

APRIL 26 1994

COMMENTS OF THE DEPARTMENT OF WATER RESOURCES
AT THE PUBLIC WORKSHOP FOR THE REVIEW OF STANDARDS FOR THE
SAN FRANCISCO BAY/SACRAMENTO-SAN JOAQUIN DELTA ESTUARY^{1/}

The Department of Water Resources submits the following comments in response to the specific issues raised by the State Water Resources Control Board in its Notice of Public Workshop, dated March 25, 1994 for the review of Bay-Delta standards.

1. Which standards should the State Water Board focus on during this triennial review?

The phrase "triennial review" suggests that the Board's inquiry may be limited to the water quality objectives adopted by the Board in its May 1991 Water Quality Control Plan for Salinity and subsequently reviewed by EPA. The Department believes that the 1991 Plan is both too broad and too narrow for the Board's purposes in its announced review of Bay-Delta standards.

Too Broad: We agree that the Board's inquiry should be focussed on the issues of current importance. A review of the non- fish and wildlife objectives in the 1991 plan should probably be deferred. But, in deferring that review, the Board should keep in mind that the new balance that it is setting out

1. Presented by David B. Anderson, April 26, 1994

to establish for the Delta must include Delta agriculture and Delta M&I uses, requirements, and obligations. As a practical matter, however, a comprehensive review should be put off until next year in order to focus our time, attention, and energy on the estuary's pressing fisheries and habitat issues. Thus the 1991 Plan is too broad.

Too Narrow: More importantly, the 1991 Plan has too narrow a focus. The 1991 Plan is only about water quality. The "pressing fisheries and habitat issues" just referred to, issues investigating the impact of water users/water rights holders on the estuary's biological resources, mainly deal with the effects of "flow and diversion", not the effects of salinity, dissolved oxygen, or (controllable) temperature.

To repeat: the pressing fisheries and habitat issues regarding the effects of water use are about flow and diversion, not water quality.^{2/} What people are asking about, in whatever the forum, are the entrapment zone, diversion through the Delta Cross-Channel and Georgiana Slough, reverse flows, QWEST, transport flows, agricultural and other unscreened diversions, project pumping, removing organisms from the Delta's "zone of influence", and predation losses. Whatever their merit, these are the important issues with respect to water use and they have nothing to do with water quality or the effects of salinity.

2. The effect of discharges and pollutants on biological resources, as distinguished from diversions, is, however, very relevant--although not directly the subject of standards or conditions on water rights.

Our concern on this point is heightened by the fact that the Board's notice talks about water quality but not about flow and diversion. One may be tempted to respond that the Board intends to address flow and diversion in the water rights hearing, as was its intention in 1989 when it separated flow and diversion from its Water Quality Plan. If that is the Board's intent, then we emphatically urge the Board to take a different course, to establish procedures to join these issues now, to identify and consider policy and objectives for flow and diversion, before the water rights hearing, up front, alongside water quality.

The two paragraphs on page 2 of the Board's notice under the heading "Regulatory Basis of Action" refer to the Board's authority, one, to adopt plans and, two, to set State policy for water quality. These are two aspects of what is essentially the same function, operating perhaps at different levels of generality: establishing substantive rules of general application integrating State policy on water quality. The Department's view is that comparable steps are required for State policy on flow and diversion.

We recognize that the Water Code does not expressly set out a process for this. We do believe that the Water Code authorizes it:

First, clearly the Board is required to find and apply such policy in its administration of water rights, by such provisions as Water Code Sections 1243, 1243.5, 1253, and 1257;

Second, the Board is authorized to conduct investigations (Section 1251) and otherwise to do things required or proper respecting applications to appropriate water (Section 1250). "Necessary and proper" authority may also be inferred from the sections cited above.

Third, the Water Code recognizes that the Board may consider policies developed outside a particular water rights matter in a hearing on that matter, such as water quality control plans, the California Water Plan, etc. under Sections 1256 and 1257.

Fourth, Water Code Section 275 gives broad statutory authority to the Board to take actions to secure the reasonable use of water. In addition, the substantive mandate in Section 275, as well as the mandate in Section 1257 to exercise its "judgment" in a manner to "best develop, conserve, and utilize in the public interest" water sought to be appropriated, imply broad procedural powers for the Board.

