Multi-Hazard Mitigation Plan
6.9 “The Districts” Community Element

DMA 2000 includes “Districts” in its definition of local governments subject to the requirements of multi-hazard mitigation planning. Types of Districts vary in both form and function. The various types of Districts in Sacramento County include:

- Special Districts
- Multi-purpose Districts
- Joint Powers Authority

Special Districts that include both independent and dependent districts provide the full range of services to citizens of the County such as drinking water, electricity, garbage service, fire protection and Parks and Recreation service. An independent special district has a legislative body whose members are elected by registered voters from within the district or, in the case of cemetery districts, appointed by the Board of Supervisors to run the affairs of the district. A dependent special district may have appointed advisory boards, however, the Board of Supervisors, ex officio, is ultimately responsible for district affairs.

Multipurpose districts in Sacramento County consist of County Service Areas (CSA), Community Services Districts (CSD), and Municipal Utility Districts (i.e., SMUD). Each of the three types of districts provides a similar range of services. The primary distinction between the County Service Areas, the Community Services District and Municipal Utility District is their respective type of governance. A County Service Area is a dependent district, governed by the County Board of Supervisors, whereas a Community Services District or Municipal Utility District can be an independent district, governed by its own elected Board of Supervisors.

A Joint Powers Authority consists of two or more public agencies jointly exercising powers, limited by the combined territorial jurisdictions of the individual agencies. Examples include SAFCA, Sacramento Transportation Authority and Sacramento County Housing and Redevelopment Agency.

The Sacramento County HMPC included representatives from 69 districts --- many of which have never received any damage from a natural hazard, disaster assistance from state or federal programs, or mitigation assistance from FEMA. They chose to participate in the development of this DMA plan nonetheless, in order to preserve and maintain their eligibility for future mitigation assistance should the need and the opportunity arises. Thus, not every District has an individual Action Item recommended, while others have several. Each District, however, now recognizes the overall risk and vulnerability of the County and their role in minimizing future damage and facilitating recovery. In that light, each District will participate in the overall countywide public education recommendation that follows. The Districts, as all local...
governments, reserve their right to revise this element of the plan to reflect new threats and to propose new mitigation activities as the need and the concepts arise.

**All Districts Recommended Action Item:** Participate with the development of a seasonal multi-hazard public education campaign to be implemented annually

**Issue/Background Statement:** Refer to Section 5-4 Countywide Mitigation Recommendations. Public Education is one of the primary mechanisms in reducing future hazard related losses, and one that is inexpensive in comparison to other mitigation projects. This effort should be coordinated between the many organizations that already have extensive and/or limited programs in place.

The following topics could be addressed through this effort that apply to all the districts:

- **Floods**
  - Flood insurance availability and Preferred Risk policies behind levees
  - City/County/SAFCA Program
  - Warning system components
  - Regional Evacuation plans/procedures (response to warning)
  - Public Info regarding manhole covers popping off: what they are, what they are for
  - Natural & Beneficial value of floodplains
  - Placing Flood-Depth signs county-wide

- **Severe Weather**
  - Tree-limb trimming
  - Fog – driving tips
  - Warning (NOAA Weather [All-Hazards] Radio)

- **Earthquakes**
- **Health Hazards (West Nile Virus)**
- **Water Conservation (In conjunction with existing San Juan WD program effort)**
- **Wildfire (defensible space, subdivision regulations, ingress/egress, severe fire hazard mapping)**
- **Develop/Enhance Business Continuity Planning**
- **Conduct disaster exercises**
- **Train consumers/volunteers to be ready to help when disasters strike**
- **Provide all-hazard curriculum for teachers**

**Other Alternatives Considered:** Do nothing

**Responsible Offices/Persons:** City & County Emergency Management offices, City & County Floodplain Management Offices, SAFCA, the America Red Cross, Sacramento County Health Department, San Juan Water District, the California Fire Alliance, the Institute of Building and Home Safety, CA-OES, CA-DWR, CA-Reclamation Board and FEMA Region IX.

**Priority (H,M,L):** High
Cost Estimate / Potential Source of Funding: TBD/HMGP

Cost-Effectiveness Explanation: Life Safety, Hazard loss reduction

Schedule: 2005

**LOS RIOS COMMUNITY COLLEGE DISTRICT**

It is important for CA-OES and FEMA Region IX to recognize that LRCCD is a political subdivision of the state, and that it has facilities in three counties, one of which is Sacramento. LRCCD was receiving mixed signals at the onset of their efforts to participate in the DMA planning process, and could not determine whether it was appropriate to participate at the state or local level – and if at the local level, with which of the three counties. The Sacramento County HMPC invited LRCCD to participate in this effort.

