

**Natural Resources Defense Council
The Bay Institute
Environmental Defense
Pacific Coast Federation of Fishermen's Association
California Sportfishing Protection Alliance**

June 5, 2006

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Re: **Recommendations for Additional Actions to Protect Delta Fisheries**

Dear Sirs:

We are writing to offer our recommendations regarding additional actions that are urgently needed beginning in the fall of this year to protect the Delta's ecosystem and pelagic fisheries. As discussed below, we also believe that these actions are required pursuant to the State and federal Endangered Species Acts (ESA and CESA). This letter includes recommended actions for the SWP and CVP and additional recommendations for the fisheries agencies with primary responsibility for implementation of the ESA and CESA in the Delta.

As you know, Delta fish populations have been in decline for several decades. This decline has been particularly precipitous in the past four years, with some species falling to record low numbers. Many biologists believe that delta smelt are now in imminent danger of becoming extinct and that other native fish species, including longfin smelt, are similarly at risk and merit listing under State and federal ESAs. Clearly, given the recent population trends, immediate action is required to ensure the survival and recovery of these key species.

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Over the past year, an ambitious series of scientific studies and analyses has been undertaken to investigate the Delta pelagic organism decline (POD). Those investigations are now beginning to yield information that will be useful to your agencies as they fulfill their obligation for protecting the Delta's ecosystem and at-risk species. Preliminary results indicate that the combination and interaction of three principal factors – water project operations, invasive species, and toxic chemicals – are likely responsible for both the long-term and recent pelagic fish population declines as well as the prevalence and distributions of ecologically harmful invasive species.

Although the current POD investigations should be completed and reviewed before long-term changes in Delta management such as revisions to the SWRCB's Water Quality Control Plan are implemented, it is not necessary to wait before protective actions are taken. Both the CALFED ROD and the Central Valley Project Improvement Act (CVPIA) have recognized the value of modifying water project operations to reduce their impacts on fisheries and provided the means to do so. In addition, the State and federal ESAs require that action be taken to protect at-risk species. Based on the preliminary results of the POD investigations, there is sufficient evidence to conclude that additional protective water project operational measures should be taken during the coming fall and winter.

Results of POD Investigations

The POD researchers are investigating a number of hypotheses regarding the decline of delta smelt and other fish species. In two areas, the results of these investigations are particularly striking and directly relevant to water project operations.

First, investigators have studied how the invasive clam *Corbula amurensis* is affecting the Delta's planktonic food web and fisheries. The clam was already known to have had a significant negative impact on the abundance of phytoplankton and zooplankton in the upper estuary. New research indicates that higher salinity levels during the fall may increase the reproductive success of this species, allowing the clam to become established and more abundant over a larger area in the upper estuary, including in areas of upper Suisun Bay and the lower Delta where it was not present when salinities were lower. Statistical analyses show that, since the late 1980s, when the clam first became established, high fall salinities, which favor broader distribution of the clam, correlate strongly with low abundances of juvenile delta smelt measured the following summer. During the fall, salinity in the lower Delta is largely controlled by the operations of local, State and federal water projects that divert water to storage and for consumptive use. The data also show that operational practices of the State Water Project (SWP) and Central Valley Project (CVP) have changed in recent years, with higher Delta water exports and reduced Delta outflows functioning to increase Delta salinity during the fall.

Second, investigators have examined the direct impacts of the Delta export pumps during the fall and winter. Total exports from the Delta by the SWP and CVP have increased markedly in recent years, reaching a record 6.3 million acre-feet (MAF) in Water Year

2005. The change has been greatest in winter months, with December-March exports increasing by more than 50% from an average of 1.4 MAF in 1994-1999 to 2.2 MAF in 2000-2005. Analyses by POD researchers found these recent higher winter exports corresponded to disproportionately large increases in entrainment (measured as “salvage”) for all of the Delta fish species in decline. Further, the entrainment rates were also disproportionately high relative to population abundances for these species, indicating that larger proportions of the populations were being lost at the pumps at a time when the population numbers were experiencing sharp declines. Additional analyses indicate that low San Joaquin River inflows and negative flows on Old and Middle Rivers, concurrent with high export rates, are likely creating hydrodynamic conditions that draw greater numbers of fish to the pumps and correspond to the significantly higher salvage rates. For most of the “POD” fish species, the winter months correspond to their migration into the Delta for spawning. Protection of these biologically valuable spawning adult fish is essential for continuation and recovery of these at-risk species

