

**Comments of the Pacific Rivers Council on the
Draft Programmatic Environmental Impact Statement/Environmental Impact Report
for the CALFED Bay-Delta Program
June 29, 1998**

I) In General

The Draft Programmatic Environmental Impact Statement/Environmental Impact Report for the CALFED Bay-Delta Program ("Draft") proposes three alternatives, all of which will alter flow magnitude, velocity, and volume in the Delta, and none of which will eliminate reverse flows (Draft 6.1-1). It also broadly outlines as yet undeveloped strategies for restoration of the greater Bay-Delta ecosystem, including upper watersheds that extend far into the Sierra Nevada and other vast regions. This lack of detail is a major flaw of the Draft that needs to be addressed before the Revised Draft is circulated for public review and comment.

A) The Document Presents Conflicting and Often Contradictory Goals

Internal conflict within the document renders many of the recommendations futile, as is the case with various sections that address sediment problems. The Draft depicts two distinct trends. First, the upper watersheds have experienced artificial increases in sediment loading due to past and current land-management practices such as logging and grazing (Draft 6.3-13). Second, lower portions of the watersheds are experiencing a shortage in sediment and gravel depositions. "The Sacramento River's hydrology has been profoundly altered by reservoir construction... This has reduced the energy available to transport sediment in the Sacramento River. Moreover, the sediment supply to the river has been reduced by sediment trapping in reservoirs; by mining of sand and gravel from channel beds; and from artificial protection of river banks." (Draft 6.3-12.) Natural bank erosion rates, channel migration, and sinuosity also have declined due to upstream dams and downstream levees. Further, levees, rip-rapping, and other channel restrictions have led to the simplification of fish habitat, while in many cases providing ineffective flood control.

Amazingly, the Alternatives propose construction of new and expanded reservoirs which will further cut off the flow of sediment and gravel necessary to support natural river processes and fish spawning. Moreover, in a later chapter the document reaches the conclusion that construction of new reservoirs would have "potentially adverse impacts" to spawning and rearing habitat, and that entrainment mortality and habitat degradation would intensify due to in-channel or isolated canal facilities (Draft 7.1-1). These impacts to fishes are rated "significant and unavoidable" (Draft Table 7.1-1).¹ The Draft makes no attempt to reconcile known negative impacts with proposed solutions.

¹ It must be noted that there is no assessment of impacts to amphibians, reptiles, and other aquatic/riparian dependent species other than waterfowl.

B) The Alternatives Are Too Dependent on Physical Solutions

Despite the well-known negative impacts detailed above, the Draft proposes that 23 new or enlarged surface storage facilities (i.e., reservoirs) and canals be built (the total number fluctuates depending on the chosen Alternative). With regard to these proposed facilities, there is no discussion of habitat loss and impacts on fish and wildlife, altered sediment regimes, higher water temperatures, or other negative impacts (Draft 6.1-11 & 12, 6.1-56 - 6.1-66). One must explore other chapters to read of these impacts and then attempt to piece them together for a comprehensive overview. Thus, there exists an obvious disconnect between the impacts discussion and the benefits discussion. This pattern is not confined solely to the sediment/storage facility discussion but is repeated throughout the document.

Loss of habitat recognized as key to ecosystem decline: "Remnants of riparian communities along the Sacramento River and tributaries are all that remain of once very productive and extensive riparian areas." Yet Alternatives 1 & 2 proposes to build new storage facilities that could inundate between 18,000-32,000 acres of riparian lands (Draft 7.2-29 & 30). Further, only one paragraph is devoted to adverse impacts of building new facilities in the Sacramento River example, even though those impacts are significant, including loss of stream fisheries, blockage of upstream migration of anadromous species², and increased entrainment (Draft 7.1-14). Yet many pages are devoted to outlining potential benefits, including the following: "Construction of off-stream storage facilities would result in the creation of open water/reservoir fisheries." (Draft 7.1-14) Replacing established, and in some cases tenuous, native cold-water stream fisheries with artificial warm-water reservoir fisheries will in fact be a gigantic step backward for aquatic ecosystems and defies even the somewhat contradictory logic of the Draft which recommends the *removal* of dams and other barriers to sediment and nutrient input and movement (Draft 7.1-14).

