

Interior Columbia Technical Recovery Team Meeting Minutes

November 13-14, 2003

IDFG Office, Boise, ID

Members present: Michelle McClure, Paul Spruell, Pete Hassemer, Rich Carmichael, Charlie Petrosky, Tom Cooney, Phil Howell, Dale McCullough, Howard Schaller, Fred Utter

Non-members: Jessica Piasecke, Mike Morita, Damon Holzer, Vince Kozakiewicz, Carmen Andonaegui (13th)

Population Identification

Guidelines for Genetic Decisions

- Some comments about the Pop ID document have indicated that the Interior Columbia TRT should have specific, universal guidelines for dealing with and making decisions based on genetic analyses, etc; but the TRT used such diverse data sets that it is hard to have one general rule. However, the TRT did use a systematic approach – we will incorporate a clearer description of the decision process we used in the next draft. The Puget Sound TRT's analysis, which was even more subjective than the ICTRT's, was brought up for comparison purposes.
- Separating the Imnaha from the Grande Ronde basin was discussed but Fred Utter stated that is linked to Grande Ronde samples, perhaps inextricably.

Historical Population Ambiguity

- *Lolo Creek Steelhead* Currently, Lolo is independent based on life history and size (i.e. it is large enough to support an independent population), although historically it was linked with the lower Clearwater River. Is this life history difference caused by hatchery influence or because of habitat factors? Decision: Lolo will be categorized with the lower Clearwater because of low distance between spawning aggregates and because historically the lower part of Lolo was used. The document will state that the historical population may have had life history differences with the rest of the basin and there are important habitat differences, such as elevation and gravel distribution.
- *Deschutes River Steelhead* The ICTRT already conducted the best possible analysis for the draft of the Pop ID paper, and an examination of distances between different areas within the Deschutes does not support further separation than has already been established in the basin. However, another examination of data on habitat, gradient, etc. above Pelton Dam (current anadromous block) will be done in order to re-evaluate environmental distinctiveness of historical populations within the Deschutes River basin. Currently the ICTRT is leaning towards delineating two historical populations above Pelton Dam, but the final decision is on hold until further review.
- *Lemhi River Spring/Summer Chinook* Discussion on whether the historical summer run of chinook present in the Lemhi River basin should be considered a separate population. The ICTRT compared the Lemhi River situation with other spring/summer populations and decided to , leave it like it is in the Pop ID draft.

- *Little Salmon/Rapid River* A reviewer suggested the possibility of two populations. The ICTRT reviewed the relative distances among spawning areas in this complex, decided not to separate this into more than one population.
- *East Fork South Fork Salmon River* Could there have been two populations in this basin historically? Decision: No subdivision of this population from how it appears in the Pop ID draft will be done, although the text will be changed to highlight the loss of spatial structure.


Problems raised in comments about the Pop ID draft

- *Asotin Creek Chinook* Is this subbasin able to support 500 spawners, as per the ICTRT's criteria for defining an independent population, and are native Asotin fish extinct? Additional data, especially regarding flow, elevation, etc. will be examined, comparing Asotin Creek (focus on the North Fork) to the Tucannon and Wenaha River populations. However, since the Asotin is so far from any other population that it could potentially be added onto, it will be kept a separate population, possibly breaking the 500-spawners size rule in favor of the distance rule. The comparative flow data will serve as backup in case commenters still have problems with this designation.
- *Upper Columbia Chinook and Steelhead* Should population boundaries for chinook and steelhead be reconsidered? For the next draft, distances between populations will be changed to distances between spawning areas. The text will emphasize diversity within the Wenatchee River watershed, especially above Lake Wenatchee. The ICTRT will consider the possibility of splitting off the White River and the Little Wenatchee as a separate population. Data on historical abundance, genetics, distances between spawning etc. will be compiled for the comparison.
- *Satus and Toppenish Creeks Steelhead* Should these two creeks be separate populations? Review historic maps to determine whether the lower reaches of these adjacent streams were interconnected. Review distances between spawning areas in the two drainages etc. before the next TRT meeting.
- *Okanogan River Chinook* Chinook are extirpated in this basin now, but could this area historically have supported an independent population? Whether or not there was passage at Enloe Falls is important here because if there was passage for anadromous fish, many miles of excellent spawning habitat would have been available, thus increasing the effective size of this basin and the possibility that there was an independent population. The TRT will get more information about low-gradient and barrier issues in Omak and Salmon Creeks, and the Similkameen River. Summary data on the Okanogan will be adjusted due to barriers in Omak Creek. Summer and temperatures and the width of Salmon Creek will be re-examined with regard to use by spring chinook.
- *Okanogan River Steelhead* Are there any native steelhead in the basin anymore after being heavily influenced by Wells Hatchery outplants? Bob Bugert and others familiar with the system will be consulted as to whether there is information regarding the possibility of some portion of current returns being the progeny of native Okanogan River steelhead (were there total blockages in some years, level of plants and fishing pressure, etc?).