Los Rios Community College District (LRCCD) has undertaken an in-depth analysis of their previous losses and their continuing vulnerability to disasters as a result of their participation in this planning effort. The LRCCD representative followed FEMA’s detailed “How To” guidance series and developed a wealth of documentation --- too extensive to include within this plan. For the purposes of LRCCD’s continued eligibility for FEMA mitigation funding, the LRCCD documentation is on file with the Sacramento County-OES, with the rest of the county planning files. A brief synopsis is provided below, followed by their recommendations.

LRCCD has 261 structures, with an occupancy of 71,877, that are subject to light and moderate earthquake damage. LRCCD used the web-based USGS risk-by-zip-code methodology to determine risk at each site. The replacement value of the buildings is $267.1 million. The replacement value of the contents is $78 million. The value of the functional use, at $179/SF is $350.5 million. Because these buildings are scattered across the landscape in unmapped hazard areas, all of the above values also hold true for the severe weather hazard.

There are 159 structures in the floodplain (Zones AR, A99 and Shaded X) with an occupancy of 49,483, and a replacement value of at $191.2 million. They incurred $62,531 in damages from the January 1995 flooding, and $13,335 from the March 1995 floods. (Losses could have been larger as these figures represent FEMA and State reimbursement only from federal disaster declarations).

Historically, these two events, coupled with smaller flood and wind losses in 1994, 1997, 2003 and 2004, LRCCD has suffered approximately $120,000 in damages, of which approximately $97,500 was recovered through disaster assistance programs.

LRCCD has four structures exposed to the wildfire hazard – all in Eldorado County.

LRCCD developed the beginning of their own mitigation plan, from which the following summary was excerpted:
In a cooperative effort with Sacramento County, Los Rios Community College District will be an annex to the Sacramento City/County plan to include all of our educational facilities (leased & owned), and operational facilities. Please note we have leased classrooms in Davis (Yolo County) with an occupancy 220 people, and in El Dorado County we have an outreach center that has an occupancy of 665 people. The District has established a hazard mitigation committee to participate in the development of this plan. Debbie Turner (Risk Management Specialist) is the acting liaison with Sacramento’s committee attending and participating in the meeting along with being the Chairperson for our local committee. In support of obtaining public input, the District posted the public meeting information on the District’s Safety & Risk Management website.

To identify the hazards for the 17 locations, the committee provided historically data from past damages caused by natural disasters. We also contacted our Regional FEMA office for claim information. During the Winter Storms of 1995 (FEMA disaster reference number 1044 & 1046), of the District filed claims, 12 claims were approved by FEMA. An additional, 25 minor repair claims were under a $1,000 and were covered by the District. The total amount paid to repair damages resulting from the Winter Storm of 1995 was $119,882. FEMA and OES paid $97,436 of the total repair cost. While the District paid out $22,446. Since the 1995 winter storms the District has had minor damage to buildings due to the strong winds and heavy rains during the winters of 1997, 2003, and 2004. In 1994, a portion of the parking lot of our South Sacramento Campus flooded but did not cause any damage.

As part of our Risk Assessment, the following chart summarizes our risk for Earthquake, Flood, Severe Weather, and Wild Fire. Also, attached are several detailed worksheets for each hazard. This information includes all leased and owned buildings.

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Risk</th>
<th>Number of Structures in Hazard Area</th>
<th>Total Square Feet in Hazard Area</th>
<th>Occupancy Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquake</td>
<td>Moderate</td>
<td>263</td>
<td>1,992,210</td>
<td>27,680</td>
</tr>
<tr>
<td>Flooding</td>
<td>Moderate</td>
<td>161</td>
<td>1,431,244</td>
<td>24,257</td>
</tr>
<tr>
<td>Severe Weather-Heavy Rains/winds</td>
<td>Moderate</td>
<td>263</td>
<td>1,992,210</td>
<td>27,680</td>
</tr>
<tr>
<td>Wild Fire</td>
<td>Very High</td>
<td>4</td>
<td>47,919</td>
<td>665</td>
</tr>
</tbody>
</table>
The following are LRCCD’s Mitigation goals:

1. Minimize risk from Wild Fire for the El Dorado Center with proper defensible space.
2. To reduce property damage from flooding, examine re-locating certain operations out of the flood zone or flood way.
3. Examine practicality of obtaining flood insurance policies.
4. To reduce operational cost for flood insurance, by having the ARC buildings surveyed and possibly removed from FEMA’s flood zone.
5. To monitor and maintain healthy trees.

LRCCD Recommended Action Item #1: Protect critical facilities at the District Office at 1919 Spanos Court and 2100 Northrop from flood damage.

Issue/Background Statement: There is potential flooding from Strong Ranch Slough and Chicken Ranch Slough from either overloading the pump station and flooding the local area or flooding from the overflowing creeks. Although, two of our buildings are located next to the levee, our risk of flooding from a levee break may be minimal due to being located on the North side of the levee. According to Sac County the South side of the levee is more vulnerable to erosion and breaks.

