

DRAFT
Meeting Minutes
DEFT Team
October 22, 1998
1:00pm to 5:00pm

Participants

Peter Rhoads, Jim Buell, Jim Snow, Mike Thabault, Gary Stern, Bruce Herbold, Jim Snow, Paul Fujitani, Larry Brown, Joe Miyamoto, Dave Fullerton, Tom Cannon

Agenda:

- i. Scenario Tools - their risks and uncertainties
- ii. What are on/off triggers for these tools.

Highlights:

- I. Developed table on the effectiveness of various tools to reduce specific entrainment problems.
- II. Developed two scenarios that used the most effective tools in two different ways.

NoName Report

- Need to expand concept of tools WUE, options, contracts, transfers.
- What tools would we use that don't necessarily make new water but would allow the DEFT Actions to work.
- What institutional actions needed to make tools work
- Bath tub/ San Luis carryover for exchange contractors.

Tool Table (Table 1)

Comments:

- 1. Habitat may help fish stay away from export pumps.
- 2. Spring run fry may move backup other rivers to over-summer.
- 3. Predator control in south Delta may reduce pre-entrainment losses.
- 4. Early warning with biological monitoring may be tough for some species and life stages that may be difficult to capture (e.g., steelhead). In such cases salvage is last line of protection as a trigger, or a last resort.

Discussion of table

- 1. Mike: with greater habitat delta smelt entrainment could be reduced. Overall habitat may not reduce entrainment of adults but may reduce entrainment of young.
- 2. Bruce: If they originate in Suisun Bay, adult smelt appear to move up Sac to spawn; while if they originate in the western Delta they spawn throughout the Delta.
- 3. Mike: physical habitat is probably not a limiting factor for delta smelt.

4. Mike: ERP provides enough habitat - adding more habitat would lessen the effect of entrainment on the population.
5. Larry: structural spawning substrate may be limiting.
6. Pete R: Wouldn't entrainment be less of an influence on the population if the smelt had improved growth and health from better habitat?
7. Gary: San Joaquin fry may not get much benefit from any additional habitat.
8. Pete R: what if the San Joaquin migratory corridor habitat were improved?
9. Gary: the extent of habitat just does not seem sufficient to help to reduce the effects of entrainment.
10. Bruce: HOR barrier is not in place in Dec-Feb to protect San Joaquin fry. General response: why not?

What tools in what scenarios?

Scenario 1 - NoName actions + relaxed E/I standards via active management

Jan - Mar	employ flex operations following dry years
Mar-Jun Apr-May	VAMP extended following dry years flex ops in years with high SJ flows
Jun-Aug	flex ops in years with low SJ flows
Dec-Feb	flex ops in wet years
Feb-May	flex ops -difficult to monitor must use salvage as trigger?

Comments:

1. Accumulate water to use for flex ops and VAMP extension
2. What are on/off triggers?
3. Combination of hydrology and biological triggers together would provide on/off switches.
4. Use triggers to make up water needed for protection.

Scenario 2 - NoName actions + relaxed E/I via regulated actions (varied standards)

Jan - Mar	X2 improved esp following dry years
Mar-Jun Apr-May	X2 improved esp following dry years QWEST or VAMP during years with high SJ flows
Jun-Aug	E/I in relation to X2 position during years with low SJ flows
Dec-Feb	close DCC + flex ops in wet winter storms
Feb-May	VAMP

Four classes of triggers:

- 1) early warning triggers
- 2) salvage triggers
- 3) 1&2, but shutdown is capped - budget for restricting exports
- 4) apply actions like VAMP based on historical data (experience). Some flex on degree and length of applying actions.