Viability Discussion

- Characteristics to examine: actual current diversity, ecoregion diversity, difference in flows and temperature, etc.
- Information on historic habitat characteristics and the implications of those characteristics for population viability should be presented in a tabular form - the TRT should find a way to summarize data on diversity, spatial structure, etc. across all populations in the context of “what does a viable population look like?” Establish target criteria without direct reference to current status. Spatial structure and diversity criteria may include measures at both the population and strata level.
- The group will try some examples of putting data about different types of populations into a tabular format following Rich Carmichael’s written example (handout) and trying to assign a persistence level.

Example 1: Grande Ronde spring chinook (GRUMA)

	 Adult migration and holding	Spawning, Incubation, Emergence	Summer Rearing	Winter Rearing	Juvenile Migration
Quantity	diversity of pools in proximity to spawning areas, widely distributed	mainstem spawning down to at least Grande (70 km), 3-5 tribs, core areas w/in tribs and lower mainstem	temperature, structure, rearing down to at least Elgin - continuous		
Quality	low temperatures, good habitat contiguous through corridor	some areas separated by channel			
Life History Response	higher survival		feeding condition, predator avoidance	widespread rearing opportunities across landscape	
Diversity Implications	wide range of run timing		many possible movement patterns, different growth rates	different growth rates, lower predation rates	
Productivity Implications	survival		higher survival, reduced density dependence, variety of survival pathways, resilient against fluctuations		

Example 2: Middle Fork Salmon Pistol Creek spring chinook (MFPIS)

	 Adult migration and holding	Spawning, Incubation, Emergence	Summer Rearing	Winter Rearing	Juvenile Migration
Quantity	four tributaries, "beaded string", pockets, pools	four tributaries, "beaded string", pockets of gravel	tributaries and mainstem		

Quality	no temperature limitations		no temperature issues, high gradient, high elevation, pockets	no temperature issues, high elevation
Connectivity	highly connected	high separation	highly connected	highly connected
Life History Response		multiple spawning areas - holding reaches in mainstem and tribs		opportunities in tributaries
Diversity Implications			narrower range of conditions than in the Grande Ronde	
Productivity Implications		range and parallel spawn timing - limited by falling temperature		

- Decision regarding boundary change to this population: Middle Fork Salmon Upper Mainstem population will be eliminated - instead, spring chinook from Marble Creek upstream and summer chinook from Indian Creek downstream will be two separate populations, so that the mainstem middle fork can be included with the tributaries in the populations.

- Data need: information on the “break” at Indian Creek off the Middle Fork Salmon River

- The ICTRT discussed the concept of genetic diversity – how can it be expressed or measured, how does it relate to spatial structure, etc. Two important elements allowing for the development of genetic diversity – isolation and a driving selection mechanism. One such mechanism might be short term variability in environmental conditions.

- Discussion: How do we define a viable population? Two options...

Population Viability: Option A: General criteria only:

Abundance/Productivity:

sufficient to sustain population (5%, 100 years)

Spatial:

sufficient quantity, quality, connectivity, dynamics, distribution

Diversity:

sufficient historical life history, similar gene flow, utilization of habitat throughout range, resiliency, and adaptation

- Informal scoring of populations based on these criteria, 0-4

Population Viability: Option B: General criteria accompanied by recommended measures.

Spatial:

spawning patches (number, size, quality), rearing patches, (number, size, quality, diversity), connectivity (adult holding, emergence of smolts), temporal (temperature, flow)

Population Viability Option C. Criteria (with recommended measures) adapted to two or more classes (types) of populations.

Assignments and Future Meetings

- Assignment: Tom Cooney will “pretty up” the general table format for describing populations and distribute to TRT members. He will also write up a discussion section following up on the discussion of alternative options for expressing population viability criteria.
- Assignment: Rich Carmichael and Phil Howell will complete a preliminary analysis and score report for Grande Ronde and Imnaha chinook and steelhead.
- Assignment: Charlie Petrosky and Pete Hassemer will do the same for the Salmon River or a part of it.
- A video conference to discuss and organize the results of these assignments will take place on December 12, 2003, with December 4 and 8 as backup dates if schedules can not be rearranged.