

The Congressman's complete public comment is below.

## **THE "LITTLE SIP, BIG GULP" PROPOSAL**

### **An alternative to the "California WaterFix" Including responses and comments to the Bay Delta Conservation Plan/California WaterFix July 2015 Partially Recirculated Draft EIR/EIS Prepared by Congressman John Garamendi**

#### **Introduction**

The recirculated EIR/EIS for the California Water Fix seems intended to promote the State Department of Water Resources' foregone conclusion to build Alternative 4A, the massive twin 40-foot diameter tunnels, capable of carrying 15,000 cubic feet of water per second (cfs). The new draft does not consider the full range of alternatives available to meet the legally required coequal goals of water supply and ecosystem restoration in the Delta. The divorce of California EcoRestore from the conveyance facility only reinforces the fact that this project is not about protecting the environment, but rather about building a plumbing system that will harm the Delta and San Francisco Bay without creating a drop of new water.

Just as the EIR/EIS for the Bay Delta Conservation Plan (BDCP) did not consider a more diverse range of alternatives necessary to truly protect both the Delta and reliability of water supply, the 8,000 pages of new material attempt to prop up a project with well documented flaws from an environmental, economic and engineering perspective. While experts will be able to point out a myriad other flaws in the California Water Fix, I will focus my comments on the need for more serious consideration of a range of alternative measures that meet the legally required co-coequal goals

#### **A FULL RANGE OF ALTERNATIVES**

Under the National Environmental Policy Act (NEPA), a range of alternatives that would meet the project's purpose and need must be evaluated. The California Environment Quality Act (CEQA) requires that similar analysis must be conducted. Furthermore California statute states:

*"Providing a more reliable water supply for the state involves implementation of water use efficiency and conservation projects, wastewater reclamation projects, desalination, and new improved infrastructure, including water storage and Delta conveyance facilities."* <sup>[1]</sup>

The California WaterFix and this recirculated EIR/EIS do not meet the most fundamental requirements of both state and federal law.

If the California WaterFix truly lived up to its name, it would cast a wider net for solutions to our state's water infrastructure and ecological challenges. Just as the Delta Stewardship

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<sup>[1]</sup> CA Water Code, Division 35, Section 85004(b)

Council's *Delta Plan*, the Department of Water Resources' *California Water Action Plan*, the Natural Resources Defense Council's *Portfolio-Based BDCP Conceptual Alternative*, and my *Water Plan for All of California*, consider a wide range of actions that should be taken to provide water reliability, so should the California Water Fix consider actions beyond a new pumping facility and large underground tunnels. Each of the plans listed above discuss water conservation, recycling, desalination, the creation of more storage (both surface and aquifer), and fixing the Delta as the means to achieving a reliable water supply. These elements are vital to our water future, and by leaving them out of the California Water Fix's scoping and planning, the state is failing to seek out the most economical and environmentally viable option for our state and the Delta.

### **SIX BUILDING BLOCKS FOR CALIFORNIA'S WATER FUTURE**

If California is to create a more reliable and environmentally sensitive water supply it must adopt a comprehensive approach. There are six specific actions to provide a foundation for California's water future.

- 1) Use a science driven process,
- 2) Water conservation,
- 3) Recycling and desalination
- 4) The creation of new surface and aquifer storage systems,
- 5) Fix the Delta - right sized conveyance, levee improvements, and habitat restoration,
- 6) Protection of existing water rights

### **LET SCIENCE DRIVE THE PROCESS**

The California Water Fix and any other proposal must be based on, and driven by, quality science that measures and informs decisions. California law requires that the Delta's aquatic and terrestrial ecosystems be protected.<sup>[2]</sup> We must do so, not just because the laws demand it, but because our status as human beings on this planet demands that we pay attention and protect precious and rare ecosystems.

*"In assessing the environmental impact of any project, concern is usually shown for its effects on soil, water and air, yet few careful studies are made of its impact on biodiversity, as if the loss of species or animals and plant groups were of little importance." – Pope Francis*

Go forward carefully. Start with the least destructive option. Use science to evaluate each step starting with conservation, recycling, and surface and underground aquifer storage systems, fixing the Delta levees, and then and only then, if necessary proceed to a conveyance facility through the Delta. Remember that the Delta is a unique and precious environmental resource. We must let science govern.

