

Data On Delta Smelt Salvage At South Delta Pumping Plants In Spring And Early Summer

Prepared for DEFT Team

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Introduction

Questions have arisen as to how the EWA would have handled the recent smelt crisis at the South Delta Pumping Plants. For example: what actions might the EWA have taken to avert or minimize effects on smelt from pumping. Mary Nichols and Lester Snow recently stated that the EWA might help toward a solution.

This note and the attached spreadsheet charts summarize spring and early summer smelt salvage over the past 19 years. The attached spreadsheet charts show total salvage at the State and Federal pumping plants in the spring and early summer along with Delta outflow. (Note: 1999 salvage is shown only as density at the SWP plant.)

Report to Legislature entitled – “Delta Fish Protection and Water Supply” June 22, 1999

This reports lays out the problem for delta smelt.

1. Federal judge delayed implementation of CVPIA, the water projects were operated under the Delta Smelt Biological Opinion that has a criterion for a one-month period of exports reductions, which was started on April 17 and continued through May 17.
2. After May 17 the Opinion allows for resumption of higher exports to meet demands and refill depleted San Luis storage.
3. Unfortunately salvaged increased beyond take limits re-initiating consultation on May 20.
4. Reductions in exports after May 20 reduced pumping by 400 TAF.
5. The report states *“It was believed the reduction would be for a short period; historically, concerns over impacts to delta smelt from pumping diminish rapidly after three to four weeks as delta smelt naturally move westward out of the Delta. This year, however, a portion of the population continues to remain within the Delta”*. (Note in the attached charts that delta smelt salvage often continues through June and even into July, and that this is not a three to four week problem. If VAMP is mid April to mid May, then smelt often don’t show up until mid May in the salvage. Granted larvae and early juveniles that are not collected in the salvage sampling are potentially present in large numbers during VAMP and should also be protected. Our challenge is how to provide EWA protections in dry to normal years from April possibly into July without emptying San Luis.)
6. San Luis Low-Point Problem – at 300 TAF of storage
7. Projections for San Luis - it will drop below 200 TAF in August.
8. There is also concern about refilling San Luis for next year.
9. Solutions:
 - Temporarily switching SOD users to other supplies – cost of \$140-170/AF with later replacement.
 - Increased summer exports
 - Flexibility in SWP and CVP systems
 - Monitoring delta smelt
 - Working with stakeholders

Factors Related to Smelt Salvage

Delta Outflow

1. Under very high Delta outflows in spring (1982, 1983, 1986, and 1995) salvage of delta smelt was very low. This is consistent with distribution data that show smelt concentrated downstream in the Bay.
2. In dry years (e.g. 1991) numbers salvaged were generally lower than in more normal to wetter years.

Season or Calendar Date

1. Salvage generally commenced earlier in the year in drier years (e.g., 1985, 1987, and 1994), which is consistent with higher temperatures and earlier spawning and faster larval development in drier years.
2. Historically, salvage often continued into late June or July, as was the case this year.

Other Factors

Other factors evaluated by DEFT this past winter and not discussed herein include the following:

- Export rates
- E/I ratio
- X2 location
- San Joaquin River flow
- QWEST
- DCC closure
- HOR Barrier closure