

**Interior Columbia Technical Recovery Team meeting #4, Feb. 7th & 8th 2002,
Portland, OR**

Members present: Michelle McClure and Tom Cooney, co-chairs, Fred Utter, Charlie Petrosky, Howard Schaller, Dale McCullough, Pete Hassemer, Rich Carmichael and Paul Spruell

Non-members present: Phil Howell, Vince Kozakiewicz, Robin Waples, Henry Carson

Day 1

I. Genetics subgroup report: Fred Utter, Michelle McClure and Paul Spruell

1) Presentation and discussion about the theory and methods of genetic analysis including Hardy-Weinberg Equilibrium, genetic distance and how dendograms are generated.

2) Presentation of Columbia River Basin genetic trees. Discussion of some unusual samples:

-1994 Upper Salmon- could be a non-random sample of siblings or relations

-1989 Lostine- fish were difficult to find and all collected in one backwater area

-Catherine Cr/Upper Grande Ronde/Minam R- samples could be influenced by a high abundance of hatchery spawners

-Marsh Cr- yearly samples scattered, could be due to outplants or strays (Perhaps an early 70's study using Rapid river fry)

-Methow R, Carson NFH, and Marsh Cr- strangely linked. Carson stocks were collected at Bonneville Dam for ~4 years in the 1950's, mixing fish from the entire basin

-Valley Cr- Stanley Lake Cr confluence is the boundary between spring and summer runs, perhaps some samples included summer run fish or small spawner numbers overall

-1992 Salmon- Strange sample could be due to low 1991 brood year

3) Presentation of Principal Component Analysis, discussion of unusual samples:

-Stolle Meadows- Could be due to outplanting of Little Goose and Lower Granite dam origin, or from a spawner trap and haul study

4) Presentation of Hardy-Weinberg Equilibrium table for three areas:

-Johnson Creek- Relative equilibrium

-Whitebird Creek- Disequilibrium, as expected

-Marsh Creek- Mixed

II. Discussion of distributed draft document: Ecosystem Recovery Planning for Listed Salmon: Integrated Assessment Approach for Salmonid Habitat. Members are asked to provide their comments to Michelle in the next 10 days so that she can assemble them into a general TRT review of the paper.

III. Research Status Reports

1) Tom Cooney

- Redd counts and age at return for the Upper Columbia

- Tucannon river run year and brood year

- Wells dam wild steelhead run year and brood year

2) Charlie Petrosky

- Salmon River Spring/Summer Chinook, 1960-1995 Length Frequency Distribution from carcass data

- Length at Age for Idaho Spring/Summer Chinook

- Percent Female data from the Salmon River
- 3) Rich Carmichael
- Straying in John Day Wild Chinook
 - Age structure by brood year for Grande Ronde Chinook
 - Sex ratio and age structure of carcass data (jack samples removed)
 - Oregon length and age at return
 - Minam river run reconstruction
 - Length at age for various populations
 - 1986 spawning ground surveys
 - Grande Ronde and Imnaha juvenile migration timing through Lower Granite
- 4) Pete Hassemer
- Steelhead data: length frequency and sex from Rapid river wild fish
- 5) Specific data still needed
- Steelhead length at age since 1982 from Little Sheep Cr [Carmichael]
 - Ken Currens steelhead DNA analysis on contract from Umatilla tribe [Carmichael]
 - Warm Springs river steelhead trap data? [Carmichael]
 - Yakima river Steelhead length and age [Cooney]
 - Benson and Quinn study on Dungeness river homing
 - Straying Database data for Chinook (Tucannon, S. Fork Salmon, Imnaha, Pahasimeroi, Sawtooth, Yakima and Warm Springs) and Steelhead (Umatilla, Imnaha, Dworshak, Sawtooth and Round Butte) [McClure and NWFSC team]
 - CRTFC, Secesh river report
 - Spawning ground surveys relative to hatcheries
 - WDFW long term genetic monitoring in the Tucannon [Cooney]
 - Allendorf thesis from the mid-70's on Upper Columbia Steelhead [Utter, Spruell]

Day 2

I. Presentation and discussion of spawning area distances for the Upper Columbia and Grande Ronde- Tom Cooney

II. Presentation and discussion of previous genetic analysis of Grande Ronde and Salmon River basins- Robin Waples

III. Status of funding for TRT products – Robin Waples. Funds are still under negotiation. Members should confer with their organization to determine the best way to distribute funds from NMFS to cover a portion of their salary. Contact Tom Cooney with this information.

IV. Presentation and discussion of dendograms for Chinook redd counts and Upper Columbia steelhead length at age four- Michelle McClure

V. Presentation and Discussion of abundance correlations from the Upper Columbia QAR document- Tom Cooney

VI. Population Identification decision-making

- Presentation of decision tree rough draft- Paul Spruell

- Presentation of stream network decision method- Pete Hassemer. Starting with an entire ESU as one population, stream networks are divided by nodes at tributary junctions and spawning ground endpoints. Each node is treated as a decision point for fish, with data for the entire watershed above the node for one choice compared to the other.

Table 1- Data types used in stream network method, with weights used in decision-making. 3= Heavy weight, 2= Middle weight, 1 = Feather weight

Data Type	What the data might look like (TRT member analyzing)	Weight	
		Large Nodes	Small Nodes
Genetic Data	Pooled years within sample sites for large nodes, genetic trees, principal components, and H-W equilibrium (Genetics Subgroup)	3	3
Run timing	Radio tag and PIT tag data. Family of curves analysis. (McClure + Carmichael for Grande Ronde/Imnaha)	1	2
Spawn timing	Family of curves analysis (Cooney- Upper Columbia, Carmichael- G.R./Imn.)	1	3
Length at age + other morph. data	Length frequencies, keeping sample locations separate	2	2
Juvenile Migration timing	Movement out of tributaries, PIT tag data from mainstem (Cooney- Upper Columbia, Carmichael- G.R./Imn., Hassmer- Idaho)	1	2
Age Structure	Run year and Brood year (Remove jack data?) (Cooney, Petrosky and Carmichael)	2	2
Demographic Correlation	Redd counts: from index areas and expanded, escapement, productivity, survival indices (Schaller, Petrosky, McClure)	3	3
Dispersal Curve	Hatchery fish from local broodstocks (Utter- Literature review, McClure – Hatchery CWT)	2-3	3
Geographic distances, Connectivity	Distance between nodes, distance to nearest upstream/downstream spawning area (McClure)	3	3
Straying Data	Strays recovered within area, area strays recovered elsewhere (Carmichael- G.R./Imn.)	3	3
Landscape Characteristics	Temperature, precipitation, geology, ecoregions, elevation, diversity (Holzer and Howell)	2	2
Stream Order, Basin Size	(Holzer and Howell)	1	2

VII. Discussion of the next step: Population Viability at the Population and ESU level

Upcoming Meetings

1) Members are invited to attend a meeting on Tuesday the 19th of February in Boise, ID with the Boise Tribes at 10:30 am, later on with the Idaho Governor's Office.

2) The next TRT meeting will be on March 11th and 12th in Boise Idaho in the same conference room as before. Vince Kozakiewicz will reserve the room.

3) Members (Cooney, Petrosky, Carmichael, McClure and the NWFSC team) involved in a possible Run/Spawn/Outmigration timing and Morphological subgroup will stay in contact to determine if a subgroup meeting is needed before the next TRT meeting. Timing data can be compared using frequency distribution at Julian date. Damon Holzer at the NWFSC will work to produce a nodes map to synchronize analysis.