The Board has to apply broad policy in a water rights hearing. We see no reason why consulting broad policies or identifying general public interest needs must only be done on a case-by-case basis, repeatedly "re-inventing the wheel" with each successive water rights hearing.

The Department believes that the workshop process that the Board has outlined is well suited to the development of information relevant to policies for flow and diversion. We would request that the Board do two specific additional things: one, expressly make policy guidance/objectives for flow and

diversion an added purpose of its Review of Standards; and two, expressly provide for the issuance of a plan or statement of policies applicable to flow and diversion, under the authorities cited, at the same time that the draft and final Water Quality Control Plans are published. These two documents would then guide the Board in the implementation of policy for both water quality and flow and diversion in the subsequent water rights hearing. These policies for flow and diversion would be of general application and, like water quality objectives, would not be binding upon any given water user until and unless they are made binding in the water rights proceeding. They may have the degree of specificity of a water quality policy or of a water quality objective, or somewhere in between.

Specific concerns about the various standards to be developed in the course of the Board's review will undoubtedly be fleshed out in subsequent workshops. The particular issues the Department will be addressing, in addition to the central fisheries and habitat questions, will concern the treatment of endangered species, inclusion of recommendations for Suisun Marsh, and the need to increase project flexibility (e.g., adopting interchangeable points of diversion.)

2. What level of protection is required by the California Water Code and the Clean Water Act for protection of public trust uses in the Bay-Delta estuary?

The standard which governs Board determinations generally, as well as those in the Bay-Delta estuary in particular, is the Constitutional standard of reasonable use and the Water Code injunction to serve the public interest. It follows that the State standard for "level of protection" is that level which secures the reasonable use of water. There is, however, no single overriding statutory policy which reconciles the many interests and values in the Bay-Delta estuary. There are, in fact, many statutes and legislative policies that are relevant to the estuary, but they are diverse, often competing, and at times contradictory. Thus, the level of protection that should be accorded to any given beneficial use requires the Board to determine what is reasonable, to weigh and balance the many diverse policies, interests, and equities which apply to the estuary.

As the Board hears and entertains specific recommendations for levels of protection for the public trust uses of the Bay-Delta estuary, it may be helpful for Board members to keep in mind a simple but important perspective. Determinations of reasonable use must be "symmetrical". The reasonable level of protection for a given use can only be defined in reference to the costs it imposes upon other uses. The "level of protection" is reasonable when the costs are reasonable. But at the same moment that we decide what the reasonable costs are, that decision defines the levels of protection for those other uses. The symmetry is that we should be able to start with any given

beneficial use and achieve the same result. If the reasonable level of protection for consumptive uses is defined in terms of the social and economic costs which they impose upon environmental uses of water, it is equally true that the reasonable level of protection for environmental uses is defined in terms of the water and economic costs which that level of protection imposes upon other uses of water. Conceptually, it should make no difference what the focus or starting point is; but this is not the important point. The important point is that the level of protection for one use cannot be defined until it can be defined for all uses.

When a particular level of protection is advocated for a given use, the first question that should immediately be asked is, what are the costs of that level of protection in terms of other uses foregone or the "levels of protection" of other uses which are thereby diminished. From this we can see that for the Board's purposes "level of protection" is not the starting point, but the ending place of its investigation. Parties and interests will come in and recommend the various levels of protection for the uses that they represent. It is only after the Board has considered all of those interests and uses and after it has balanced them and made a reasonable allocation of water among them, that we can discover the level of protection to which any given use is entitled.

Just as we cannot say that export users are entitled to a level of protection insuring seven million acre feet of export

per year during the critical period without asking what the environmental consequences of that level of protection are, we cannot say that the public trust uses of the estuary ought to receive a 1967 or 1975 level of protection without also inquiring what the water costs and economic consequences of that level of protection are. The weighing and balancing of those uses and costs are precisely what the Board's job is, and the end result will be the determination of reasonable levels of protection for all uses. Specific goals or advocated levels must be seen as unbalanced proposals or positions, which may frame the Board's inquiry but which cannot predetermine its outcome.

