



*Zone 7 Water Agency*



January 4, 2012

John Laird, Secretary  
Natural Resources Agency  
1416 Ninth Street  
Sacramento, CA 95814

Dear Secretary Laird:

Representing six Bay Area water agencies and the Metropolitan Water District, we are writing to request your assistance in our collaborative effort to improve water supply reliability in the Delta. While our agencies may have different perspectives on some of the many complex issues in the Delta, we all recognize the importance of continuing to maintain and improve the Delta levee system both in the near term and in the decades to come.

As part of our collaborative discussions about near term Delta actions, we have developed a paper entitled, "Urban Water Agencies Strategy for Delta Levees – List of Priority Levee Projects" enclosed for your consideration. The three projects described in the paper meet the criteria for "Early Actions" in the emerging Delta Plan and in the Bay Delta Conservation Plan, and reflect a "no regrets" approach to infrastructure investment. In particular, we believe these projects qualify for funding from Proposition 1E, and encourage you to consider full implementation to enhance water supply reliability and the general resilience of the Delta. In total, the funding need for the three levee projects ranges up to \$163 million.

Secretary John Laird

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We appreciate your attention to these priority projects, and will call your office to arrange a meeting to discuss the best approach to addressing this urgent need.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry Brown".

Jerry Brown, General Manager  
Contra Costa Water District

A handwritten signature in blue ink, appearing to read "Michael P. Carlin".

Michael Carlin, Deputy General Manager  
San Francisco Public Utilities Commission

A handwritten signature in black ink, appearing to read "Alexander R. Coate".

Alexander R. Coate, General Manager  
East Bay Municipal Utility District

A handwritten signature in purple ink, appearing to read "Jill Duerig".

Jill Duerig, General Manager  
Zone 7 Water Agency  
Alameda County Flood Control & Water Conservation District

Secretary John Laird

January 4, 2012

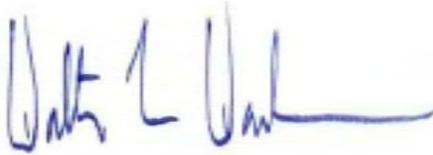
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Beau Goldie, Chief Executive Officer  
Santa Clara Valley Water District



Jeff Kightlinger, General Manager  
Metropolitan Water District of Southern California



Walt Wadlow, General Manager  
Alameda County Water District

ARC:DW

Enclosure

cc: Gerald Meral, Deputy Secretary, Natural Resources Agency  
Mark Cowin, Director, Department of Water Resources  
Charlton Bonham, Director, Department of Fish and Game  
State Water Resources Control Board  
Delta Stewardship Council  
Members of the California Legislature

**DRAFT**

**URBAN WATER AGENCIES STRATEGY FOR DELTA LEVEES  
LIST OF PRIORITY LEVEE PROJECTS**

Urban Water Agencies have identified the need for a strategy to strengthen the integrity of the Sacramento/San Joaquin Delta (Delta) Levee system for reliable water supplies and water quality. The projects identified should be implemented on a short-term basis to provide benefits in a timely manner.

**CATEGORIES OF SUPPORTED LEVEE IMPROVEMENT PROJECTS**

Urban Water Users reliant on the Delta levee system support levee improvement projects to (1) protect water supply interests reliant on Delta levees, and (2) improve protections for other uses including but not limited to life, property, infrastructure and ecosystem habitats in the Delta.

**Protection to Water Supply Interests Reliant on Delta Supplies**

- Protect water supply infrastructure
- Provide freshwater pathway conveyance under emergency conditions
- Reduce risk of levee failure on islands that would have the greatest negative water quality impact at drinking water intakes (e.g. eight western Delta islands)
- Reduce salinity at water supply intakes and enhance operational flexibility (e.g. tidal marsh restoration in north and west Delta and marsh regions by levee breaching).

**Protection of Life, Property, Infrastructure and Habitats in the Delta**

- Protect urban areas
- Protect infrastructure (highways, power lines, railways, etc.)
- Habitat restoration projects important to water users reliant on the Delta

The remainder of this paper focuses on ongoing projects to protect water supply. As illustrated in Figure 1, levee improvements to protect existing infrastructure and provide a freshwater pathway overlap in many areas.

**SPECIFIC LEVEE IMPROVEMENT ACTIONS**

The following list of levee improvement actions should be implemented on a short-term basis to protect water quality and supplies of interests reliant on the Delta levee system. These actions are both consistent with protection of existing water supply infrastructure and compatible with dual conveyance options under consideration by the Bay Delta Conservation Plan. The list of actions is based on the general categories of need described above. Relevant information includes name, description, benefits, approximate cost, status of funding and implementation stage.