Should our District computer operations become damaged from floodwater, we would incur significant equipment loss and a District Wide IT interruption.

Our building elevation is estimated at 34 feet and the base flood elevation according to the FIRM MAP (panel 0602620185F July 6, 1998) is 43.5 feet. The Strong Ranch Slough flooded at 36.4 on Feb 1986 at S/O Hurley @ Clinton Rd Apt. Bridge, which is near our facility.

Other Alternatives Considered (including No Action):

1. Flood proofing coordination with SAFCA and Sacramento County to improve the Strong Ranch Slough and Chicken Ranch Slough

2. Within the next two years, we are planning to move our critical computer/server equipment to the second floor of our building at Ethan Way. Although the Ethan Way building is still in the flood zone, the equipment will be on the second floor, which is estimated at 12-feet. The move will serve to protect the equipment verse replacing the equipment. The cost of the move has not been determined.

Responsible Office/Person: Debbie Turner – Risk Management Specialist

Priority (H,M,L): #1 is a priority set by SAFCA or Sac County. #2 is a high priority and will be completed within the next two years.

Cost Estimate/Potential Source of Funding: #2 Currently, LRCCD does not have a cost estimate and is looking to mitigation grant money to assist in the move. The equipment alone is estimated at $200,000.
Briefly Explain why this is cost-effective: #2 - Moving the equipment is more cost effective than replacing the equipment should it become damaged during a flood. In addition, moving critical operations to another building is less expensive than moving 133 people and operations to a new building outside the flood zone. Historically, we have not had damages to our two buildings.

Schedule: #2-Moving the equipment and operations to the Ethan Building should be completed in two years (December 2006).

LRCCD Recommended Action Item #2: Protect facility at 1410 Ethan Way from flood damages

Issue/Background Statement: There is potential flooding from Strong Ranch Slough and Chicken Ranch Slough from either overloading the pump station and flooding the local area or flooding from the overflowing creeks.

Although, our building is near the levee our risk of flooding from a levee break may be minimal due to being located on the North side of the levee. According to Sac County, the South side of the levee is more vulnerable to erosion and breaks.

Our goal is to prevent flood damage to our building, equipment, and office furniture. In addition, avoid building closure due to flood damages especially since the critical computer operations will be located on the second floor.

Our building elevation is estimated at 36.3 feet and the base flood elevation according to the FIRM MAP (panel 0602620185F July 6, 1998) is 34.5 feet. The Strong Ranch Slough flooded at 36.4 on Feb 1986 at S/O Hurley @ Clinton Rd Apt. Bridge, which is near our facility.

Historically, we have not incurred any damages to this building. However, during the 1986 area flooding the water came within inches of the entrance door.

Other Alternatives Considered (including No Action):
1. Flood proofing coordination with SAFCA and Sacramento County to improve the Strong and Chicken Ranch sloughs.

2. Add a 3-foot floodwall/berm around the building for added protection and use sandbags for the two entrances if the area is flooded. The building is already protected by a 7-foot block wall constructed on the East side of the property, shielding 1/3 of the building.

Responsible Office/Person: Debbie Turner – Risk Management Specialist

Priority (H,M,L): Medium
Cost Estimate/Potential Source of Funding: We do not have a cost at this time. Apply for Pre-Mitigation grant money to complete the work.

Briefly Explain why this is cost-effective: The cost of adding a floodwall/berm is significantly lower than moving all the operations to another building outside the flood zone. LRCCD is interested in constructing a berm to protect the other 2/3 of the building.

Schedule: For either alternative listed above is based on funding.

LRCCD Recommended Action Item #3:
Chicken Ranch – Protect critical functions of Los Rios Comm. College District from flooding (relocation vs. flood proofing)

LRCCD Recommended Action Item #4:
Defensible space
- El Dorado Center College Facilities
- Vital Infrastructure (Life Lines)

Areas w/problem:
- American River Parkway near the District offices
- Fair Oaks off Hazel Avenue La Cerrena
- Folsom
- El Dorado Center
  - Los Rios CC (El Dorado County)
The San Juan Unified School District incurred damages to eight schools in the floods of January and March 1995. The District developed a 57-page report, detailing damages to trailer classrooms on a school-by-school, trailer-by-trailer basis. The damage estimates prepared for the eight schools total $527,612 in the aggregate. The damage is typical of that to manufactured buildings impacted by deep flooding; roofs, siding, skirting; ceiling, wall and floor finishings; and doors, windows and trim. The report is on file with Sacramento County OES.