The Board must examine a variety of potential levels of protection, assess the benefits expected to be achieved, and array them against their costs. At each point, the Board must ask whether benefits may not be achieved--and costs diminished -- through non- water-costing or less water-intensive alternatives.

The second issue also asks what level of protection is required under the Clean Water Act for public trust uses. Of course, what the Clean Water Act literally requires is not directly relevant. The Board is acting under State law and must only meet the requirements of State law. As a practical matter, the standards under review directly implicate the State's water allocation system. If CWA "requirements" were found to vary materially from State requirements, then CWA Section 101(g) would sustain the State requirements.

Of course, such requirements are relevant as sources of federal water quality policy, for which the Board should first look to EPA to present. The Board Notice cites EPA for the proposition that the 1960s to 1970s level of protection is "consistent" with the Clean Water Act. That statement to us is unclear. First, it begs the question whether other levels of protection are also "consistent" with the Clean Water Act. Second, "level of protection" is a question which, to the extent cognizable under the Clean Water Act, is one of "designated use", not "scientific criteria". But EPA has not attempted to designate uses in the Bay-Delta estuary under the Clean Water Act, so its invocation of a certain level of protection is at best confusing. Third, federal officials have suggested that the Clean Water Act does not permit balancing. Although we disagree with that interpretation, we do agree that EPA in fact did not balance in arriving at its proposed standards. That fact is fundamentally at odds with California constitutional policy and the statutory mandates to this Board which require consideration of competing uses, values, and policies, and the facts and circumstances surrounding the uses of water in the estuary.

As the Board considers what levels of public trust uses may be reasonable to protect, there are some very important questions that it should keep in mind. When we speak of "level of protection", the first question which arises is the protection or level of what? Of populations? Of which species? Native species? Current species composition? Indicator species? Of

habitats? Which habitats? Especially in a changing estuary, we will discover that habitat is fluid and that species compete just as other uses of water compete. Which should be protected?

Second, protection from what? From water quality impairment alone? From flow and diversion? From climatic changes or uncontrolled flood flows? From toxic pollution? From changes in food chain? From the introduction of exotic species? From the forces of change? While, obviously, the Board's actions will concern only those factors which are within its jurisdiction and which are in fact controllable, the important point is that the Board is likely not able to "fully protect" uses of the estuary solely through manipulation of controllable water quality, flow, and diversion factors.

Third, have we candidly and forthrightly recognized and dealt with uncertainties that attend the determinations pertaining to biological phenomena? It is wholly appropriate for a decision maker to take an action based upon facts and circumstances that are less than certain, especially as the potential benefit of that action increases. But it is imperative that the factual or scientific basis for such decisions be fully and accurately represented so that society and future decision makers will not be misled by the character of the determinations and actions taken today.

Fourth, to the extent that we are tempted to invoke the phrase "stop the decline", the following questions arise:

Decline of what? Are decline and "change" the same thing? How, if there are causes beyond the Board's reach, and beyond the reasonable use of water, may a given decline be stopped? We also note that the ability of the State Water Project or of water supply systems in general to meet increasing demand is also declining. Is this a decline which should also be stopped?

3. What are the principal environmental, water supply and economic effects of USEPA's draft standards? Should these standards or modified versions of these standards, be considered as alternatives in this review?

On March 11, the Department submitted to EPA its analysis of the water supply impacts of the EPA proposals and has previously made these analyses available to the Board. We have attached a summary table from that exhibit to our comments today. In addition, we are providing a 1993-94 operational analysis which shows how EPA standards would have affected the projects this year. Mr. Jim Snow can explain that analysis to you if you have any questions.

The second part of this question asks whether EPA's proposals, or versions thereof, should be considered as alternatives in the Board's review. Inasmuch as EPA is a major federal agency that has proposed or advocated certain water qualities, outflows and operational constraints for the Delta, these may appropriately be considered by the Board. Moreover, in attempting to find common ground with federal agencies, the State

has an interest in taking their views and positions into consideration, even beyond submitting comments to them as we all did on March 11. And we believe we may do this without rehashing the Clean Water Act issues which are relevant to the federal proceeding.