General Discussion

1. Gary: QWEST is a good measure of the amount of San Joaquin water exported at the export facilities.
2. Bruce: We need to determine on a species basis how much habitat can be employed above that provided in Common Program to reduce the effects of entrainment on the populations.
3. Bruce: We don't need a scenario that uses E/I.
4. Mike: E/I does provide some basic protection to estuary health. Inflow or X2 provides better protection. Important to maintain total water diversion below a certain level.
5. Pete R: how much of a difference can we make using X2 as a tool in high flow years?
6. Bruce: Its important in dry years; many fish concentrate at that location.
7. Bruce: The idea of changing standards after only three years - wet years - when most of the standards have not been activated - does not sit well with many people.
8. Bruce: Basic outflow protections are provided in the Accord. We are only trying to reduce entrainment at exports, which the Accord has failed to protect. X2 standards will protect the estuary, while we focus on reducing entrainment.
9. Pete R: Everglades experience: spent 20 years studying the wrong problem - worried that we could be focusing on the wrong cause here as well. What if we focus on entrainment, when not on water quality or habitat that could be the real problems.
10. Jim B: Accord still provides outflow and X2 protections. We are only asking for flexibility to improve. If we can't get improvement, then we won't change standards.
11. Dave F: We also need to develop triggers or rules that allow relaxation of standards.
12. Mike: where Accord did not work we need more stringent triggers; where it was overprotective we can relax standards.
13. Bruce: we need to focus on what we do in Stage 1 - the next seven years.
14. Mike: Realistically we will have to look at at least 20 years. Need assurances for more than 10 years, because if these actions don't work their replacement actions may not come online for another 10 years. Biological opinions will look beyond 10 years.
15. Pete R: Stage 1 must be real. Urban water users need a firm process in Stage 1.
16. BH: In seven years we will have some answers. Whole lot better data collected. Not reasonable to write an opinion to cover next 30 years. If habitat works in Stage 1 then great.
17. Mike: commitment to getting data and proceeding with process. Implementation and protection may extend beyond 7-10 years.
18. Mike: the CVPIA 3406 b2 process falls apart over multiple years - can't track the 800

- TAF of water past one year.
19. Jim B: E/V ratio should be considered. Why not also consider closing HOR barrier.
 20. Bruce: the more we relax the background protections in the Accord, the more confidence you need in the new tools.
 21. Jim B: We can always revert back to base Accord if a tool does not work.
 22. Jim B: Can we consider particle tracking as a remote trigger? First order of defense would be based on fish chances of being drawn to pumps. Second order would be salvage.
 23. Bruce: We can ID periods of sensitivity for which we expect risk and use monitoring to determine whether to trigger restrictions.
 24. Mike: Assurances from greater flexibility and ability to restrict when needed. The longer the time frame of protection, the greater the assurances. More contingencies, the greater the assurances.
 25. Mike: If you can define a problem and cause then use fixed measures rather than flex ops.
 26. More core protection, the greater the assurances.

Data Handouts

- 1) Russ Brown's summary output from one scenario evaluation for DNCT was provided.
- 2) Tom Cannon presented preliminary results of "NonSalvage Triggers" work.

Usefulness of various tools as triggers to protect fish from entrainment.

Problem	Hydro	Months	flex ops	E/I	QWEST	X2	VAMP	DCC	HOR	Habitat
delta smelt adults	following dry years	Jan-Mar	1-2	2-3	2-3	1-3	--	--		1-2
delta smelt young	following dry years	Mar-Jun	2	2-3	3	1-2	1-2	--		1-3
spring & fall run fry	wet winters	Dec-Feb	1-2	2	2	3	--	1-2		1-3
fall run SJ smolts	all years	Mar-Jun	1	3	1-2	3	1	3	1	1-2 (predator control needed)
spring run yearlings	turbidity trigger	Nov-Jan	1-2	2-3	2-3	3	--	1		1-2
striped bass (SJ) eggs & larvae (SAC)	dry years or high SJ flow	Jun-Aug	1	2	1-2	2	1	--		1-2
	low San Joaquin flow	May-Jul	1	1-2	2	1-2	--	1*		1-3
steelhead	all years	Feb-May	1-2	?	3	3	1-2	--	--	3

Scoring:

-- = neutral

1 = good

2 = maybe

3 = not useful