



The Water Report™

Water Rights, Water Quality & Water Solutions in the West

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## THE PERIPHERAL CANAL

SAN FRANCISCO BAY - DELTA ESTUARY PROPOSALS

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by Dante Nomellini (Nomellini, Grilli & McDaniel: Stockton, CA)

Editors' Introduction: Whether it is referred to as the Sacramento-San Joaquin Delta, the San Francisco Bay-Delta Estuary or just the Bay Delta, this central California area has become a flashpoint of California water concerns. Covering more than 738,000 acres, the Delta is the largest estuary on the West Coast. Its primary sources of fresh water are the Sacramento and San Joaquin Rivers. Approximately 50 percent of all of California's total average annual streamflow flows to the Delta. Its position as the hub of California's water infrastructure has come under intense scrutiny due to endangered delta smelt and a subsequent court decision to drastically curtail pumping of water in aid of smelt protection. The ramifications of that decision have been felt throughout California, and arguably throughout the US due to the impacts on that state's widely distributed agricultural output.

The Delta's principal water management system is comprised of the pumping facilities of both the California State Water Project (SWP) and federal Central Valley Project (CVP) in the south Delta (near the town of Tracy) that have a maximum pumping capacity of 10,300 cubic feet per second (cfs) and 4,600 cfs, respectively. These facilities' combined capacity, pumping into both the SWP and CVP aqueducts, therefore approximates 15,000 cfs.

An estimated 23 million people, two-thirds of all Californians, obtain at least some of their water from the Delta making the Sacramento-San Joaquin Delta the single largest source of California's water (CALFED Bay Delta Program website). The SWP and CVP also provide water to more than 4 million acres of irrigated farmland in the State, primarily in the San Joaquin Valley. Within the Delta itself, more than 500,000 acres currently are in agricultural production.

The Delta supports more than 750 plant and animal species, including 130 species of fish — it supports an estimated 25 percent of all warm water and anadromous sport fishing species, and 80 percent of California's commercial fishery species live in, or migrate through, the Delta. The Delta also provides habitat for a number of species that are protected by the federal Endangered Species Act, including the Sacramento winter-run chinook salmon, Central Valley spring-run chinook salmon, Central Valley steelhead, and the noted delta smelt.

In a recent development, the California Department of Water Resources released its operational assessment of a "Dual Conveyance System" as requested by the Delta Vision's Blue Ribbon Task Force on June 16, 2008. That report is focused on the factors of the combined operation of through-Delta (current system) and isolated facility improvements (peripheral canal) for the purposes of water supply reliability and ecosystem sustainability. [See CDWR website: www.water.ca.gov/news/archive/; additional Delta information is available at: www.water.ca.gov/deltainit/]

On June 20, the California State Water Resources Control Board (SWRCB) staff released a draft plan of activities related to solving problems in California's important Bay-Delta area. This draft plan identifies how the State Water Board will achieve Bay-Delta commitments the Governor identified for it in his February 29, 2008 letter to legislative leaders. The draft was scheduled to be considered on July 15 by SWRCB. The draft plan is available at: www.waterrights.ca.gov/baydelta/strategic_workplan.htm.

The debate over possible options to address the many ongoing issues facing California's water system — including the Peripheral Canal proposal discussed in the following article — promises to be long and passionate. The following article presents one highly informed view shaped by years of involvement in the Peripheral Canal controversy. Additional perspectives will appear in future articles.

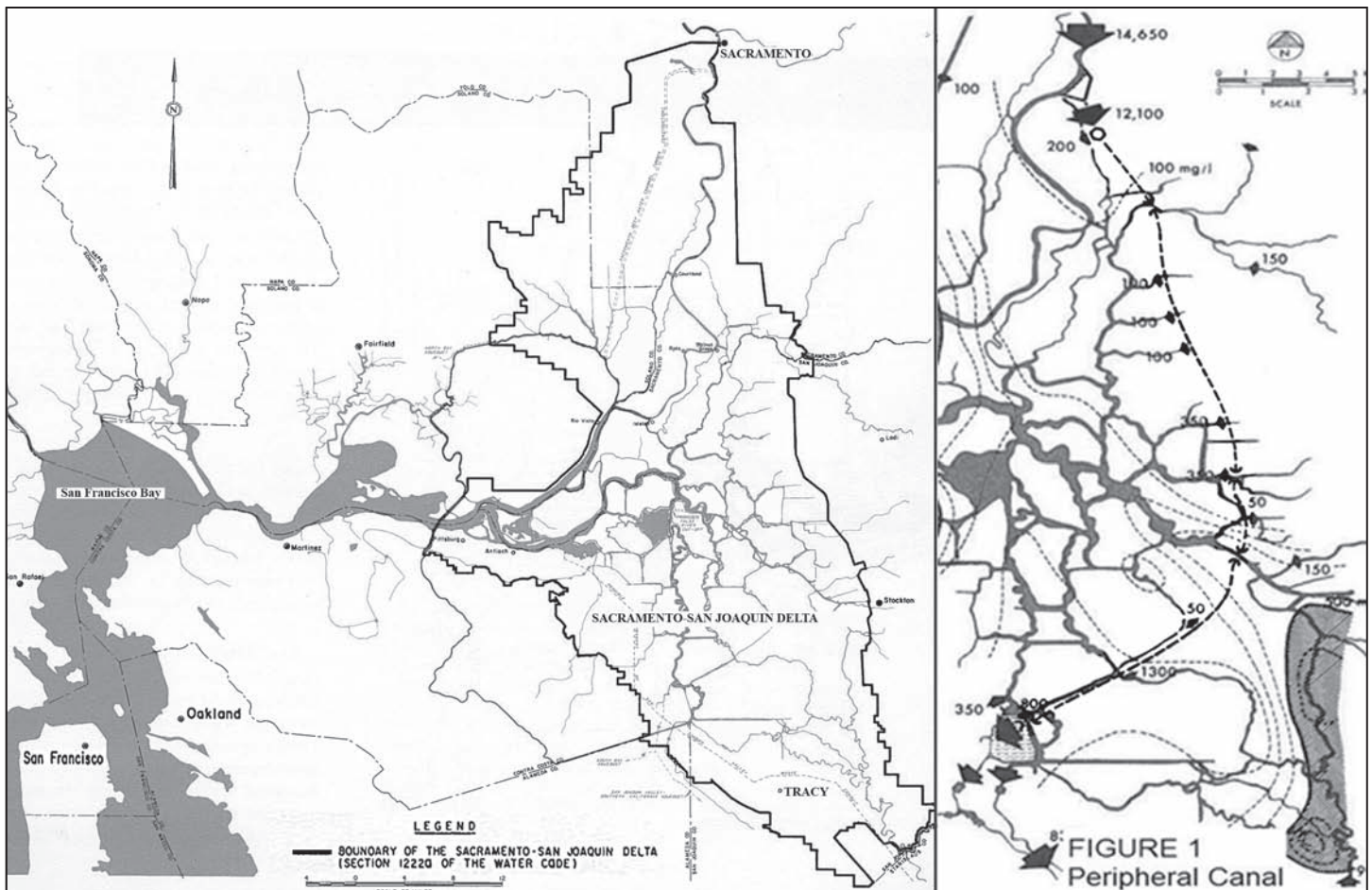


FIGURE 1
Peripheral Canal

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BAY-DELTA BACKGROUND & ONGOING ISSUES