## **Protection to Water Supply Interests Reliant on Delta Supplies**

Protection of water supply infrastructure is essential during and following a major seismic or flood event. Freshwater flows in the Delta must be protected and quickly restored following seismic and flood emergencies, and levees supporting critical water conveyance facilities must be fortified. Stockpiling of emergency response materials for repairs at key locations in the Delta can facilitate protection of critical infrastructure and restoration of freshwater supplies after emergencies in a timely manner. The following specific actions are identified:

### **Name: Mokelumne Aqueduct Levee Enhancements**

Description: Reduce the potential for levee failure by improving the level of flood protection afforded by various levees in the south Delta vital to the protection of the Mokelumne Aqueduct. Levees to be improved to provide added protection are:

- Lower Roberts Island
- Lower Jones Tract
- Upper Jones Tract
- Woodward Island
- Palm-Orwood Tract

Benefits: Enhanced protection for water supply afforded by the Mokelumne Aqueduct with additional benefits to the other infrastructure and lands, including Highway 4, railroads, gas pipelines/fields and agricultural lands. Improve protection to water supply aqueducts crossing the Delta, including design and construction of emergency interties for interim supplies to aqueducts. Study relocation of the water supply aqueducts for continuation of reliable water service for public health and safety after a catastrophic levee failure.

Approximate Cost: \$83 million (Prop 1E)

Status of Funding: Of the \$83 million cited above, for five islands that the Mokelumne Aqueducts cross, about \$35 million of that need was addressed by SBx2 1 (Prop 1E) and the balance of \$48 million is the remaining need.

Implementation Stage: Of the \$35 million appropriated, about \$20 million plus a local cost share has been fully authorized, cleared CEQA and awarded. The remaining \$15 million is expected to clear those steps in late 2011 or early 2012 for the next construction season.

### **Name: Contra Costa Canal Levee Elimination and Flood Protection Project**

Description: Replace 4 miles of the unlined canal with a pipe (from Rock Slough to CCWD PP1), eliminating 8 miles of aging levee embankments.

Benefits: Improve CCWD's water supply reliability while reducing flooding risk to nearby developments and providing the opportunity for habitat restoration. Under an agreement with DWR and a CEQA mitigation commitment, the canal must be replaced along the

restoration site before the Dutch Slough restoration project can proceed due to likely seepage from flooding of adjacent islands.

- Dutch Slough restoration project is a potential habitat restoration project under BDCP (and may be used to partially satisfy the 2008 FWS OCAP requirement).
- Seepage from the Dutch Slough restoration would make it difficult for the SWP and CVP to meet the D-1641 requirements at Rock Slough; replacing the canal with a pipe will mitigate for seepage.

Approximate Cost: Approximately \$100 million remaining construction costs. All planning and environmental work is complete.

Status of Funding: \$10 million (Prop 1E) grant with \$10 million match. Unmet obligation is approximately \$80 million.

Implementation Stage: Phase 1 construction was completed in 2010. Next phase will commence with current Prop 1E grant, but additional funding is needed.

**Name: Middle River Emergency Freshwater Pathway**

Description: Restoration of levees to convey freshwater along Middle River and Victoria Canal to export facilities following a major emergency in the Delta. Middle River levees toe berms would be provided in advance of an emergency. Stockpiling materials in advance will facilitate pathway restoration. The pathway supports implementation of DWR's Delta Flood Emergency Preparedness, Response and Recovery Program.

Toe berms are proposed on the following segments of the freshwater pathway:

- Bacon Island (east levee)
- Woodward Island (east levee)
- Upper and Lower Jones Tract (west levees)
- McDonald Tract (west levee along Mildred Island)
- Victoria Island (east levee)

The following levee segments form the southern portion of the freshwater pathway, however toe berms are not proposed:

- Victoria Island (south levee)
- Union Island (north levee)

Levee improvements along the east and west levees of a potential emergency freshwater pathway are being implemented by local reclamation districts, including landside slope work, landside toe berms and setback levees at Woodward Island, Upper Jones Tract and Lower Jones Tract (see Delta Stewardship Council website). Landside toe berms are also being evaluated and implemented along the west levee of Middle River at Bacon Island by the reclamation district and through the Corps levee stability program. These improvements are

being evaluated to determine compatibility with landside toe berms to reduce levee slumping in a seismic event, which could reduce estimated costs shown below.

Benefits: The benefits include freshwater delivery to 2/3 of Californians within about a 6-month window in the event of a catastrophic multi-island failure and associated salinity intrusion in the Delta.

