

ICTRT Meeting – October 11, 2005

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

Non-members in attendance: Vince, Randy, Damon Holzer, Don Matheson, Jon Honea, Rich Zabel, Randy, Vince

1. November TRT meeting 2nd and 3rd in Portland
2. Oregon's expert panel approach
 - a. Require guidance on published literature that should be included
 - i. Documentation of conclusions necessary
 1. include written summary of sources
 - ii. Local & site-specific versus general relevance
 1. panel members can bring in a diversity of information
 2. utilization of sub-basin plans
 3. packet of materials provided by the TRT
 - b. panel must have current status and limiting factors to complete their analysis
 - i. finish Mid C. by the end of October (include hatchery fractions)
 1. address difficulties with the Deschutes
 2. John Day – developed relationship between emap and redd index density
 3. Snake R. Steelhead is a lower priority than Mid C.
 - a. Begin prioritizing these stocks after January
 - ii. Two approaches to limiting factors for inclusion in the recovery plan
 1. TRT quantitative approach (GAP, Shiraz)
 2. expert panel process
 - iii. comments on expert panel approach to limiting factors
 1. need TRT recommendation for focus of expertise to be on the panel (6-10 people)
 - a. group of people from the John Day pilot monitoring project
 - b. use some local experts
 - c. at least one academic
 - d. distribution across agencies
 - e. include people with expertise across various factors such as ecology and evolution
 2. allocate time for process completion based on number of populations instead of based on ESU (as some ESUs have more populations than others)
 3. consider flow reversal (begin with factors) or include description of methods
3. Current status reviews
 - a. Finish all UC populations and scheduled MC populations by next meeting
 - b. After finishing the templates, the TRT (as a group) needs to review the scoring sections (at November meeting)
 - i. Conference call on UC Chinook
 - c. UC Steelhead stocks – get templates to Casey early next week – Casey to finish SSD by the end of the week
 - d. Attach back-page summary for viability information
 - i. Include references for spawner counts
 - ii. Include point estimate at 20% equilibrium (Bev-Holt metric)
 - iii. Label axes in curve-fit graphs?
 - e. Using BH fits for point estimates of productivity
 - i. Raw recruits/spawner
 1. problem with census and steelhead

- ii. consider adding R/S point on the viability curve
 - f. Census technique
 - i. Minimum size thresholds should show signs of density dependence
 - ii. Consider using a fraction of the minimum size as the census point
 - iii. Plot multiple points on the curve?
 - iv. Workgroup to evaluate various census techniques and apply to some examples
 - v. Try using older datasets to get an idea of capacity
 - g. Using Bev-Holt at 20% of equilibrium
 - i. How is the variance preserved across model types?
 - ii. Include a write-up of methods and examples for TRT members
 - iii. Questions of confidence you can take in fits with very few low points
 - h. Add lambda to the viability metric table in the current status template
 - i. Also add standard errors to this table
 - i. Workgroup for current status finalization and draft metric descriptions
 - i. TV conference in Portland on October 20th at 10:00
 - 1. Circulate back-page summaries
 - a. rational for 20% adjustment
 - b. status examples
 - 2. address question of what to do in the case of hatchery input disproportionately affecting localized areas within a population
 - ii. send examples in pdf?
 - iii. Change table numbers in current status drafts
 - j. Update the viability document with current MiSA and MaSA numbers
 - i. Consider setting up a database for this purpose
4. Analyses in support of evaluating recovery strategies
 - a. Items to discuss
 - i. Gap in relation to the viability curve
 - ii. What kind of changes can close the gap?
 - iii. How much do current actions contribute to the gap?
 - iv. Need to define certainty of viability
 - 1. policy decision?
 - a. Must provide policy makers information on risk associated with various confidence intervals
 - 2. technical decision?
 - 3. specify a range
 - 4. discuss in workgroup meeting
5. Howard's work
 - a. Examined various stream attributes
 - b. Developed a model to evaluate egg-smolt survival
 - c. Compared model outputs to areas where actual data existed (egg-smolt, egg-parr)
 - d. Applied to lifecycle survival
 - e. Looked at total potential improvements over the lifecycle
 - f. Identified two scenarios
 - i. Current picture
 - ii. Scenario under potential improvements to the lifecycle
6. Shiraz modeling
 - a. List of habitat limitations should be expanded to cover yearling-type fish
 - b. Remove life stages with no available data
 - i. Add pre-spawn holding
 - c. choose a group of factors that relate to survival at various life stages
 - i. temperature: egg-estuarine?
 - ii. Predation and competition (non-normative)
 - iii. Toxics
 - iv. Nutrients