While other factors such as the effects of toxic chemicals are almost certainly contributing to the pelagic organism decline, the results described above clearly point to cascading effects of upstream and in-Delta water project operations on the upper estuary’s ecosystem that are being manifested by the substantial and concurrent population declines of multiple fish species. Changes in operations of the State and federal water projects in recent years, particularly during the fall and winter seasons, appear to be an important driver for the changes in habitat conditions (i.e., salinity, in-Delta hydrodynamics), ecological conditions (i.e., distribution and abundance of harmful invasive species, condition of the planktonic food web), and direct water project-related mortality (i.e., loss of the fish at the Delta pumps).

Recommendations for Actions This Fall and Winter

Given the current poor population numbers for multiple Delta fish species and the real threat of extinction for the ESA-listed delta smelt, and based on the preliminary results of the POD investigation, we recommend that your agencies require significant protective changes in water project operations for the coming fall and winter. The objectives of these actions should be to:

- require Delta outflows that maintain fall salinities at levels comparable to those measured during years that correspond to a downstream clam distribution;
- reduce exports during the winter (or increase San Joaquin River inflows) to avoid negative flows on Old and Middle Rivers and maintain low entrainment losses relative to measured fish population levels; and
- require that the first pulse flow from the first significant rain event pass through the Delta without a simultaneous increase in export pumping (as is specified by the CALFED Ecosystem Restoration Program Plan, Vol. 2, pg. 98-99).

These measures can reasonably be expected to decrease invasive clam populations, increase planktonic food supplies for Delta fish species, improve habitat conditions, and decrease the numbers of fish entrained at the pumps. It may well be that these actions should be incorporated into long-term regulatory requirements, such as the SWRCB's Bay-Delta Water Quality Control Plan, a revised Biological Opinion for the joint operations of the state and federal pumps, and other requirements. However, your agencies have several tools with which to begin immediate implementation of these actions. Specifically,

- We recommend that your agencies require the CVP and SWP to provide enough water or funds for the Environmental Water Account (EWA) to fully achieve the dedicated environmental water supply targets for tiers 1 and 2 level of protection, as established by the CALFED ROD and 2004 Biological Opinion for delta smelt.
- To some extent, water dedicated to fisheries restoration by section 3406 (b) (2) of the CVPIA can be used for this purpose. According to the most recent accounting for 2006, less than 400,000 acre-feet of (b)(2) water is projected to be used this year. We recommend that your agencies arrange to store this unused (b) (2) water, pursuant to section 3408(c) and (d) of the CVPIA, and use that water during the coming fall and winter water year to implement the protective actions described above.
- We recommend that your agencies require the immediate preparation of a plan to provide additional assets pursuant to tier 3, as required by the CALFED ROD. These additional assets may be reasonably foreseen to be needed during the coming water year. Given the excellent storage and flow conditions this year, the projects can provide tier 3 assets with little risk to water supplies during the coming year.

The preceding sources of water are all available to your agencies during the coming water year, pursuant to the existing requirements of the CVPIA, the CALFED ROD and the existing Biological Opinions. It is worth noting that the CVP has announced that it will provide 100% deliveries to South-of-Delta water service contractors this year, exceeding the anticipated minimum delivery levels in the CALFED ROD by 30-35%. Given the excellent water supply conditions that water exporters will see this year, these proposed changes in operations are likely to have minimal, if any effects, on water supply.

Requirements for Continued Assurances: We recommend that U.S. Fish and Wildlife Service (FWS), National Marine Fisheries Service (NMFS) and Department of Fish and Game (DFG) clearly indicate that the above EWA recommendations and full endowment of CALFED's tier 1, 2 and 3 levels of protection are required for continued Delta export assurances. Your agencies should develop a contingency plan, should full assets not be provided, to terminate assurances and impose the actions discussed above as uncompensated operational requirements pursuant to the ESA and CESA. In short, your agencies must establish clear requirements to maintain compliance with the ESA and

CESA under existing Delta assurances and a contingency plan, should those requirements not be met.

