Interior Columbia TRT meeting, August 29, 2005

Members in attendance: Michelle McClure, Rich Carmichael, Fred Utter, Peter Hassemer, Charley Petrosky, Howard Schaller, Paul Spruell, Casey Baldwin
Non-members in attendance: Don Matheson, Jon Honea, Jeff Jorgensen, Rich Hinrichsen

1. Pop ID report
    a. Begin circulating final draft
    b. Will turn into a NOAA Tech Memo
        i. Co-manager review of 1st draft was sufficient for legal requirements
        ii. But will put out for review before final production of tech memo
        iii. report is relevant and important for hatchery managers
2. Upper Columbia draft (2005) recovery plan (Comments)
    a. Timeline
        i. NOAA gives comments on 9/15
        ii. The TRT needs to get comments out by the end of this week
    b. Summary of issues for revision
        i. Update current status
        ii. Further understanding of EDT runs
        iii. SSD haven't been addressed across all H's
        iv. Improve tributary habitat strategies' logic flow and feasibility
        v. Work on the math and baseline problem in integration
        vi. Undocumented AHA model issues
        vii. laying out overall goals for the ESU
            1. requires a big-picture roadmap
            2. lack of adaptive management plan
            3. Crab Creek needs to be addressed
    c. Tasks
        i. Michelle and Casey to revise review on Wednesday morning and email to TRT members
3. Current Status Assessment template– Wenatchee Spring Chinook
    a. Add a description of data certainty
    b. Conclusion paragraph & gap assessment
        i. Highlight key problems
    c. Consider tabling the basin stats and AP information
        i. Keep as text to retain consistency (use tables in SSD section)
        ii. But include table as well
    d. Pie chart – implement mSA and MSA designations
    e. Add a table or chart with ecoregion diversity
    f. Map
        i. Provide a large overview map that includes current distribution and intrinsic potential (clearly)
    g. SSD table
        i. Reduce scoring to 1 page
        ii. Take text out of table, provide supporting tables and figs as necessary
    h. Abundance and Productivity
        i. Explore using a Bev-Holt equilibrium curve
        ii. Develop/finalize metrics to be compared against the curve
    i. Incorporate ESU-level info in an ESU-overview sheet
4. Other status reviews
    a. Oregon Status Review (Rich)

i. General qualitative analysis of limiting factors will be completed by the end of December
ii. After qualitative analysis, then begin work on the quantitative process (by the end of June)
iii. From now until the end of September – compile data for populations
iv. End of October – current status assessments completed for Mid Columbia stocks
1. Use intrinsic potential to develop an expansion factor for redd counts
2. Use Warm Springs and Umatilla data to test the expansion
3. Utilize John Day emap data for comparison
b. Washington – Casey will lead
c. Idaho – Pete now detailed to NMFS, he and Vince will work on Idaho
5. Evaluating Recovery Strategies
a. Leslie matrix model -- overview
i. Structure
1. Based on Chiwawa alone right now
2. Associates SARs with PDO
3. Incorporates a Beverton-Holt fit to spawner-smolt data
ii. Key issues
1. Check PDO parameters from the regression for biological realism
2. modify "target" to match TRT viability curves
3. evaluate autocorrelation within the SAR series
4. consider using a residual approach
a. take R/S and adjust for density dependence and hydro impact subtraction
b. determine if residuals correlate with SAR
b. Shiraz Overview
i. Model is used to evaluate the effectiveness of proposed actions on Salmon viability
1. Compares restoration activities
2. Does not model population dynamics at all life stages
3. Ability to interact with GIS (currently at the HUC-6 level)
ii. Significant work required to set up the model
1. Linking land-use characteristics with habitat conditions
2. Consider using EDT to determine important habitat conditions
a. evaluate documentation of functional relationships
b. narrow down attributes using empirical data
3. use remand work and sub-basin plans for habitat conditions
iii. What do we do with Shiraz output?
1. Help watershed planners evaluate restoration actions
2. Allows us to get alternative strategies in a spatially explicit context
3. Begin to evaluate relative benefits of more detailed actions
iv. Concerns
1. How do we validate ouput in relation to current conditions of the populations?
a. check consistency across several populations when the model is run with current conditions
2. how do we take confidence in the degree of change and actions will make in terms of various attributes?
a. populate relationships with empirical data
b. evaluate feasibility of actions
3. Does the model require too much additional effort to run?

          a. could we restructure the EDT analysis to yield similar results?

              i. Difficult and expensive to get documentation and code to do a restructuring of EDT

          b. major benefit of Shiraz

              i. we can tailor the model to our own purposes

    v. Challenges

        1. Difficult to know how hatchery influence impacts viability (domestication, homogeneity, etc.)

          a. set up bounds and ranges

          b. must capture and apportion limiting factors

6. Steps for limiting factors analysis and evaluating recovery strategies
   a. Status assessment – ICTRT template
   b. Gap analysis – difference between current status and viable status
   c. Limiting factors I -- Relative contribution of each H
      i. How much does each H contribute to difference from viability?
      ii. Life cycle model that involves each H
         1. validate with empirical data
   d. Limiting factors II -- Threats assessment (detailed within H)
      i. Detailed assessment within each H
      ii. Available information and analytical approaches
         1. Hatcheries
            a. TRT criteria
            b. AHA
            c. Shiraz
            d. Published literature
         2. Habitat
            a. Shiraz
            b. EDT
            c. BiOp remand work
            d. Published literature
         3. Hydro
            a. PATH
            b. BiOp
            c. QAR (upper C)
            d. CSS – workshop report and transport assessment
            e. Passage model being developed for next iteration of the BiOp
            f. NWFSC recent assessment
            g. Published literature
         4. Harvest
            a. Management documents
               i. Biological Assessments
               ii. FMEPs
               iii. CTC work
            b. Published literature
   e. Identify strategies and actions – policy task
   f. Strategy analyses relative to VSP gaps
      i. What is the predicted impact of the strategy?
      ii. What is the predicted impact of proposed actions?
   g. Iterate
7. Next steps
   a. Prioritize steps "c" and "f"
      i. Treatment of H's

     b. Harvest – straightforward treatment

     c. Hatchery

         i. Shiraz – density dependent effects & domestication issues

         ii. Quantify potential impact

         iii. Out of basin strays – effect on productivity

         iv. Explore Shiraz algorithm – sensitivity analysis

         v. Develop a scale of fitness (PATH)

            1. use recent publications (Howard, send references to Michelle)

     d. Hydro

         i. SAR & smolts/spawner curves to help set targets?

         ii. Use BiOp 2000 and 2004 to bracket hydro values (Michelle)

     e. Habitat

         i. Shiraz

8. Other tasks

     a. Consider changing the September meeting to a later date (email TRT members)

     b. Set up a modeling workshop

         i. Key considerations for biological feasibility and Shiraz modeling

            1. outputs must be consistent with goals

            2. validate current conditions over a range of populations

               a. pristine vs. degraded

            3. development of an SAR distribution that incorporates autocorrelation

            4. SAR series and PDO considerations to improving the approach

         ii. Key questions for Shiraz

            1. compilation of key EDT components to inform Shiraz setup

            2. functional relationships for key attributes (informed by EDT and literature)

               a. review Jeff and Michelle's draft

            3. eventually begin the validation process

               a. develop capacity (spawning & rearing)