

**Interior Columbia Technical Recovery Team Meeting Minutes**  
**September 16-18, 2003**  
**NMFS Office, 525 NE Oregon St. Portland, OR**

Members present: Michelle McClure, David Johnson, 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, Don Martin, Vince Kozakiewicz, Aaron Maxwell, Eric Tinus

Pop Viability Draft Report

Tom Cooney handed out a draft outline for the Interior Columbia TRT Population/ESU Criteria Report. "Strata" was added as a topic to address in the analysis and results section of the "Population and ESU-Level Criteria" section. Suggestions included adding sections with maps of the populations (similar to draft reports from LC-W and Puget Sound TRT's). An exchange with other TRT's would be useful to discuss any common problems, and meetings with other watershed groups, such as the RTT, to see if they know of any other data sets the ICTRT could use that would also be helpful.

Pop ID Draft

- Public comments are due September 30, 2003
- At the October meeting: have all information compiled, deal with any ISAB comments. Intent is to send out relatively final copy to appropriate state/tribal agencies, academics, public interest groups etc. for official public review – TRT members should submit names for a mailing list.
- The document shouldn't need to be formally published in Federal Register since it is a TRT technical reference product, but **Michelle McClure** will look into that.
- Find out what the process is to get these populations formally adopted as recovery planning units for policy-making.
- People to add to the list of draft recipients:
  - Steve Cramer & Associates (consultants)
  - Bert Bowler
  - Mark Chilcote (ODFW)
  - Ray Beamesderfer (Cramer & Assoc)
  - five more copies to David Johnson
  - Bruce Reiman (USFS)
  - Rick Williams (ISRP)
  - Reg Reisenbichler (USFWS- Seattle)

Productivity and Abundance

The ICTRT needs to settle on an approach to derive productivity and abundance objectives and there was a discussion on this subject, which included the topics a) which curves to include, do we pick a 'best' one (hockey stock, Ricker, etc.)?, b) what data are available at the population level? c) how do we define the different pertinent terms?, d) what risk criteria are appropriate? The ICTRT will concentrate on defining criteria and

relating those criteria to risk levels at first, then shift focus to measurement approaches relevant to particular populations.

The general steps

1. Compile data series (escapement, age structure, hatchery fraction, etc.)
2. Calculate variance given alternate models
  - a. upper Columbia and Snake springs
  - b. decision on models, etc. for fall
  - c. all data sets - decision on variation
3. Non-data rich (steelhead)
  - a. compile alternate estimates of intrinsic productivity, variance for a large population, aggregate populations, etc.
  - b. SAR vs. juveniles or R/S
  - c. carrying capacity, productivity (habitat-based, etc.)
4. Viability curves
  - a. sensitivity analyses (variability, depensation, age structure)
  - b. time series length
5. Dealing with hatchery fish
  - a. historic } compare with populations with
  - b. current } populations with minimal hatchery influence

For Steelhead, look for data series:

- for ESU
- for Columbia (with same life history)
- outside Columbia } these are much
- aggregate } less desirable

The Models (in the order the ICTRT likes them):

1. Constant recruitment } these 3
2. Random walk } are for
3. Drift random walk } comparison
4. Hockey stick
5. Bev-Holt } a. fit of existing data, b. genetic variation,
6. Ricker } c. assumption tests
7. Ricker w/ marine survival
8. Depensation

- Have a narrative discussion or detailed table talking about changes in data collection techniques in the mid-1980's
- Capture where we have abundance measurements, then look at the methods and see what we want to use - i.e. how many fish/redd? How to treat jacks? what were the key assumptions? - this will be discussed either at the next meeting or at a subgroup meeting before then

ESU Viability

The PS and WLC TRT’s have grouped their populations into strata based on environmental variables (plus life history, for the WLC). The ICTRT will also use this approach; it could take the average health of populations in a stratum and set goals for the strata and set priorities within them. It will be important to determine if there are any populations or strata specifically essential for the ESU to be viable – need to document rationale.

Strata will be divided based on broad genetically related groups and life history, in order to preserve the current distribution of populations across these attributes. Pete Hassemer provided examples of potential strata for Snake River ESUs based on environmental conditions/geography.

