IC-TRT Meeting: December 6, 2005 TRT meeting

Members in attendance: Tom Cooney, Michelle McClure, Paul Spruell, Fred Utter, Rich Carmichael, Pete Hassemer, Charlie Petrosky, Howard Schaller, Phil Howell, Casey Baldwin

Non-members in attendance: Don Matheson, Damon Holzer, John Firehammer

1. Upcoming deadlines
    a. Get from Michelle
2. Meeting dates
    a. January 18-19 in Boise
    b. February 21-23 in Portland
    c. March 15-16 in Boise
    d. April 10-11 in Portland
    e. May 15-16 in Boise
    f. Conference call for finalizing the update memo 1:00 pm on December 15th
        i. Get uncertainty piece prepared--conference on Monday, December 12th at 1:00
3. Matrix modeling
    a. Draft to Chris Toole
        i. Wants to use parts of the draft for allocation discussion

4. Viability update
    a. Goal is to get memo ready by late December
    b. Genetic metric text (from old text, except italics)
        i. Addresses cases of a bad genetic signal—what is needed to recover?
            1. Fine scale genetic analysis showing strong site fidelity
                a. Measure of relatedness (allele sharing index)
            2. Analysis of genetic data that estimates the likely time since divergence.
            3. Analysis of patterns of dispersal (analysis of straying, several years of data showing the population is not giving or receiving significant strays at more than the natural rate).
        ii. Do we want to keep or modify these conditions?
            1. How much time is required for appropriate changes to be seen?
            2. For #3 (patterns of dispersal)
                a. Most recent observations are the best indicator
                b. Be more specific on what “several years of data” means (i.e. number of generations)
                    i. Include sufficient data over an adequate time period
                        1. Allows flexibility but requires certainty
                c. Add a “be careful” clause about inferential data
                d. Add “out of population spawners” in addition to “strays”
            3. For #1
                a. Use language to indicate a time component
            4. Make changes and circulate by Friday
        iii. Spawner composition text (B.2.a)
            1. For figure 3, difficult to tell where the y-axis split occurs
                a. Add additional y-axis to the right side
                b. Upper three graphs need y-axis changed to exogenous
                c. Consider changing colors for black&white copies
    c. Population size categories
        i. Judge populations based on their core areas

1. 4 populations change size when distant downstream tributaries are disconnected
    a. Umatilla, Asotin, Little Salmon, Chamberlain
    b. Deschutes Westside can be treated as intermediate or large depending on treatment above Pelton Dam. Must still be viewed as its full size category for strata level criteria.
2. Need to validate core area designations (especially steelhead)
    a. Add description of definition of core areas to text
3. Drop Klickitat paragraph
4. Add paragraph about life history designations
5. One large table with all populations
    a. Highlight changes and give explanations
6. Clean up "overlap" paragraph
    a. Include introductory sentence and specific Wenatchee/Entiat language
        i. Get sources
7. Method for Incorporating Uncertainty section
    a. Two tests for meeting low risk
        i. Are best estimates above the curve?
        ii. Is there less than 5% risk that the true estimate is below the 25% risk curve
    b. Should there be an additional test requiring a particular level of certainty that the estimate is above the particular risk level?
        i. Compare two approaches
            1. Tom's approach
            2. Ellipse (or some percentage) above the 5% curve plus the additional 25% test
    c. Meeting Very Low risk – three approaches
        i. Low end of the error bar above the 25% curve
        ii. Low end of the error bar above the 5% curve
        iii. Less than a 1% chance the estimate is outside the 25% risk curve

d. Snake River Fall Chinook Criteria
    i. Change "naturally returning" to "natural origin"
    ii. Defining variance and autocorrelation
        1. Account for differential in harvest rates?
            a. Evaluate differences in variance and autocorrelation
        2. Slightly different ocean patterns in harvest
        3. Incorporate Howard's run reconstructions for recent years
    iii. Decision on MSAs
        1. Designate five MaSAs
            a. From Hell's Canyon dam to the mouth of the Salmon
            b. From mouth of Salmon to mouth of Grande Ronde
            c. From mouth of Grande Ronde to the upper end of the Lower Granite Dam pool
            d. Clearwater
            e. Tucannon
        2. Consider adding the middle Snake to the lower Snake River
        3. Consideration of MiSAs