### **CONSERVATION**

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<sup>[2]</sup> CA Water Code, Division 35, Section 85004(c)

The quickest and cheapest source of new water is to stretch our current supplies by conserving what we have. Californians have been at this for years in our cities, in our industries, on our farm, and in our homes. Statewide conservation efforts this summer alone have saved 611,566 acre feet of water proving the potential of this largest source of readily available new water. <sup>[3]</sup>

All of us should do a lot more water conservation, not just the agriculture community. The water conservation mandate set by the state is a 20 percent reduction per capita by 2020 which equals 2 million acre feet. <sup>[4]</sup> In a very real way conservation can create new water that was not previously available for use. To be on the conservative side, let us assume that just one half of the State's goal could be obtained in the next decade, thereby adding 1 million acre feet of new water to our supplies each year.

## RECYCLING

Can you name the fifth largest river on the west coast of the Western Hemisphere? It's the water that flows out of the sanitation plants in Southern California and is dumped into the Pacific Ocean.

Why would any sane government take water from the Sacramento River, pump it 500 miles south, lift it 2,000 feet in the air, clean it, use it once, then clean it again to a higher standard than the day it arrived in Southern California, then dump it in the ocean? California does just this as it discharges vast quantities of water to the ocean each year, much of which could be reused.

We need to think seriously about recycling, not just in Southern California, but everywhere. The State of California currently recycles approximately 669,000 acre feet of municipal water each year <sup>[5]</sup> and has set a water recycling goal of 1.5 million acre feet of new water in California by 2020, and 2.5 million acre feet by 2030. <sup>[6]</sup>

Another option is desalination of the ocean water. This is feasible and used throughout the world, however it is not a viable option for all communities. It costs about 36 to 60 percent more to desalinate sea water than to recycle urban wastewater using current technologies. <sup>[7]</sup>

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<sup>[3]</sup> California State Water Resources Control Board, *Water Conservation Portal-Conservation Reporting* [http://www.waterboards.ca.gov/water\\_issues/programs/conservation\\_portal/conservation\\_reporting.shtml](http://www.waterboards.ca.gov/water_issues/programs/conservation_portal/conservation_reporting.shtml)

<sup>[4]</sup> California, Department of Water Resources, *California Water Plan Update 2013, Urban Water Use Efficiency* Chapter 3, 2013 [http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/Vol3\\_Ch03\\_UrbanWUE.pdf](http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/Vol3_Ch03_UrbanWUE.pdf)

<sup>[5]</sup> CA Department of Water Resources, *2009 Municipal Wastewater Recycling Survey Results*. [http://www.waterboards.ca.gov/water\\_issues/programs/grants\\_loans/water\\_recycling/docs/munirecsrvy/Table1.pdf](http://www.waterboards.ca.gov/water_issues/programs/grants_loans/water_recycling/docs/munirecsrvy/Table1.pdf)

<sup>[6]</sup> California, Department of Water Resources, *California Water Plan Update 2009, Integrated Water Management Bulletin 160-09*, Vol. 2, Chapter 11, 2009. <http://www.waterplan.water.ca.gov/cwpu2009/index.cfm>

<sup>[7]</sup> California, Department of Water Resources, *California Water Plan Update 2013, Resource Management Strategies Bulletin 160-13*, Vol. 3, Chapter 10, 2009. <http://www.waterplan.water.ca.gov/cwpu2013/final/index.cfm>

However, technological advances are being pursued for both recycling and desalination that could lower the costs of each.

Conservation and recycling in California can create approximately 2.9 million acre feet of new water to use each year, and that can increase to 3.4 million acre feet by 2030.<sup>[8][9]</sup> This is new water that is not available today because it is wasted or pumped out to sea. Since much of this new water is created south of the Delta, there is a direct reduction on the demand for water from the Delta. Conservation and recycling are steps one and two in a comprehensive water program for California.