The Alternatives' dependency on increased reservoir capacity and new levees and canals to control flow, temperature, and dilution of pollutants is an obvious flaw (Draft 7.1-14). Further, these "mechanical fixes" will not provide long-term solutions to the water quality and supply nor the ecosystems problems plaguing the greater Bay-Delta system. Nevertheless, ecosystem restoration can accomplish this, as the Draft itself reveals: "Under Alternatives 1, 2, and 3 the primary beneficial impacts in the Sacramento River and San Joaquin River regions results from restoration of aquatic and adjacent communities, including riparian shaded riverine, aquatic, and floodplain." (Draft 7.1-13.)

II) Ecosystem Restoration

The Ecosystem Restoration component of the Draft is its most ecologically sound aspect, but it is also the least detailed and most dependent on voluntary actions. Language in the Draft itself betrays little confidence in success: "The ecosystem Restoration Program *could* result in the direct

² Dams already block access to roughly 90% of the original spawning habitat for chinook salmon. See e.g., Sierra Nevada Ecosystem Project. 1996. Watersheds and Aquatic Biodiversity. In Sierra Nevada Ecosystem Project: Final report to Congress, vol. I, Assessment Summaries and Management Strategies. University of California, Centers for Water and Wildland Resources, Davis, CA.

and indirect restoration, enhancement, or protection of riparian and associated floodplain habitats along the San Joaquin River and its major tributaries, and riparian and associated floodplain habitats along the Sacramento River and its major tributaries." (Draft 7.2-30; emphasis added.)

A) Implementation Strategies Lack Detail

The Draft presents laudable comprehensive ecosystem restoration recommendations that, unfortunately, lack implementation details. For example, a few general goals include:

- cease or limit sediment extraction;
- re-establish natural channel structure;
- restore riparian, shaded riverine, marsh, and floodplain communities. (Draft 7.1-23.)

The Ecosystem Restoration Program Plan ("ERPP") presents a "Vision for Reducing or Eliminating Stressors," but once again how this "vision" will be achieved is left to vague pronouncements (ERPP, Vol. I, p. 269). The same holds true for the "Ecological Zone Visions" in Volume II. For example, the Feather River/Sutter Basin Ecological Zone vision "focuses on maintaining or restoring floodplain and flood processes; streamflow; gravel recruitment, transport, and cleansing; and seasonally flooded aquatic habitats that provide important wintering areas for waterfowl and shorebird guilds." (ERPP, Vol. II, p. 257.) No implementation strategy accompanies these admirable goals.

B) The Upper Watershed Chapter Fails to Present a Comprehensive Analysis of the Issues

The chapter titled "Upper Watershed Processes—Fire and Erosion" (ERPP, Vol. I, p.65) is misleading in that there are many natural and anthropogenic disturbances that influence watershed processes and downstream habitats, not just fire and erosion. Further, the chapter fails to differentiate between "pulse" disturbances (single events such as fire and flood) and "press" disturbances (long-term disturbances such as erosion and soil compaction from roads and grazing), and their relative impacts on aquatic ecosystems. "Visions for Reducing Stressors" includes "to improve and change land use to restore important stream and floodplain processes and wetland, riparian, and stream habitats." (ERPP, Vol. II, p. 263). How can this realistically provide a net benefit for the Bay-Delta ecosystem when *new* projects are being proposed that will once again degrade or destroy these habitat types?

The Upper Watershed chapter also fails to discuss restoration of salmon and steelhead runs to their historic ranges. The Section on Dams, Reservoirs, Weirs, and Other Structures states: "The feasibility of restoring anadromous fish above some of these dams may be considered in the future." (ERPP, Vol. I, p. 279.) This element of the plan must not be left to the wayside while new runs of salmon and steelhead are being listed under the Endangered Species Act almost on a yearly basis.