The term “peripheral canal” has been applied to canals of a variety of sizes that would connect the Sacramento River to the federal Central Valley Project (CVP) and State Water Project (SWP) water export pumping plants near Tracy, California. These pumping plants export water to agricultural and urban areas south of the Delta. The term “isolated transfer facility” would perhaps be a more descriptive term than “peripheral canal.” The critical and most distinguishing feature of such a facility would be the separation or isolation of the Sacramento River water from the Delta pool as it traverses to the export pumps.

The peripheral canal, as formerly and presently proposed, would traverse the eastern edge of the Delta from Hood to Clifton Court Forebay. Figure 1 depicts the peripheral canal as generally proposed at the time of the 1982 referendum. The 1982 referendum defeated legislation (SB 200) that would have authorized its construction.

The Delta (legally defined in California Water Code 12220) is an essential part of the San Francisco Bay-Delta Estuary. It is the area where the fresh waters of the Sacramento and San Joaquin River systems meet and mix to repulse Bay salinity and form a fresh water pool. The Delta channels are tidally connected to the Pacific Ocean through San Francisco Bay. There are two high tides and two low tides in each 25-hour period. Without fresh water flows into and through the Delta, the quality of water in the Delta pool would gradually deteriorate and become salty like the Bay. The greater the flow of fresh water into and through the Delta, the better the water quality. Although historically in late summer months of the driest years salinity would intrude well into the Delta, water quality in the western Delta previously was better on average than it is today. Figure 2 depicts the extent of Historical Salinity Incursion into the Delta for years 1920-1960. Even in years of the greatest intrusion of salt water the flushing action of spring flows of fresh water kept the Delta pool fresh well into summer.

Salinity control is a key element in protecting Delta water quality. Salinity intrusion from the Bay is a major contributor to water quality degradation adversely affecting all beneficial uses of Delta water. The CVP and SWP are obligated to provide salinity control for the Delta. However, both projects have aggressively resisted additional Delta outflow requirements, which would reduce the amount of water available for export to Southern California. Inadequate outflow may be a substantial factor in the pelagic organism decline.

Peripheral Canal

Salinity Control

River Water Quality

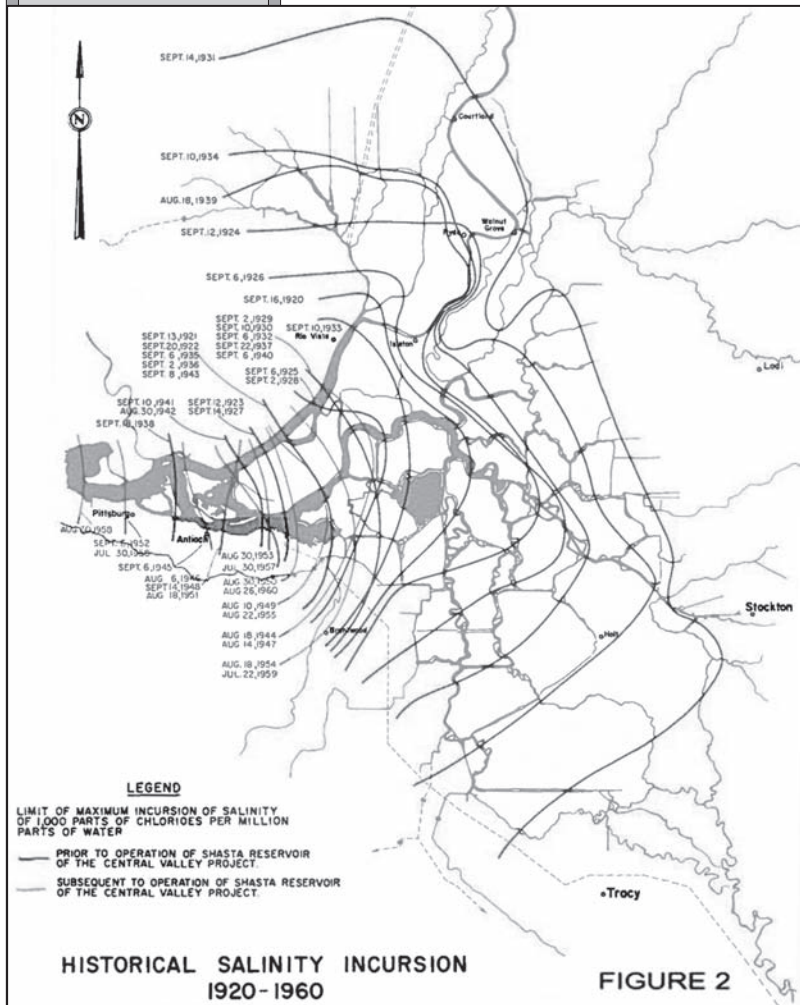
Drainage Needs

Salinity control for the Delta, which protects both in basin and out of basin uses, is one of the major tension points in an on-going North/South water struggle. Although intended to provide significant enhancement, there is serious concern that the present level of salinity control fails even to mitigate the impacts of federal and State of California (State) actions, including the operations of the SWP and CVP.

To avoid the detrimental impacts of salinity in the Delta, the CVP and SWP included plans to release stored water for salinity control. California Water Code section 11207, added by Statutes of 1943, specified “Salinity control in the Sacramento-San Joaquin Delta” as one of the primary purposes of Shasta Dam. Salinity control is currently achieved by allowing unregulated river flow, supplemented by releases of water from upstream reservoirs, to flow into and out of the Delta in sufficient quantities to constitute a hydraulic barrier to Bay salinity. The fresh water flow into the Delta comes from essentially two river systems: the Sacramento River on the north and the San Joaquin River on the south.

The Sacramento River on average provides about seventy-three percent (73%) of the fresh water inflow to the Delta and the San Joaquin River about eleven percent (11%). In contrast to the Sacramento River, the San Joaquin River water quality is quite poor. The need for a solution to drain saline water emanating from water applied to the west side of the San Joaquin Valley has long been recognized. Upstream diversions to areas outside the watershed and the lack of a drainage solution for the hundreds of thousands of acres of irrigated land and wetlands along the west side of the San Joaquin Valley are the principal causes of the poor San Joaquin River water quality.