## **WATER STORAGE**

Water storage south of the Delta is possible and necessary. The combined capacity of the great Delta pumps near Tracy is 15,000 cubic feet per second. They do not operate year round, only when there is sufficient water in the Delta, when threatened fish are not near the pumps, and when there is agricultural and urban demand south of the Tracy pumps. Currently, there is very limited water storage capacity south of the Delta. We must build more. San Luis and Los Vaqueros reservoirs should be expanded. New dams could be built at Los Banos Grandes, and numerous smaller off stream sites throughout the San Joaquin Valley. There are many aquifers throughout the San Joaquin Valley that may prove suitable to store additional water that would be used in a conjunctive use water management system. With these water storage facilities in place, the need for havoc causing excessive pumping in the Delta could be avoided.

When coupled with recycling, the underground aquifers in Southern California are another key to our water future. The underground aquifers of the South Coast Hydrologic Region in Southern California have a combined capacity larger than Lake Shasta.<sup>[10][11]</sup> Today Orange County Water District and the Chino Basin agency recycle water and put into the underground water basins to be stored for those inevitably dry years and to protect the quality of the aquifer. When needed, it is pumped out, used, cleaned and returned to storage. Statewide, this recycling system could create as much as 2.5 million acre feet of new water, and thereby reduce the need for importing Colorado and Sacramento River water. We applaud the recent decision by Metropolitan Water District to build a new recycling program in its district and encourage other water districts to pursue expanding the capacity of the state's water recycling system.

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<sup>[8]</sup> Combined statistics from California Water Plan predictions for new water from recycling irrecoverable water and conservation predictions based on SB X7-7.

<sup>[9]</sup> California, Department of Water Resources, *California Water Plan Update 2013*, Vol. 3, Chapter 3 and 12. [http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/Vol3\\_Ch03\\_UrbanWUE.pdf](http://www.waterplan.water.ca.gov/docs/cwpu2013/Final/Vol3_Ch03_UrbanWUE.pdf)

<sup>[10]</sup> California, Department of Water Resources (1975). *Bulletin no. 118: California's Ground Water*. [http://www.dwr.water.ca.gov/pubs/groundwater/bulletin\\_118/california's\\_ground\\_water\\_\\_bulletin\\_118-75\\_/b118-1975.pdf](http://www.dwr.water.ca.gov/pubs/groundwater/bulletin_118/california's_ground_water__bulletin_118-75_/b118-1975.pdf)

<sup>[11]</sup> Based on DWR calculations of 10.4 million acre-feet of usable storage capacity in the South Coastal Hydrologic Study Area

Surface and underground storage should be used in a conjunctive use water management program. Use the rivers when there is lots of water and use the reservoirs when there is little. Water storage north of the Delta is also important, and three proposals are on the books today. An off stream reservoir at Sites, located west of Williams in Colusa County, has great promise for storage and for creating greater flexibility in managing the Sacramento River for salmon runs, water demand, and Delta outflow. This reservoir can deliver 500,000 acre feet of annual yield and the additional flexibility that it offers can under some scenarios, save another 500,000 acre feet of water that would otherwise be released into the river systems.<sup>[12]</sup> Raising Shasta Dam is also possible, as is better conjunctive management of the many aquifers in the Sacramento and San Joaquin Valley. State and federal agencies have already commenced studies for these projects. A quick completion of these studies and construction of those that are feasible is essential.

### **THE LITTLE SIP, BIG GULP SOLUTION**

The best way to achieve a long term solution to California's water crisis is an "All of the above strategy" that uses the programs described above ( science driven programs of conservation, recycling, desalination, and groundwater and surface storage) and then address the Delta problem with the "**Little Sip, Big Gulp**" solution.

### **FIX THE DELTA**

All of the alternatives envisioned in this EIR/EIS (Alternatives 4A, 2D, 5A) depend on the existing Delta channels to deliver approximately half of the average annual water deliveries of approximately 2.5 million acre feet of water. This is the "**Big Gulp**". Thus, an important part of securing California's water system is improving the integrity of the Delta levees. The levee improvements, which are not included in Alternatives 4A, 2D, 5A would increase the security of the water delivery system, and also significantly increase the safety and security of state highways, rail lines, natural gas fields, gas and fuel pipelines, drinking water pipelines, and numerous businesses and towns.

