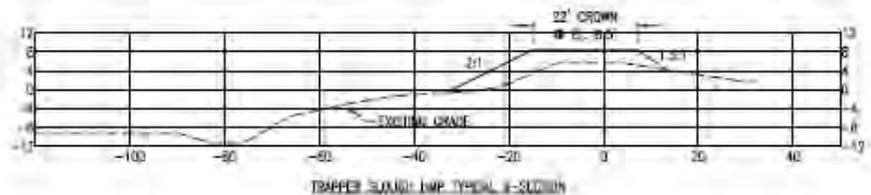


- The Bacon Island Road
- Delta ecosystems
- Water quality in the Delta
- Export water deliveries

Total Project Cost: \$4,054,526



# Upper Jones Tract, Reclamation District 2039



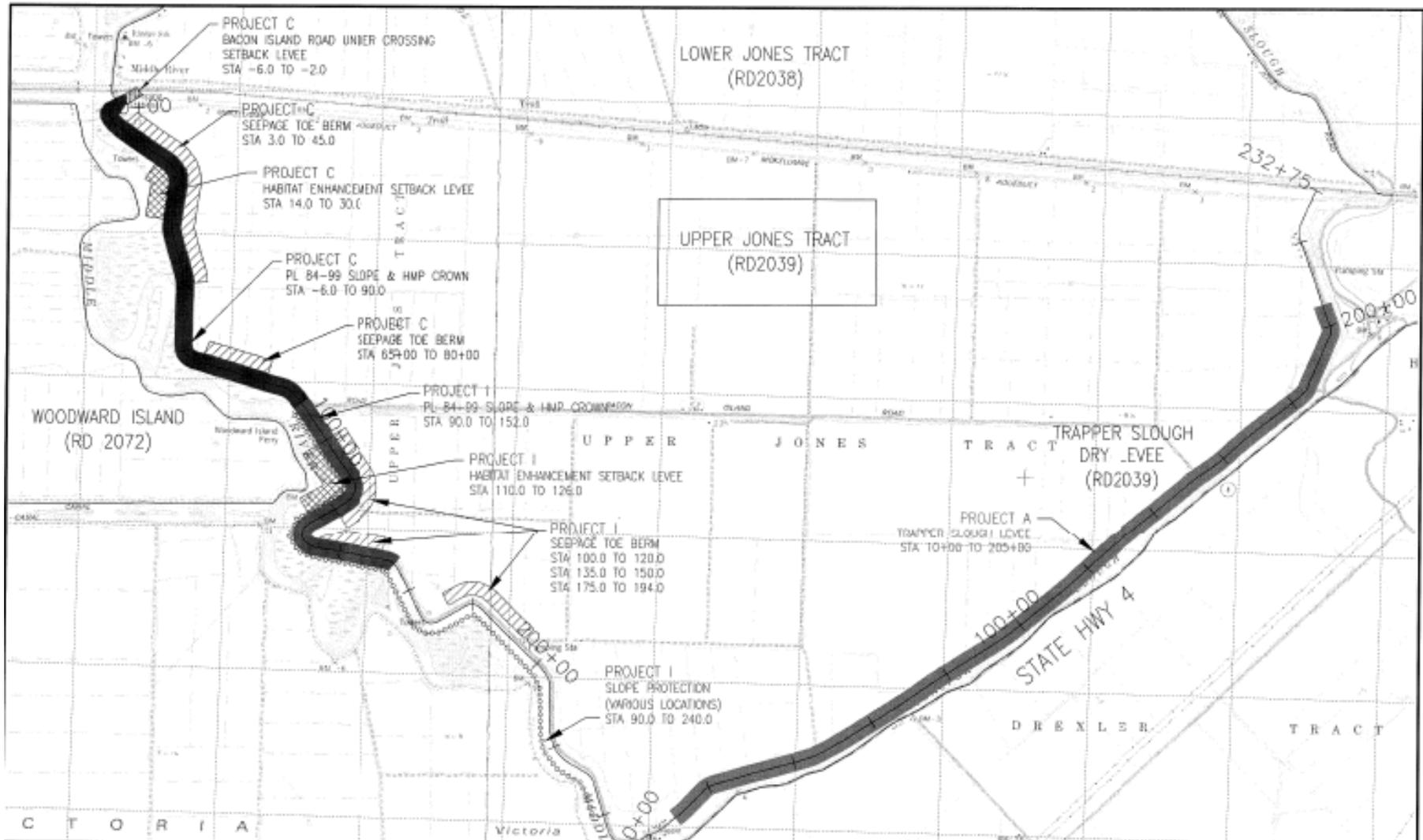
REVISIONS	
NO.	DESCRIPTION



RD 2039 UPPER JONES TRACT  
TYPICAL CROSS SECTION  
PROJECT C  
RECLAMATION DISTRICT NO 2039  
SAN JUAN COUNTY, CALIFORNIA

PROJECT NO.	2039-17-01	DATE	11/11/11
DRAWN BY	JK	CHECKED BY	JK
SCALE	AS SHOWN	DATE	11/11/11
APP. BY	JK	DATE	11/11/11
DATE	11/11/11	DATE	11/11/11

11



SCALE: 1"=2000'	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="font-size: small;">NO.</th> <th style="font-size: small;">DATE</th> <th style="font-size: small;">DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	DESCRIPTION																															<p><b>GREEN MOUNTAIN ENGINEERING</b> 1314 Paloma Ave. Stockton, CA 95239 209-476-0135</p>	DELTA LEVEES RD 2039 UPPER JONES TRACT PROJECTS A, C, & I SAN JOAQUIN COUNTY & CONTRA COSTA COUNTY, CALIFORNIA	PROJECT NO. --- DRAWN BY: CAC DESIGN BY: CAL CHECK BY: DG SCALE: AS SHOWN DATE: 6/9/2010 CAD FILE: P121.DWG (JMG) REV. 1/0001.W. NICHOLAS.DWG	SHEET NO. 1 OF 1 TOTAL
	NO.	DATE	DESCRIPTION																																			

## **Project D: Lower Roberts Island, Reclamation District 684**

### Background

- Lower Roberts Island comprises about 10,760 acres of land and about 14.57 miles of non project levee along Whiskey Slough, Turner Cut, San Joaquin River, Stockton Deep Water Channel and the Burns Cutoff.