The San Luis Act of June 3, 1960 Public Law 86-488, 77 Stat. 156, precluded construction of the San Luis Unit without a master drainage outlet and disposal channel for the San Joaquin Valley. This federal mandate has been ignored. Millions of acre-feet (AF) of San Luis Unit water have been delivered to federal service areas. In 2007, major deliveries of about 928,000 AF went to Westlands Water District, about 70,000 AF to San Luis Water District, 45,000 AF to Panoche Water District and 17,000 AF to the Kern National Wildlife Refuge. The San Luis Unit has resulted in the leaching of selenium and other salts from the naturally highly saline soils along the west side of the San Joaquin Valley, which add to the salt load in the delivered water. These salts presently, and for many years to come, will degrade the quality



of the San Joaquin River by discharge of runoff and accretion. Without San Joaquin River restoration, the Delta will continue to be degraded. Salinity standards have not been set for points upstream of Vernalis and the problem has continued for years without resolution.

The State and federal flood control projects for the Sacramento River system, the Sacramento Ship Channel and the Stockton Ship Channel have all enlarged channels in the western Delta, which result in greater Bay salinity intrusion into the Delta. SWP and CVP actions — including upstream water use, project direct diversions and diversions to storage during spring and summer months, operation of export pumps with insufficient outflow, and other project actions such as operation of the Montezuma Slough gates and Delta cross-channel gate closure — all resulted in greater salinity intrusion into the western Delta. Project related water use (both SWP and CVP) in areas draining into the Delta, particularly along the west side of the San Joaquin Valley, also greatly increases the salinity concentration in water entering the Delta.

Water protected for Delta outflow, including that which is needed for salinity control, is water which cannot be exported for use in Southern California. Delta outflow, however, is viewed by those water exporters as water that is simply “wasting” to the ocean, as opposed to usefully meeting their needs. The difference between Delta outflow, which is crucially needed to control salinity, and the outflow of flood water which occurs somewhat infrequently (on the order of once every five to ten years) is conveniently overlooked.

Peripheral Canal

Delta Pool Water Quality

Competing Interests

Salinity Impacts

Undeveloped Supply Projects

Water Export v. Delta Needs

Without a peripheral canal, the Delta serves as a common pool of freshwater for diversion by both in-Delta and export water users. Reductions in salinity control results in increased salinity in the Delta pool and also the salinity of the water exported. This creates a common interest in preserving Delta water quality, at least to the level preferred by the water exporters. A peripheral canal, however, will eliminate the common interest in protection of water quality in the Delta pool and the exporters' real interest will then be water quality *only* at the intake of the peripheral canal. Water export contractors, the California Department of Water Resources (CDWR) and the US Bureau of Reclamation (Reclamation) have all been steadfast in their efforts to reduce Delta outflow to the minimum level necessary to meet the salinity objectives specified in their export contracts regardless of the impact on other uses. If a peripheral canal intake at Hood is constructed, much greater Bay salinity intrusion in the Delta pool could be allowed before it will affect exported water quality. Improved water quality for export is one of the principal reasons given for urban exporters' support for a peripheral canal. However, improving export water quality by removing fresh water inflow to the Delta pool will unfortunately degrade the quality of water in the Delta pool.

There is strong evidence that protection of the Bay-Delta ecosystem, maintenance of the Delta as a fresh water system, and maintenance of Delta lands will be abandoned in favor of greater exports. This evidence includes: the failure of the SWP to develop the five million AF of supplemental water from North Coast Rivers; the compromised condition of pertinent regulatory processes; and past conduct of the water exporters, the State and the nation (see discussion below). If this trend continues, the Delta will become an inland Bay of saline water with dramatic, negative results. Land surfaces within the Delta islands, in the portions which would constitute the new bay, are below sea level and are protected from inundation by levees. The land surface varies in elevation. Levee remnants could wash away and, primarily because of oxidation of organic soils, the depth of a new, saline bay would be on the order of 10 to 20 feet. The saline bay water will infiltrate and contaminate adjoining fresh groundwater basins and seep into adjoining levees and lands. Wind waves generated across miles of open water will crash into surrounding area levee systems, including the banks of the peripheral canal. Fish and other species in search of fresh water will move upstream and concentrate in the areas of good quality, which will be the area of the intake to the peripheral canal.

INADEQUATE WATER SUPPLY

The force behind the current water conflict is demand that is greater than supply. The consumptive use of water increases with the number of people, plants and animals and the surface area of waterbodies (including ponds, lakes and swimming pools). Consumptive use also increases in areas where temperatures are higher. When irrigated lands are converted into urban development, the consumptive use of water per acre is roughly the same. When arid lands are developed or put under irrigation, though, a totally new demand for water is created. The amount of arid land remaining in California that can potentially be developed — if water is available — far outstrips even the most optimistic possibility of potential supply.

The current water supply crisis is primarily due to the failure of the SWP to develop various projects on North Coast rivers (North Coast Projects) to annually supplement the water supply in the Delta. In a report to the State Legislature by the California Department of Water Resources (CDWR) on "Delta Water Facilities" it was stated that "...economical development of water supplies will necessitate importation of about 5,000,000 acre-feet of water seasonally to the Delta from north coastal streams for transfer to areas of deficiency." CDWR Bulletin No. 76, *Preliminary Edition Report to the California Legislature on the Delta Water Facilities* (December 1960) p. 13. Figure 3 is a copy of page 11 from Bulletin No. 76. It discusses the plans for development, water sources and uses. Figure 4 from page 13 of Bulletin No. 76, shows that by the year 2000, the entire five million AF of water that was to be developed from the North Coast Projects would be required. Wild and Scenic River legislation, increased environmental concerns and the cost of water development appear to be the factors that discouraged construction of the North Coast Projects. It is important to recognize that for the year 2000 — when due to the lack of North Coast water development it was expected that there would be no water for delivery by the SWP — the Water Education Foundation *Layperson's Guide to the State Water Project* (updated 2008) reported: "SWP delivers 3.5 million acre-feet of water, highest total since project began operations."

The continuing shortage of SWP water supply and the cost to SWP contractors of replacing the undeveloped North Coast supply create a tremendous incentive for exporters to simply take water that is needed within the San Francisco Bay-Delta Estuary for environmental protection and consumptive use in the area. An isolated transfer facility or peripheral canal will clearly facilitate the export of water to Southern California, but it would export water that is *not* surplus to the needs of the Delta. If an isolated transfer facility becomes a reality, it is reasonable to assume that the present pressure to reduce northern California water diversions, increase restrictions on discharges, and reduce environmental protection will continue to intensify.

Peripheral Canal

Supply Issues



Tracy Pumping Plant

Full demands on the State Water Resources Development system can be met until about 1981 from surplus water in and tributary to the Delta with regulation by the proposed Oroville and San Luis Reservoirs. However, upstream depletions will reduce the available surplus supplies and water will have to be imported from north coastal sources after that year. It is anticipated that coordinated operation of the State Water Resources Development System and the Federal Central Valley Project will afford a limited increase in usable surplus Delta supplies beginning in 1981. As indicated in the chart, upstream depletions will continue to decrease the available surplus supplies.