Alternative 4A, the "twin tunnels", does not "fix" California's water problem. It assumes a dual conveyance strategy of transporting water to the pumps in the tunnels and also through the existing Delta channels. However the recirculated draft EIR/EIS does not include any meaningful analysis of the improvement of the levees or how the construction process would impact the levees. If the Delta levees are not improved, the only conclusion that can be drawn is that the California Water Fix really intends to abandon the Delta and only use the massive tunnels to transport water south. Thus the "twin tunnels" become an existential threat to the Delta and San Francisco Bay, the largest and most important estuary system on the west coast of the western hemisphere. This would be in direct violation of the Delta Reform Act.

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<sup>[12]</sup> Sites Project Joint Powers Authority, *North-of-the-Delta Off Stream Storage Fact Sheet*, [www.sitesjpa.net](http://www.sitesjpa.net).

Furthermore, the lack of storage south of the Delta in Alternative 4A makes the massive size of the proposed tunnels superfluous. There is no place to store the water. As a result, the California Water Fix as it stands does not meet the State's mandated coequal goals and fails to offer any alternatives that even come close to meeting them. The State's preferred alternative constructs a conveyance facility that will potentially harm the Delta while providing no reliable water supply.

Fixing the Delta must begin with fixing the Delta levees.

*"15 years after the CALFED Bay-Delta program set a goal of bringing all Delta levees up to the standards of the U.S. Army Corps of Engineers' PL 84-99 program, the levee systems protecting 69 percent of the Delta's land do not meet this standard. Demands for future levee improvements are significant."*<sup>[13]</sup>

Analyses conducted by DWR and the Army Corps of Engineers have shown that seismic activity and subsidence represent threats to earthen levees protecting the Delta. Levee failures would not only inundate Delta islands, but would also cause salt water intrusions disrupting the water supply.<sup>[14]</sup>

In order to ensure that this **"Big Gulp"** of high-water flows can actually work, the levees must be improved. Specifically the levees for South and North Forks of the Mokelumne River and the sloughs and rivers in the Central and South Delta must be upgraded to ensure greater capacity, reliability and flood safety. Also key levees blocking sea water intrusion into the Delta must be upgraded.

A key component of improving the Delta is a fish screen on the Cross Delta Channel Gates and Georgiana Slough, which are located in Walnut Grove, so that out migrating salmon will not be drawn southward to the pumps. Consideration should be given to the sound and light fish screen concept recently tested on the Georgiana Slough.<sup>[15]</sup>

## **THE LITTLE SIP SOLUTION: AN OVERVIEW**

As conservation, recycling, surface and aquifer storage and improvements to the Delta levees come on line, continuous and robust scientific study of the effects of these improvements on the health of the Delta must take place. **If it is determined that the reduced demand on water from the Delta and altered pumping regimes from the Delta are not sufficient to meet the goal of water reliability, then it's time for "Little Sip Facility".**

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<sup>[13]</sup> Delta Stewardship Council. (2015). State Investments in Delta Levees: Key Issues for Updating Priorities. [http://deltacouncil.ca.gov/sites/default/files/documents/files/Item%2011\\_Attach%201\\_14-0918%20Levee%20Investment%20Strategy%20Issue%20Paper.pdf](http://deltacouncil.ca.gov/sites/default/files/documents/files/Item%2011_Attach%201_14-0918%20Levee%20Investment%20Strategy%20Issue%20Paper.pdf)

<sup>[14]</sup> United States Army Corps of Engineers. (2014) *Delta Islands and Levees Feasibility Study, California*

<sup>[15]</sup> California Department of Water Resources. 2011 *Georgiana Slough Non-Physical Barrier Performance Evaluation*. [http://baydeltaoffice.water.ca.gov/sdb/GS/docs/GSNPB\\_2011\\_Final\\_Report+Append\\_090512.pdf](http://baydeltaoffice.water.ca.gov/sdb/GS/docs/GSNPB_2011_Final_Report+Append_090512.pdf)