There is, however, an issue relating to the structure of the primary EPA standard, X2, which is of concern as a matter of fundamental State policy. The same structural problem existed with the work of the SF Estuary Project from which the EPA proposal was derived. We believe that the Board's process to find the reasonable and efficient use of water will deal with this problem. Nonetheless, we believe it important to state our concerns up front.

The 2 ppt standard in Suisun Bay (X2) is overly generalized. It was developed by lumping together an assortment of biological factors and considerations: avoiding entrainment of organisms at agricultural diversions and project export facilities in the Delta; transport flows; location of the entrapment zone; reverse flows; cross-Delta flow; low-salinity habitat; food supply; organic loading; etc. We heard from the proponents of X2 in the "Flows" Sub-group of the SFEP that the most salutary feature of using a single estuarine variable as a management device is that policy makers could simply "dial" the amount of estuarine protection they wanted. This single variable is outflow, whether indexed by X2 or not, and outflow is water. Under this approach,

even problems which do not necessarily need water could be cured or their effects mitigated by "dialing" for more water.

This formulation may be marvelous in its simplicity; but it absolutely contradicts the idea that we are supposed to be looking for solutions that don't cost water or that cost less water. We are profoundly concerned that aggregating biological phenomena to be represented by a single index (2 ppt), achievable only through outflow (and the commitment of large volumes of water) violates the fundamental principle of California water policy that water be used efficiently; that beneficial uses be accommodated wherever possible; and that water not be taken from one beneficial use to serve another where non-water solutions or water-efficient physical solutions are available. To explore physical or other non-water-costing solutions, we must, rather, disaggregate biological and hydrologic phenomena to be able to respond individually to those needs that do not necessarily place a demand upon scarce water supplies, such as entrainment, flow regimen, etc. The same basic State policy that compels conservation and reclamation for consumptive uses also compels efficient water use by instream uses. We are concerned that aggregation of multiple factors into a single index that requires outflow alone, or directly requiring outflow in this manner, is simply throwing water at the problem and contravenes the fundamental water policy of this State.

TABLE 2

SUMMARY OF COMPARATIVE WATER SUPPLY IMPACTS RELATIVE TO D-1485 (W/ 40-30-30 INDEX)
 (TOTAL CVP/SWP DEMAND = 6.0 MAF)
 (1000's AF/Year)

STUDY	Critical Dry Period Average (May 1928 - October 1934)	71-Year Average (1922 - 1992)	Average Annual Carryover Storage Sacramento Basin	Average Annual Carryover Storage New Melones
NMFS ⁵	-530 ¹	-130	-340	0
NMFS PLUS EPA SALMON ONLY ⁵	-910 ²	-500 ³	-620	-40
NMFS PLUS EPA X2 ONLY ⁵	-1570 ¹	-360	-900	0
NMFS + EPA TOTAL ^{5,6} (WITHOUT X2 BUFFER)	-1660 ²	-710 ³	-900	-140
NMFS + EPA TOTAL ^{5,6} (WITH X2 BUFFER)	-3180 ^{2,4}	-1340 ^{3,4}	-3050	-140

1. Includes adjustments due to upstream net storage used.
2. Includes adjustments due to upstream net storage used and additional flows from Tuolumne and Merced River system to meet Vernalls pulse flows.
3. Includes adjustments due to additional flows from Tuolumne and Merced River system to meet Vernalls pulse flows.
4. The system failed to meet standards (namely X2, D1485, instream fishery, etc.) in many months when the upstream reservoirs ran out of water.
The impacts will be higher than shown if standards were met all the time.
5. Does not include potential water supply impacts for "Take Limits."
6. Does not include water supply impacts to meet the Stripped Bass standard of .44 EC from Prisoners Point to Jersey Point in Dry and Critical years.

**EPA PROPOSED STANDARDS:
1994 WATER SUPPLY IMPACTS
2.23 MAF**

SUMMARY:

Had EPA standards been in place this calendar year, the water supply impacts over and above the impacts of Delta smelt and Winter-run salmon regulation would have been 2.23 million acre-feet of water. If implemented against the SWP and CVP, exports would have been reduced by a total of 1.27 million acre-feet, and carryover storage would have been reduced by 950 thousand acre-feet.