- v. Instream flow – add additional perspectives
 - vi. entrainment
 - d. stream structure (define by life stage)
 - i. needs to capture quantitative habitat loss for over wintering
 - e. how do you take into account the interaction between factors, life stages?
 - i. How does EDT accomplish this?
 - f. Should there be a penalty for hatchery fish (as parents)?
 - g. Shiraz tasks before next meeting
 - i. Development of functional relationships
 - ii. Examine empirically based relationships in EDT
 - iii. Draft UC appendix EDT approach (check woody debris, etc.)
 - h. Tasks for a future date
 - i. Output of Shiraz (R/S, Bev-Holt fit, relationships)
 - 1. evaluate after examples
- 7. Leslie matrix model
 - a. Comparison of results using autocorrelation
 - b. Scale down model outputs to the level of a single population and compare to population level model extinction risk
 - c. Concept of extending to steelhead and Mid. C.
 - d. Optimistic/pessimistic range determination
 - e. Get error/confidence for point estimates
 - f. How does the model account for hatchery fish?
 - i. Doesn't currently, but working on it
 - ii. How do hatchery actions affect viability?
 - g. explore a range of habitat conditions
 - i. pristine, average, trashed
 - ii. examine habitat quality outside the population area (migration phase)
 - h. explore a range of size categories
 - i. location of components in the matrix
 - j. conclusion
 - i. move forward with general approach, but focus on populations
 - 1. look at prospective viability under alternative hydro scenarios
 - a. how does this change under different climate and harvest regimes?
 - b. How much improvement do we need in freshwater survival to reach viability?
 - i. Is this reasonable?
 - c. Are there reasonable combinations of hydro and freshwater improvements that can get you to viability?
- 8. Other viability concerns
 - a. Need more detail on phenotypic SSD metric
 - i. If everything else is low risk and this metric has no data, you are allowed to ignore it
- 9. Spatial structure and diversity
 - a. B.2.a.
 - i. 4 metrics – lack of ability to aggregate
 - ii. could have a case of strays from multiple sources
 - 1. could result in a lower risk than is actually present
 - iii. may be able to simplify without changing the decision tree
 - 1. have a decision at the mechanism level
 - a. “Is the aggregate $> x$?”

- iv. Tom, Paul, Fred – conference call to discuss
- 10. key example populations (develop matrices, finished by end of next month)
 - i. SRSS – March, South Fk., Catherine
 - ii. UC Chinook – Chiwawa/Wenatchee, Methow, Entiat (none prioritized?)
 - iii. MC Steelhead – Umatilla
 - iv. SR Steelhead – Rapid
 - v. UC Steelhead – Wenatchee
- b. Data needed for Rich Z.
 - i. Recruits and spawners (with age structure)
 - ii. Parr – smolt survival (annual estimates)
- c. Compare/contrast autocorrelation function
 - i. Two autocorrelation models
 - 1. mimic the long term PDO
 - 2. mimic the 1977- climate conditions
- d. establish/fix hydro scenarios (optimistic/pessimistic)
 - i. use current with 1 standard deviation
 - 1. apply proportional SD to the BiOp
 - 2. model scenario as if we were 11 years out (meeting the BiOp)
 - 3. model scenario at 6 years of survival
- e. outputs for comparison with the viability curve (workgroup Oct. 20)
- f. compare/contrast with fit to R/S
 - i. relevant for ESU level
 - ii. compare with observed freshwater (Grande Ronde)
- 11. Follow up on Shiraz
 - a. Information for populating model relationships
 - i. Howard and Tom get information to Jon (include paper by Dale)
 - ii. Evaluate relationships stage by stage
 - iii. Apply to some of the same populations being used for the matrix model
 - iv. Diversion entrainment – likely little effect
 - v. Examine HUC-6
 - b. EDT key factors
 - i. Also Apdx F of draft UC; under structure; written by Casey Baldwin
 - c. EDT functional relationships
 - i. George (Pess?) says flow relationships were those he developed for west-side
 - ii. Woody debris are west-side based
 - d. QHA (?) data for habitat
 - i. Howard -- QHA classification
 - e. AHA Ford genetic penalty algorithm
 - i. Should penalties vary with source of hatchery stock or policy?
 - 1. Within MPG or from same pop?
 - f. Do stage-specific runs or calculations with B-H and FRs
 - i. To evaluate validity