**RECOMMENDED ACTIONS FOR SCHOOL DISTRICTS**

**Recommended Action Item #1:** Emergency Training/Planning for Sacramento City Unified School District
- Develop loss estimates
- Coordinate with City/County Emergency Services

**Category (for CRS purposes):** Emergency Services

**Issue/Background Statement:** Through this mitigation planning process, the Sacramento City Unified School District has become more aware of the hazards and risks threatening their facilities, and are now ready to move forward with detailed loss estimates that will assist the District in making prioritized decisions regarding undertaking protective measures.

**Other Alternatives Considered:** (No Action)
**Responsible Office/Person:** Sacramento City Unified School District, Risk Management

**Priority (H, M, L):** H

**Cost Estimate/Potential Source of Funding:** Staff time only to conduct loss estimates

**Briefly Explain why this is cost-effective:** Leads to loss reduction actions, promotes hazard awareness

**Schedule:** Begin in next six months

**Recommended Action Item #2:** SAC School Unified, Natomas Unified and Elk Grove Unified School Districts are interested in tornado and severe winds and storm protection, particularly:

- Glass Protection
- Saferooms

**Category (for CRS purposes):** Protective Measures

**Issue/Background Statement:** These School Districts have suffered previous damage from severe weather/thunderstorm events and are seeking protection from broken, flying glass as well as safe shelter.

**Other Alternatives Considered:** No Action

**Responsible Office/Person:** Sacramento City Unified School District, Risk Management

**Priority (H, M, L):** H

**Cost Estimate/Potential Source of Funding:** Staff time only to conduct loss estimates

**Briefly Explain why this is cost-effective:** Life Safety, Leads to loss reduction actions, promotes hazard awareness

**Schedule:** Begin in next six months

**Recommended Action Item #3:** Natomas Unified School District seeks technical assistance in developing and testing school all-hazards evacuation procedures

**Category (for CRS purposes):** Emergency Services

**Issue/Background Statement:** The school district has facilities in all four “corners” of the intersection of I-80 and I-5 and is concerned about where to go and how to get there, should an
emergency need arise. The emergency could be severe weather, or a transportation accident and hazardous materials spill on the nearby interstates that resulted from severe weather.

Other Alternatives Considered: No action

Responsible Office/Person: Natomas Unified School District in conjunction with the City of Sacramento Office of Emergency Management

Priority (H, M, L): M

Cost Estimate/Potential Source of Funding: Staff time only

Briefly Explain why this is cost-effective: Life-safety, reduction in potential liability

Schedule: 2005

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FLOOD CONTROL DISTRICTS

SAFCA

SAFCA's activities are funded from development fees and annual assessments imposed on benefiting properties in three separate districts in Sacramento and Sutter Counties. District 1 provides funding for annual operation and maintenance expenses and covers all of the properties in the Natomas Basin, including those lying within Sutter County, and all the properties in Sacramento County lying with the drainage basin of the American River. District 2 provides funding for capital improvements to the levees protecting Natomas and North Sacramento and covers all of the properties directly benefiting from these improvements. District 3 provides funding for capital improvements to Folsom Dam, the levees along the American River, and the levees and related flood control facilities along Morrison Creek and its tributaries in South Sacramento County and covers all the properties benefiting from these improvements.

A map displaying SAFCA’s Assessment Districts is on the following page.
**SAFCA Recommended Action Item #1:** Complete Flood Erosion Protection Projects to achieve recertification of 100-year flood protection from the American River – removing most of the City of Sacramento from the 100-yr. floodplain.

**Category (for CRS purposes):** Structural Protection

**Issue/Background Statement:** This project is underway and near completion. It is part of SAFCA’s primary mission to lessen insurance requirements in the Sacramento area and to work towards protection from the 200-year food event. Two additional programs are being planned in conjunction with the pending map change; first, an “Agent’s Workshop” to ensure that the insurance industry is prepared for up to 40,000 policy holders no longer required to maintain NFIP flood insurance, and can explain the benefits of switching to a “Preferred Risk” policy rather than simply canceling their existing policy; and second, a public education campaign explaining the pending map changes and the benefits of maintaining a “Preferred Risk” policy.

**Other Alternatives Considered:** No Action

**Responsible Office/Person:** SAFCA

**Priority (H, M, L):** High

**Cost Estimate/Potential Source of Funding:** Work completed. Funded by SAFCA, CA-DWR, State Reclamation Board and USACE

**Benefits:** Reduced insurance costs, increased flood protection

**Briefly Explain why this is cost-effective:** Life safety, reduced flood losses, significantly reduced insurance premiums

**Schedule:** 2004/2005

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**SAFCA recommended Action Item #2:** Coordinate with the City and County on Public Education and Outreach regarding the changing Flood Insurance requirements related to the recertification of 100-yr. protection on the American and Sacramento Rivers.

