Senate Natural Resources and Water Committee
Senator Fran Pavley, Chair

Statement of Contra Costa Water District
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Chair Pavley and committee members:

On behalf of the Contra Costa Water District (CCWD), I would like to thank the Committee for the opportunity to appear concerning the status of the Delta and Delta planning efforts. CCWD's testimony focuses on three key issues:

- First, immediate actions in the Delta. The need to implement immediate actions is more acute than ever and there is existing bond funding available to pay for them.
- Second, the isolated conveyance facility. The focus on a large isolated facility creates more conflict than water: studies show a small facility at half the cost provides the same water supply reliability as a larger facility. A small facility faces fewer barriers and appears to be implementable within a reasonable timeframe.
- Finally, the need for storage. To meet the "co-equal goals", increased storage will be needed: there is not enough water in drier years to meet all needs, and the need to store water in wet periods for use in dry periods will continue to grow.

Immediate action projects continue to be urgently needed to stop the deterioration in the Delta while the Delta Stewardship Council and Bay-Delta Conservation Plan (BDCP) continue their efforts

Even under the most optimistic of schedules, the Stewardship Council and the BDCP will take more than a decade to implement major projects, but the situation in the Delta demands action now. The most aggressive schedule for the BDCP would be completion of the environmental documentation in 2014, with construction of new conveyance facilities taking eight to ten years after that, assuming no delays from legal challenges. However, the current conditions in the Delta are not sustainable and require immediate actions to deal with emergency preparedness, flood protection, ecosystem restoration, water quality, and water supply reliability. There are actions that can be taken now that will help now, will sustain the system over the next 15 years and will continue to be useful in the long run. Action is needed now in the following areas:

Emergency Preparedness
We now know that "doomsday" scenarios from earlier studies that show earthquakes stopping all water exports from the Delta for years, or forever, are overstated. BDCP studies showed that a major earthquake involving a large number of simultaneous levee breaks during one of the worst droughts on record would have disrupted export supplies for only about three or four months. This is because the rivers don't stop flowing, and the salt and pollutants are flushed out of the channels by the water that can't be exported!

This means we can deal with this potential threat now by careful planning and preparation. An emergency could occur at any time; with proper planning and response, the disruption in water supplies can be minimized. To their credit, the Metropolitan Water District of Southern California (MWDSC) has already started developing potential strategies involving the placement of temporary barriers within Delta channels. To minimize water supply disruption, the State should also look at emergency response strategies that optimize reservoir operations in combination with temporary barriers to better flush salts from the Delta.

Priority levees must be protected. Certain levees protect valuable infrastructure, including roads, railroads, aqueducts and energy facilities. Other levees are essential in protecting islands that, if flooded, could exacerbate water quality problems. The State must ensure that these levees receive priority attention now to bring them up to the necessary standards to minimize risks of failure.

Threemile Slough/Franks Tract Operable Barriers: Water Quality, Fishery Protection and Water Supply.

The Department of Water Resources (DWR) is continuing its studies of barriers in the Threemile Slough and Franks Tract area of the Delta. The sloughs in this area provide a flow path that allows salinity and fish species of concern to be directed into the Central and South Delta. This flow pattern degrades water quality for all uses and exposes fish species of concern to predation and entrainment at the export pumps. The proposed barrier projects have the potential to provide benefits to both fish and water quality by limiting these flows when water quality or fish populations could be affected. DWR should quickly complete the studies and implement the projects.

Fish Screens: Water Supply and Fishery Protection.

Positive barrier fish screens work. CCWD has moved more than 1,000,000 acre-feet of water through its screen on Old River; monitoring has proved the screen to be highly effective, with no salmon and only one delta smelt larva collected past the fish screen. Positive barrier fish screens have been installed at CCWD's intake at Mallard Slough, at CCWD's new intake on Victoria Canal, and at the Freeport Regional Project's new intake on the Sacramento River. They are currently being installed at CCWD's intake on Rock Slough (completion is expected this summer) and at the City of Stockton's new Delta intake.

The latest studies show that losses of Delta smelt in Clifton Court Forebay are far worse than imagined, with measured levels between 95% and 99.9% depending of the age of the smelt. This means that for every smelt found at the salvage facility, between 20 and 1,000 smelt are likely to have been lost in the Forebay.

We know from the BDCP studies that an isolated facility will provide water supply reliability *only* if combined with substantial exports from the south Delta. We also now know that a massive levee failure scenario does not render the Delta unusable forever. BDCP studies show that massive sea level rise will not keep the Delta from freshening in wet periods. In fact, flooding areas for tidal wetland restoration or simply as a result of sea level rise will dampen tides and reduce seawater intrusion, counteracting the potential effects of sea level

rise on salinity intrusion and water quality. Consequently, it is likely that south Delta exports will remain an important part of export water supplies for many decades.

A demonstration fish screen of about 2,000 cfs could provide immediate fishery benefits, especially during the critical spring period when exports are reduced to about that level. If an isolated facility is built, some South Delta pumping will be required and this project will continue to be useful. CCWD, in concert with MWDSC and other urban water agencies, is continuing studies started by DWR to determine the best way to implement such a project. The results will help determine how such a demonstration project can go forward.

Ecosystem Restoration.

