



**FRIENDS OF THE RIVER**  
CALIFORNIA'S STATEWIDE RIVER CONSERVATION ORGANIZATION

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Dan Meier, SDIP Project Manager  
Bureau of Reclamation  
2800 cottage Way, MP-700  
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Paul Marshall  
California Department of Water Resources  
1416 Ninth Street  
PO Box 942836  
Sacramento, CA 94236

RE: South Delta Improvements Program Comments

Dear Messrs. Meier and Marshall,

I write on behalf of the Friends of the River (FOR) to submit the following comments to be addressed by the Environmental Impact Statement/Report (EIR/EIS) for implementing the South Delta Improvements Project. FOR is a statewide river conservation organization with a membership of 5,000 statewide. I appreciate the opportunity to submit these comments on this important subject.

As you know, large-scale impoundments and water diversions have significantly hampered the ability to maintain ecological continuity suitable for living resources within the Bay-Delta. And, after more than \$2 billion spent on the evaluation and management of this ecosystem, the lack of progress indicates that the understanding necessary to preserve the Bay-Delta's health has yet to be achieved. To date, project after project, has passed engineering and scientific standards only

to have the environment fall victim to subsequent “unknown factors” or “unintended consequences.” Despite the despoliation of the Bay-Delta, projects for exporting more water continue. Therefore, as the SDIP now stands, specific and concrete assurances are needed in order to protect those species that rely on the Bay-Delta and on environmental restoration. We are doubtful that adequate assurances for Bay-Delta protection can be guaranteed by continuing to rely on traditional means of calculating water run-off. Nor is it responsible to continue to ignore the limited biochemical resilience and tolerance of the Bay-Delta’s ecosystems in the face of our prolonged man made disturbances. A growing body of science, based on data collected from coastal ecosystems around the globe, suggests fundamental flaws in our efforts to restore Bay-Delta. Therefore, FOR feels the following list of issues must be addressed in a subsequent EIR/EIS.

### ***1. Full Examination of the Four River Index***

FOR questions the use of the Four River Index (FRI) as a means of calculating run-off to the Bay-Delta. The FRI ignores the historical fact that the Bay’s geomorphological and hydrological features were molded for thousands of years by blended runoffs of both the Sacramento and San Joaquin watersheds. In planning for water diversions, we are overestimating water availability and the ability for the ecosystem to withstand the reduction of outflows. Based on this information, subsequent EIR/EIS should examine the validity of the FRI as a method of calculating runoff.<sup>1</sup>

### ***2. Examine Cumulative Effects of Reduced Water Runoff Under the Second Law of Thermodynamics***

FOR contends that water planning in California has ignored the evolving ecological river-coastal sea continuum historically maintained by years of undisturbed water and sediment runoff. Friction created by the outflows of water and sediment creates energy. Water projects such as the Central Valley Project and State Water Project harvest millions of tons of water, sediment and organic material that once flowed through the Bay-Delta. By reducing the Bay-Delta outflows we reduce the amount energy available to work to maintain the watershed. And, according to the Second Law of Thermodynamics, there is a direct correlation between the reduction of energy and the increase of entropy. The result of heightened entropy is disorder. This disorder is evidenced in the form of poor water circulation, reduction in the dissolution of pollutants and, of course, salt intrusion. Every drop of water cultivated from the Delta reduces the

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<sup>1</sup> For further explanation of the insufficiency of the FRI see Rozengurt & Herz, *Analysis of the Influence of Water Withdrawals on Runoff to the Delta-San Francisco Bay Ecosystem*. Tiburon Center for Envir. Studies (Lib. of Congress # 2 091 239, UC, UCB, CAS) (1987).

potential for energy and, proportionately, increases entropy. The progressive result from this loss of energy, in the form of outflows, will continue to result in further degradation that cannot be mitigated with insignificant, sanitary water releases. An EIR/EIS should examine the loss of energy caused by dams and water diversions and the resulting cumulative effect on the Bay-Delta Ecosystem.<sup>2</sup>

### ***3. SDIP Must Remain Absolutely Consistent with Promises to Restore the Bay Delta Ecosystem***

There is much concern in the environmental community that promises to restore and protect the biological values of the Bay-Delta ecosystem are not being met. Any efforts to increase intakes, as called for in the SDIP, must, at a minimum, provide assurances that the environmental goals of collaborative restoration plans will be realized.

#### *Maintain the Integrity of CVPIA*

In implementing the SDIP as envisioned, there are concerns about maintaining the integrity of water management allocations. The CVPIA 3406(b)(2) directs the Secretary of Interior to dedicate and manage annually 800,000 acre feet of water for fish and wildlife purposes. The CALFED Record of Decision (ROD) includes the implementation of the CVPIA's (b)(2) provision. Recently, court decisions and subsequent direction from the Department of Interior, have reduced the amount of (b)(2) water available. An EIR/EIS must examine the impact of these developments on SDIP.

#### *Maintain Integrity of EWA*

According to the CALFED ROD, the Environmental Water Account was established to act as an "insurance mechanism" providing "fishery protection." Inadequate funding has severely reduced the effectiveness of the EWA. Moreover, current budget figures indicate a continued reduction in the ability of the EWA to purchase water. Obviously, FOR would prefer implementing a plan that guarantees adequate funding for the EWA. However, given this unlikely event, and the precarious nature of EWA funding, an EIR/EIS should examine a means of providing funding for the purchase of water absent the EWA funds.

### ***4. Provide Studies and Models that Conclusively Demonstrate That There Will Be No Increased Take of Threatened or Endangered Species***

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<sup>2</sup> For further explanation on the role of the Second Law of Thermodynamics please see Dr. Michael Rozengurt, *The Agonizing San Francisco Bay Ecosystem*, in the Hydrology Days Publication, presented at the American Geophysical Union, Editor Jorge Ramirez (2002)

*No Increased Take of Endangered or Threatened Species*

CALFED models have shown that any increase in pumping capacity results in the increased take of endangered species. The EIR/EIS must include detailed assurances that increased pumping will not harm protected species. These assurances should include detailed models and address potential harm for all aquatic species in the Bay-Delta, especially those listed as threatened or endangered under the state and federal ESAs. Variables such as type of season, amount of flow, varying of temperatures and any other potential impacts should be included.

*Establishment of State-of-the-Art Fish Screens*

The CALFED ROD provides that any increased exports are required to be off-set with so-called “state-of-the-art” fish screens. Currently, a lack of funding has resulted in delays in the construction of these fish screens. Any increased pumping should not be done without the completion of these screens. An EIR/EIS should address the issue of implementing fish screens, their effectiveness as well as their potential funding sources.

**5. *Provide Concrete Assurances of No Net Increased Diversions***

Restoration efforts and the integrity of the entire CALFED process will be gravely compromised without concrete assurances that increasing pumping capacity will not result in net increased water diversions. The EIR/EIS should set forth absolute guarantees of maintaining this commitment and include the potential for legislative guarantees.

**6. *Examine All Alternatives to Increasing Pumping Capacity and Dredging***

Any EIR/EIS should examine a full list of alternatives of meeting the goals of the SDIP without increased pumping capacity or dredging.

Again, I appreciate the opportunity to submit these comments on behalf of FOR. If you have any questions regarding this letter, please feel free to contact me.

Sincerely,

Marc E. Christopher  
Policy Advocate