Interior Columbia TRT Meeting
April 25 - 26, 2005
NOAA Fisheries Office, Boise, ID 83704

Attending TRT members: R. Carmichael, T. Cooney, P. Hassemer, P. Howell, M. McClure, C. Petrosky, P. Spruell, H. Schaller (26th)

Non-Members: C. Baldwin, D. Holzer, K. Engie, V. Kozakeiwicz

I. Updates
- A. Scheduling – the May meeting has been moved to Seattle. Previous plans were to go the John Day River. New dates are Monday – Wednesday, May 23 – 25. Meeting will start Monday afternoon.
- B. MPG definitions – There has been a request from the management side to standardize terminology used by TRTs, to describe major groupings (MPGs here) of salmon populations. This would mean changing the term MPG into "strata", used by the Lower Columbia/Willamette TRT to describe the same level of population groupings.
  1. *Decision*: keep using the term MPG with no change to the definition. Explain in the beginning that it is the functional equivalent to strata; however their definitions vary slightly (something similar to the last sentences in the PopID memo). Reasoning:
     - Understood that we must foster continuity among TRTs, however this can be evident from the consistency of approaches.
     - The term strata by itself, is generic and would have to be qualified exactly.
     - The mechanisms used to define strata and MPGs are different; strata refer to a sub-species grouping, i.e. if translated over it would result in a Middle Fork spring stratum, and Middle Fork summer stratum.
- C. Other - New TRT contracts are on the way, in the works.

II. PopID Update memo – distributed by Mcclure. Discussion points:
- A. SR fall chinook: uncertainty as to what was decided on at the last meeting.
  1. The major drivers have been lost; the historical areas were the sites of major spawning, and the extant area was not even mentioned in historical documents, indicating a much lower density and contribution to the overall population.
  2. Data on site fidelity – hatchery and wild data show high homing rates, though the process of release and acclimation is different. Dungeness ocean chinook also have high homing rates. Supports argument for separate populations.
  3. *Decision*: Make three populations – extant areas, Marsing Reach, and Salmon Falls (to around Oxbow).
  4. A diversity metric table was also done showing the scores for fall chinook if it were classified both as 1 population or 3. High scores, particularly for extirpated populations as expected. The upshot:
     - With one population, ESU can't be recovered without getting fish above the Hells Canyon dam complex.

- With three populations, one population can be rendered viable with some fixes to diversity issues, but the ESU can't be recovered without an additional population above Hells Canyon.

5. How to treat the Clearwater River – Although there are temperature differences, it is unclear as to whether there was ever any substantial spawning there. TRT will look into more data and the historical situation - if habitat and temp substantiate there was enough habitat and could have been segregation, call it an adjunct population. Crux: At the time of Lewistion Dam, is there evidence of fall chinook using the lower Clearwater?
   - *Decision*: for now - to lump it with the extant area.

B. MPGs above Hells Canyon. Payette/Boise and Malheur/Owyhee – to lump or not to lump? (chinook)
   1. Payette/Boise – combine. It then falls within the range of sizes in extant areas, though it is relatively large.
   2. Malhuer/Owyhee – keep separate. They are different ecoregionally, particularly in the northern Malheur, where most of the production was.

C. Sockeye - agreement by all with the memo.

D. Resident/anadromous statement (p.1) – small wording change, same stance.
   1. (Hassemer) A document exists from the ISAB work group, tackles same issues and comes up with the same conclusion –both the anadromous and resident life histories are critical for diversity.

E. Crab Creek – revisitation. The Boise MPG was combined with the Payette for similar reasons that exist here, although Crab Cr. is very different habitat-wise.
   a. However, the population may never have been significant
   b. There were likely interactions with Upper Columbia in the form of strays, if the anadromous form waxed and waned over the years.
   2. *Decision*: put Crab Creek in the Upper Columbia MPG

F. Next steps:
   - Casey will send editorial notes about Crab Creek
   - Michelle will revise and send out to TRT members.
   - It will be posted with used-friendly MPG maps online.

