inadequate. The DEIS fails to acknowledge the potential impacts to the Upper Gulf of California, the listed species found there, and the socioeconomic values dependent upon flows to the Gulf. The Pacific Institute recommends that the scope be extended to encompass the estuary at the mouth of the Upper Gulf and the full floodplain in the Colorado River delta.

3. Modeling Assumptions The model is based on a series of assumptions that distort the results used to predict potential environmental impacts. These results understate the magnitude of potential impacts to the environmental resources within the affected area. The Pacific Institute recommends that the assumptions be refined, as described in the following.

4. Baseline The selection of a liberal baseline, based on the 1997 surplus declaration, rather than the more conservative flood control baseline used for the 1998, 1999, and 2000 surplus declarations, is inappropriate. The use of this arbitrary, liberal baseline diminishes the projected impacts of interim surplus criteria, effectively understating the magnitude of the action. The Pacific Institute recommends that the flood control guidelines be used as the baseline.

5. Cumulative Impacts The DEIS inaccurately accounts for cumulative impacts, and then discounts these impacts, in violation of NEPA. The Pacific Institute recommends that the DEIS list and describe the full range of federal and non-federal actions that impact the affected area, and account for these cumulative impacts.

6. Environmental Responsibilities Long term Colorado River system management objectives require the Secretary to “protect and enhance the environmental resources of the basin.” The adoption of the interim surplus criteria, particularly the 7 State Plan, would not satisfy this objective. An alternative submitted to Interior by the Pacific Institute and nine environmental organizations would meet both the stated objectives for interim surplus criteria and the Secretary’s broader environmental trust responsibilities. The Pacific Institute recommends that Reclamation analyze the potential impacts of this alternative in the DEIS.

The general effect of the above deficiencies is to understate the potential environmental impacts of interim surplus criteria. The Pacific Institute concludes that the DEIS is inadequate and should be formally revised and reissued for public comment as a Supplemental Draft Environmental Impact Statement. The deficiencies highlighted in these comments are of sufficient magnitude that they preclude a reasonable assessment of the potential environmental impacts associated with the adoption of interim surplus criteria.

More broadly, the Pacific Institute believes that the purported benefits generated by interim surplus criteria do not warrant their environmental costs. These costs could be substantial. By the year 2015, the flood control alternative would generate a 17% greater probability of flows reaching the delta than would the six states’ plan, itself likely to generate more flows than the 7 state plan. Because the frequency and magnitude of such flows are closely tied to the reproduction and health of the native riparian vegetation in the region, and indirectly to the myriad of threatened and endangered species that depend on this habitat, this projected reduction in flows is significant. The projected benefits of the interim surplus criteria are less clear. Interior is promoting the surplus criteria as necessary to reduce California’s consumption of Colorado River water. Yet California’s plan to reduce its use, even under the most optimistic of projections, would not meet the target conservation objective. And California continues to demand additional water, above and beyond that outlined within the 7 State Plan. At the August

3: Section 3.16.5.3 has been added to the FEIS to provide information on the general potential impacts that the implementation of interim surplus criteria may have on the frequency of excess flows to Mexico as well as the potential resultant impacts to groundwater recharge and salinity South of the SIB. Reclamation does not concur with the suggestions presented under the headings “Baseline”, “Cumulative Impacts” and “Environmental Responsibilities.” Reclamation’s rationale for using the analyses criteria and type of analysis presented in the DEIS and FEIS are explained and detailed in these documents. See responses below.

4: See response to Comment 57-11.

5: Section 4.2 has been modified and Reclamation believes that it has appropriately addressed potential cumulative effects of the proposed action.

6: An EIS need not consider an infinite range of alternatives, only reasonable and feasible ones and those reasonably related to the purposes of the project that afford a reason opportunity by the decision maker. The rule of reason shall be utilized in development of a range of alternatives. NEPA does not require a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered, or which have substantially similar consequences. For these reasons Reclamation considered the Pacific Institute alternative but eliminated it from further analysis because part of it did not meet the purpose and need of the proposed action and the remainder of the alternative mirrored the Six States Alternative which was analyzed in depth.

7: Reclamation disagrees with the commentator's opinion that the DEIS is inadequate and should be revised and a supplemental DEIS reissued. Reclamation has followed regulations implementing NEPA and it is accepted practice to update, refine, clarify and make factual corrections to the content and analyses in the EIS resulting from improved data control, public comments, coordination with interested parties and incorporate these changes into the document and circulate it as a FEIS.

8: Comment noted. Section 3.16.6 of the FEIS has been expanded to provide more information on the potential effects of changes in excess flows on habitat and threatened or endangered species in Mexico for each of the alternatives.