The coordinated use of surplus water in and tributary to the Delta and of regulated or imported supplements to this supply, as required, is referred to as the Delta Pooling Concept. Under this concept of operation the State will ensure a continued supply of water adequate in quantity and quality to meet the needs of export water users. Advantage will be taken of surplus water available in the Delta, and as the demand for water increases and the available surplus supply is reduced by further upstream uses, the State will assume the responsibility of guaranteeing a firm supply of water, which will be accomplished by construction of additional storage facilities and import works. At the same time, the water needs of the Delta will be fully met.

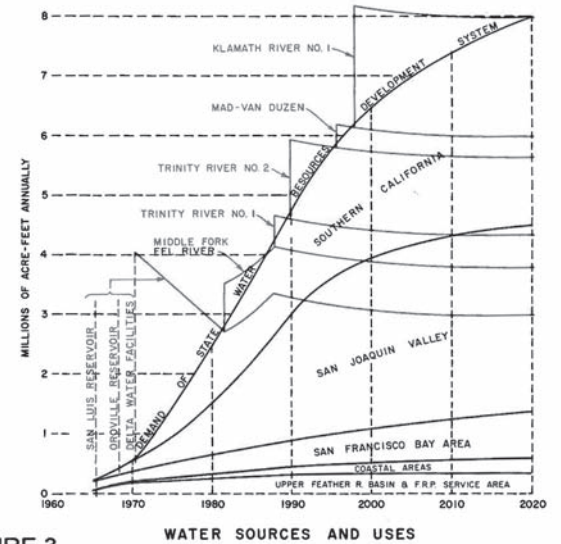


FIGURE 3

WATER SOURCES AND USES

Dry Cycle

If hydrology similar to the dry period of 1928 through 1934 reoccurs, even the areas from which the water originates will be substantially short of water. Without the supplemental five million AF from the North Coast rivers, the reliability of water for export cannot be provided from surplus water in the Sacramento and San Joaquin Rivers Watershed — with or without a peripheral canal. During such a dry period the reliable yield of the watershed is about 17 million AF, which is far short of even the expected 25 million AF for local needs. Figure 5 (next page) contains charts from the Weber Foundation Studies reflecting the data used in the planning for the State's water project. The 1928 through 1934 period, sometimes referred to as the six or seven year dry cycle, is the critical period. During such a period, reservoirs will empty and not be refilled. Substantial local water development, including: conjunctive use;

surface and groundwater storage; water reclamation; desalination and stringent conservation will all be needed to address such severe shortage even in the areas of origin. Environmental needs have proven to be greater than originally anticipated and will further reduce the amount of surplus water available for export from the Delta.

Development of self-sufficiency in the areas dependent upon exports from the Delta is the most obvious solution to the problems described above. For urban areas, local interties or interconnections between water suppliers, water conservation, water reclamation and desalination will be required.

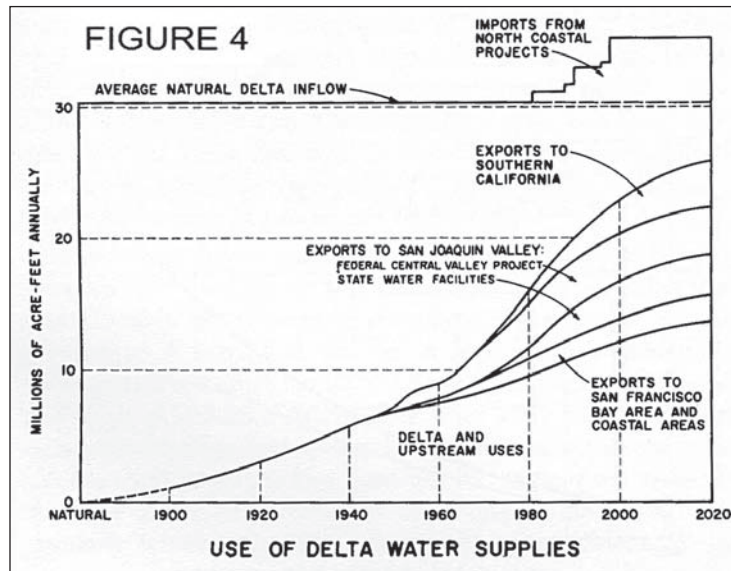


FIGURE 4

USE OF DELTA WATER SUPPLIES

Export Options

Peripheral Canal

Delta Protection

REPUDIATION of PROMISED PROTECTION

The cornerstone to the export of water from northern California to the San Joaquin Valley and Southern California was the promise that only water which existed in surplus to the present and future needs of the north would be exported.

SACRAMENTO VALLEY WATER NEEDS WERE EXPLICITLY PROTECTED:

“On October 12, 1948, Secretary of the Interior Krug, in a public speech at Oroville, stated: ‘Let me state, clearly and finally, the Interior Department is fully and completely committed to the policy that no water which is needed in the Sacramento Valley will be sent out of it.’ He added: ‘There is no intent on the part of the Bureau of Reclamation ever to divert from the Sacramento Valley a single acre-foot of water which might be used in the valley now or later.’ (Staff 9, p. 799 & SRDW 19).”
(See SWRCB D 990, p. 70 & 71.)