III. Population Viability

A. Updates – Viability Curves. (Cooney) – has been updating and working on different metrics for assessing viability.
   1. Tried 3 different curve fittings (Beverton-Holt, hockey stick and Ricker). This does not affect λ or return/spawner.
      - The Beverton-Holt and hockey stick with standard error, if complemented with SAR data (20 yrs), show decision error rates of < 20% if one is at high-risk. However, if one is at low risk, there is a higher chance one will not know and assume one is at a higher risk.
      - Will try fuzzy logic scenarios from Pete Lawson.
   2. Also corrected an algebraic error that moves the viability curve further right for a small # of areas, including the Upper Columbia and Snake River. This translates into greater productivity needed to achieve viability.

3. Summary packets have been redone.
4. Next step – get summary packets out and have a viability subgroup meeting before the next TRT meeting.

B. Spatial Structure/Diversity tasks.

1. Need to quantify and verify that branched systems are more resilient than linear systems to catastrophes.
2. Occupancy – The definition needs a temporal component, along with the density numbers.
3. Gap analysis – Currently, it is difficult to measure gaps. One must have the intrinsic potential and current spawning mapped compatibly.
   - *Decision*: to also allow gaps to be described functionally (which is easier) - the functional purpose of the gap analysis is the show any loss in connectivity. Thus, the loss of a MSA in the middle of a population = a gap – the current criteria needs to be rewritten also.
4. Intrinsic Potential – How can/should it line up with current spawning? Cooney and Holzer overview of different approaches.
   a. 22° C cutoff – explains 50% of the difference between intrinsic potential and current spawning distribution.
      - Upper Columbia – temperature screen is a good reflection for spring/summer spawning. However, this correspondence breaks down in the Salmon River.
   b. Classify whether a stream is confined or not – if the valley width to stream width ratio is ≥ 4, then the channel is confined. Confined channels will not have spawning, because high flows prevent gravel from being present (Beechie).
      - An objective breakpoint for channel confinement would have to be gotten.
   c. Mistakes in the current spawning mapping were identified: SFMAI, MFLMA, MFUMA. Check Wallowa/Lostine
   d. Next steps –
      - Circulate current distribution maps for all to inspect and correct the current spawning data.
      - Finish channel and temperature analysis, and make table showing the % match and mismatch between intrinsic potential and current spawning by population, possible explanations, the amount of "good" habitat that needs rehabilitation, and large sections of stream that the new analysis may highlight, for more detailed investigation.
      - Keep a running list of changes to the intrinsic potential since the BiOp.
      - Use references to validate relationship between channel characteristics and spawning.
      - Go over/add language clearly outlining use, developments, and pros/cons of intrinsic potential layer.
   e. Discussion points: intrinsic potential shows high ratings through trib headwaters in the Upper Columbia, although observations have only supported fish in the lower reaches. Snowpack may be a limiting factor.
      - One can also look at temperature relationships. However, this eliminates spawning areas in the Upper Salmon.
      - However, it is not unreasonable to find that different physical factors limit spawning in different areas of the basin.

C. Habitat Diversity – handout Mcclure. Comments:
1. Looks good in general, a test will eventually have to be done to ensure sensibility in all the basic approaches.
2. For hydrograph and stream width:
   - can the units (HUCs or MSAs/mSAs with > 5% of population historically) be made simpler? Perhaps use of units which make up 95% of the historical population.
   - Stream width metric – tributary or mainstem is changed to stream order.
3. Next steps – Risk levels and criteria for all metrics must be written

D. Selectivity Metric – handout Mcclure. The reworking is intended to be a simplification of identifying whether a population has a problem concerning selectivity. What are the major issues a population might face? New metrics:
1. Take and direct mortality to the population – harvest, broodstock collection for hatcheries. Selectivity of gear is also a consideration.
2. Altered habitat conditions – mainstem, estuarine, and tributary. Out and inside of populations, with a focus on rearing habitat and juvenile life stages.
3. Next steps - Guidance and criteria must be written in more detail. Identify risk levels, references for selection.

E. Other
1. Qualitative vs. Quantitative support for scores, across all indices.
   a. Are qualitative judgements enough? They are definitely valuable, and if one can document that something is happening well enough, or there exists documentation this goes a long way.
   b. A potential hierarchical structure, with people moving from quantitative to qualitative given data gaps, might be helpful.
   c. Inferential and quantitative indices overlap somewhat, however they have a dual purpose, however they should be linked.
   d. Scoring guidelines would have to be written.

