

**DRAFT**  
**Meeting Minutes**  
**DEFT Scenario Development Work Session**  
**October 19, 1998**  
**9:00am to 12:00pm**

**Participants**

Jim White, Jim Buell, Mike Thabault, Elise Holland, Bruce Herbold, BJ Miller, Russ Brown, Warren Shaul, Tom Cannon

**Agenda:**

- i. DEFT Scenario Development.

**Action Items**

- develop scenarios to level of Bruce's table by Thursday meeting.

**Highlights**

- A. Bruce presented data tables to help develop triggers.
- B. Worked out one example.
- C. Reviewed of Mike T's scenario and put into Bruce's table format.

**Bruce Herbold's Analysis - three fish species combination salvage triggers**

Discussion points:

- Adult spawning is best indicator of potential juvenile smelt problem at pumps.
- juvenile monitoring is not a good indicator.
- triggers need to be conservative to allow early filling of San Luis.
- should we control two project separately or jointly?
- we can vary triggers among species, by season, and water year (and other factors: such as water supply or population index, etc.)

For example:

- When fall midwater trawl index  $< Y$ , then the protection = 0.5 (target salvage loss reduction)
- If index  $> Y$ , then target protection = 0.25
- If catch and escapement  $> Q$ , then protection = 0.25
- If catch and escapement  $< Q$ , then protection = 0.75

Another:

- if low % of population is in Suisun Bay, set target reduction high
- if high % of population is in Suisun Bay, set target reduction low
- for delta smelt we could set triggers based on fall midwater trawl index; or on distribution as indicated in surveys.
- we could look at historical egg and larvae survey data to assess potential triggers for avoiding smelt larval stages, as salvage does not account for entrainment of larvae.

(**Action:** Russ Brown to look at biol trigger for smelt larvae using historical egg/larvae survey data, Tracy egg/larvae data, and adult smelt survey data as part of their biol trigger development task.)

- we could look at the fraction of population at risk
- we could adjust triggers as a function of other risks: for example population index and distribution of predators such as silversides.
- X2 movement could also be trigger for smelt.
- Concerns that triggers work fine when simulating, but in real time variability may make them useless; how will we apply restrictions in real time with triggers is a concern. Ok in hindsight, but can we do it in foresight with some confidence.
- for delta smelt we need to consider “take is take”; however, we would probably set a higher trigger limit for young than for adults.
- we have to have confidence that flex ops will provide better protection than long term E/I restrictions.
- triggers whatever they are need to be protective
- density in salvage may be a good starting trigger for delta smelt in Stage 1, but we would need to calibrate this with delta smelt in real time monitoring and potentially add new triggering mechanisms.
- We should adjust triggers on population distribution as identified in real time monitoring. A early warning system with gradually applied triggers.
- Monitoring in Stage 1 will help give us confidence in our triggers.
- We should be able to gradually improve protection in Stage 1 through feedback between triggers and monitoring.
- It is in the water users best interest to figure out a better signal/trigger to protect delta smelt - as this would identify periods when Accord export standards can be relaxed.
- There should be a strong incentive to find other ways to keep smelt and other fish out of the Delta to avoid triggering export restrictions.

Discussion/Comments:

1. B.J.: Any relaxation in export limitations will have to make sense biologically and visa versa. We need one or two scenarios that protect fish and provide significant new water supply from relaxations. A 15-30% reduction in salvage losses is a good target, along with 100 TAF of new water supply. We need a simulation to show how this may work.
2. B.J.: We should focus our efforts on what is constraining exports that could potentially be relaxed.
3. Bruce: The process is not so good when you leave the historical data record. Limit to using tools with historical record.

**Jim White’s Scenario**

- salmon only - but ancillary benefits to smelt, striped bass, and splittail - **Action:** build in protections for other species to make this scenario whole.

## **Mike T's Scenario**

4. Mike T.: his two scenarios are bookends:
- 1) - one focuses on limited standards with triggers to increase protection
  - 2) - second focuses on setting more rigorous standards and then having triggers to relax protection.

Example scenario (See attached table)

- manages fish by salvages with VAMP and E/I's
- need over time to develop outside triggers

## **Bruce Herbold: where was Accord short on protection**

- delta smelt young
- striped bass
- steelhead
- spring run
- need patches to protect these fish
- E/I standards do not provide protection
- spring run will benefit from DCC closure Nov-Jan
- new export protections will translate into reduced salvage

## **Next Meeting Thursday Room 325**

(attached table)

**Mike T. Scenario:**

Trigger (save target = 25%)	Responsible Month	Response Variable	Target
(1) if delta smelt salvage is > 1 adult per TAF	Jan - Mar	<p>E/I Standard: unrestricted in wet and AN year types</p> <ul style="list-style-type: none"> <li>• Base: Feb-June 0.35 in Normal; 0.2 in Dry; 0.1 in Critical</li> <li>• Base: Nov-Jan 0.35 in Normal; ___ In Dry; ___ in Critical</li> <li>• Flex operations relaxation in winter if salvage is low and smelt and salmon numbers are low in central and southern Delta.</li> </ul> <p>VAMP:</p> <ul style="list-style-type: none"> <li>• Base: 90 days Mar15-Jun15. 60 days Apr 1-May 31 fixed.</li> <li>• Flex operations relaxation on start and finish based on salmon tributary and Mossdale monitoring</li> </ul>	delta smelt adults
if delta smelt salvage is > 35 young per TAF	Feb-Jun	same as above	delta smelt young
if dry spring, and May-Jun X2 is above Suisun Bay, X2>rm 75	Jul-Aug	reduce E/I from .65 to .45	delta smelt young
if chinook > 25 per TAF + Mossdale tows three days in succession	Mar-Jun	Increase VAMP above 31 days.	San Joaquin chinook salmon smolts
if salmon fry are present	Jan-Mar	same as row 1 except wet year E/I is .35.	Salmon fry

if steelhead are >20 per TAF in salvage	Feb-May	same as row 1	steelhead smolts
if spring run salvage + flow distribution + Sac Riv monitoring	Nov-Jan	then set E/I at 0.25 or exports < 2500 cfs, which ever is more restrictive.	Spring run yearling smolts