Interior Columbia TRT Mtg
March 28, 2005
NWFSC, Seattle, WA 98102

Attending TRT members: R. Carmichael, T. Cooney, P. Hassemer, Howell, M. McClure, D. McCullough, C. Petrosky, P. Spruell (by phone), F. Utter
Non-Members: C. Baldwin, D. Holzer, K. Engie, M. Morita

I. Business
- A. Corps Contract has come through for this year
- B. Delisting criteria
  1. How to express delisting criteria
     a. Based on viability criteria
  2. Federal notice criteria
     a. Possibly lower than Lower Columbia/ Willamette 20-year time frame
  3. Create levels of ranking – keep TRT informed
- C. Meeting Dates
  1. September meeting changed to 19-20 in Boise
- D. Subbasin Plans – WA groups would like help with out-of-basin information.
  1. McClure and Cooney will provide some information largely based on BiOp analyses as placeholders for the 1st round of subbasin reports.

II. PopID Update memo
- A. PopID will take much time to complete – in the interim a memo can inform others what changes have been made since the last draft.
  1. TRT agrees this is a good step
- B. Update memo draft outline handed out by McClure – additions/clarifications below
  1. Snake Spring/Summer Chinook
     a. Nonaffiliated and historical area decisions
     b. Clearwater included in historical populations
     c. A simple list of all populations, extant and historical, is also a good idea.
  2. Snake Steelhead
     a. Historical/Hells Canyon area addition
  3. Sockeye
     a. Map of Sockeye locations, stats handout
     b. Uncertainty as to exact location of Pleasant lake - out of ESU – on the Olympic Peninsula, north of Quinault Lake
     c. ESU designations despite closer distances than other species would be for sufficient separation (86km shortest)
        i. Due to low straying rate, high homing instinct, genetic distinction
        ii. Sockeye tend to form populations on a much finer scale than chinook or steelhead.
     d. Acknowledge possibility of separate ESUs for Wallowa, Payette, Warm Lake
     e. Stanley Lakes region is an ESU
        i. Each lake its own population, assuming sufficient size
           - Otherwise lump with nearest neighbor
     f. Check capacity data for Sockeye – Canadian Frasier lake

4. Fall Chinook
    a. Handouts – map of historical range
        i. From historical records, models, redd counts
        ii. Add the USACE spawning model as a population?
            - No
    b. Proposed populations (3)
        i. Current, Marsing Reach, Salmon Falls
    c. Should current and Marsing be the same pop?
        i. Large elevation difference
        ii. Artificial habitat break at Hells Canyon dam
            - But canyon area might be natural habitat break between Hells Canyon and Brownlee
        iii. Lower area below dam is low quality habitat
        iv. Agreement that the two historical, upper areas were the major areas of returns.
    d. Does an Intrinsic potential analysis have to be created?
        i. No
    e. Between Marsing and Salmon falls one pop?
        i. Possibly – Parkhurst break in contiguous spawning habitat not long
    f. One large population with a tail below Marsing?
    g. Decision – two populations; one extant and one historical above Hells Canyon.
        i. Emphasize tremendous changes and how the core areas were above the dam. There was scattered spawning throughout as well, which makes it difficult to distinguish one or two populations in the upper reaches.
5. Upper Columbia Chinook
    a. Explicate difference between a fish in a location versus a fish adapted to that location
    b. Okanogan part of extant MPG
6. Upper Columbia Steelhead
    a. Crab Creek justification for new population
7. Mid-Columbia Steelhead
    a. Handout on Willow creek, Toppenish information
    b. Satus/Toppenish
        i. Split this population into two
            - Based on Toppenish bottleneck
            - Separation is larger than initially seems, given floodplain and habitat
    c. Willow Creek population – must decide whether to place in John Day or Umatilla/Walla Walla MPG.

C. PopID Update finalizing
1. Memo creation, Maps finalized and stop development, technical memo
2. Post memo on the web by the next TRT meeting, as well as associated shapefiles.

III. Evaluating recovery Actions
A. Take into account best reintroduction practices, local adaptation, stock selection
B. Extirpated populations - Overview of Language and how they should be handled. Draft language and table distributed in January
1. Viability of an ESU/MPG with/without recovering extirpated populations
    a. Guidelines detailed apply when population is recoverable without extirpated pops

b. Extirpated – Lookingglass, Panther, Clearwater, Asotin(?), White Salmon River, Crab Creek, Willow, Crooked
c. If extirpated – should it be available to recolonize?
d. Recolonize as a new pop, as a sink, ?
e. What differences exist between blocked and accessible extirpated populations?
i. They should be evaluated with biological criteria

