

**Interior Columbia TRT Meeting
June 28-29, 2004
NWFSC, Seattle WA**

TRT Members: McClure, McCullough, Petrosky, Hassemer, Utter, Carmichael, Schaller (6/28), Cooney, Howell

Non-Members: Baldwin, Morita, Seminet, Holzer, Matheson

I. PopID Comments

- A. Treatment of historical areas
 - 1. upstream of dams / extirpated areas
 - 2. lower Yakima
 - 3. above Dworshak
 - 4. Grande Ronde Sockeye
- B. Implications for viability – lines of evidence to use
 - 1. ESU assigned to?
 - a. Regardless, the pop or ESU would still be within the IC domain
 - 2. Check with Rick & Robin on paper about extinct populations
 - 3. Implement intrinsic potential analysis
 - a. Damon will apply analysis to upstream areas
 - b. Conference call mid-July
 - 4. Summary statistics for basins/subbasins in those areas (basin size, etc)
 - 5. Historical records, Hells Canyon Dam relicensing
 - a. Chapman & Chandler – how many stream km

II. ESU

- A. Deschutes
 - 1. different historic structure (info from Phil)
 - 2. Baseline genetic Data
 - a. Bonneville samples group out into ESUs
 - b. Mid-Columbia data group out similar to MPGs
 - c. WDFW data, Baldwin to look into
- B. Microsatellite data
 - 1. Do spring & summer chinook separate out as distinct populations?
 - a. Better clustering of Middle Fork than allozyme data
 - 2. Data from Russ
 - a. Apparently supports separate populations temporally
 - 3. Charlie, Pete, Fred to look over data (Fred gone most of month)

III. Yakima - Satus & Toppenish Creeks

- A. Do both creeks belong in the same population or not
- B. Genetic Data from Utter
 - 1. Avg heterozy is lower in Toppenish
 - a. Bottleneck from common ancestry
 - 2. Microsatellite data
 - a. Toppenish is an outlier from the rest of Yakima
- C. Mouth of Toppenish – historic flow

1. PopID description of historic connection of creeks is wrong
 2. historically marshy area
 3. could connect with Satus during high flow
 4. without manmade levy, channel could travel and connect more widely to Yakima
- D. Other opinions
1. WDFW separates populations
 2. local opinion is that they should be separate
- E. Decision
1. maintain both in the same population
 - a. add explanation about allozyme, false signal
- IV. Okanogan
- A. Do spring-type chinook exist within the Okanogan?
 - B. Steelhead remnant population
 - C. Varying accounts of fish above Enloe dam
 - D. Decision
 1. with some uncertainty – meets the criteria for a population
- V. Upper Columbia
- A. White River
 1. Separate as own population?
 - a. Travel through a lake necessary to reach it
 2. Decision
 - a. Maintain as a significant substructure of a population
- VI. July Plans
- A. Final Document (inc. Genetics appdx) ready for August meeting
 1. Final review in Mid-August
 - B. Compile mailing list and cover letter
 - C. Arrange conference call for Middle Fork issue and historic pop. structure (inc. Fall chinook)
- VII. Viability Report
- A. Test run criterion metrics and concepts
 1. Credible targets
 - a. Wenatchee Spr/Sum chinook (Data rich)
 - b. Upper John Day Steelhead (Data poor)
 - c. SR Fall Chinook historic
 - B. Viability - comments
 1. Viability criteria
 - a. Implement vs. assess?
 - b. Use “test the assumptions” instead
 2. Use of terminology – make it consistent
 - a. Criteria, guideline, metric, matrix
 - b. p4 last ppg, “acceptable measures”; length of time
 3. p5 investigating recent measures at all life stages
 4. Tom will make changes and post document to website
 - C. The next 3 meetings: expectations
 1. data updates/quantitative risk analyses (Damon)
 - a. Chinook/Steelhead where is minimum

- i. Chinook – mean of the minimums; 3.6 wetted width upper limit; spawning area to compare populations
- 2. Viability goals based on size?
 - a. MPG requirement
 - b. Characterize where population was historically, then rate 1X, 2X, 3X
 - c. What does “Maintained” mean?
 - d. 3X pop at 1X is low-med risk
 - e. 3X pop at 3X is super-viable
- 3. “X” number of populations at such distribution with the rest maintained
 - a. needs work – look at some real numbers

VIII. Catastrophes – PVA

A. Next Step

- 1. What happens after catastrophe while rebuilding? Declining?
- 2. Define the current status
- 3. rate of dispersal is key

B. Variation built into productivity

- 1. less heuristic, more applicable

C. MPGs with scenarios

- 1. scenarios vs. random
- 2. list of questions for
 - a. viability analysis, sensitivity, productivity, dispersal
 - b. how many populations/MPGs, distribution of 1X, 2X, 3X

D. MPG level: less hypothetical

- 1. more data about ecoregions and ecological reporting units
 - a. ERUs – catastrophes, actual potential
 - b. 3X-1X; substructure, semi-independence
- 2. populations get one score – identify subunits
 - a. modeling of subunits as well as individual populations
- 3. within population analysis might address this

E. Different definitions of catastrophe

- 1. Major catastrophe – permanent reduction of potential
- 2. Minor catastrophe – 5-20 yrs impaired production
 - a. Phil, Howard, Pete, Charlie, Dale
 - i. Sources & sinke – define
 - ii. Capacities vs. productivity

F. Set up hierarchy of questions

- 1. Mangel new paper
- 2. Thurow’s data
- 3. Develop scenarios in addition to random #s
- 4. develop list of Qs
- 5. Sensitivity analysis
 - a. Capacity, productivity, dispersal, frequency, endurance