- Lower Roberts Island provides habitat for many Delta wildlife species, including large numbers of migratory waterfowl of the Pacific Flyway.

Objective: Improve levee to HMP Standard

### Project Description

- The project consists of adding fill to the levee crown and landside slopes and construction of landside seepage and stability toe berms to prevent or lessen seepage through and beneath the levee and provide additional stability.

### Raising and widening to HMP Standards

- Stations 256+00 to 274+00 (Tiki Lagoon Marina)
- Length is 1,800 linear feet
- Total quantity of imported fill is 27,500 tons
- Total quantity of Class 2 Aggregate Base is 4,400 tons
- Total quantity of Rip Rap for slope protection is 2,250 tons

### Raising and widening to HMP Standards

- Stations 766+00 to 820+00
- Length is 5,400 linear feet
- Total quantity of import fill is 52,500 tons
- Total quantity of Class 2 Aggregate Base is 3,200 tons

Raise, widen and provide all weather surfacing to the crown for better emergency access along various locations of Whiskey Slough levee

- Stations 0+00 to 260+00 various sites including 50+00 to 56+00, 72+00 to 78+00, 108+00 to 178+00 and 234+00 to 252+00
- Length is 10,000 linear feet
- Total quantity of import fill is 12,500 tons
- Total quantity of Class 2 Aggregate Base is 8,148 tons

Replace slope protection along various locations of the Whiskey Slough Levee

- Intermittent between Stations 20+00 to 260+00
- Total Length of D graded slope is 6,800 linear feet
- Total Length of F graded slope is 250 linear feet
- Total quantity of Rip Rap for slope protection is 17,625 tons

