic characteristics from rest of basin, insufficient evidence to subdivide further

Tucannon River + Asotin Creek – discussion tabled

VI. Subgroup Meetings

1) Paul and Fred will meet in Seattle on Nov. 6th to continue genetic work and start a draft section on justification for the larger divisions in steelhead populations.
2) Tom will meet with members concerned with Washington Steelhead populations tentatively on Nov. 20th
3) Tom will meet with members concerned with Oregon Steelhead populations tentatively on Nov. 25th
4) The NWFSC team will start work on summarizing the geographic characteristics of potential steelhead population areas (including: elevation, width, volume/flow, basin area, stream temperature, spawning reach length, historic land use changes, cumulative precipitation (Nov.- Mar.) and gradient.) and present these to concerned members on December 10th, at 9 am in Portland (the day before the next meeting).