The following table and graphs show how the SWP and CVP would have been affected, assuming a 50/50 split of impacts between the projects, under probable project operations.

**Summary of 1994 Potential Impacts
Due to EPA Proposed Standards**

**Total EPA Impact 2230 TAF
SWP and CVP 50/50 Split**

SWP Share (TAF)		CVP Share (TAF)	
EPA Additional Outflow	1110	EPA Additional Outflow	1110
Export Impacts	-570	Export Impacts	-700
Oroville 9/30 Carryover Impact	-540	Shasta 9/30 Carryover Impact	-290
		Folsom 9/30 Carryover Impact	-120
Oroville at 9/30	1310	Shasta at 9/30	1680
San Luis at 9/30	40	Folsom at 9/30	90
		San Luis at 9/30	50
1994 38% Deliveries with EPA *	1680	1994 Est. Deliveries with EPA *	1700
1994 49% Deliveries without EPA	2130	1994 Est. Deliveries without EPA	2290

* SWP loss of 120 TAF and CVP loss of 110 TAF in San Luis by 12/31/94.

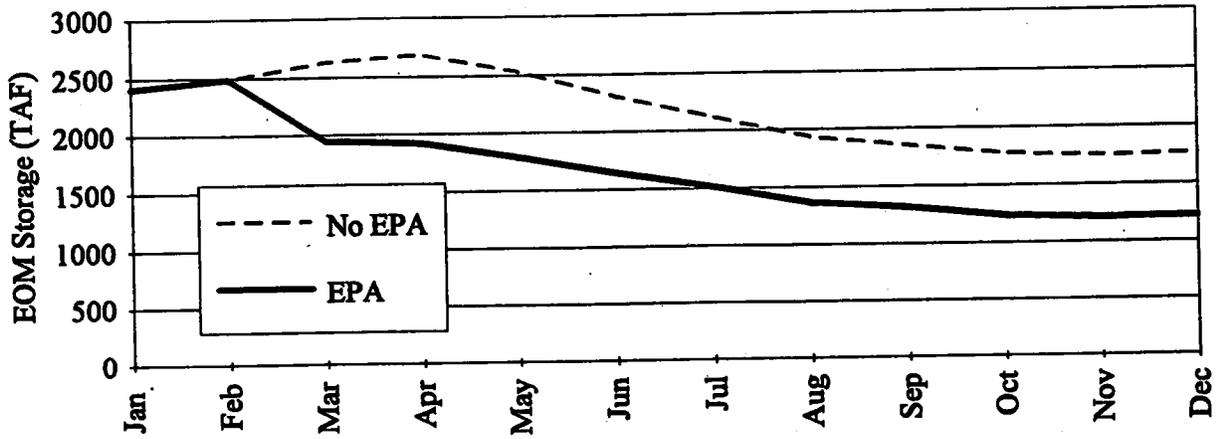
CVP estimated EPA deliveries based on a 30% reduction of deliveries without EPA.

Assumptions:

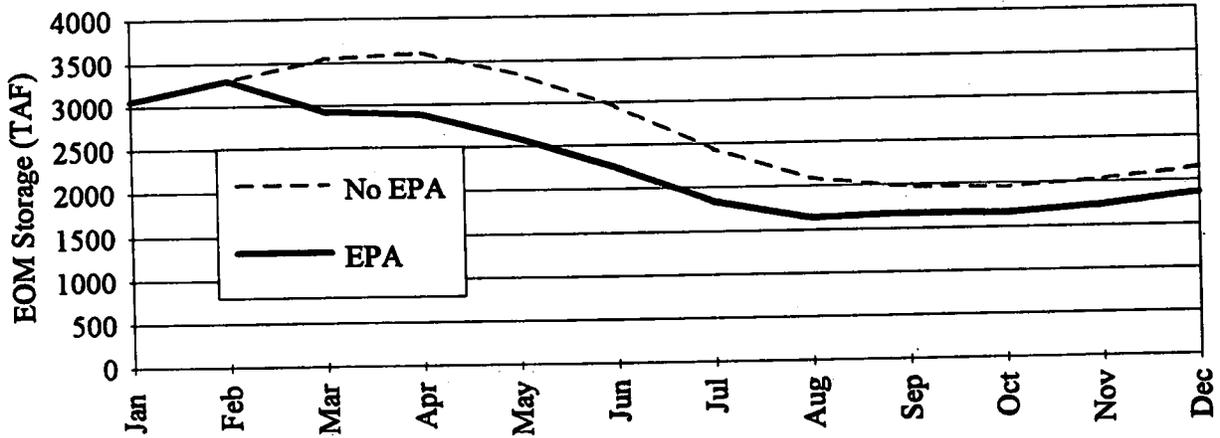
- (1) Probable project operations given implementation of proposed EPA standards
- (2) Base case included D-1485, Delta smelt, and Winter-run salmon
- (3) Impacts based on EPA's Water Quality Standards (Draft) dated 12/15/93
- (4) Impacts split 50/50 between the SWP and CVP
- (5) Dry year type for EPA, March only, critical year type for April through June (40/30/30)
- (6) Roe Island standard triggered beginning of March
- (7) Dry year type for D-1485, changed to critical in April
- (8) Critical year type for Delta smelt
- (9) Median SRI of 8.0 MAF forecasted 4/11/94