9: Comment noted. Please refer to the introduction to Volume III regarding the proposed action and its relationship to California's program to reduce its dependence on surplus water.
16th AOP meeting, California requested a full surplus declaration for calendar year 2001, including 150,000 acre-feet for agricultural demands, justifying this request as a "transition" into the interim period. The absence of a real "4.4 Plan," combined with California’s continued failure to reduce its use, suggest that California will not markedly reduce its use in the next fifteen years. In light of these substantial costs and tentative benefits, there is little incentive to condone increased threats to environmental values along the lower Colorado River.

**BACKGROUND**

On July 7, 2000, the Bureau of Reclamation released the draft environmental impact statement (DEIS) for the adoption of interim surplus criteria for the Colorado River. These surplus criteria are meant to establish specific guidelines to assist the Secretary of the Interior’s determination whether to declare a surplus condition for the river, and to facilitate California’s implementation of measures to reduce the state’s use of Colorado River water from its current use of about 5.2 million acre-feet\(^1\) (MAF)/year to its legal entitlement of 4.4 MAF.

Under a complex institutional arrangement known as the Law of the River, Arizona, California and Nevada are entitled to use 7.5 MAF of water from the Colorado River each year. Of this amount, California is apportioned 4.4 MAF. Most (3.85 MAF) of the rights to California’s water belong to agricultural users, leaving only 0.55 MAF for the 17 million urban users in the greater L.A. and San Diego metropolitan area. Since 1961, California has used an annual average of almost 5.0 MAF, supplementing its entitlement with the unused apportionment of Arizona and Nevada. In recent years, however, Arizona and Nevada have consumed most of their respective apportionments, decreasing the availability of unused water for California.

In the past several years, California has consumed more than 5.2 MAF/year, largely because the Metropolitan Water District of Southern California (MWD) has conveyed nearly 1.29 MAF/year through its Colorado River Aqueduct. The Secretary of the Interior and the other six basin states have pressured California to reduce its demands on Colorado River water down to the state’s legal entitlement of 4.4 MAF. In response to these pressures, the state has drafted the California Colorado River Water Use Plan (available at [http://crb.water.ca.gov/reports.htm](http://crb.water.ca.gov/reports.htm)), a loose framework of conservation efforts, groundwater storage, offstream banking, rural-to-urban water transfers, and other programs and projects to meet the agricultural and urban water needs of the state while reducing consumption. Originally, this water use plan was called the "4.4 Plan," but because it only projects 0.49 MAF of savings in the next 15 years and 0.54 MAF of savings in the next 25 years, it was given its longer but less ambitious title.

Partly in response to California’s demand for additional water as it drafted the California Plan, and partly because of very high reservoir levels and unusually wet hydrologic conditions, the Secretary declared a surplus for the river each year from 1996 – 2000. Authority for the Secretary to declare a surplus stems from the *Arizona v California* Supreme Court Decree (1964). A surplus condition allows the lower basin states to consume water beyond their normal apportionment of 7.5 MAF. California is entitled to 50% of this surplus, Arizona 46%, and Nevada 4%; a state may also use the other state’s unused apportionment. The Secretary

\(^1\) An acre-foot is 325,851 gallons of water, approximately the amount two families of four use in a year. The estimated annual flow of the Colorado River since 1906 is about 15 MAF.
declared these surpluses through the Annual Operating Plan (AOP) process, with the assistance of representatives of the seven Colorado River basin states (Arizona, California, and Nevada in the Lower Basin and Colorado, New Mexico, Utah, and Wyoming in the Upper Basin), tribal representatives, water users, members of the academic and scientific communities, environmental organizations, contractors for hydroelectric power, and the general public.

**Participation of the Pacific Institute**

On June 28, 1999, the Pacific Institute submitted comments on the scope of the National Environmental Protection Act (NEPA) process and the DEIS, urging the inclusion of an assessment of transboundary impacts, among other concerns. In November 1999, Pacific Institute staff met with a senior Reclamation official to discuss our concerns regarding the potential environmental impacts of interim surplus criteria. As a result of this conversation, the Institute coordinated a meeting in Las Vegas on December 16th between representatives of several environmental groups and senior Reclamation staff. Among the concerns voiced at the meeting was the potential for surplus criteria to lower the elevation of Lake Mead, decreasing the frequency and magnitude of the space-building and flood release flows that sustain native riparian habitat along the lower Colorado River, especially in the river’s delta in Mexico. Upon Reclamation’s request, the Pacific Institute offered to draft a set of interim surplus criteria that reflected the interests and concerns of the environmental community.