The "**Little Sip Facility**" is a much smaller facility with a capacity of no more than 3,000 cfs, built to deliver water from the Sacramento River to the Tracy pumps. 40 percent of this Delta-friendly system is already built and begins only two miles from the State Capitol, at the Port of Sacramento. A fish screen and a low head pump at the existing opening on the Sacramento River would allow 3,000 cfs of Sacramento River water to enter the Sacramento Deepwater Ship Channel and flow 25 miles south to a shipping lock at the southern end of the channel. Then, pumps would deliver the water into two 10-foot diameter, pressurized pipes that would span a mere 12 miles beneath the Sacramento and San Joaquin Rivers and deliver water into a new channel along the east side the Old River channel leading to the Tracy Pumps.

An alternative route could deliver the water from the pressurized pipe to an aqueduct at Brentwood and on to the pumps at Tracy. This route would intersect six vital San Francisco Bay aqueducts, thus creating a safety system for 8 million Bay Area residents.

The "**Little Sip**" described above would be coupled with a "**Big gulp**" which is drawing water from the existing Delta channels when there are high water flows and no Delta smelt near the Tracy pumps.

## **WATER SUPPLY**

With the normal minimum flows in the Sacramento River above 15,000 cfs, a small 3,000 cfs facility could operate at least 300 days per year, delivering approximately two million acre feet of water to the pumps at Tracy and then on to the new and expanded storage facilities in the south (Los Vaqueros, San Luis reservoir, Los Banos Grandes, and the many aquifers in the San Joaquin Valley and south of the Tehachapi's.) Note that the full 9,000 cfs capacity of the tunnels proposed in Alternative 4A of the California Water Fix would only be operational during large storms flows that occur at most a few times each year. Thus these huge tunnels become a massive waste of money for California and California water agencies.

This is where the "**Little Sip, Big Gulp**" strategy comes into play, and why fortification of the Delta levees is so essential. In average and above average water years, there is sufficient water in the Delta to allow the Delta pumps to take a "**Big Gulp**" of 2.5 million acre feet of water. This amount, together with the two million acre feet delivered through the 3,000 cfs facility, would meet the annual water demand south of the Delta. Rather than spending billions of dollars on a construction project that will rarely operate at its full capacity, we should prioritize the 300 day reliability of "**Little Sip**" versus the sporadic operation of the twin tunnels.

By DWR's own analysis in the BDCP Draft EIR/EIS under Alternative 5, a 3,000 cfs facility in the North Delta would result in a net increase in water supply of 345,000 acre feet per year on average, when operated in conjunction with South Delta exports.<sup>[16]</sup>

## **FISHERIES AND HABITAT**

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<sup>[16]</sup> 2013 BDCP Draft EIR/EIS, Figure 5-17

We must improve delta smelt science around the Tracy pumps. Current studies indicate that the delta smelt follow turbidity and move toward the Tracy pumps during times of high pumping, as storm water flows are pulled through the Delta.<sup>[17]</sup> Improved monitoring can and should be implemented to determine where the smelt are, so that pumping necessary to achieve the “**Big Gulp**” of 2.5 million acre feet can occur without harming the delta smelt and other endangered species. (Note that this level of pumping is less than one half current annual water pumped from the Delta).

Delta smelt trawl surveys conducted by the California Department of Fish and Wildlife have found smelt in the Sacramento Deep Water Ship Channel.<sup>[18]</sup> The construction of a single shipping lock at the southern end of the levees would isolate the Sacramento River water flowing south in the channel from the Delta water and any smelt in the area. Some smelt habitat in the channel would be lost. However mitigation measures such as shallow flooding of low value land in the area could significantly expand delta smelt habitat.

Salmon migration in and out of the Delta is covered in the Alternative 4A studies. One 3,000 cfs fish screen at the Sacramento Ship Channel facility and another fish screen at the Delta Cross Channel Gates would be much cheaper and environmentally preferable to three larger (9,000 cfs) fish screens further down the Sacramento River as envisioned in Alternative 4A.

## **MITIGATION**

Mitigation of the effects for the use of the ship channel could be strengthening the west levee of the Deep Water Shipping Channel. This would serve the dual purpose of protecting the levees necessary to move water down the channel and protecting West Sacramento from floods caused by high water flows in the Yolo Bypass.