Habitat Enhancement/Emergency Preparation

- Stations 134+00 to 148+00
- Length is 1,400 linear feet
- Total quantity of import fill is 35,000 tons
- Construct Shaded Riverine Habitat to enhance the connectivity of the existing Tidal Freshwater Marsh along sections that the setback levee is constructed to provide valuable habitat and protection for Delta smelt and other aquatic species

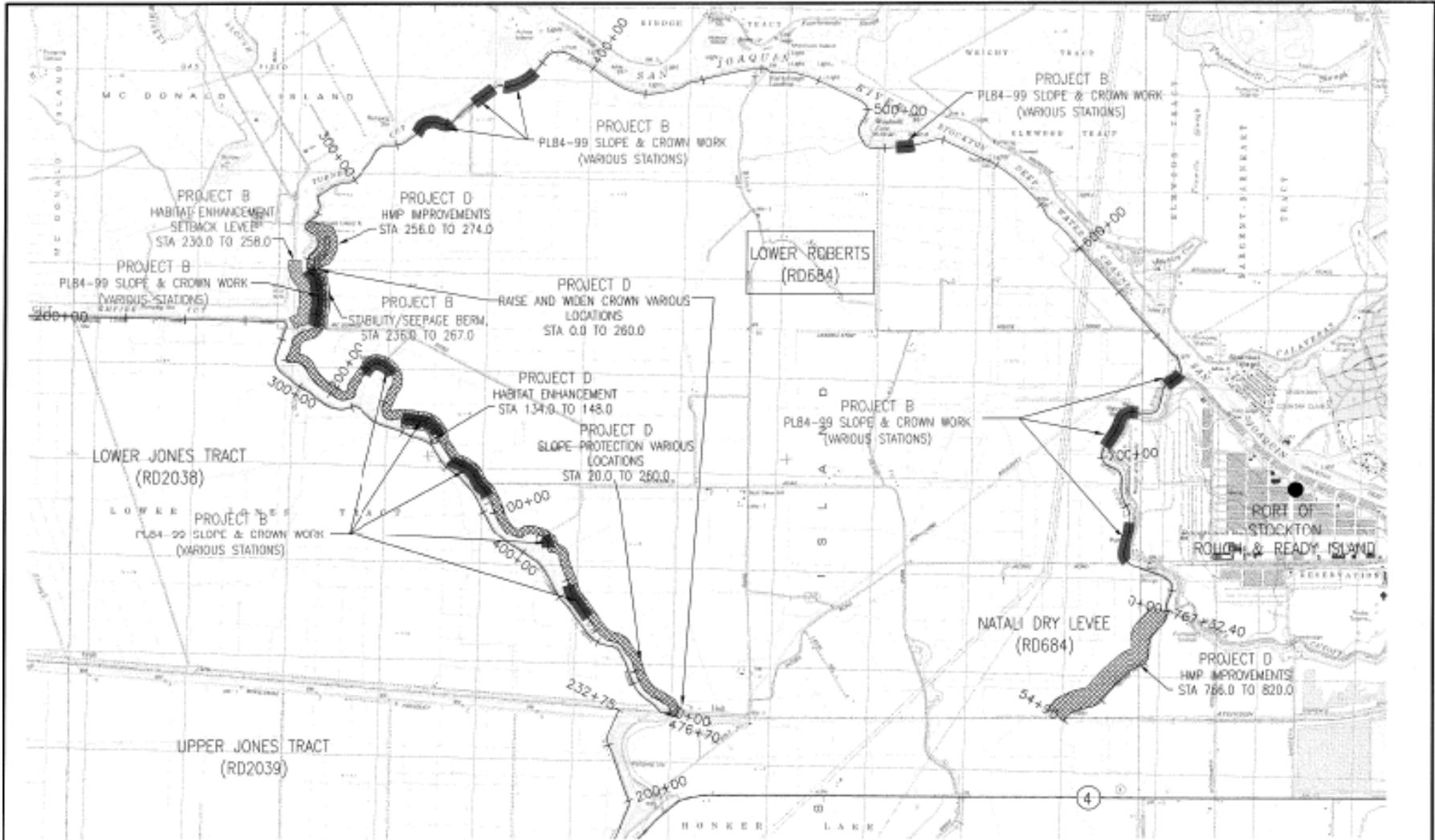
**Project D: Lower Roberts Island, Reclamation District 684 – continued**