How would viability of a strata be defined ? Two options based on LCW and PS TRT work to date:

1. the “half rule”: for a stratum to be viable, at least half of the populations must be preserved (more than half if the stratum contains an odd number of populations); for example, 1 population if there are 2 now, 2 if there are 4, and 3 if there are 5
2. the “two rule”: similar to the “half rule,” except that the number of populations earmarked for preservation cannot fall below two (unless there is only one population currently); for example, 1 population if there is 1 now, 2 if there are 2, 2 if there are 3, 2 if there are 4, and 3 if there are 5 or 6

The Snake River Spring/Summer Chinook ESU was drawn up as a sample:

Large group (based on genetics)	# of populations			"1/2 rule"			"2 rule"		
	summer	sp/sum	spring	summer	sp/sum	spring	summer	sp/sum	spring
lower mainstem Salmon			2			1			2
Grande Ronde/Imnaha (Little Salmon) (1)		1	6		1	3		1	3
SF Salmon (Chamberlain)	3		1	2		1	2		1
middle Salmon	1	3	5	1	2	3	1	2	3
upper Salmon	2	2	4	1	1	2	2	2	2

The Little Salmon population was not counted in this exercise because of its heavy hatchery influence. Chamberlain is currently defined as an unaffiliated population, but it will be lumped with the south fork Salmon for purposes of this exercise. Each box with a number in it represents a stratum; they were broken down based on genetic and life history groupings. Under either rule, the eleven (in this case) strata would be preserved, but with the “1/2 rule” less populations would be required. No decision was made at this meeting regarding which rule to follow. Next step, characterize relative risk associated with this scenario in comparison with other scenarios.

Regarding scores that will be assigned to the populations based on their overall health, the ICTRT will write up a few examples of different scenarios and the scores they would

result in. It will also think of other considerations besides genetics and life history on which to base strata definitions. **Tom Cooney** will expand his draft to include the decisions made here.

#### NWFSC Simple Habitat Capacity Model – Tributary limiting factors

The ICTRT will think of any changes in the NWFSC's proposal to recommend; any thoughts should be raised by the end of next week by members.

#### Limiting Factors Analysis

Initially, use areas for which data already exist (Grande Ronde, Deschutes, Lemhi, Pahsimeroi, etc.); **Michelle McClure** will put together a work plan delineating which basins will eventually be analyzed.

#### All-H Analysis

The ICTRT will:

- Perform the all-H analysis for at least one population within each ESU, or, for ESU's with a large number of populations, either two that are on extreme ends of the habitat quality spectrum or one from each stratum
- Get hydro survival for all fish that leave at the same time and plug those data in for all pertinent populations

The analysis should address:

- decision on impacts
- response of populations to a suite of actions
- understanding of uncertainty involved
- any alternative approaches

Concerns the ICTRT has:

- evaluate different models and approaches
- what is the impact of errors in our assumptions
- put this in context - use the right information to answer the right management questions that are being asked

Possible approaches to use:

1. look at one location with year-specific data on R/S and factors that affect survival, do a multiple-regression analysis, decide if S/S can be explained with the attributes chosen
  - possible problem: we don't always have year-to-year data
2. was not described at the meeting
3. Leslie matrix framework to find relative impacts
  - possible problem: how rigorously could the matrix be populated with data?

**Tom Cooney** will make a list of:

- age, harvest, etc. impacts that should be considered when determining their relative impacts

- average and extreme scenarios
- the kinds of questions that may be asked by reviewers in the future
- a matrix on how the four H's and background variability (annual ocean survivals) affect each other, including variance

...which he will distribute for comment

### Comparative Work

A summary of the discussion:

- a discussion of limiting factors
- should work on wording in the writeup (model vs. process)
- clarify between analysis and external input
- add importance of protecting areas into the limiting factors analysis - it could be added right in with the other actions
- identify areas that are of critical importance
- the document will have seven sections:
  1. introduction
  2. description of each approach
  3. comparison of the results given by the different analyses
  4. comparison of sensitivity of each analysis
  5. driving factors of each analysis
  6. implications for other species
  7. synthesis, including strengths and weaknesses of the analyses

**Rich Carmichael** will get the Grande Ronde EDT contact.

**Michelle McClure** will contact Lance in Idaho and Phil Rogers regarding when the EDT will get done.

### Future Meetings - Change

The October meeting on the 16th and 17th originally scheduled to take place in Richland, WA has now been moved to Portland, OR. The meeting will be at the office of the Columbia River Intertribal Fish Commission from 8:30-5 on Thursday the 16th and at the NMFS office from 8-4:30 on Friday the 17th.