Additional mitigation should include deepening the ship channel to 35 feet, designing the intake fish screen on the Sacramento River in manner that is compatible with development plans of West Sacramento including access roads, river oriented parks, walkways and educational facilities focused on the ecology of the region.

Delays caused by the new shipping lock on the Deep Water Shipping Channel could be mitigated by building a new high bridge across the Sacramento River on Highway 12 at Rio Vista, thus eliminating the current impediment to all river and Highway 12 traffic. This high bridge is a subject of a Caltrans study.

Mitigation for the loss of delta smelt and other species habitat in the shipping channel could be accomplished by inundating low value islands near the southern end of the channel thus creating shallow water habitat.

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<sup>[17]</sup> Feyrer, F., M. Nobriga, and T. Sommer. 2007. [Multi-decadal trends for three declining fish species: habitat patterns and mechanisms in the San Francisco Estuary, California, U.S.A.](#) Canadian Journal of Fisheries and Aquatic Sciences 64:723-734.

<sup>[18]</sup> Spring Kodiak Trawl Survey #3 of 2014 <http://www.dfg.ca.gov/delta/data/skt/DisplayMaps.asp>

## FINANCING

According to a presentation made to the BDCP Steering Committee by Ron Milligan from the United States Bureau of Reclamation on July 2010, a 3,000 cfs conveyance with one intake on the Sacramento River south of Freeport would cost approximately \$7 billion dollars. This modeling is based on a 40-mile tunnel along the same alignment as the twin tunnel project. It does not use the Deep Water Shipping Channel. The report estimated that SWP-CVP exports would average 6 MAF, with 1.4 MAF from the northern diversion and 4.6 MAF from the southern diversion point. Furthermore, the capital cost for an incrementally increased supply increases dramatically as the size of the conveyance increases—while water would cost \$150/acre foot with a 3,000 cfs conveyance, a 15,000 cfs conveyance would cost approximately \$210/acre foot under current conditions. Furthermore, a 3,000 cfs conveyance would cost approximately \$380 million annually, when considering debt service, O&M, and power costs compared to \$540 million for the 9,000 cfs twin tunnels. Note that these figures are based on very different project than the “**Little Sip**” discussed here.<sup>[19]</sup>

In a 1997 report, CALFED considered using the Sacramento Deep Water Shipping Channel and found “no major technical problems” in this route, (Alternative 3G).<sup>[20]</sup> This route is identical to that proposed in “**Little Sip, Big Gulp**”, except it diverted 5,000 cfs from the river. A 3,000 cfs facility would result in a lower cost. The State identified the need for a low lift pump station on the Sacramento River that would provide the hydraulic head to move water through the channel during periods when gravity flows alone were insufficient. The plan called for a new unscreened pumping plant that would move water into a pressurized pipeline to Brentwood (about the same distance as the pipe line to Old River) where an open canal would convey the water to Clifton Court Forebay and the Tracy pumping plants. This early plan did not include a shipping lock or a fish screen on the Sacramento River. However this plan indicates the potential for the use of the ship channel.

The “**Little Sip, Big Gulp**” solution would require construction of a new intake replacing the existing intake at the Port of Sacramento. A fish screen at the intake, a low head pump to move water during periods of insufficient gravity; a shipping lock at the south end of the channel to facilitate commerce and to prevent Sacramento River water from flowing into the Delta; an intake and second pump north of the southern end of the eastern levee of the Deep Water Shipping Channel; two new 10-foot diameter pressurized pipelines to carry water under the Sacramento and San Joaquin Rivers; and an aqueduct to carry the water to the Tracy pumps along the east side of Old River or to Brentwood then through Contra Costa County to the Tracy Pumps.

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<sup>[19]</sup> Milligan, R. (2010, July 1). BDCP Sizing Presentation. Lecture presented at BDCP Steering Committee, Sacramento, CA.

<sup>[20]</sup> CALFED Bay-Delta Program. (1997) *Alternative Narrowing Process: Alternative 3G*.