WEBER FOUNDATION STUDIES

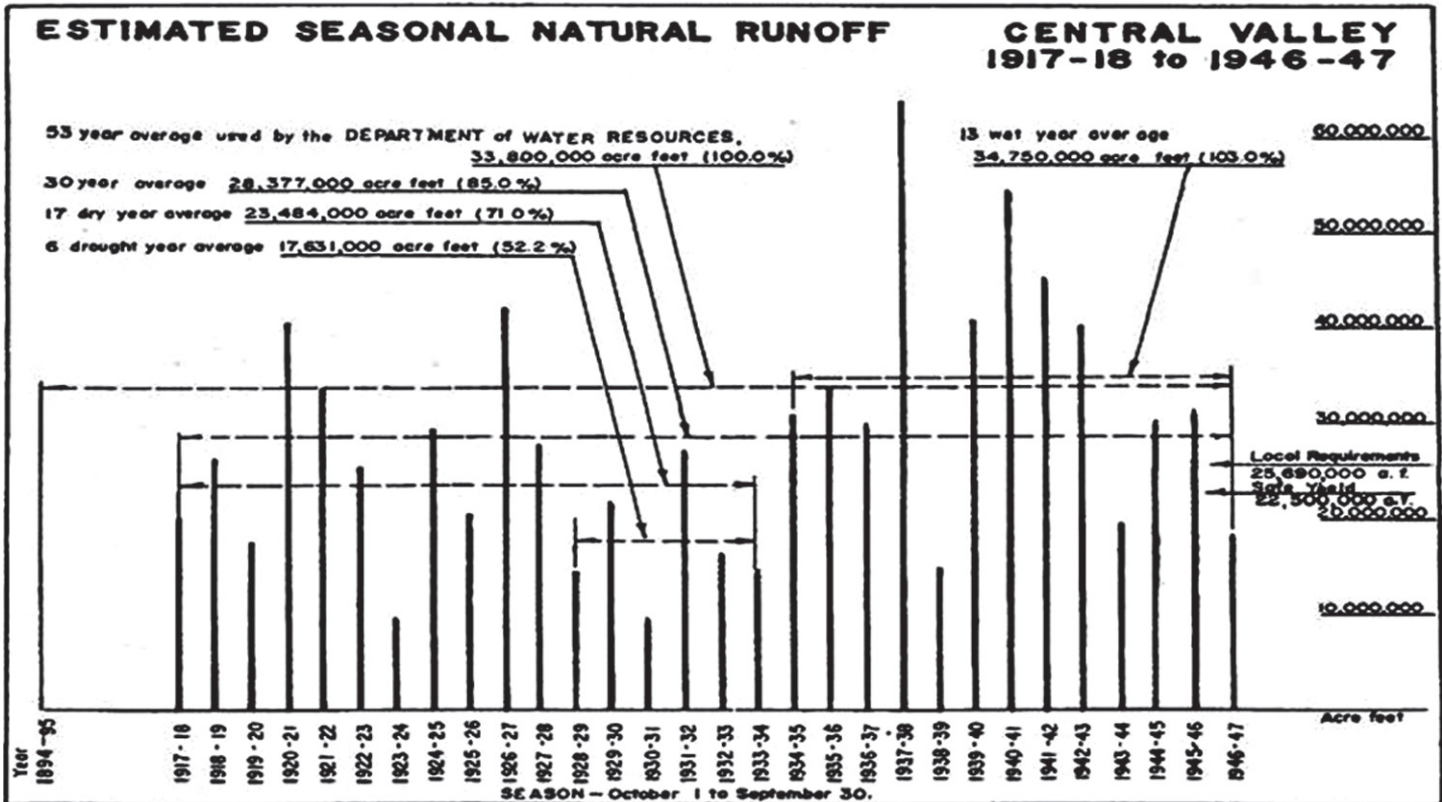
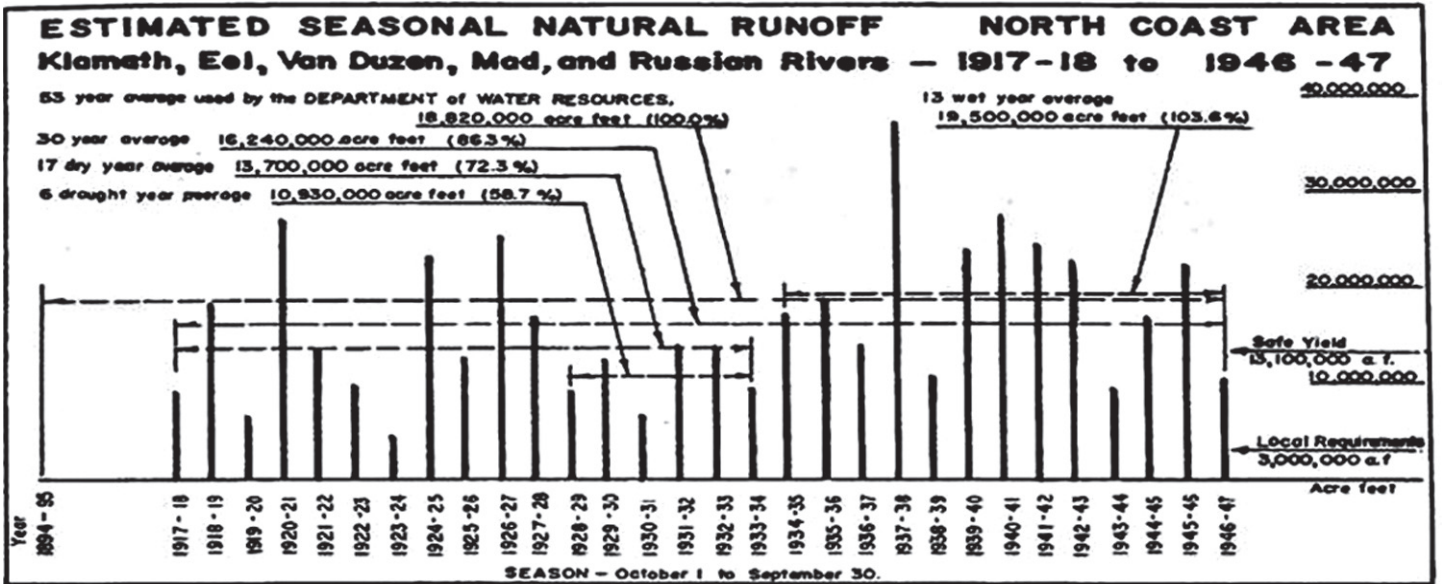


FIGURE 5

Peripheral Canal

State Policy

Salinity Controls

Areas of Origin Protection

Conflicts of Interest

The promised protection is memorialized in California statutes. The Watershed Protection Act, Water Code section 11460 et seq. and The Delta Protection Act, Water Code section 12200 et seq., establish the priority for salinity control and an adequate water supply for the Delta and other areas of origin. Included in these rights is the right to recapture water back from the export projects.

OF PARTICULAR RELEVANCE TO A PERIPHERAL CANAL PROPOSAL IS WATER CODE SECTION 12205, WHICH PROVIDES:

§12205. Storage of water; integration of operation and management of release of water

It is the policy of the State that the operation and management of releases from storage into the Sacramento-San Joaquin Delta of water for use outside the area in which such water originates shall be *integrated to the maximum extent possible* in order to permit the fulfillment of the objectives of this part [i.e. the objectives of salinity control, an adequate water supply and maintenance of the common pool]. (*Added by Stats. 1959, c. 1766, p. 4249, ' 1.'*) (emphasis added)

This promise specifically included instituting effective salinity controls. Measures were to be taken to eliminate the historically infrequent naturally occurring intrusions of salinity from the Bay into the Delta. Measures were to also mitigate for the salinity intrusion caused by State and federal flood control channel projects as well as impacts from project-induced diversions both upstream and downstream from the Delta. The interior of the Delta was to serve as a “common pool” — i.e. serving both in-Delta diverters as well as the exporters. Although imperfect, this common pool resulted in a common interest for Delta preservation. If the water quality is bad for the in-Delta users, it will be bad for the exporters as well.