            a. Add Imnaha to the upper Snake
            b. Add Grande Ronde the lower Snake
            c. Add the Salmon to the middle Snake
        4. Add revised description of MSAs (justify middle reach being a distinct area)
    iv. 3000 level threshold justification
        1. Relative to capacity, this is near the same place as our Chinook thresholds
            a. Add paragraph describing this
        2. Link to Beven and Connor estimates of capacity
    v. Introductory sentence about why
e. Flow chart for decision-making regarding abundance and productivity measures to use for current abundance
    i. Do not include in this draft

5. Determine approach to limiting factors
    a. Pete- choose representative populations for each MPG
        i. Middle Fork – within a wilderness area
            1. Very low or low risk for SSD, so not much gain to be made in habitat actions)
            2. Initial assumption for AP – moderate risk at best
            3. Out of basin issues of most concern
    b. Rich – summary for each population
        i. Describes limitations at MiSA/MaSA level
        ii. Addresses effects by life-stage
        iii. In-basin write up for each population describing hatchery practices and how they are linked with VSP criteria
    c. Focus on quantitative assessment and identify where opportunities for improvement lie for various populations
        i. Work to communicate priorities to the management staff
        ii. Results of status assessments are informative of the gap to viability, and can help identify priority populations for protection and/or improvement
            1. Important to model effects of current and proposed actions (deterioration concerns—possible to move backwards)

6. Evaluation of large extirpated areas for recovery purposes
    a. Purpose is to provide TRT guidance on which extirpated areas are critical for ESU viability
    b. Need language to clarify the Clearwater
    c. Connectivity section
        i. Clarify “end of potential range” wording by using “truncation” language
        ii. Where does the break occur between upper and lower Snake?
            1. Varies depending on genetic and geographic data
                a. Recognize that there may have been a separate ESU, but proportionality is unclear
        iii. “Critical for proper functioning” language
            1. Is it possible for the Snake River Steelhead ESU to achieve viability without the extirpated areas?
        iv. Consider creating a flow diagram defining high, moderate, and low risk based on number of MPGs and populations (incorporating proportion of extant/extirpated areas)
    d. Setup suggestions

i. Rather than absolute calls, discuss in terms of relative risk
    1. Discuss options
        a. Recognize that a 1-MPG approach in the Upper Columbia is higher risk or;
        b. Reintroduction/multiple MPG approach relaxes rules
ii. Discuss up front why the Upper Columbia and Snake River are treated differently
iii. Lay out number of MPGs, proportions extant and extirpated, and SSD considerations
iv. Lay out the relative risk of extant ESUs and relative risk of extant ESUs with extirpated areas added
v. More complete explanation of pragmatic considerations
    1. More thorough discussion of adaptive management
        a. Acknowledge uncertainty, need for a structure evaluation stage
vi. Consider some minimum point to define non-viable?
    1. None of the extirpated MPGs are essential (critical) to get to a viable rating—but you must have further monitoring and information
        a. Snake River Sockeye?
            i. Each group of lakes was considered to be an ESU
            ii. Would require more than one population in Stanley lakes
        b. MC sthd has no extirpated MPGs, but does have extirpated populations that may be considered in MPG viability
        c. UC steelhead
        d. UC spring/summer Chinook
            i. Prioritize strengthening of extant areas over reintroductions into extirpated areas
            ii. Ideally, however, you would want to have populations in more than one strata

e. Fred and Michelle to draft language

7. Current Status Reviews
    a. Make assessments available by the beginning of next week
        i. Review consistency and range of techniques for A&P estimates
    b. Review assignments – to be completed by the 16th
        i. Fred—review SSD text for all
        ii. Wenatchee Spring Chinook, Naches Sthd, Umatilla, Deschutes eastside to be reviewed by everyone
8. Assessing the Gap
    i. Accounting for uncertainty
        1. Indicate the distance the point estimate needs to move as well as say it could be higher depending on uncertainty
    ii. Many populations where the gap approach produces reasonable gaps, but what about the ones that could theoretically meet the gap but don't?
    iii. Is this approach compatible with Rich's (and other) work?
    iv. Issues measuring productivity and capacity
        1. Problems using the curve-fit approach
        2. ANCOVA method
        3. Dealing with the "tweener" populations
    v. Productivity and equilibrium abundance metrics
        1. Do these make us vulnerable to under-estimating the gap?