In response to the concerns voiced by environmental groups at the meeting, the Secretary of the Interior added language to his keynote address on December 17, 1999 to the Colorado River Water Users Association conference. The Secretary stated that surpluses must be determined and allocated with no net loss of environmental benefits (emphasis added), setting an important environmental baseline for interim surplus criteria. The Pacific Institute incorporated the Secretary’s environmental baseline into the “Environmental Interim Surplus Criteria for the Colorado River” (DEIS Attachment F) that was drafted jointly with American Rivers, Defenders of Wildlife, Environmental Defense, Friends of Arizona Rivers, Glen Canyon Institute, Grand Canyon Trust, Land and Water Fund of the Rockies, Sierra Club Colorado River Task Force, and the Sonoran Institute, as well as several members of the academic community. These criteria were designed to satisfy the dual objectives of improving the predictability of surplus conditions for water users and facilitating California’s reduction in the use of Colorado River water, without causing further harm to the environment. In effect, they integrated mitigation measures into the criteria themselves.

**Interior and the Delta**

The Department of the Interior has publicly recognized the importance of the Colorado River delta. The Secretary’s keynote address reflected this recognition. On May 5, at the Law of the Colorado River conference in Tucson, the Deputy Secretary said that the delta is an issue whose time has come. Less than two weeks later, Interior and its counterpart agency in Mexico, SEMARNAP, signed the Joint Declaration to Enhance Cooperation in the Colorado River Delta. In the Joint Declaration, Interior pledges to “strengthen cooperative action and mechanisms, to improve and conserve the natural and cultural resources of the Colorado River Delta, including the river and associate wetland habitats,” and “develop strategies of environmental sustainability,” among other actions.
In a opinion piece that appeared in the Los Angeles Times on August 25th, the Deputy Secretary wrote of the CALFED process that it’s also about restoring the watersheds that have borne the effects of water manipulations that were undertaken in a different era, an era that paid little regard to the impact that damming, depleting or diverting rivers and streams would have on downstream water quality, fish and wildlife resources and other environmental values.

These words could have been written about the Colorado River. Yet, while the CALFED plan recognizes and allocates water for environmental needs, the interim surplus criteria do not.

**The Colorado River Delta**

Historically, prior to the construction of dams, diversions, and other reclamation projects, millions of acre-feet of Colorado River water flowed every year through the Colorado River delta and into the Upper Gulf of California, supporting tremendous levels of biological productivity and diversity. The delta has been degraded as human demands have dramatically reduced the amount of water reaching it. Except for years with unusually high run-off, virtually the entire flow of the Colorado is now captured and used before reaching the river's mouth. However, even without the historic flows, the remnants of the delta and Upper Gulf still comprise the largest and most critical desert wetland in North America, as well as one of the world's most diverse and productive marine ecosystems. In recent years, flood release flows from upstream dams have prompted the re-emergence of ecologically valuable riparian habitat and have been strongly correlated with a rise in the shrimp catch in the Upper Gulf, an indication of the renewed viability of an important estuary. In 1993, Mexico affirmed the importance of the region and designated it a Biosphere Reserve, which has since received international recognition.

At its upper reaches, the delta is dominated by native vegetation such as cottonwoods and willows, offering more than twice the amount of native riparian habitat found in the entire reach of the Colorado River in the United States from Hoover Dam to the Mexican border. The native riparian vegetation of the lower Colorado River and the delta evolved in response to occasional flood events; such flows must be replicated to ensure the continued viability of these species. The middle extent of the delta contains extensive backwaters filled by occasional floods, providing valuable wetland habitat for migratory birds as well as a myriad of local species. The delta supports several species listed by the U.S. Fish & Wildlife Service, including southwestern willow flycatchers (Empidonax traillii extimus), Yuma clapper rails (Rallus longirostris yumanensis), totoaba (Totoaba macdonaldi) and desert pupfish (Cyprinodon macularius), while the river's estuary is home to the vaquita porpoise (Phocoena sinus), the world's most endangered marine mammal.

Currently, the Colorado River delta is largely dependent on flood control releases from Hoover Dam. These waters are released primarily from October through February, to provide flood control storage space. It is important to distinguish between surplus flows, which are released upon declaration of a “surplus condition” in response to the diversion orders from downstream users, and flood flows. Army Corps of Engineers guidelines dictate the release of water from Hoover Dam from August through December to ensure sufficient flood control storage capacity. These releases are known as “space building releases,” while releases made after January 1 to ensure sufficient flood control storage capacity are known as “flood control releases.” Both are also referred to as “spills.” These flows may be diverted by downstream users. It is important to note that the current timing of flood control releases precedes the natural flood regime and

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11: See response to Comment 22-8.

12: See Sections 1.3.6 and 3.3.1.2 for explanations of flood control operations for Lake Mead (Hoover Dam).