CDWR and five of the 29 SWP export contractors met in Monterey in 1994 and agreed to amend certain parts of their SWP contracts. Through the “Monterey Agreement” they tried to eliminate the standard provision in SWP contracts which spells out the priority protection for areas of origin. CDWR, Reclamation and the export contractors have also attempted to integrate the premise that reliable supply for export is a co-equal goal to that of protection of the Delta and other areas of origin into the current State “Delta Vision” process and the State and Federal Bay-Delta Conservation Plan process.

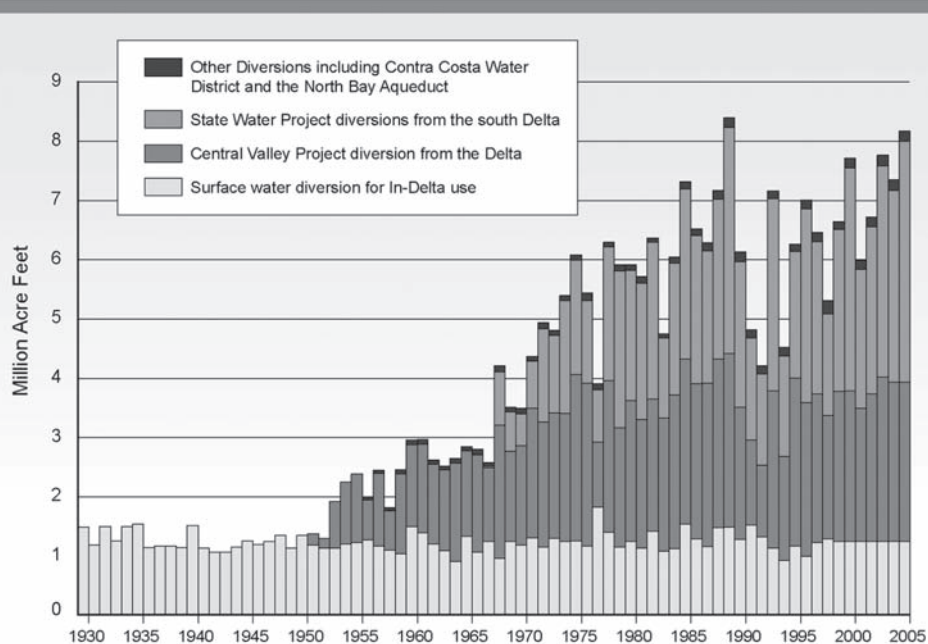
COMPROMISED REGULATORY PROCESSES

CVP is a federal project operated by Reclamation. SWP is a State project operated by the California Department of Water Resources (CDWR). With the US and the State both operating the projects to serve contractors with water exported from the Delta, a critical and debilitating conflict of interest was created with the other federal and State departments and agencies which have a duty to protect the environment, fish and wildlife resources, and the public trust. Even within Reclamation and CDWR there is a conflict between the responsibility to serve the contractors and the duty as public officials to protect the public

interest and public trust, while also meeting the common law duty to avoid deprivation of honest services (including honest and impartial government).

The Resources Agency of the State of California, the California Department of Fish and Game (CDFG), the California State Water Resources Control Board (SWRCB) and CDWR have in the past failed to protect the Delta. Their primary focus has been — and still appears to be — avoiding any loss to exports of water from the Delta. Since at least August of 1978, when SWRCB issued its Decision 1485, it was clearly recognized that, “To provide full mitigation of project impacts on all fishery species now would require the virtual shutting down of the project export pumps.” (SWRCB D-1485, p. 13) Figure 6 shows SWP and CVP exports (excluding Friant-Kern Canal) from the Delta from 1950 through 2005. With full knowledge of the detrimental impact to fish, the exports of water nevertheless steadily increased.

FIGURE 6 Historic Diversions from within the Delta



Source: Measured, calculated and modeled from an array of data sources as compiled by Tully & Young, Inc.

Peripheral Canal

Court Intervention

Agencies' Relationships

CALFED Framework

"Environmental Water Account"

ESA Impacts of Export

Striped Bass

As a result of the increase in water exports the courts have now intervened. In *Natural Resources Defense Council et al. vs. Dirk Kempthorne (Secretary of the Interior) et al.*, United States District Court, Eastern District of California, Case No. 1: 05-CV-01207 OWW (TAG), Judge Wanger ordered SWP and CVP to curtail export pumping of water to the San Joaquin Valley and Southern California in order to protect Delta Smelt. See TWR #47 and #51.

The State regulatory agencies are ill equipped to regulate the CDWR, especially when political influences are considered. Prior to 1994, the US Environmental Protection Agency (EPA) and US Fish and Wildlife Service (USFWS) made some efforts which appeared to be directed at serious regulation of the two projects. Such efforts, however, have recently all but disappeared. Thus, an appropriate arms-length relationship between the regulators and the regulated now appears weak to non-existent.

These conditions persist even though the 1994 Framework Agreement which created CALFED — the region's current intergovernmental water project management agreement — formalized certain environmental responsibilities. ["CAL" includes the Governor's Water Policy Council which included the California Department of Fish & Game, CDWR and the SWRCB. "FED" includes US Fish & Wildlife Service, National Marine Fisheries, EPA and Reclamation. See CALFED website: <http://calwater.ca.gov/index.aspx>]

Under CALFED, the regulators, including the SWRCB (the adjudicator of water rights), and the export project operators, agreed to jointly facilitate the coordination of water project operations with regulatory requirements and undertake a joint long-term solution finding process.

THE 1994 AGREEMENT, IN PART, STATES:

5. We agree that it is essential for the State and Federal agencies with regulatory and resources management responsibilities in the Bay-Delta Estuary to reach *consensus*, consistent with applicable procedural limitations, *on the appropriate level of protection* to be achieved for the Bay-Delta Estuary. Framework Agreement 1994 (emphasis added.)

Countering CALFED's environmental commitments, the "Delta Accord" (sometimes referred to as the December 15, 1994 Principles Agreement) included an agreement that no reduction to water exports were to occur as a result of endangered species requirements, so long as anticipated SWRCB water quality standards were met. This "no net loss" for exported water agreement was made even though these water quality standards were inadequately protective according to previous biological opinions and EPA requirements. Establishment of the "Environmental Water Account" in October of 2000 by the CALFED Bay-Delta Program, where fishery protection could not be required unless water was available from other sources to make up for export losses, added to the erosion of protection of the environment and turned the concept of exporting only "surplus" water on its head. [Editor's Note: The Bay Institute of San Francisco, in its *First Annual State of the Environmental Water Account Report* of September 2001 noted that the Environmental Water Account "was intended to provide a buffer for endangered species by acquiring water that would be immediately available for fish protection while longer-term arrangements were being made between the resource agencies and the water project operators. This concept was adopted by CALFED and export water users and transformed into a mechanism for providing fish protections without ever impacting project supplies."] The Bay Delta Conservation Plan — which is the vehicle for implementing the peripheral canal — is yet another joint regulator and regulated process constrained by the need to sustain exports from the Delta.

