

**RESOURCES AGENCY  
PELAGIC ORGANISM ACTION MATRIX  
RELATED TO WATER OPERATIONS  
November 22, 2006**

During the last 18 months there has been an extensive cooperative effort by State and federal agency, academic, and stakeholder scientists to identify the cause of the recent decline in pelagic fish abundance in the upper San Francisco Estuary. Substantial progress has been made in the Pelagic Organism Decline (POD) investigation and investigators presented recent results in late October at the CALFED Science Conference. A number of those investigators presented some evidence and suggested hypotheses as to how State and federal water project operations may have contributed to the POD.

Immediately after the Science Conference, a small group of State and federal resource agency managers and staff began discussing the management implications of this latest information for water project operations decision-making, including potential allocation of the Environmental Water Account in Water Year 2007. While recognizing that much of the information presented at the conference is preliminary and has not yet been peer reviewed, the information does suggest water management actions that might be beneficial to POD species, particularly delta smelt. The agencies' managers directed their technical staff to develop hypotheses about the effects of Delta habitat conditions on fish survival and to design experiments involving manipulation of these conditions through modification of water project operations to test the various hypotheses concerning the influence of water management on pelagic organism abundance. This evaluation approach also is responsive to feedback from earlier independent science reviews of the Environmental Water Account and the Interagency Ecological Program's delta smelt activities recommending using the water projects to adaptively manage conditions in the Delta to help assess the effects of project operations on the Delta's pelagic fishes.

During the last few weeks, a small group of agency technical staff developed hypotheses and identified several actions the water projects could take in the coming water year to test, or at least begin to test, one or more of these hypotheses. The potential actions were described and evaluated with respect to the conditions that could trigger initiation of the actions, the scientific uncertainties underlying the hypotheses those actions would test, the variables which could be measured to determine a response to those actions, any additional field sampling and laboratory or data analysis needed to make those measurements, the likelihood of successfully distinguishing a response for a one-year action, and the likelihood of successfully distinguishing a response if these actions could be carried out over successive field seasons.

This initial technical evaluation, summarized the attached matrix, is now being provided to others for review and comment, including the individual investigators who presented their hypotheses at the Science Conference and the interagency

management team of the POD investigation. Because the EWA could be used to help support some of these actions, following the EWA Review in late November the EWA independent scientific review panel is being asked to provide its comments and suggestions regarding the hypotheses, actions, uncertainties and metric variables and their potential value to help better understand the effects of water project operations. The feedback received from these reviews will be considered in refining the action matrix and in deciding how to use the EWA and other means to implement actions to protect fish and advance the science. Decisions to initiate actions will depend on an assessment of prevailing conditions; however most of these actions can be implemented within a few days of reaching the criteria which trigger them.