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Non-Profit Law and Consulting in Conservation of Natural Resources and the Global Environment

Gregory A. Thomas
President

11/6/98

Mr. Lester A. Snow, Executive Director
The CalFed Bay Delta Program
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Dear Lester:

Thank you for the opportunity to present some of the concepts in our "Environmentally Optimal Alternative" (EOA) report on November 5. You graciously inquired at the end as what NHI proposes that the CalFed program do with these concepts. This is our considered reply:

- We were able to present only a few of the many solution opportunities that are analyzed in the EOA. Our first and most important request is that you **read the entire document and consider integrating these approaches into the Phase I final report**. We make this request mindful of your reading overload, confident that the document will repay the effort. This is not a position paper. It is not a wish list. It is a detailed roadmap for an array of promising options that would go a long way toward satisfying the CalFed objectives. And, I believe you will find that it is technically sound, if preliminary.

- **Expand efforts to estimate the seismic risks to the integrity of the delta.** While excellent, the existing seismic analysis is based on extrapolation, limited data points, and professional judgement. Increased investment in geophysical and geo-technical data collection and analysis could improve the reliability of probabilistic assessments of delta levee failure. In our view, the appropriate methodology is to specify the type and degree of levee failure (and damage) that would overwhelm emergency response capabilities and result in "outage" of the delta as a water conveyance system for a period that would be regarded as "catastrophic" by the affected water users. Then evaluate the probability of such an event occurring over various exposure periods.

- Develop and analyze the long-term **scenario of a maximal feasible effort to rebuild the landforms** in the delta so as to render as much of the delta system as possible invulnerable to "catastrophic" failure from seismic and flooding risks over the next 50-100 years. Compare the costs of this scenario to the alternative of levee

maintenance in perpetuity and the inevitability of eventual catastrophic failure of the delta as a water conveyance system.

- **Develop and implement a stage I program to manage and reverse interior-island subsidence by investing** heavily in **"learning laboratories"** to test out the most promising mix of techniques and locations for filling the islands incrementally over time. Category 3 subsidence reversal program is a good first start, but it only involves limited studies of two subsidence reversal technologies. Other technologies should be developed and tested on a large scale during stage 1 on the western delta islands. Although $3.6 million in category 3 funds have been allocated to study subsidence reversal technologies, the most recent draft of the CALFED system vulnerability program (October 1998) does not include a subsidence reversal or management program with the exception of subsidence control in the close proximity of existing levees.

- Incorporate the "low conflict" restoration opportunities identified on the map and figure 12 of the EOA in the list of Phase I CalFed actions, as proposed by NHI and the in-delta interests with whom we have been working.

- Develop a long-term delta restoration program based on the principles and processes proposed in the EOA. Define near-term action steps consistent with these for inclusion in the Phase I program.

- Include restoration of fishery flows in the San Joaquin River below Friant among the suite of CalFed ERPP actions.

- Fund a comparative analysis of the possibilities which the three delta conveyance options create for the restoration of the San Joaquin River under the EOA scenario.

- Begin to utilize and support the powerful screening analysis which can be accomplished by using WEAP, which CalFed helped develop, in sequence with DWRSIM runs. WEAP is useful for the reconnaissance analytical needs of the CalFed staff, but it is also uniquely valuable as tool for group evaluation of hypotheticals and consensus decision making in the CalFed stakeholder and public meetings.

- Enable NHI, which has built a high level of credibility on the subject, to complete its technical analysis of the maximal scale groundwater banking program described in the EOA. This research will be indispensible when the focus shifts toward negotiating actual groundwater banking arrangements.

- Combine water efficiency improvements, water transfers and conjunctive use into an integrated strategy for improving dry year water availability for all sectors. These are not discrete but interrelated components.

- Invest in improving CalFed's understanding of the economics of water use decisions by end users, especially farmers, and devise a water use efficiency program in light of those realities. NHI has already done considerable empirical work in this regard. We are confident that CalFed will conclude, as we have, that the biggest payoff will come from market incentives.

- Assemble the technical and legal expertise to characterize and address the current impediments to water markets in California and how to surmount them. In our view, the water transfer barriers must be understood initially from the geohydrologic legal and institutional dimensions before figuring out how to avoid injury to vested rights holders and other interests. The EOA analysis should be a good reliable beginning point. A problem in making progress on this issue heretofore in the CalFed process is that the economic stakeholders have dominated the process. This has not advanced a productive understanding of the interface between surface water transfers and groundwater management, the constructive role to be played by water districts in mediating transfers, how to deal with third party effects in a manner that does not create additional rigidity in the water allocation system, and how to enable the environment to meet its needs through the market.

- Provide a further opportunity for NHI to brief you, your staff and the CalFed agency leads on the several other features of the EOA that we did not have time to address, including a fuller explication of the water management innovations—efficiency improvement, water transfers and conjunctive management—and how they translate into water supply reliability.

Please let us know how we might be of further assistance to this important work.

Yours sincerely,

Gregory A. Thomas,
President