There is little evidence to support an assumption that State and federal regulatory agencies will be able to adequately assert themselves to restrain exports in favor of protection of the San Francisco Bay-Delta Estuary. It remains to be seen whether the ongoing court proceedings before Judge Wanger will result in meaningful relief from export impacts on endangered species. Lawyers for export contractors have expressed their confidence that neither the SWRCB nor the courts would impose restrictions on SWP or CVP exports to enforce the promised protection for protection of the Delta and other areas of origin.

The results of the regulatory failures are graphically depicted by the impact on Striped Bass. Although an introduced species, it is common knowledge that Striped Bass were viewed as the indicator of the health of the San Francisco Bay-Delta Estuary. Figure 7 shows the Striped Bass Index for the years 1962 through 2005. When the index dropped below the level critical to sustainability, the index was ignored and the existence of Striped Bass was criticized as being a detriment to other fish species. There was even a lawsuit filed by export contractors on January 29, 2008, to remove catch limits on Striped Bass to further reduce their numbers (Copy of Complaint available at: www.sustainabledelta.com/legal.html). Striped Bass and other species thrived in the Delta before the late 1960's when the SWP commenced Delta operations and the San Luis Unit came on line. Even the federal agencies, which have a mandate under the Central Valley Project Improvement Act to double the population of Striped Bass, have ignored the law and failed to protect Striped Bass. The canary in the coal mine is dying and the regulators are looking the other way.

Editor's Note: Striped bass may prey on several species listed under the federal and state Endangered Species Acts (ESAs): winter-run Chinook salmon, spring-run Chinook salmon, steelhead, delta smelt, and splittail. The California Department of Fish & Game (CDFG) negotiated with the US Fish and Wildlife Service and the National Marine Fisheries Service to stock striped bass. These negotiations resulted in a Striped Bass Management Program Conservation Plan and associated Incidental Take Permit under the federal ESA "Section 10" permit obtained in June 2000. This allowed CDFG to stock striped bass as long as population estimates stayed under 912,000. If the population estimate reached this point, then DFG is required to initiate discussion with the Federal agencies. The population estimate exceeded this number in 2000 and CDFG initiated discussions with the federal agencies. These discussions led to reduced stocking in 2001 and a hold on additional stocking until the striped bass population estimate dropped. (Information from CDFG's website)

Peripheral Canal

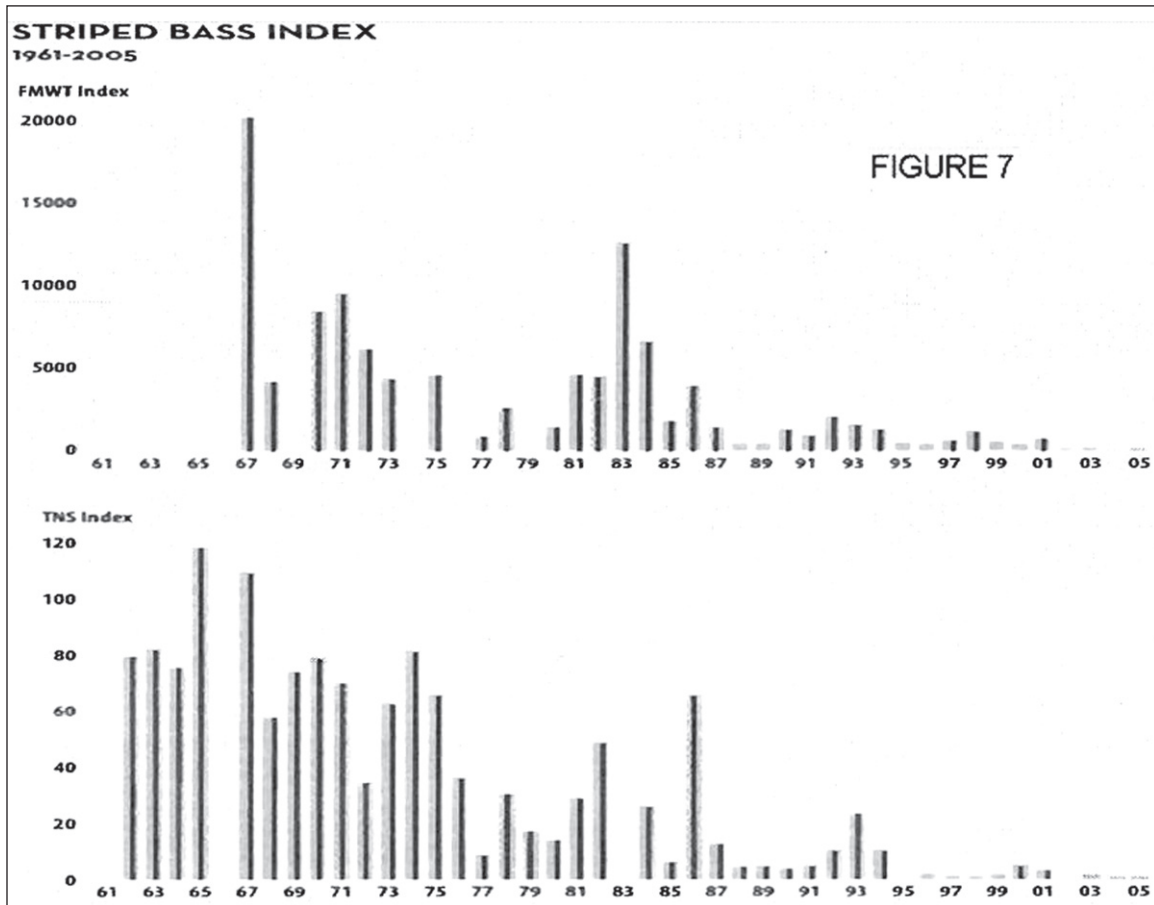


FIGURE 7

Even assuming that a regulatory process can be rehabilitated through massive changes in personnel and leadership, the prospect of using emergency powers to circumvent Delta protection is real. The 1976-77 and 1991-92 droughts were the subject of emergency declarations and although current conditions are not as critical, emergency authority is being applied.

ADVERSE IMPACTS TO DELTA WATER QUALITY

Any isolated transfer facility, even if operated properly, will remove Sacramento River water that would otherwise flow into and through the Delta pool. Removal or separation of such water will increase the temperature of Delta waters and will degrade the water quality. Temperature is important for salmon migrating back to the rivers to spawn. Increased temperature in the Delta could degrade the vitality of the salmon eggs and thus jeopardize reproduction. Similarly, removal of the good quality Sacramento River water from the Delta pool will result in less dilution and less assimilative capacity. Higher concentrations of contaminants will result. Degraded Delta water quality will not only adversely impact in-Delta surface water uses but will degrade groundwater both within and outside the Delta.

Emergency Drought Authority

Delta Pool Impacts

Peripheral Canal

Proposed Intake

Additional Impacts

Delta Future?