**Category (for CRS purposes):** Property Protection/Public Information

**Other Alternatives Considered (including No Action):** No Action

**Issue/Background Statement:** In May 22, 2000 the AR Zone was re-designated A99 after substantial improvements were made to the levee system that brought the level of protection back to the 100-year flood. This removed the AR development requirements, while maintaining the insurance requirements. Additional levee work and erosion control efforts have been completed that will change the A99 zone to a Shaded X zone by early 2005. This will relieve approximately 40,000 property owners, mostly in the City of Sacramento, of the mandatory
Flood Insurance requirement. SAFCA is currently planning an outreach project to the property owners that will be affected by the flood zone change. This outreach will include a direct mailing to the property owners notifying them of the change. The mailing should encourage property owners to maintain Flood Insurance at a reduced rate, as they are still at risk to a levee breach/failure flood.

**Responsible Office/Person:** SAFCA, City Department of Utilities and County Department of Water Resources.

**Priority (H, M, L):** High

**Cost Estimate/Potential Source of Funding:** $220,000. SAFCA with FEMA grant.

**Cost-Effectiveness Explanation:** Life safety, reduced flood losses, significantly reduced insurance premiums

**Schedule:** Late 2004/Early 2005

**SAFCA Recommended Action Item #3:** Complete South Sacramento Streams (includes Florin and Morrison Creeks) Group Projects in 2005. Provide greater than 100-year protection by improving conveyance and raising levees.

**Category (for CRS purposes):** Structural Protection

**Issue/Background Statement:** The flood of 1986 revealed that the South Sacramento Streams do not provide the desired level of protection to the community. In 1997, another series of storms confirmed that additional protection was needed. A project study was undertaken that identified measures that would provide greater than 100-year level of protection to the community. A USACE document describes issues and alternatives and is available from SAFCA.

**Other Alternatives Considered:** No Action

**Responsible Office/Person:** SAFCA, CA-DWR, State Reclamation Board, USACE

**Priority (H, M, L):** High

**Cost Estimate/Potential Source of Funding:** $90 million/ SAFCA/State DWR – Rec Board/Corps

**Cost-Effectiveness Explanation:** Life safety, reduced flood losses, significantly reduced insurance premiums

**Schedule:** Project to start in 2005
SAFCA Recommended Action Item #4: Folsom Dam – enlarge outlets & increase flood storage capacity by an additional 100,000 acre-feet.

Category (for CRS purposes): Structural Protection

Issue/Background Statement: These are two separate projects, grouped together because they both relate to the Reoperation of Folsom Dam. The outlets from Folsom Lake are inadequate in terms of releasing large enough volumes of water given the short lead-time that can accurately predict storms that will drain into the lake. Larger outlets will dump larger volumes of water, quicker, yet still be contained within the downstream levee system. The lowering of the lake provides additional flood control storage. The raise of the dam also provides additional storage.

Other Alternatives Considered: Upstream storage coupled with the increased downstream conveyance.

Responsible Office/Person: SAFCA, BOR and USACE

Priority (H, M, L): High

Cost Estimate/Potential Source of Funding: $450 Million for the two projects combined. $200,000,000 outlets, $250,000,000 Long Term (Long Term Project includes the raise, bridge, dam safety at LL Anderson, ecosystem restoration, Temperature shutters). Congressional appropriations (approved), SAFCA, CA-DWR, State Reclamation Board, BOR and USACE

Briefly Explain why this is cost-effective: Reduced flood losses, increased flood storage and control

Schedule: Major work to be initiated in 2005.

SAFCA Recommended Action Item #5: Stabilize Eroding Banks Along the Sacramento River South of Downtown

Category (for CRS purposes): Structural Protection

Issue/Background Statement: The Sacramento river levees provide protection to a large portion of the Sacramento area. These levees are subject to erosive forces from high river flows and boat wakes. The proposed work is to address areas where erosion has either cut into the levee section or is eroding soft bank material.

Other Alternatives Considered: The project is being designed now and will consider an array of solution that will range from rock protection to green fixes or a combination of the two.

Responsible Office/Person: SAFCA/State DWR – Reclamation Board/Corps

Priority (H, M, L): High
Cost Estimate/Potential Source of Funding: Unknown/ SAFCA/State DWR – Reclamation Board/Corps

Briefly Explain why this is cost-effective: Maintains flood control system. Life Safety, reduced flood losses, reduced insurance costs.

Schedule: 2005

SAFCA Recommended Action Item #6: Forecast Based Operation of Folsom Reservoir

Category: Non-structural Protection

Issues/Background: Forecast based operations of Folsom Reservoir can increase the level of protection provided by the dam. Water is released from the dam in anticipation of flood waters entering the reservoir creating additional storage for the flood event. This would only occur during extremely large events.