III) Watershed Management Strategy

The Watershed Management Strategy Technical Appendix ("Watershed Strategy") states the following purpose: "[T]o reduce stressors which reduce beneficial uses of the Bay-Delta. The stressors...constrain watershed health and the ability of the watershed to contribute to the health of the Bay-Delta ecosystem." (Watershed Strategy, p. 2.) This supports the overarching goal of the Watershed Strategy is "to improve aquatic and terrestrial habitats and improve ecological functions to support sustainable populations of diverse and valuable plant and animal species." (Watershed Strategy, p. 2.)

The geographic scope of the Watershed Strategy is tremendous (upper tributaries above the dams, and lower watershed below the dams), comprising the majority of the greater Bay-Delta ecosystem. Yet the Watershed Strategy is the least developed component of the DRAFT. What the Watershed Strategy succeeds at is presenting a very detailed discussion of historic and ongoing stressors, but it fails at presenting long-term solutions.

A) The Watershed Management Strategy Should Place a Priority on Ecological Restoration

The Watershed strategy does suggest that an ecologically sound watershed project would include an approach which incorporates, for example, meadow restoration and increased water storage, with the benefits both to humans and aquatic species by producing colder, cleaner water during the summer months (Watershed Strategy, p. 3). But then follows the qualifier that "[t]hese programs will attempt to utilize natural processes wherever possible, but recognizing the need for other processes for at least an interim period in specific areas depending upon specific conditions." (Id.) This leaves the door wide open for restoration methods that are unproven and could cause more harm than good; for example, vegetation manipulation to produce greater water yield, an approach mentioned several times in various volumes of the Draft.³

This is an entirely speculative theory unsupported by any long-term scientific experimental study.⁴ What the Watershed Strategy needs to emphasize is projects that *remove* stressors from the watershed and allow natural watershed processes to reassert themselves.⁵ An example of which would be to remove sources of chronic disturbances from riparian areas, such as roads and cattle, and thus allow a return to natural hydrologic and geomorphic processes, and the reestablishment of native plant and animal communities. This type of approach would fulfill multiple goals including: increased water quality and water supply, a beneficial time-shift of accretion and runoff

³ "[I]ncreased thinning and selective harvesting has the potential to increase total water yield by reducing transpiration.." (ERPP, Vol. I, p. 67.); "Watershed projects which increase stream base flow, such as vegetative modification and reduction in evapotranspiration, may be beneficial to water supply reliability." (Watershed Strategy, p. 3.)

⁴ For a full discussion of this topic, see the attached paper titled "Thinning For Increased Water Yield In The Sierra Nevada Mountains: Free Lunch Or Pie In The Sky?" by Michael D. Purser and Jonathan J. Rhodes.

⁵ For an excellent discussion of ecologically sound approaches to restoration, see Kauffman, J. Boone, Robert L. Beschta, Nick Otting, and Danna Lytjen. 1997. An Ecological Perspective of Riparian and Stream Restoration in the Western United States. Fisheries 22(5):12-24.

through non-structural methods, reduced pollutant and sediment loading, restoration of groundwater flows, and improved aquatic habitat, which are stated goals throughout the Draft. However, any strategy that has a chance of succeeding must recognize that as long as ongoing sources of degradation continue unabated, restoration efforts will fail to reverse the decline of the Bay-Delta ecosystem.

As for watershed oversight (Watershed Strategy, p. 7), whatever entity that is formed to oversee the watershed management strategy must include all stakeholders, in addition to local interests and agencies. The majority of the upper watersheds lie within public lands, and the waters they produce sustain multiple natural and human communities throughout a broad geographic range. The myopia of those who controlled the state's water resources in the past has led to the current problems of ecosystem decline and water-supply shortages—let us not repeat this same mistake.

IV) Conclusion

The Draft EIS/EIR presents a comprehensive picture of what is wrong with the Bay-Delta ecosystem. It is our hope that this public comment period will generate necessary improvements in the Revised Draft EIS/EIR so that all concerned can evaluate a true range of alternative actions accompanied by detailed implementation strategies.