Tuesday April 26, 2005

E. (cont'd)
2. The life-history indices (the B's in the SS/D table):
   a. Be specific about when to use measured vs. inferential scores
   b. B.1.c – modified to include demographic evidence (inferential) of a past severe bottleneck in a population. Mcclure, Spruell and Utter will write criteria for low, medium and high scores, which also consider the temporal component.
   c. B.2.a (3) – eliminated
   d. B.2.a's – rewrite to reflect best hatchery management practices.
   e. Recent past and distant past: How does one reflect a 'legacy' of hatchery use? What are the appropriate temporal scales to frame different types of hatchery impacts?
      - Potential utility in prioritizing management actions
      - *Decision*: For now – downplay historical actions, focus on future shaping.
   f. Future hatchery impacts: It is not the intention to give credit for something not yet realized.

3. Sidenote on criteria: what are we measuring against? An absolute or relative situation, and relative to what?
4. Criteria for resident/anadromous interactions (B.1.a) – there is much scientific uncertainty in the nature of interactions.
    a. Firstly – the TRT does not support residents as a substitute for anadromy, which must be clearly reflected in the text.
    b. Guidance is recognized to be very important.
    c. Breeding interactions do occur.
    d. *Decisions*: include text highlighting scientific uncertainty, importance of having both life histories, and noting interactions.

F. Assignments, Tasks, Timeframes
1. Review for Recovery Plans – preparation
2. December deadline for Recovery Plans
3. Viability draft for peer review – by summer
4. Current Status Assessments – on the example populations
5. May 2 – informal meeting (Cooney) with Recovery Plan authors in WA, who are looking for guidance on areas of potential improvement in their drafts.
6. Week of May 12 – series of workshops being conducted by Recovery Planners on how they will incorporate TRT comments in drafts, to be finalized by June.
    a. Time will be limited to incorporate comments.
    b. TRT – priority is completing drafts of text and tables that are in hand and getting them to planners.
    c. Understood that planners have used tables which are not the most updated.

IV. Workgroups – TRT broke into 3 workgroups to: define occupancy, create text for integration of SS/D and A/P indices, and create text and rework criteria for the SS/D table reflecting changes made in this meeting. Results:

A. Occupancy: timeframe – demonstrate sustained, stable spawning over 15 years (3 generations).
1. One cannot have more than 2 years without sufficient spawning (multiple redds).
    a. Alternate to the 2 year rule – Spawning in all of the last 5 years, with no more than 2 years without sufficient spawning in the last 10 years.
    b. Possibly state in both fish and redd equivalency numbers.
    c. Alternate to multiple observed redds: use QET and divide up by MSAs, to get the total # of redds required /MSA.
    d. Debatable which method is more stringent, depending on the survey methods.
    e. Alternate B: proportional distribution of current total abundance of the population.
    f. Oregon coastal coho occupancy definition: minimum #/mile.
2. 50% of years or greater (over 15 years) must be annually occupied.
3. One must have occupancy in both the lower and upper halves of an MSA for it to be occupied, thus multiple redds must be observed in both halves.
4. Range criteria – survey the quantity of units for 1) % loss (total range), 2) % MSA loss.
    a. Calculated by area or weighted km.
5. Next steps –
    a. Try out conducting QET exercise to compare the resulting numbers with a "multiple observed redds" requirement.

b. Write up a brief summary explaining occupancy definition (Schaller)

B. SS/D table revision and clarifying text (Mcclure, Spruell, Petrosky, Hassemer, Howell) – TRT o.k.'s.
   1. Criteria also needs to be finalized:Spruell - B.1.c., Utter, Mcclure, Spruell - B.2.a, Mcclure and Howell – B.3.a and B.4.a.
   2. All will be sent out to members

C. Text integrating SS/D and A/P indices (Cooney) –
   1. Include statement about the importance of confidence limits as well as the point estimate.
   2. Identify a very low-risk SS/D and very low risk A/P as super-viable, discussion on super-viability of other combinations.
   3. Include in text, possible circumstances where low risk SS/D and moderate risk A/P might be viable.