ICTRT Meeting: April 10-11, 2006

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

Non-members in attendance: Damon Holzer, Jon Honea, Don Matheson

1. Meeting dates (locations to be determined):
    a. June 27th-28th
    b. July 18th-19th
    c. August 23-24th
2. Shriaz update
    a. 2 modeling efforts
        i. effects of landscape processes and land use on habitat
        ii. no fry to summer parr survivorship
            1. characterize fry to beginning of overwintering fish
    b. model structure
        i. fish tracked according to stock, life-stage, and location (based on HUC-6 areas)
        ii. Beverton-Holt equation calculated at each life-stage for each stock
        iii. After numbers of next life-stage are calculated, fish move to new location (or stay put) – deterministic if desired
        iv. Model repeats from life-stage to life-stage
    c. Modeling changes in numbers
        i. BH model applied at each life-stage
        ii. How reliable are capacity estimates at various stages?
        iii. Incorporation of density dependent movement
    d. Relation between egg survivorship and water temperature
        i. Desired model can be selected
    e. Discharge and egg survivorship
        i. Annual peak flow / maximum peak flow over 100-yr period
        ii. Scouring (less of an impact on the east side), dewatering, runoff
            1. larger problem for fry colonization?
    f. Functional relationships
        i. Egg – fine sediment, temperature, discharge
        ii. Fry – none
        iii. Summer parr – mean daily temperature, low flow capacity, riffle/run embeddedness
        iv. Overwinter – cobbles and wood in pools, pool cobble embeddedness
        v. Smolt – survivorship from mouth of Wenatchee to estuary (capacity likely not limited)
        vi. Estuarine – based on relationships developed for Snohomish
            1. tidal: uniform random number between 0.57 - 0.70
            2. near shore: uniform random between .047 - .057
            3. hatchery smolt survivorship in Snohomish = 0.04
            4. is capacity limited?
        vii. Ocean 1 – survivorships .7, .8, .9, .9 for each age in turn (.35 for yr2-3 hatchery); lognormal distribution with cv of 0.05

viii. Upstream adults (yr 3-6) – mainstem passage
ix. Spawners (yr 3-6) – mean max temp, capacity determined as maximum number of redds times 2.2 fish per redd
x. Other notes
1. modeling a captive brood-based program
2. check Coho literature for survival in different stream structures (Lawson habitat modeling paper)

g. Scenarios
i. Current condition
ii. 100% implementation of recovery plan actions
iii. current path future – based on rational for path of degradation or improvement

h. next steps
i. life-cycle parameterization
ii. scenarios
1. minimize hatchery programs (future scenario) except Leavenworth
2. work with Casey to set up a meeting for scenario development

3. Gaps update
a. Changes in language
i. "current observed gaps"
ii. "projected gaps" alternate climate / hydro scenarios
b. table structure changes – as discussed (one risk level per page with all scenarios – blank space left for new scenario)
c. MPG summaries (characterize gaps using population scenarios)
d. Graphic – multi-bar chart with different paired scenarios
e. Zonal approach
i. Attempts to create a logically flowing gaps analysis (adjusts for "knife edge" effects)
ii. Correlation between total weighted area and capacity estimate (of entire data series)
iii. Combines capacity gap with productivity gaps for populations needing large improvement in capacity and productivity
1. Is it appropriate to decrease the capacity estimate of the Imnaha? Could have historically supported a larger capacity than other Chinook stocks (rearing in the Snake)
a. Same concern in Lookingglass
2. generate table with data for capacity and productivity gaps and assigned gap

4. Steelhead MSA structure
a. Created new category -- Major with highly variable access
b. In Klickitat – falls (little Klickitat) created a 0 – 100% passable barrier
c. Velocity layer
i. Meant to account for high, low gradient reaches with little potential

ii. Data analysis supports views of bios, accept changes

5. White River Plans
    a. Is the White River a unique stock? – is the original premise consistent with more recent interpretations of the data?
    b. Shift from captive brood program (ready for outplanting) – building weir, eventually switching to broodstocking returning adults
    c. Several options presented
        i. release at mouth, potential for returns to white and little Wenatchee
        ii. Shift focus to Little Wenatchee
            1. low returns MSA adjacent to the White
            2. more habitat damage
            3. less local concern for hatchery releases
        iii. start with White River brood, create Upper Wenatchee broodstock supplementation program
        iv. no upper supplementation program, focus on Nason and Chiwawa (bulk of spawners)
            1. less than 10% of spawning is going to the white & Little Wenatchee
        v. broodstock collection at Tumwater dam

Option	Action	White Distinct	White Not Differentiated	No Additional Info
a	current program	0	0	0
b	modified current	+++	++	++(+)
c	transfer to little wenatchee			
d	outplant upper river stock in both			
e	supplement Chiwawa (and Nason) only	EEE	E	EE
f	Tumwater Collection	++++	+++	+++(+)

6. Modeling work
    a. Charlie and Howard to finish spreadsheets by the end of the week
        i. fixed "d" and lamda with variable "n" and delta and alternate regression
        ii. provide writeup
    b. Get fixed "d" work written up this week (new Bev-Holt relationships) by April 21st (Michelle)
        i. Sensitive to S3 estimation (sensitivity analysis)
            1. describe suite of ocean indices and possible change
    c. Provide modeling framework for Rich to identify effect on the gap
    d. Gaps analysis with fixed "d" for now, but with comment on variable "d"
    e. April 24th – 27th continue steelhead modeling
        i. SAR series to Rich (by the 24th)
    f. Meeting on April 27th – Seattle (and computer conference)
    g. Next steps
        i. Steelhead analysis and implementation of variable "d" with lambda "n" – finish by May 11th

ii. Fall Chinook – use half-day of Boise TRT (on the 16th) meeting
    1. pull literature together (adult counts, Deschutes reconstruction series, juvenile survival) – Tom, Rich
    2. come to agreement on form of analysis (by the end of may)
        a. structure
        b. likely important factors