

Briefing Statement

From: Delta Smelt Working Group

To: Environmental Water Account Implementing Agency Managers

Date: December 23, 2005

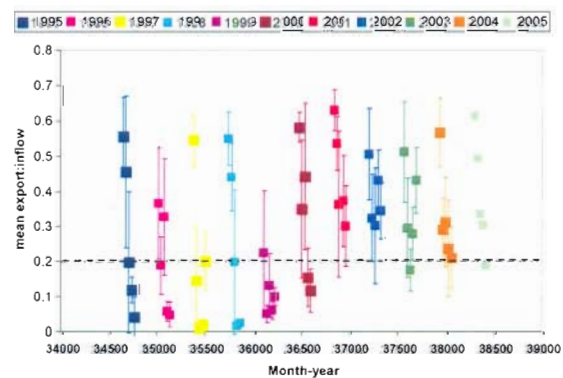
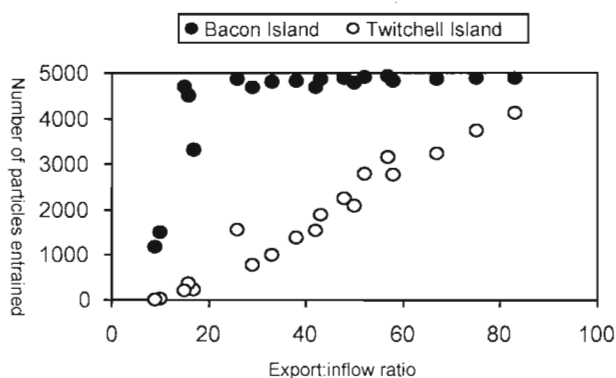
Re: Delta Smelt Protection Strategy

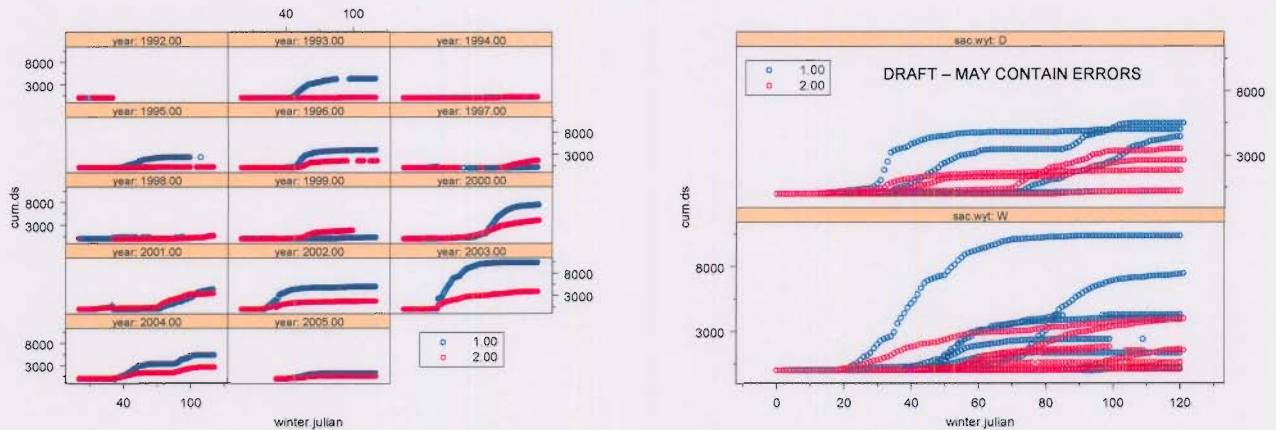
Problem:

The 2005 Recovery Index for delta smelt is 4, the lowest index on record, prompting a very high level of concern from the Delta Smelt Working Group. The “concern level” for numbers of fish salvaged, which is calculated as a ratio of winter salvage to the Recovery Index, is 143 for water year 2006. With the apparent abundance of delta smelt at an all-time low, it is critically important to protect pre-spawning adults, to maximize the potential for recruitment, and to reduce the risk of entrainment of newly-hatched larvae, to afford larvae the opportunity to move out of the Delta and into their rearing areas in Suisun Bay.