There are a set of actions that can be taken now to start restoration of the Delta Ecosystem. These include:

- Remove non-native submerged and floating aquatic vegetation from Delta waterways. This would be an expansion of the current program. Removing non-native invasive plants from Delta waterways will provide benefits to covered fish species by reducing predation mortality on juvenile salmon, steelhead, and splittail, by reducing habitat for non-native predatory fish; reducing predation mortality of delta smelt by increasing turbidity levels; and increasing food consumption by delta and longfin smelt by increasing turbidity levels.
- Improve the survival of outmigrating juvenile salmonids by using barriers to re-direct them away from channels in which survival is lower.
- Construct habitat projects with multiple benefits, including tidal marsh restoration, food web improvement, levee stability, and water quality improvement. The projects that are currently believed to be high-potential restoration sites include Cache Slough, Liberty Island, Prospect Island, Little Holland Tract, Lindsey Slough, and Dutch Slough; some of these projects are already well into planning and environmental documentation. These and other projects can be implemented without waiting years for the BDCP and Delta Plan.

Implementing these projects now does not foreclose or promote any future scenario for the Delta; rather they make the decisions easier. Funding and building these projects will provide definable assets for the State of California which fulfills the desire of the voters who passed bonds to rebuild the state's infrastructure.

Putting these projects in place now will provide information that will be necessary in making sound decisions on what to build in the future, on how best to stage those investments, and how best to operate the system. Failure to make these investments now will lead to future decisions made with inadequate information, and the risk of poor decisions and poor investments.

The focus on a large isolated facility creates more conflict than water: studies show a small facility at half the cost provides the same water supply reliability as a larger facility. A small facility faces fewer barriers and appears to be implementable in a reasonable timeframe.

Studies from the Bay-Delta Conservation Plan, the Delta Vision Stakeholder Process and the Delta Plan have overturned many commonly held beliefs about the Delta and what an isolated facility can and cannot do. Here is what the studies have taught us:

- A 3,000 cubic feet per second (cfs) isolated facility provides 97% of the supply that a 15,000 cfs facility does, at less than half the cost. The big facility is used at its full capacity less than 2% of the time, while it is totally empty 10% of the time. A large facility carries less than 3,000 cfs more than 60% of the time: a bigger tunnel does not get more water because most of the time there simply is not enough water to pump. At times when water is available in abundance, a large fraction can still be safely pumped from the south Delta, even with pumping restrictions that are the same as or similar to the existing restrictions. Those restrictions have been shown to be effective the past several years as take of fish species has plummeted at the Banks and Jones pumping facilities.
- Exporting all water exclusively through an isolated facility (no south Delta diversions) results in the exporters getting *significantly less water, not more* than they do now. If all exports are taken from intakes on the Sacramento River near Hood, the San Joaquin River and eastside tributaries are not available for export. Furthermore, to ensure adequate flow for fish in the Sacramento River, the exports must allow a certain amount of flow to bypass their proposed intake sites; without south Delta diversions, this water will also be lost to export.
- Exporting all or even most of the water through an isolated facility can turn the south Delta into a polluted, tidal "cesspool" because under most conditions, San Joaquin River flow (which consists primarily of drainage from the San Joaquin Valley) is insufficient to flush pollutants discharged into the south Delta. The south Delta sloshes back and forth with the tides, while accumulating these pollutants. The BDCP has no plan as yet to deal with this impact. A small facility can minimize these impacts.
- The Delta was *not* naturally salty or "fluctuating" from salty to fresh. Paleosalinity data show that the Delta was predominately fresh until the late 1800's, when it was channelized and water diversions started. The combined effects of: 1) channelization of the Delta, 2) draining of tidal marshes and 3) upstream, in-Delta and export diversions of freshwater have created the current salty conditions in the Delta, which are not natural. Published studies show consistently that the Delta is saltier now than it was at any time in the past 3,000 years.
- "Fluctuating salinity" (i.e., increasing salt levels to reduce invasive submerged aquatic vegetation and non-native fish) to control invasive species is not feasible. BDCP studies showed that such "fluctuations" cannot be made without creating devastating conditions for salmon and delta smelt (destroying that which was supposed to be saved).
- As previously described, the "doomsday" scenario of an earthquake stopping all exports for years, or forever, is overstated. BDCP studies showed that a major earthquake

involving numerous simultaneous levee breaks during of one of the worst droughts on record would have disrupted export supplies for only about three or four months.

It will be very difficult for a large facility to gain acceptance and support when studies show a smaller facility can be just as effective without producing the threat to in-Delta interests. The studies also show what should be apparent: the main problem we are facing is insufficient supplies in most years to meet all needs. Conveyance cannot move more water if water supply is limited to begin with. The focus should be on implementable solutions that solve the problems in ways that can be supported, and in ways that can be easily modified, do not preclude future adjustments, or result in stranded assets. Studies show that a large isolated facility is largely non-performing asset, especially in dry years when it could be idle for months at a time (although the mortgage payments must still be made). What is needed is not the biggest of all possible facilities, but an implementable project that realistically addresses the problems.

To meet the co-equal goals, increased storage will be needed: there simply is not enough water in drier years to meet all needs, and there will continue to be a growing need to store water in wet periods for use in dry periods.

Currently, as much as 75 to 80% of the basin runoff is diverted in dry years, while in wet years only 20 to 25% is diverted. All the recent fish population crashes have taken place in dry periods (1976-77 drought, 1987-1992 drought, 2001-2003 dry period, 2007-2010 drought). In order to meet the co-equal goals, it should be obvious that less water should be taken from the system overall, but especially in dry years. This is the conclusion of at least three recent independent scientific inquiries on the causes of the ecosystem decline.

California's climate gives us a drought every year: it starts in the spring when the rains stop, and ends when the rains recommence, usually in the following winter. Our current system of infrastructure deals with this problem effectively. Where we need to change is in dealing with the multi-year droughts: the state simply needs more storage (especially groundwater storage in the agricultural areas dependent on export water) if we are to avoid serious dry year shortages in the future. We cannot conserve or recycle our way out of this problem. For the long term, increased storage must be a part of the equation.