USACE estimated the costs of deepening the Deep Water Shipping Channel to 35' to be around \$168 million, with an annual cost of \$8 million and an annual benefit of \$24 million.<sup>[21]</sup>

CALFED estimated a cost of \$1.1 billion to \$2.2 billion (adjusted for inflation to 2015 dollars) to upgrade the Delta levees, as reported in the Public Policy Institute of California's Armored-Island Aqueduct proposal.<sup>[22]</sup> Presumably the twin tunnel project and the Little Sip would have the same Delta levee costs, since both rely on continuing to pump water from the Delta when it is available.

The analysis by the DWR for the 3,000 cfs option that takes water out of the Sacramento River below Freeport includes a fish screen at the intake. It is reasonable to assume that a similar fish screen at the port of Sacramento would have a similar cost. The CALFED Storage and Conveyance Refinement Team estimated that screening an isolated Delta conveyance facility would cost \$22,700 per cfs in 2007.<sup>[23]</sup> Based on this information, a 3,000 cfs facility today would cost \$78,150,000 adjusted for inflation.

An additional mitigation measure could be strengthening the west bank levee of the Sacramento deep Water Shipping Channel. According to USACE estimates improving the west bank levee of the would cost \$202 million<sup>[24]</sup>

The discussion above indicates that the "**Little Sip, Big Gulp**" solution would be less expensive than DWR's \$7 billion cost estimate for a 3,000 cfs 40-mile tunnel through the entire Delta. Even if we were to accept the DWR price tag the Little Sip Big Gulp solution would be \$10 billion less expensive than the \$17 billion cost of the 9,000 cfs tunnel in Alternative 4A.

These financial savings could be used for new and expanded storage facilities south of the Delta at Los Vaqueros, San Luis reservoir, Los Banos Grandes, and the many aquifers in the San Joaquin Valley and Los Angeles basin, and north of the Delta at the off stream Sites Reservoir. Savings could also be used for urban and agricultural conservation.

## CONCLUSION

Ultimately, construction of a 3,000 cfs conveyance as described in the "**Little Sip, Big Gulp**" proposal with levee improvements and appropriate mitigation, is a much cheaper alternative than the alternatives in the California Water Fix. The State's proposal would also eliminate the economic, historic, cultural, and environmental impact on the North Delta. Armoring the Delta as presented in the "**Little Sip, Big Gulp**", would reduce flood risk in Delta cities and historic communities and also create water supply reliability for Southern California and the San Joaquin Valley.

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<sup>[21]</sup> United States Army Corps of Engineers. (2011) *Sacramento River Deep Water Ship Channel Limited Reevaluation Report: With-Project Economic Analysis*.[http://www.spn.usace.army.mil/Portals/68/docs/SRDWSC/Appendix\\_E.pdf](http://www.spn.usace.army.mil/Portals/68/docs/SRDWSC/Appendix_E.pdf)

<sup>[22]</sup> PPIC. *Dealing with the Delta: Envisioning Futures, Finding Solutions*. February 2007

<sup>[23]</sup> CALFED Storage and Conveyance Refinement Team 1997i. *Facility Descriptions and Updated Cost Estimates for an In-Delta Storage Project*. October 1997.

<sup>[24]</sup> United States Army Corps of Engineers. (2014) *West Sacramento General Reevaluation Report*

## A Discussion of the Legal Problems of the California Water Fix

### FEDERAL LAW

Under the National Environmental Policy Act (NEPA), a range of alternatives that would meet the project's purpose and need must be evaluated. The Council on Environmental Quality (CEQ) has provided guidance on what this "range of alternatives" means as Environmental Impact Statements (EIS) are developed under NEPA:

*"The phrase "range of alternatives" refers to the alternatives discussed in environmental documents. It includes all reasonable alternatives, which must be rigorously explored and objectively evaluated.... Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant."*<sup>[25]</sup>