Other Alternatives Considered: N/A

Responsible Office/Person: SAFCA/State DWR – Reclamation Board/Corps/BOR

Priority: Medium

Cost Estimate: Unknown

Briefly Explain why this is cost-effective: Life safety, reduced flood loses, increased flood storage and control

Schedule: 2005

SAFCA Recommended Action Item #7: Coordinate with SAFCA, CA-DWR, USACE, and Sacramento County on Proposed Flood Control projects on Magpie Creek (City of Sacramento Recommended Action #6)

Category (for CRS purposes): Structural Protection

Other Alternatives Considered (including No Action):

Issue/Background Statement:
The proposed project would involve raising a portion of the Magpie Creek Diversion Channel (MCDC) levee between Raley Boulevard and Vinci Street, constructing a short section of new levee along Raley Boulevard to prevent outflanking flows, purchasing and preserving 80 acres of lands generally between Magpie and Don Julio Creeks to detain peak flows during major flood
events, constructing a new maintenance road between Vinci Avenue and Dry Creek Road adjacent to the left bank (looking downstream) of the MCDC, and constructing a new culvert under the bike trail at Robla Creek. No channel widening is proposed.

Residents in the area have voiced concerns about the proposed bike trail culvert size at Robla Creek. The new culvert must be adequate to prevent flows from backing up into Robla Creek. In a SAFCA 13 March 2002 Declaration, SAFCA proposed the addition of a 30 feet wide by five feet high culvert at the Bike Trail. This created an additional 150 square feet of area for the storm water to flow through the Bike Trail. A USACE January 2004 document is proposing culverts of about 75 square feet in area, which is half of SAFCA’s proposal. This could potentially cause flood problems in the unincorporated County, while alleviating problems in the incorporated area.

**Responsible Office/Person:** SAFCA/UASCE/ County DWR/ City Department of Utilities

**Priority (H, M, L):** Ongoing

**Cost Estimate/Potential Source of Funding:** SAFCA

**Cost-Effectiveness Explanation:**

**Schedule:** SAFCA estimates construction to begin in 2005-2006.
All District Recommended Action Item #1: Dredge the lower reaches of the Sacramento River throughout the Delta (See “The Delta” recommended Action #1, Section 6.7)

Category (for CRS purposes): Structural Protection

Issue/Background Statement: The primary issue is that something needs to be done regarding the entire Delta levee system. The surrounding land and islands are subsiding and the river channel is becoming more and more clogged with upstream sediment, continually increasing the risk to the entire area and beyond. At risk are communities, small and large agricultural operations, and a major component pf the southern California water supply system.

The Reclamation Districts of the Delta Plains have gone on record for over 20 years seeking the resumption of what was once an ongoing maintenance operation. Primary roadblocks are the temporary and ongoing nature of the solution and environmental regulations protecting habitat, aquatic species, and disposal of dredge materials.

With recent and frequent levee failures, and rising state liability for levee failures, the Districts feel it is time to act.

Other Alternatives Considered: Site-specific repairs, a parallel water supply channel, No action.

Responsible Office/Person: CALFED Bay-Delta Program, State Reclamation Board, The Water Forum, Southern California Water Providers, and FEMA,

Priority (H, M, L): High


Briefly Explain why this is cost-effective: As a flood control measure alone, the necessary work is probably not cost-effective. However, when the costs of past failures, liability decisions, and the impacts of lost water supplies to Southern California is considered, the solutions appear not only cost-effective, but mandatory and urgent.

Schedule: As soon as possible
**RD 800 Recommended Action Item #1:** RD800 (East of Hwy. 99) Levee Maintenance & Weir to resolve repeated flooding. Construct overflow weirs on the Cosumnes River within Reclamation District No. 800 jurisdiction and/or rehabilitate existing levee system and construct new levees where needed to provide agricultural protection from a one in one hundred year flood event.

**Category for CRS purposes:**

**Issue / Background Statement:** Current levee system provides flood protection limited to a 1 in 10 year event, numerous levee failures have occurred in the past.

**Other Alternatives Considered:**

**Responsible Office / Person:** Reclamation District No. 800, Cosumnes River
Hanson Engineering
c/o Henry Matsunaga
444 North Third Street, Suite 400
Sacramento, CA 95814

**Cost Estimate / Potential Source of Funding:** Estimate of cost is in excess of $50 million, source of funding is unknown at this time.

**Brief Explanation why this may be Cost Effective:** Rehabilitating the existing levee system and/or installing overflow weirs will minimize the cyclical nature of rebuilding flood damages to the levee system and facilities within the District’s jurisdiction. Flood damage and repair costs of the most recent flood event 1997, was in excess of $30 million inundating approximately 100 homes and flooding nearly 50,000 acres (FEAT Report, 1997). The damages were attributable to flood flows of the Cosumnes River and included areas downstream of the District boundaries. Cost effectiveness is always determined based on cost benefit analysis, and past flood damage costs and subsequent repair costs are not considered in the analysis. The rehabilitation of the system can be phased by river reaches. There have been levee repair projects where, due to funding constraints, levee repair projects were phased in five-mile segments.