2. Does filtering the data years by the median cause an overly optimistic view?

vi. Consider having two trajectory lines for the gap (one with capacity, one with equilibrium abundance)

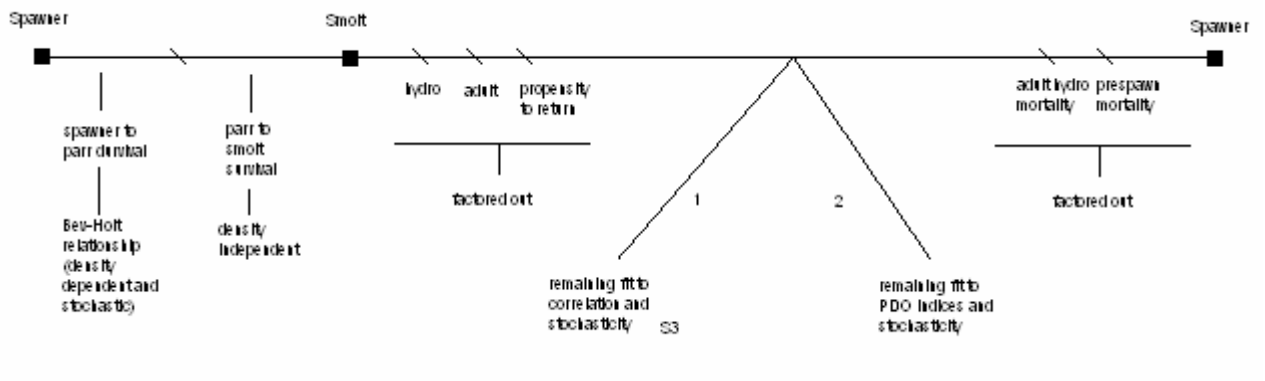
vii. Next step: for now, focus on the gap under current status

1. Use theoretical maximum smolt production point and best estimate of intrinsic productivity
2. Incorporate standard error (exceeding by 1 SE)
    a. Be consistent with what is currently done in the current status assessments
    b. Start by using the lower left-hand corner of the "SE rectangle"
3. Starting abundance at the 10-year geomean
4. Start abundance at the recent 5-year geomean
5. Use 2-3 times the capacity to show what would happen if the capacity was much greater
6. Try with a variety of populations
    a. MC Sthd – a population that is close, but not above the viability curve
    b. Wenatchee
    c. Marsh Creek
7. Finished by early next week

Starting assumptions--

Abundance	**Productivity**	**Model Type**
Capacity	Geomean R/S, delimited	Hockey Stick
Capacity	Geomean R/S, all	Hockey Stick
Capacity X 3 (or 2)	Geomean R/S, delimited	Hockey Stick
Alternate capacity	Recalculated for new capacity (ANCOVA derived)	Hockey Stick
Recent 10-yr geomean	Geomean R/S, delimited	Hockey Stick
Recent 5-yr geomean	Geomean R/S, delimited	Hockey Stick
Equilibrium –1SE	Geomean R/S, delimited –1SE	Hockey Stick
Equilibrium and 2nd test	Productivity where 99% is above the 5% line (VL)	Hockey Stick

9. Matrix modeling
    a. Brief overview of approach



b. Requests from management
    i. For the Bi-op framework process, want to allocate mortality across the Hs
        1. Cover letter with range of values used in the current modeling effort along with a list of concerns (preliminary effort)
            a. Description of effects of climate and hydro on the gap
            b. Allocation of mortality across life-stages
                i. Cite a range of life-cycle models
                ii. Path analysis
                iii. List of options for approaches with specific questions