This guidance is clear that alternatives must represent a wide range of options that can be rigorously explored and objectively evaluated. The draft EIS fails to meet this requirement in several ways. First, it fails to provide a wide range of options that meet the purpose and need of the proposed action. The stated planning goals for the California Water Fix/BDCP are to restore ecological functions of the Sacramento-San Joaquin Delta and improve water supply reliability in the state of California. Alternatives to meet these needs should include not only a conveyance facility, but also other actions and water projects that could be pursued to achieve water reliability. The alternatives in the recirculated draft EIR/EIS fall drastically short in this regard. There is no discussion of water conservation measures or recycling projects or increasing storage capacity, all of which could be used to support water reliability the recirculated draft EIS fails to rigorously explore alternatives. Building massive tunnels through the Delta is not the only option for creating water reliability, and there are plenty of other ideas out there for how reliability could be achieved. If the range of alternatives identified do not include all options that could reasonably meet the purpose and need for the California Water Fix/BDCP, then a rigorous review is impossible to achieve.

Finally, reasonable alternatives are those that are practical and feasible from a technical and economic standpoint, not just those that are desirable for the applicant. Proponents of the California Water Fix/BDCP have one goal in mind – building tunnels to move water from the North to the South. These blinders have limited the scope of this project and the scope of alternatives put forth for analysis. For these reasons, this EIR/EIS violates federal law and fails to provide the required components for an EIS under NEPA.

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<sup>[25]</sup> Counsel on Environmental Quality, Guidance document "NEPA Forty Most Asked Questions"

## STATE LAW

The current draft EIS/EIR also violates state laws governing the development of the project. First, the California Environmental Quality Act (CEQA) applies to state projects which “may have a significant effect on the environment.”<sup>[26]</sup> Since building tunnels 40-feet wide and 40-miles long through the Delta will directly cause physical change, the state has prepared a Draft Environmental Impact Report (EIR) to comply with CEQA. However, draft EIRs must provide feasible alternatives or mitigation measures that could substantially lessen the significant environmental effects of the proposed project, and this is where the state has failed. As previously mentioned, the alternatives offered in the draft EIR are not actual alternatives to the proposed project, they merely offer different sizes of conveyance systems without looking at alternatives that would actually lessen the environmental impact. Building tunnels, no matter what size, will have a major environmental impact. To comply with CEQA, the project proponents need to offer alternatives that would provide a reliable water supply through a variety of methods that extend beyond building a new conveyance system.

Second, in 2009, the Sacramento-San Joaquin Delta Reform Act became state law and mandated coequal goals for the Sacramento-San Joaquin Delta<sup>[27]</sup>. These two goals are to provide a more reliable water supply for California and to protect, restore and enhance the Delta ecosystem<sup>[28]</sup>. The Delta Stewardship Council (DSC) was created through the legislation and charged with the mission of developing and implementing a Delta Plan to achieve these goals. Rather than allowing the Delta Stewardship Council to complete its work in developing a Delta Plan, a group of independent stakeholders rushed ahead with the BDCP in an effort to find an easier way to export water from the Delta to the South under the guise of meeting the coequal goals. However, this narrow focus clearly fails to comply with the state law which states:

*“Providing a more reliable water supply for the state involves implementation of water use efficiency and conservation projects, wastewater reclamation projects, desalination, and new improved infrastructure, including water storage and Delta conveyance facilities.”<sup>[29]</sup>*

A conveyance system is only one element to achieving water reliability, and any plan that is put into place should encompass the entire list above. Some may argue that this is just the first step to achieving reliability, but that is the wrong approach. The Delta Reform Act goes on to discuss the need to reduce reliance on the Delta:

*“The policy of the State of California is to reduce reliance on the Delta in meeting California’s future water supply needs through a statewide strategy of investing in improved regional supplies, conservation, and water use efficiency. Each*

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<sup>[26]</sup> CA Public Resources Code Section 21100(a)

<sup>[27]</sup> CA Water Code, Division 35, Section 85000

<sup>[28]</sup> CA Water Code, Division 35, Section 85020

<sup>[29]</sup> CA Water Code, Division 35, Section 85004(b)

*region that depends on water from the Delta watershed shall improve its regional self-reliance for water through investment in water use efficiency, water recycling, advanced water technologies, local and regional water supply projects, and improved regional coordination of local and regional water supply efforts”<sup>[30]</sup>*

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<sup>[30]</sup> CA Water Code, Division 35, Section 85021