Upstream Reservoirs

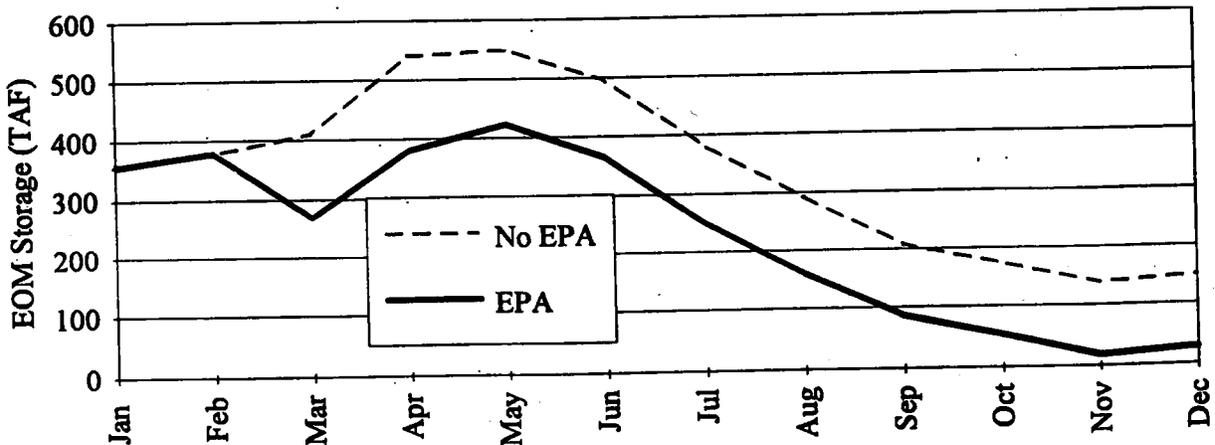
Oroville



Shasta

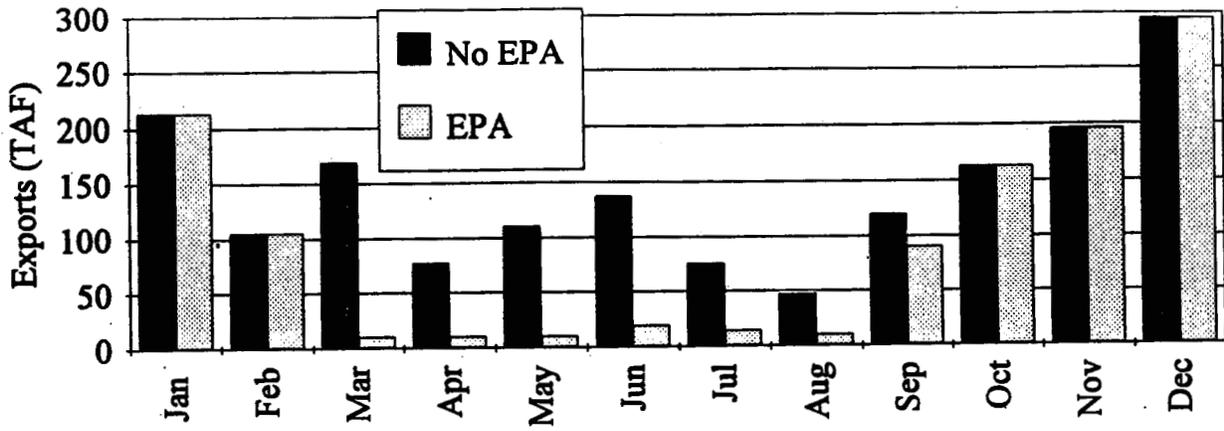


Folsom

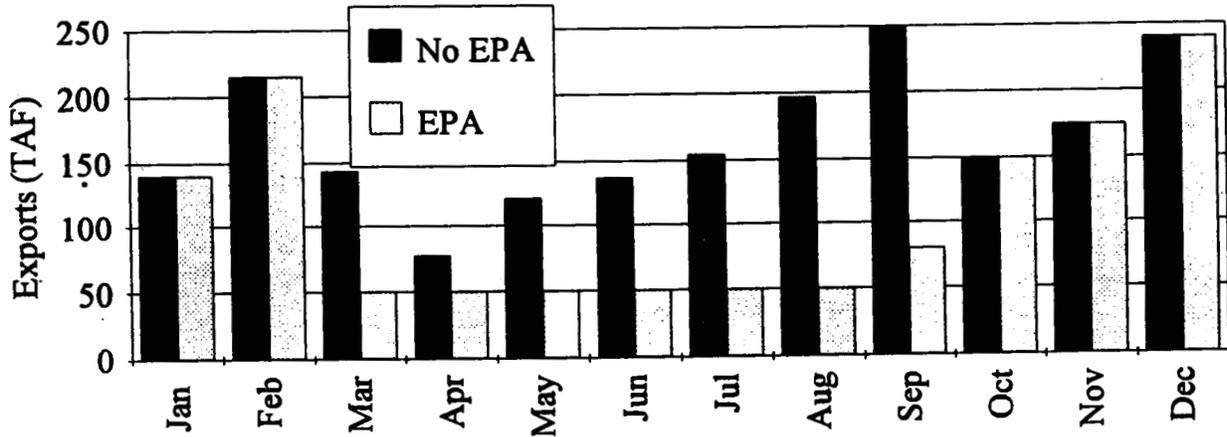


Delta Operations

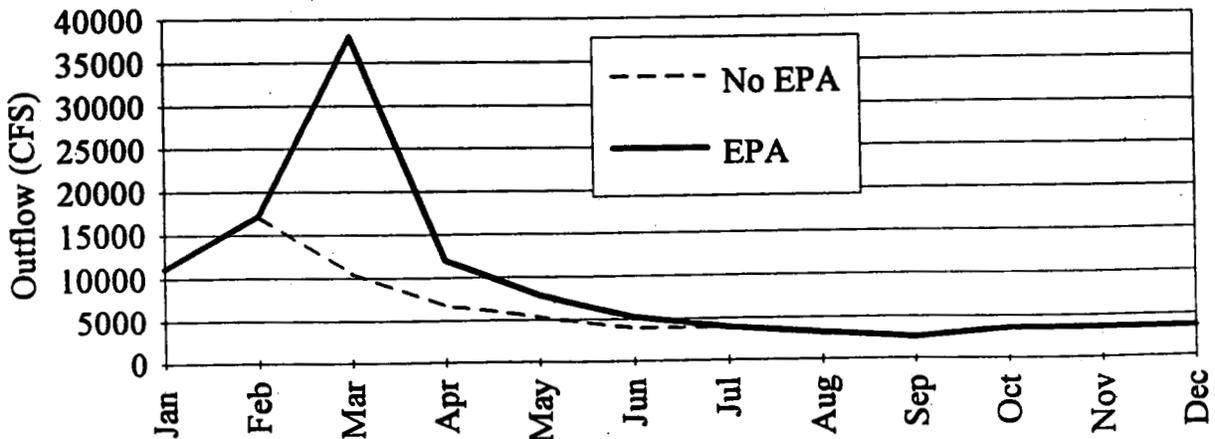