Intake Impacts on the Sacramento River

The relocation of the intakes for the SWP and CVP to the Sacramento River would also adversely impact greater numbers of fish. The Sacramento River contains a far greater number of fish than the San Joaquin River and therefore the potential for damage is much greater. The effectiveness of screening and protecting fish, eggs and larvae will depend somewhat on the size of the diversion but in any event the damage will be great. For the sizes of diversions contemplated, the effectiveness of screening has not been demonstrated. Use of an isolated transfer facility will degrade Delta water quality, thus it is likely that more fish, including Delta Smelt, will follow the good quality water to the intake on the Sacramento River, thereby exacerbating adverse impacts.

Stranding of In-Migrating Salmon

Salmon depend upon olfactory senses to find the spawning grounds from which they originated. With an isolated transfer facility, releases, leakage, or seepage of Sacramento River water at various locations across the Delta could result in stranding of salmon at or near the facility where their passage to the Sacramento system is blocked.

Loss of Agricultural Land and Seepage Into Urban Areas

The peripheral canal will require thousands of acres of rights of way, most of which would be located on highly productive agricultural land. There will be additional impacts to agricultural lands outside the rights of way from leakage and seepage. In addition to loss of agricultural production due to seepage from the canal, there is the potential for seepage damage to the nearby levees and residential areas.

Disruption of Roads and Utilities

The routing along the eastern rim of the Delta would intersect and potentially disrupt numerous local roads and utilities, two major highways, the Burlington Northern Santa Fe Railway, the East Bay Municipal Utility District aqueducts, major fuel and gas transmission lines, the Stockton Ship Channel and a number of high voltage power lines.

Interference with Flood Flows

The proposed facilities will likely interfere with the free passage of flood waters and drainage from east to west and south to north. The capacity for passage must anticipate climate change and sea level rise. If flood waters escape the natural channels, the canal embankments could cause the flood waters to rise and/or flow into areas not otherwise flooded, some of which could be highly developed.

YIELD – WATER SUPPLY

Obviously, the peripheral canal would not in and of itself increase water supply. It is rather a question of how the available water is used and the consequences of that usage.

Constructing such a canal would result in an increase in the area of surface water subject to evaporation. Some water would seep or leak into unusable saline groundwater. If Delta water quality is maintained, there will be no saving of Delta outflow. If the Delta is maintained as a fresh water area and Delta islands are allowed to flood, there will be a significant loss of fresh water. Evaporative losses from waterbodies and wetlands is much higher than from farmed lands. The additional loss varies depending upon the crop being displaced but on average is about two AF per acre. If 400,000 acres of the approximately 700,000 acres in the Delta is allowed to become flooded, the annual shortage of water supply will be increased by about 800,000 AF. With so much rhetoric about the potential catastrophic failure of Delta levees, it would appear that the plan is to allow the Delta to become a saline bay. When the Delta is abandoned, there will be some loss in yield due to loss of storage in the Delta pool.

CONCLUSIONS

In order for a peripheral canal to actually increase water supply for the exporters, the Delta would have to be turned into a saline bay and water otherwise needed in the Sacramento River Watershed taken for export. Currently, water transfers are the method used to obtain Sacramento River water. Ultimately, acquisition and retirement of land is likely. These methods may secure profits for the individual sellers but ultimately the economy and environmental values of the region will be significantly impacted, much like what occurred in the Owens Valley from the City of Los Angeles' actions (portrayed in the movie *Chinatown*).

Peripheral Canal

A peripheral canal is purely and simply a tool for another “water grab.” The past conduct of the State and federal agencies and the export water contractors indicates that the San Francisco Bay-Delta Estuary, including its fish, wildlife, waterfowl, agricultural and recreational uses, will not be protected.

Agencies’ Conduct

VARIOUS AGENCIES’ CONDUCT INCLUDES:

- Failing to develop the 5 million AF of supplemental water for the Delta (North Coast Projects)
- Failure to reduce exports to protect fish in 1978 when it was clear that mitigation of project impacts required such reduction
- Not providing sufficient outflow into Suisun Bay to protect the fisheries and Suisun Marsh and instead constructing the Montezuma Slough Gates
- Failing to require the SWP and CVP to comply with State and federal endangered species laws
- Not curtailing delivery of water to the San Luis Unit until a drainage solution was in place
- Neglecting to address San Joaquin River salinity upstream of Vernalis
- The “no net loss” to exports deal in the “Delta Accord”
- The Monterey Agreement’s elimination of the protection for areas of origin provisions in the SWP contracts
- Ongoing pressure on Delta diversions and Delta diverters’ water rights
- Increasing regulation of in-Delta and upstream discharges

What seemingly amounts to a campaign for an unsustainable Delta reveals a movement to turn the Delta into a saline bay and steadily take more and more water from the Sacramento and San Joaquin Rivers Watershed.

Levee Upkeep

The Delta is sustainable. Levee systems are already in place and can be improved over time. If necessary, primary levees can be improved to higher standards and channel closure structures incorporated to better withstand sea level rise and shorten the time for restoration in the event of levee failure.

The emphasis on export reliability based on the potential for catastrophic earthquake failure of Delta levees is misplaced. The hundreds of miles of canals and pipelines and related pumping facilities located along the active earthquake fault lines running north and south are far more vulnerable to earthquakes, terrorism and other catastrophes than Delta levees. True reliability is dependent on local self-sufficiency.

The public interest would be better served with alternative courses of action.

REALISTIC EFFORTS SHOULD FOCUS ON:

- Developing self-sufficiency — especially in the areas which import water — with particular support for water conservation, water reclamation of municipal wastewater and desalting of brackish groundwater
- Supporting local water development throughout the State including interties, conjunctive use of surface and groundwater, and groundwater banking
- Improving Delta levees to the Corps of Engineers’ agricultural levee standards with improved capability for emergency response and rapid restoration
- Honoring the promised protection and priority for the present and future needs of the Delta and other areas of origin, including the environmental needs.

A peripheral canal would dramatically alter the San Francisco Bay-Delta Estuary and provide no significant benefit to the cause of meeting California water needs. It is simply a tool to take water needed in the north, to serve west side San Joaquin Valley agribusiness and development interests in Southern California. The solution to California’s water needs is not water exported from the Sacramento River and San Joaquin River watersheds but rather is in areas outside those watersheds, including areas now importing water from the Delta.

Destroying one area of the State to benefit development in another is shortsighted. The goal should be to meet the needs of the entire State without harm to any part. The threshold policies and promises of the SWP — that no water will be exported from any area unless it is truly surplus to the present and future needs of such area — are sound and should be honored.

Alternative Solutions

FOR ADDITIONAL INFORMATION, CONTACT: DANTE JOHN NOMEILLINI, of Nomellini, Grilli & McDaniel (Stockton, CA), 209/ 465-5883 or email: ngmplcs@pacbell.net

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