2. Rules should not make extirpating further populations a possible avenue to recovery
a. Priorities should be: 1) enhance, 2) protect, 3) reestablish.
b. Highlight: defining "maintained", emphasize that extirpation is worse than maintaining low populations.
c. Include increased risk for losing opportunity
3. Value in maintaining good habitat in the absence of current spawning
a. For sink area, straying, colonization

C. Fall Chinook – discussion of whether criteria and viablilty rules hold when applied to fall chinook (mainstem vs. trib spawners)
1. We do not have knowledge of this species' homing fidelity
2. Historically, a large area was accessible that is currently blocked by dams.
3. Populations – at least one, maybe more
a. Unsure of historically scattered spawning, how dense and whether it connected all spawning together
b. Currently available area is poor quality habitat
4. Linear nature of fall chinook - upstream spawners necessarily swim through other spawning grounds to reach upper ones
a. Does this lead to a higher probability of straying to low reaches?

D. Process of exceptions to viability criteria must be:
1. clear and explicit
2. biologically based – never logistical/policy.

E. Adapt a rule set specifically for fall chinook
1. run through current system and see what doesn't make sense. Discuss this more on 3/30/05

IV. Things to consider before meeting Wednesday, 3/30/05
A. Number of extant/extirpated populations in an ESU
1. correlations between the two
a. rainfall/max temp correlation
2. Number of core type populations that are extant/extirpated
3. Diversity across historical range
a. And how spread across E/E
4. Spatial structure of extirpated populations
a. Relationship among extant populations
b. Do they interfere with connectivity?

B. Build Criteria based on biological rational

Tuesday March 29, 2005

Attended RSRP Workshop on ESU definitions.

Wednesday March 31, 2005

TRT Members Present: R. Carmichael, T. Cooney, P. Hassemer, M. McClure, D. McCullough, C. Petrosky, F. Utter
Non-members present: C. Baldwin, D. Martin, D. Matheson, D. Holzer, K. Engie, S. Ratner, E. Seminet

V. Upcoming schedule for recovery plans (from T. Cooney)
- A. Upper Columbia Recovery – (Wen, Ent, Ok, Methow)
  - 1. March 31, 2005 a full draft including objectives, limiting factors, current status, and strategies.
  - 2. May 02, 2005 Meeting
- B. WA Snake Recovery – (Tuc, Asotin, Touchet, lower GR)
  - 1. April 18, 2005 Technical draft is due.
- C. Yakima / Klickitat
  - 1. March 27, 2005 VSP description due.
  - 2. May 01, 2005 complete draft due.
- D. Overall goal is to have public review of drafts by June, and recovery plans done by the end of the year.

VI. Updates and Process III -- What will we do with Washington's recovery plans, anyway?
- A. Paul McElhany joined us to talk about what Willamette and Lower Columbia TRT did when reviewing recovery plans.
  - 1. Basic strategy was to let recovery teams define an overall risk for populations
    - a. the role of the TRT was simply to determine how effective the plan is
    - b. avoids the "is this enough" question
- B. Mary Ruckelshaus joined us to give an overview of what the Puget Sound TRT did
  - 1. Used a Hypothesis- Strategy- Action chain of logic
    - a. Used an a Bayesian network development software called Netica to rate how much certainty for success each plan had.
    - b. Given the goals and stated actions of each plan, how certain is it that the goals will be accomplished? (This does not ask if the goal is appropriate)
  - 2. The purpose of the reviews done last summer was to point out ways in which the plans could be revised for a more successful plan to be reviewed this May.
  - 3. Each recovery plan was reviewed by 5-6 people in a systematic way
    - a. A list of questions to ask was compiled
    - b. Reviewers were TRT members, NWFSC employees, and academics.
    - c. A "high", "medium", or "low" score was assigned for certainty of success.
    - d. Commented on adaptive management as well; Shared Strategy staff members (one each) included a policy review.
  - 4. Difficulties they've encountered
    - a. Recovery teams are not getting full funding for their project needs, so they are asking for estimates of additional risk if the complete 10 year plan is not implemented. What are the risks involved with implementing certain things, and not others?

5. The Puget Sound TRT will review revised plans again in May with the same criteria – final drafts in June.

D. Interior Columbia's TRT response to presentation

1. They like the general theme of coming up with a certainty score for recovery plans, rather than whether something is "enough" or not.
    a. need to find out how time intensive the Netica program is.
    b. depending on ease of Netica use, may not be worth using for short-term strategy, but it is worth keeping in mind for the long-term.
2. Due to our accelerated time frame, might need to come up with both short-term and long-term strategies.
3. It would be useful to see a sample of the reviews from Puget Sound (available on the web) and Willamette Lower Columbia.
4. Other thoughts: Should questions be focused on the population or ESU level? Should there be a larger scope, and then tailored questions on a smaller scale?