Banks Exports



Tracy Exports

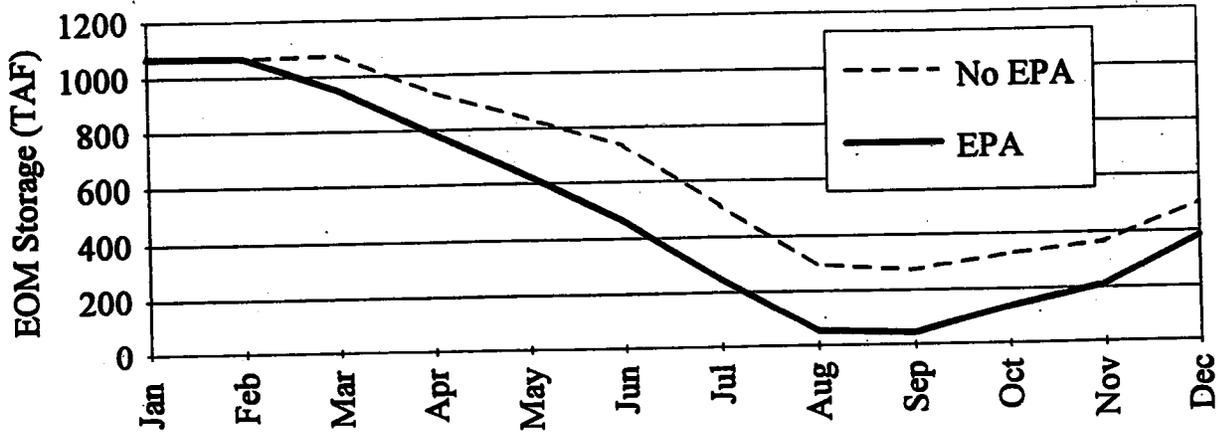


Delta Outflow

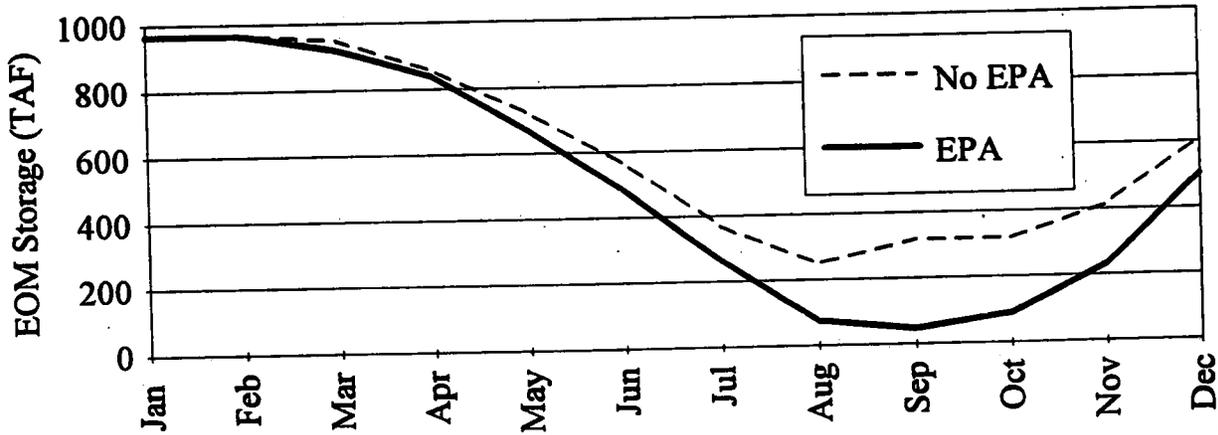


San Luis Reservoir

SWP Share



CVP Share



Total San Luis