Adaptive Management: We urge FWS, NMFS and DFG to undertake a thorough evaluation of the implementation of agency plans and recommendations in the past several years. First, we recommend that you examine the extent to which the projects have met the requirements in the CALFED ROD for tiers 1, 2 and 3, including not only the EWA target itself but also “Full Use of 800 TAF Supply of Water Pursuant to Section 3406(b) (2) of the CVPIA in accordance with Interior’s October 5, 1999 Decision” (page 56). Second, this examination should address the extent to which the recommendations of the Delta Smelt Working Group have been implemented. We believe that EWA implementation has fallen significantly short in both of these areas. The former issue is addressed in detail by the Environmental Defense report entitled *Finding the Water*. Providing an accurate evaluation is a fundamental requirement of a meaningful adaptive management program.

Transparency: Finally, we recommend that FWS, NMFS and DFG develop a process to allow the public to follow the decision-making regarding Delta protective actions during the coming year. Specifically, this process should clearly document, in a timely fashion, progress towards achieving CALFED’s requirements for EWA and CVPIA supplies; recommendations made for protective actions by the CALFED Data Assessment Team, Delta Smelt Working Group, and/or Vernalis Adaptive Management Team; and discussion and evaluation of the recommendations and the bases for resultant implemented actions. This process should also show that regulatory agency biologists, and not water project operators or contractors, are making the final decisions regarding protective actions.

Requirement of the ESA and CESA

In general, the ESA and CESA prohibit state and federal agencies from operating the water project facilities in a manner that harms or kills listed species such as the delta smelt. Both acts provide processes to allow limited “take” of listed species when that take occurs incidental to an otherwise lawful activity, and when it will not jeopardize the continued existence of the species or adversely modify the species’ critical habitat. However, even when these procedural requirements have been met (and they have not been met here), the project agencies (the Bureau of Reclamation and Department of Water Resources) continue to face independent, affirmative obligations to aid in the recovery of listed species, to ensure that their actions do not jeopardize a listed species or adversely modify critical habitat, and to give the benefit of the doubt to listed species by placing the burden of protecting against risk and uncertainty on the agencies.¹

¹ See, e.g., 16 U.S.C. § 1536(a); *Sierra Club v. Marsh*, 816 F.2d 1376, 1386 (9th Cir. 1987); *Pyramid Lake Tribe of Indians v. U.S. Navy*, 898 F.2d 1410, 1415 (9th Cir. 1990); *Stop H-3 Ass’n. v. Dole*, 740 F.2d 1442, 1460 (9th Cir. 1984) (failure of action agency to consider independently whether its actions jeopardize is arbitrary and capricious).

These obligations have not been met with regard to the delta smelt. Instead, DWR and the Bureau continue to ignore the crisis facing pelagic organisms in the Delta and to operate their facilities as though those operations had no effect on delta smelt and other imperiled species. It is time for the project agencies to acknowledge their role in the continuing decline of the delta smelt and to begin satisfying their independent obligations to protect and restore the smelt and its habitat.

Moreover, the fisheries agencies charged with protecting the delta smelt have also failed to take any meaningful steps to respond to the recent crisis in the Delta. In its Biological Opinion on the effects of the joint operations of the state and federal pumps on the delta smelt (“OCAP BO”), the U.S. Fish and Wildlife Service promises to re-initiate formal consultation if “new information reveals effects of the proposed action may affect listed species or critical habitat in a manner or to an extent not considered in this opinion.”² This threshold has clearly been met, yet the fisheries agencies continue to allow project operators to ignore the smelt’s crisis and to allow the species to slide to extinction. In addition to implementing the short-term protective measures called for above, the Service should comply with the requirements of its OCAP BO and require re-initiation of the effects of OCAP on delta smelt in light of current information regarding the species’ status and the cause(s) of its decline.

There are clearly a number of important steps that can and should be taken to address the crisis in the Delta. We would greatly appreciate an opportunity to discuss these recommendations with you as soon as possible. We will contact your offices regarding a convenient time. We look forward to working with you to ensure that an ambitious set of additional actions are implemented during the coming year, as supported by scientific analysis, to improve conditions facing Delta fish.

Sincerely,



Barry Nelson
Natural Resources Defense Council

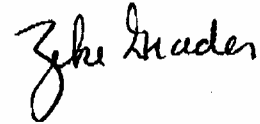


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² Memorandum from USFWS to BOR re Reinitiation of Formal and Early Section 7 Endangered Species Consultation on the Coordinated Operations of the Central Valley Project and State Water Project and the Operational Criteria and Plan to Address Potential Critical Habitat Issues (Feb. 16, 2005), p. 230.



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