**Schedule:** As soon as possible, once a source of funding is secured.
San Juan Water District Recommended Action Item #1: Construction of (5) wells in Sacramento County

Category (for CRS purposes): “Property Protection, Natural Resource Protection, and Structural Projects” – disaster proofing for drought to help maintain and improve water supply

Issue/Background Statement: The primary supply of water for several communities in northern Sacramento County is surface water from Folsom Lake. A ground water supply also exists in the area and is pumped to the community via wells. Much discussion has been given toward preserving the existing ground water supply during wet years with the intent of utilizing the ground water source to supplement surface water supplies drought conditions. As a method of accomplishing this goal, additional wells are needed. San Juan Water District met with agencies within the service area boundary to discuss the possibility of constructing additional wells for this supply. It was proposed that the construction of five additional wells in the service area would be a proactive measure in helping maintain water supply to the area when the surface water supply is limited, as during drought.

Other Alternatives Considered: No action, Interagency Agreements with other agencies and water providers to help supplement water supplies

Responsible Office/Person: San Juan Water District, General Manager

Priority (H,M,L): Medium to High

Cost Estimate/Potential Source of Funding: $5 Million total (approx. $1 Million per well)

Briefly Explain why this is cost-effective: This is a cost effective measure to help supplement a limited surface water supply condition do to the fact that no other sources of supply exists in the area.

Schedule: No date at this time.

San Juan Water District Recommended Action Item #2: Public Information Water Conservation Campaigns

Category (for CRS purposes): “Public Information” – hazard mitigation to help preserve water supply during a drought.

Issue/Background Statement: Conservation is an effective way to help preserve the natural resource of water, especially during drought conditions. Public outreach and information are critical tools toward the effectiveness of any water conservation program. The district currently uses public information campaigns to inform and educate customers on how to conserve and use water more effective for domestic and irrigation purposes.
Other Alternatives Considered: No action, Water patrol

Responsible Office/Person: San Juan Water District, Customer Service Manager

Priority (H,M,L): Medium

Cost Estimate/Potential Source of Funding: Approximately $7,000.00 per publication (2) publications per year. $14,000.00 total.

Briefly Explain why this is cost-effective: It is much more cost-effective to save water using conservation measures via public information campaigns than it is to spend several million dollars to construct additional water storage facilities.

Schedule: No date at this time.

San Juan Water District Recommended Action Item #3: Irrigation System Controller Replacement and Rain Sensor Installation

Category (for CRS purposes): “Natural Resource Protection” – hazard mitigation to help preserve water supply during a drought.

Issue/Background Statement: Landscape irrigation systems are responsible for a large percentage of water used in the residential community of Sacramento County. Irrigation system controllers determine how much water is delivered to landscape through the irrigation system. Older irrigation controllers have been found to be inefficient and are not designed to accommodate the water efficient irrigating schedules of current conservation programs. Additionally, rain sensors are available which, when connected to an irrigation controller, signal to the controller not to operate during rainy weather thus preventing an unnecessary waste of water. The existing antiquated irrigation controllers should be replaced with newer controllers and rain sensors in order to more effectively manage water used for irrigation.

Other Alternatives Considered: No action, Water patrol

Responsible Office/Person: San Juan Water District, Customer Service Manager

Priority (H,M,L): Medium

Cost Estimate/Potential Source of Funding: Approximately $585,000.00

Briefly Explain why this is cost-effective: The cost for this mitigation measure is a fraction of the cost to construct the alternative which is a water storage tank or reservoir.

Schedule: No date at this time.
Carmichael Water District Recommended Action Item #1: Coordination between SAFCA & Carmichael Water District to protect erosion sites at facilities when releases exceed 100,000 CFS from Folsom Reservoir. The purpose is to reduce the impact to the American River and specifically the District’s Ranney Collectors in the event of high water.

Category (for CRS purposes): Preventative

Issue/Background Statement: Carmichael Water District (CWD) becomes severely impacted during high water events on the American River. CWD owns and operates four Ranney Collectors, three located at Rossmoor Bar one located at Ancil Hoffman Park. Ranney Collectors are concrete cylinders that are 14 feet in diameter and fifty feet in depth. The collectors are sunken along the edge of the American River. At the bottom of each collector are seven 10” diameter perforated pipelines that extend laterally from the collector between 50 and 100 feet into the American River and approximately 15-20 feet below the bottom of the riverbed. These structures are the surface water intakes for the CWD. In addition to these structures CWD also has a junction structure that is 29 feet in diameter and 60 feet in depth. The junction structure joins all three of the Ranney Collectors into a common 60” pipeline that travels under the American River approximately 30 feet below the bottom of the River.