G. To Do by August meeting

- 1. MPG/ESU catastrophic risk
 - a. How important is it to have the 1X, 2X, 3X structure of populations

- i. How do they respond: all at 1X vs. historic and does it matter? How sensitive?
- H. Constant dispersal & constant productivity
 - 1. may not be informative
- I. Perturbations to connectivity are important
 - 1. temp/water withdrawals
 - 2. seem more likely than major catastrophes
- J. Scenarios – start simple, move towards complexity
 - 1. first round: # pop, catastrophes – test MPGs
 - 2. second round: rank import or spatial structure & diversity, different frequencies & extent of catastrophes
 - 3. Complete round 1 by August
- IX. Ecoregion as indicator of diversity
 - A. Use a different metric, based on:
 - 1. range of elevation
 - 2. Hydro Region
 - a. Snow fed?
 - 3. Stream order or bank width
 - a. Branching or known width
- X. EDT memo – comments regarding
 - A. Focus on limiting factors analysis
 - 1. general overview of LFA
 - 2. describe outputs to look for
 - a. then see how EDT addresses them
 - b. like the TRT Asotin Basin assessment
 - B. Tabular description of strength and weaknesses of models that can be used for LFA in addition to EDT
 - C. The goal is to complete a LFA
 - 1. EDT misused, falls short in some ways
 - a. Used for recovery planning versus LFA
 - D. Restrict scope of memo to LFA
 - E. Other models to add to memo
 - 1. QHA, EDT, Empirically derived limiting factors
 - F. Concept versus application
 - 1. good inputs needed to produce realistic outputs
 - G. Appropriate uses
 - 1. Directional or relative expected response that can be incorporated into experimental management
 - H. Inappropriate uses
 - 1. escapement goals
 - 2. Numerical responses in productivity and abundance
 - a. Numbers should not be taken at face value
 - 3. Absolute expectations
- XI. Spatial Structure and Diversity
 - A. “spatially mediated Processes”
 - B. need to determine diversity in rearing and connectivity

C. Diversity index

1. include downstream habitat?
2. does criteria relate to abundance, productivity, capacity, and diversity?
3. compile all components – principle components as diversity scale

XII. Core and Legacy

- A. Core – high productivity (can be affected by hatcheries, bottlenecks)
- B. Legacy – not a lot of hatchery influence, preserves genetic diversity, native endemic signal
- C. Define concepts, use them to describe populations
- D. Focus on objectives, highlight types of populations that are important
 1. pool middle (2X, 3X), 1X is low, 4X is complex
 2. pool low & high
 3. ½ pops plus one from each of 1X-3X
 4. Range of life history patterns
 5. distribution of complexities that mirror historic
- E. Within MPGs
 1. 3 or ½ populations
 2. all extant life history traits must be expressed
- F. Look at Fred’s reintroduction paper
- G. Pay attention to addressing historic and extant

XIII. Highest Risk – Upper salmon scenario

- A. 1X: Yankee, Upper Salmon, NF Salmon; 2X: Pahsimeroi; 3X: Lower Salmon
 1. rest are maintained
- B. Use historical classifications instead?
 1. less emphasis on run timing

XIV. Goals for Aug. and Sept. meeting

- A. Size Criteria
 1. poor areas in the mainstem
 2. Methow/Wenatchee: be sure these are consistent
- B. firm up breaks (1X-4X) in grouping
- C. Draft of applying criteria at MPG level
 - a. Plus a couple examples at the population level
 - b. Categories and justification
2. MPG & population levels
 - a. Maintenance, viable, & uber-viable categories

XV. Set of questions – (insert table from Elizabeth here)

Population	people	MPG	people	ESU
<i>Threshold vs. multipliers; size measures, complexity, check size measures</i>	Tom, Don, Damon	<i>Evaluate 1/2 or 3 (depending on RAMAS)</i>	Elizabeth, Michelle, Phil	Extirpated MPGs
SAR smolt/adult considerations	blank???	Spatial Structure metric and rationale	Rich	Low subunit MPC and ESUs.
<i>New Diversity Metric (elevation, stream order, hydroregion, ecoregion)</i>	Mike, Dale, Michelle	Clear statement of current vs. historic diversity for identifying populations.	Tom, Michelle, Pete, Charlie	

Juvenile Potential	Tom, Rich	<i>Size/complexity prop to historical or emphasis on big/complex</i>	Tom, Michelle- to consider scenario analysis results
<i>Relate Metrics to table guidance</i>	to be done at a later edit	<i>Define Maintenance</i>	Phil, Tom
Define risk level regarding spatial structure metrics (relate to size complexity category)	Paul, Fred, Michelle	Role and Treatment of extirpated	Draft default
Natural Patterns of Gene Flow metrics	Paul, Fred, Michelle		

Red italics denotes tasks that were check marked as high priority.

XVI. Meetings

A. July 28th meeting

1. videoconference to discuss catastrophe

B. July 14th

1. conference call – threshold vs. multiplier, size structure

C. Discussion ahead of Aug Meeting

1. Populations – critical elements
 - a. Define limiting factors, gaps
 - b. Consider impacts across all ages

D. July 1st

1. Tom & Michelle discuss:
 - a. Assessment limiting, impacts across ages

E. Fall Chinook

1. historic distribution with Howard

XVII. Outline for PopID Report

A. On DocuShare without updating

1. spatial distribution, criteria will have to be changed
2. Major sections (+ summary)
 - a. Intro
 - b. General approaches
 - c. Results for each ESU
3. Tables of Specifics: MPGs, populations
4. Appendices
 - a. Data availability
 - b. Methodology
 - c. Catastrophic risk assessments
 - d. Intrinsic potential`