E. Plan of action

1. Michelle will come up with a first draft of questions for recovery plans by the middle of next week (April 5-6) to circulate to TRT.
2. Will split up the 3 recovery plans among the TRT members so that everyone reads
3. Everyone will think of a list of outside people to potentially help review the recovery plans.

VII. SS/D Criteria – How did it work when we actually applied them (many thanks to Pete)

A. Discussed the language of the risk criteria and MSAs.
   1. Eliminated some redundancy, clarified wording.
   2. See handouts from Pete for all details.

B. Suggested doing a trial run of gap analysis with the Lemhi/Wenatchee
   1. overlay current distribution on intrinsic potential to get current intrinsic potential
   2. this would give a current MSA to compare to historic MSAs and see if gaps have increased or not.
   3. There is a concern with the data sources – spawning areas shown.
      a. Spring Chinook in Grande Ronde is accurate (based on GPS data and surveys)
      b. Oregon: Streamnet data may be too generous
      c. Washington: WDFW observed spawners may be too conservative
      d. Overall intrinsic potential layer: any extensions to spawning areas up confluences does not change MSAs much, extensions down toward confluences impact MSA metrics more.
         i. Any rule sets, if made to address this, must be well-documented. Extremely clear explanations are also required, so that users who are aware of its imperfections are also aware of its utility.

C. Spatial Structure Diversity components of Population Viability Assessments (see handout from Pete for details)
   1. Distribution of spawning across population area
      a. Determine if this is historical or current distribution (chose current)

i. Range occupied: Generally, some steelhead populations have many more (> 10) MSAs than chinook populations. Important to ensure this metric is representative for both steelhead and chinook populations. Possibility: make a different scale for steelhead (to measure the proportion of range occupied)

b. Intrinsic potential analysis use
c. How to measure increase/decrease in gaps between populations
d. Definition of occupancy
e. What about mSAs?

2. Spawner composition within the population
   a. Is there a difference in the risks of strays (nearby vs. far away, within vs. outside an MPG)
   b. Supplementation programs scale (population vs. MSA)
   c. Explicit criteria for when broodstock put you at a higher risk.
   d. Is 10% strays the right value?
3. Variation (genotypic/phenotypic) within the population
   a. Define what counts as a life history trait
   b. What if a shift is enabling the population to survive? (short-term vs. long-term)
   c. Genetic homogeneity is context dependent
   d. There is only a subtle difference in low risk and moderate risk because the table was made with high risk factors in mind.
   e. Determining genetic changes among MSAs is feasible but not always practical.
   f. Michelle, Paul, and Fred will work on modifying the language on p. 13 as well as insert a note about determining fine scale genetic differences.

D. Selectivity score was tested by Casey and Rich
1. Both found that there was an endless number of factors to add up
2. Casey did a sensitivity test and found that one wrong decision can change the risk category.
3. Decide to make a note that it can be close at times, but keep it this way.

E. SS/D sub-group will meet on April 20th in Seattle at 10 am.
1. Pete, Casey, Dale, Michelle
2. Michelle will send assignments around to work on before the meeting
3. Tom will circulate the life history information

VIII. A&P progress

A. Used a 10-year geomean abundance and 20-year measure of productivity to plot current status against 5% and 50% viability curves
   1. Plots have point estimates with a box of 1 standard error and whiskers of 2 standard errors
      a. Populations surveyed were usually well below even the 50% risk curve (Bear Valley approaching the 5% curve)
      b. Adjusting the datasets for marine survival often narrows the range in the standard error
      c. Imposing a census threshold for productivity often shifts the populations closer toward viability

B. Currently working to assess the risk of being wrong associated with identifying a population as viable according to our A&P requirements.

1. Even with an underlying risk of 50% we often identify a theoretical population as meeting A&P criteria (even though it is at high risk)

2. Tom and Paul are working on identifying a productivity adjustment that would improve accuracy.

IX. RAMAS modeling –overview and lessons learned

A. Catastrophe types

1. Permanent catastrophes are higher risk than recoverable.
2. Regional (global) catastrophes are higher risk than local

B. Lambda values for maintained and viable populations

1. Decreasing the lambda for maintained populations increases the extinction risk.
2. Including one super viable population decreases the risk.
3. Increasing the maintained carrying capacities decreases the risk.

C. Spatial structure

1. Dispersal rates are impacting boosting the survival of clumped populations.
2. By taking away dispersal, and imposing a catastrophe on the 4 northernmost populations, the spatial structure of spread out populations is doing a little bit better than the clumped populations.

D. Size Category

1. Choosing all the big populations first has the lowest extinction risk, followed by the proportionate selection.
2. Choosing all the small populations first has the highest extinction risk.

E. Next steps

1. We need to re-run the model with appropriate parameters (i.e. 3000 fish instead of 750). But we do not expect overall results to change very much.