Approximate Cost: Total cost is estimated at \$100 million. \$60 million is estimated for levee toe berms along the pathway. \$40 million is estimated for remaining stockpiling materials to facilitate pathway restoration after a major emergency. Corps levee stability program planning costs for pathway toe berm development are estimated at \$2 million, comprised of state (Prop 1E), Reclamation District (in-kind) and federal (Corps Levee Stability Program) sources. Updated construction costs are being prepared at this time.

Status of Funding: \$10 million (Prop 84) funds were spent for emergency preparedness rock stockpiles placed in 2007/08. \$37 million (Prop 1E) funds has been appropriated (SBX2\_1) for DWR emergency response studies and materials/equipment stockpile purchases. \$43 million (Prop 1E) funds have been authorized (but not appropriated) for remaining Delta risk reduction activities. Total Prop 1E funding appropriated or authorized is \$80 million. Federal funding of toe berm levee improvements under the Corps Levee Stability Program will be evaluated upon completion of the feasibility study.

Implementation Stage: The project is currently in the feasibility planning stage, although initial compatible work is underway by DWR/RD agreement at Bacon Island.

## **Implementation of Risk-Based Analysis of Levee Protection and Standards**

Urban Water Agencies strongly encourage implementation of economically-based risk reduction on an island-by-island basis. This evaluation would take into account that some islands, or portions of islands, may be converted to habitat that would change how major investments are considered for levee improvements. Economically-based risk reduction analyses should consider (1) protection to life, property and infrastructure in the Delta, and (2) protection to water supply interests reliant on the Delta levee system. This non-proscriptive, risk-based approach to levee standards should be incorporated into DWR's Delta Flood Emergency Preparedness, Response and Recovery Program and the Delta Levees Program.

## **Long-Term Interests**

Implementing these short-term levee improvements strategies and economically-based standards does not foreclose or promote any future scenario for the Delta. For example, these levee improvements would be compatible with dual-conveyance improvements and are consistent with protection of existing state infrastructure.

## **Remaining Funding under Proposition 1E**

The Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1E) authorizes \$4.09 billion in general obligation bonds to rebuild and repair California's most vulnerable flood

control structures to protect homes and prevent loss of life from flood-related disasters, including levee failures, flash floods, and mudslides and to protect California’s drinking water supply system by rebuilding delta levees that are vulnerable to earthquakes and storms.

A March 29, 2011 State Proposition Allocation Balance Report, prepared by the Resources Agency, provides detailed information on remaining balances in Propositions 1E, 84 and 50. Proposition 1E appears to be the most practical source of significant future funding for Delta levees. The following table drawn from the March 29, 2011 report provides a comprehensive assessment of remaining funds in Proposition 1E.

1E Bond Program	Public Resources Code	1E Bond Allocation (\$000)	Enacted Expenditure (\$000)	Proposed Expenditure (\$000)	Statewide Bond Costs (\$000)	Balance Remaining (\$000)
State Plan of Flood Control	5096.821	\$3,000,000	(\$2,005,928)	(\$197,403)	(\$105,000)	\$691,669
Flood control and flood prevention projects	5096.824	\$500,000	(\$103,400)	(\$60,067)	(\$17,500)	\$319,033
Flood protection corridors and bypasses	5096.825	\$290,000	(\$186,454)	(\$37,393)	(\$10,150)	\$56,003
Storm water flood management	5096.827	\$300,000	(\$230,408)	(\$555)	(\$10,500)	\$58,537
<b>TOTAL</b>		<b>\$4,090,000</b>	<b>(\$2,526,190)</b>	<b>(\$295,418)</b>	<b>(\$143,150)</b>	<b>\$1,125,242</b>

As of March 2011, Proposition 1E had a remaining balance of approximately \$1.13 billion, or 27.5% of the \$4.09 billion authorization.