At 50,000 cfs the collectors become islands that are unreachable; at 80,000 cfs, sand and gravels are removed; and between 80,000-130,000 cfs the area is completely under water. During the last two major events in 1986 and 1997 over 1 million dollars of damage occurred at the collectors and a total of 100,000 cubic yards of sand and gravel were sent downstream. In 1999 CWD began an improvement project to protect the collectors, and in 2001 the work was completed. The collectors are in better shape to withstand high water events; however, flows in excess of 100,000 cfs can result in CWD losing 95% of its water supply for periods of several months.

During the last high water event CWD had to go to stage 3 of the District Urban Water Master Plan which allowed only one day per week of outside irrigation. This lasted for a period of three months while the District made repairs to the collectors.

Other Alternatives Considered (including No Action): None at this time.

Responsible Office/Person: General Manager, Carmichael Water District

Priority (H, M, L): High

Cost Estimate/Potential Source of Funding: Staff time for coordination between agencies.

Briefly Explain why this is cost-effective: This is a cost-effective measure to protect the District’s surface water supply which supplies the District customers with 7-95% of its seasonal demand.

Schedule: Coordination on an as needed basis.
Additional Carmichael Water District Recommended Action Items:

1. **Groundwater Recharge impacts:** Presently there are uncontained plumes of contamination from the Aerojet, and Mc Donald Douglas properties. These plumes contain PCE, TCE, Perchlorate, NDMA and potentially others. In the past, groundwater recharge or groundwater reinjection has lead to the migration of these plumes which in turn has impacted the water supply for Sacramento County, Rancho Cordova and most recently CWD. While groundwater recharge is a very good idea, some locations within Sacramento County will lead to increase migration groundwater contamination plumes.

2. **Water Conservation:** CWD has agreed and is currently following the Water Forum’s Conservation Best Management Practices (BMP). These BMPs are set to meet 2030 water supply needs and call for a 26% water supply reduction. CWD has reduced water consumption by 1500 AF/yr and is within 500 AF/yr of reaching the Water Forum agreement.

3. **Conjunctive Use:** Historically CWD is a conjunctive use agency. We are presently using 75% surface water and 25% groundwater. In times of drought or high water events the ratio changes from 75% surface and 25% groundwater to 40% surface and 60% groundwater. Due to impacts from groundwater contamination from Aerojet, it is unlikely that CWD will be able to reduce surface water supply from 75% to 40%.

4. **Regional watershed planning:** CWD is currently involved with the Sacramento Groundwater Authority and the Regional Water Authority in development of a Regional Water Master Plan.
COUNTY OF SACRAMENTO
Park Districts
Sacramento Municipal Utility District (SMUD)

SMUD is the sixth largest public owned utility in terms of customers in the country, and began providing electricity to customers in 1946. SMUD generates, transmits and distributes electric power to a 900-square-mile services area including Sacramento County and portions of Placer County.

SMUD crews consisting of tree trimmers, line workers and troubleshooters perform outage prevention and maintenance activities year-round to help ensure the integrity and reliability of SMUD power lines. Over the past couple of years, tree-trimming efforts took center stage resulting in a huge reduction in tree related outages. As part of an ongoing program, SMUD crews are increasing their effort to replace old underground cable with new cable, which will significantly lower the number of cable-related outages.

SMUD also provides the following tips for preparation for potential power outages during a storm:

“Before a storm ...

Become familiar with your service panel location and how to operate the main circuit breaker. Prepare a basic emergency kit and store it in an accessible place. The kit should contain:

- Flashlight
- Bottled water
- Extra batteries
- Wind-up clock
- Manual can opener
- Battery-operated radio or television

Protect your household appliances and sensitive electronic devices from damaging power surges caused by wind and lightning storms. To learn more about SMUD's Power Protection Service, see our surge protection page in Serving Your Home. If you have an uninterruptible power source -- a device with an internal battery that provides continuous power to computers plugged into it -- remember that the device provides backup power for only a short time, usually a few minutes. However, this is often enough time to ride out power glitches or short outages.”
Sacramento Regional County Sanitation District (SRCSD)

SRCSD provides wastewater services for the Cities of Sacramento, Folsom, Elk Grove, Citrus Heights, Rancho Cordova, and the unincorporated areas of Sacramento County. The SRCSD plans to manage a countywide sewer rehabilitation program to replace old sewer pipes and keep the entire system up to date. Further, the SRCSD routinely monitors the condition of older pipelines through a television viewing system where small portable cameras are used to examine the structural integrity of the pipes.

MOSQUITO

The HMPC discussed the conflict between not disturbing “natural drainage ways” and how that sometime promotes “better breeding grounds” for mosquitoes. No actions were determined at this time.