Recommendation:

The Working Group was asked to prioritize potential actions to protect delta smelt, and identified a winter action as the highest priority and a spring action as the next-highest priority. In deference to this ranking and with consideration of the level of EWA assets likely to be available, the Working Group has developed a protection strategy with two implementation options. The options are not mutually exclusive, but each focuses on a different lifestage. The “Winter Action” focuses on adult protection and the “Spring Action” on juvenile protection. Successful implementation of the Winter Action will result in a reduced need for subsequent actions. The Working Group recommends that the Winter Action be implemented, to minimize the effects of water project diversions to adults. The Working Group recommends an export curtailment to an export-to-inflow (E/I) ratio of 15%, to begin on January 3, or sooner if adult delta smelt are taken at either export facility. The Projects should be held to a 15% E/I ratio at least until the end of January, when early survey data from the Spring Kodiak Trawl survey becomes available. The recommended E/I ratio comes from observations made by the Pelagic Organism Decline Project Work Team (Herbold et al, 2005), which suggest that decreasing E/I to less than 20% could decrease entrainment risk. The figures below depict Particle Tracking Model outcomes (left) and monthly average E/I ratios for November through March of water years 1995-2005 (right).

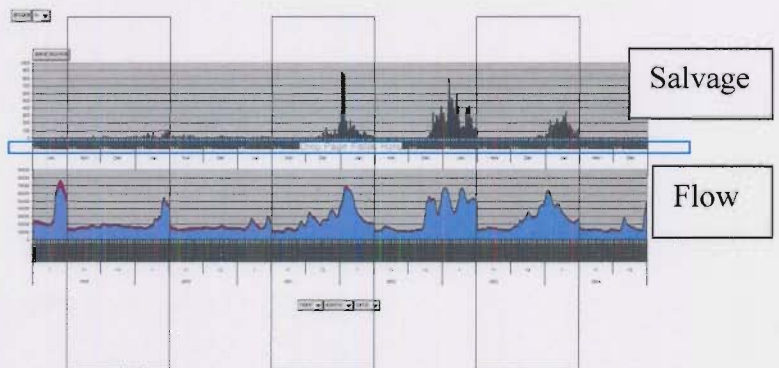




Triggers for Implementation:

The figures above show historical winter delta smelt salvage at the SWP (blue) and CVP (red). The X axis is number of days after December 1, the years are water years and wet vs. dry is according to the Sacramento Valley water year types. The timing of salvage events is variable, but tends to begin earlier in drier years. In most years there is a main salvage event that lasts for a period of weeks. The Working Group believes that initiating the action up to one week ahead of the estimated onset of delta smelt salvage will avoid as much adult salvage as possible.

The figure to the right shows delta smelt salvage peaks in relation to river flow. Note that salvage tends to follow increases in river flow. With Central Valley reservoirs relatively full, initial salvage may follow the first significant winter rainfall. Recent rainfall may indicate that the onset of delta smelt salvage is imminent. For this reason, salvage occurring prior to January 3 should prompt initiation of the action.



Measuring Success:

The California Department of Fish and Game will initiate its Spring Kodiak Trawl survey targeting pre-spawning adult delta smelt the third week of January. However, with the current very low abundance, the survey will likely not provide much insight into abundance and distribution of adult delta smelt. The Working Group will compare 2006 winter salvage trends to those of past years to draw inferences as to whether or not implementation of the Winter Action is successful. If salvage in relation to abundance more closely resembles patterns seen prior to water year 2001, the Working Group may infer that the Winter Action is successful. Successful implementation of the Winter Action may reduce the need for a Spring Action to protect juvenile delta smelt.