### **Beneficiaries of Delta Levees**

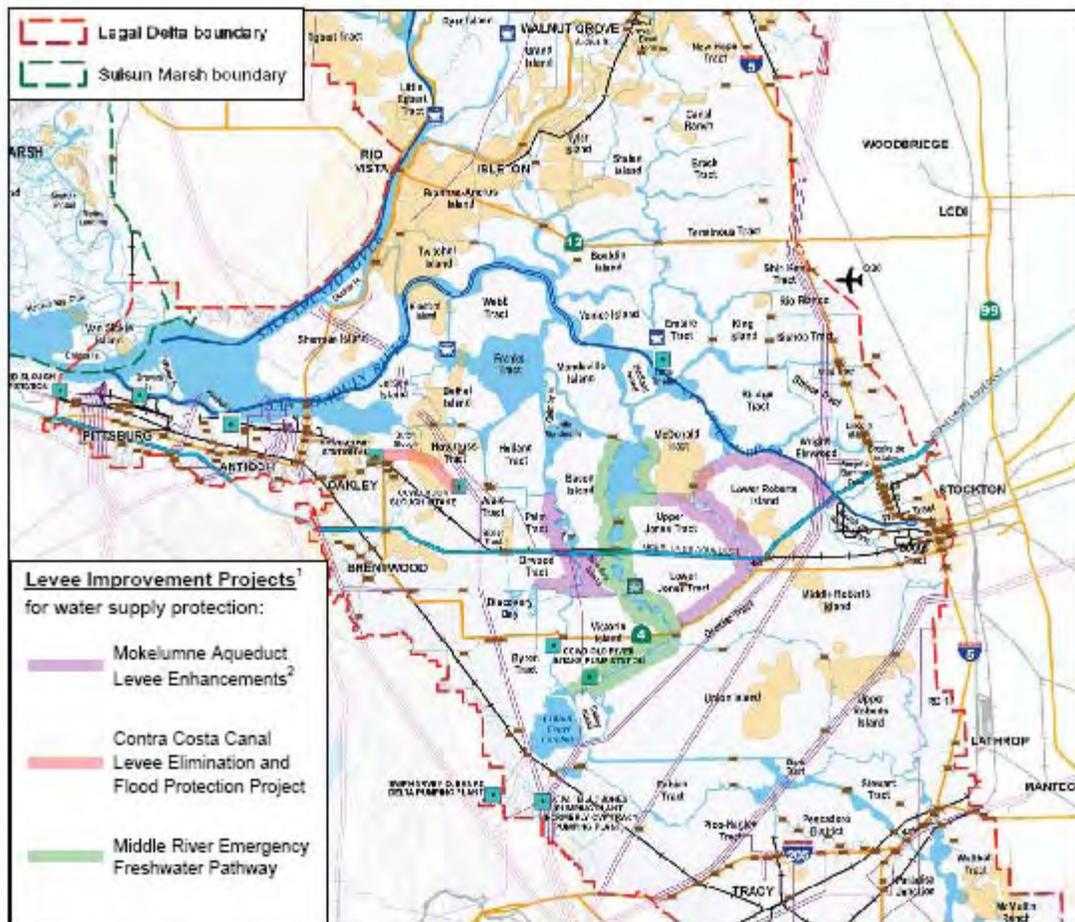
Levee improvement projects in the Delta advocated by urban water agencies offer direct benefits for protecting water supply and water quality. However, there are numerous other interests and asset owners that also stand to benefit from the three identified projects. These include, but may not be limited to:

- State Highway 4 (Caltrans) and local roads
- Shipping channel to Stockton
- Natural gas pipelines and storage fields (Kinder Morgan, PG&E)
- Electrical transmission lines (TANC)
- BNSF railway
- Agriculture

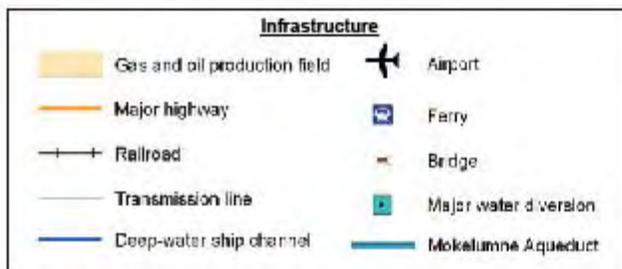
- Recreational boating
- Commercial and recreational fishing

At present, most of these users are not contributing financially to levee maintenance and improvement in the Delta, and any unpaid benefits they receive make them effectively “free riders”. If a mechanism for implementing the beneficiary pays principle were in place, these users could be assessed proportional to the benefits they receive from investments to improve the levees. Establishing such an assessment system would also help to meet the increased non-state cost share for levee investment envisioned by the Delta Stewardship Council.

In practice however, most of these interests cannot be expected to participate voluntarily with financial support for the levee projects in question. Further, there is no near-term prospect of a benefit assessment district or other authorized body that could impose mandatory fees or charges under a beneficiary pays system. Therefore, the most practical approach for near term funding the multi-benefit levee projects is to utilize state funding supported by an urban agency cost share, to be determined.



- <sup>1</sup> Western Delta levees require further analysis to determine specific projects in this area.
- <sup>2</sup> Mokelumne Aqueduct levee enhancements may be refined as additional information is available.



**Figure 1: Levee Improvement Projects for Protection of Water Supply Interests Reliant on Delta Supplies**  
 Map adapted from: *Delta Risk Management Strategy, Phase 1 Report*. DWR. February 2009.