Assets Protected

- Protection of life and safety (between 50 to 500 people)
- Burlington Northern Santa Fe Railroad
- EBMUD's aqueducts
- Kinder Morgan fuel transmission pipeline
- Highway 4
- PG&E gas transmission pipeline
- Cellular telephone transmission facilities
- City of Stockton Sewer Treatment Plant
- Port of Stockton
- Wildlife and Delta ecosystems
- Water quality in the Delta
- Export water deliveries

Total Project Cost: \$3,157,895





SCALE: 1"=3000'	REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>	NO.	DATE	DESCRIPTION													 <p><b>GREEN MOUNTAIN ENGINEERING</b> 1314 Paloma Ave Stockton, CA 95209 209.478.8525</p>	DELTA LEVEES RD 684 LOWER ROBERTS PROJECTS B & D SAN JOAQUIN COUNTY & CONTRA COSTA COUNTY, CALIFORNIA	PROJECT NO. 1111 DRAWN BY: CAC DESIGN BY: SA CHECK BY: SS SCALE: AS SHOWN DATE: 6/7/2016 CADD FILE: P137136CADD.rvt AEC: 10000_00_000000.dwg	SHEET NO. 1 OF 1 DATE:
	NO.	DATE	DESCRIPTION																	
APPROVED BY: _____																				

## **Project E: Orwood and Palm Tracts, Reclamation District 2024**

### Background

- Orwood and Palm Tracts comprise about 4,800 acres of land and about 14.3 miles (6.8 miles of Orwood and 7.8 miles of Palm Tract) of non project levee along the Werner Cut, Rock Slough, Old River and Indian Slough.
- Palm Tract provides habitat for many Delta wildlife species, including large numbers of migratory waterfowl of the Pacific Flyway including the WAPA habitat mitigation sites.

Objective: Improve levee to PL84-99 Standard

### Project Description

- The project consists of adding fill to the levee crown and landside slopes and construction of landside PL 84-99 seepage and stability toe berms to prevent or lessen seepage through and beneath the levee and provide additional stability.

### Construct PL84-99 seepage/stability toe berms

- Stations 0+00 to 60+00 (2,000 feet at various locations) and 220+00 to 225+00
- Length is 2,500 linear feet
- Total quantity of import fill is 27,778 tons
- Total quantity of Class 2 Aggregate Base is 1,000 tons

### Construct PL84-99 slope

- Stations 60+00 to 150+00, 170+00 to 190+00 and 210+00 to 401+00
- Length is 30,100 linear feet
- Total quantity of import fill is 305,237 tons
- Total quantity of Class 2 Aggregate Base is 16,187 tons
- Total quantity of Rip Rap for slope protection is 2,000 tons

### Habitat Enhancement/Emergency Preparation

- Stations 300+00 to 320+00
- Length is 2,000 linear feet
- Total quantity of import fill for setback levee is 40,000 tons
- Total quantity of Class 2 Aggregate Base is 2,000 tons
- Total quantity of Rip Rap for slope protection is 660 tons
- Construct Shaded Riverine Habitat to enhance the connectivity of the existing Tidal Freshwater Marsh along sections that the setback levee is constructed to provide valuable habitat and protection for Delta smelt and other aquatic species

### Emergency Preparation

- Construct a storage pad for emergency levee materials
- Stations 395+00 to 398+00
- Length is 300 linear feet
- Total quantity of import fill is 15,000 tons
- Total quantity of Class 2 Aggregate Base is 2,000 tons
- Total quantity of Rip Rap is 3,000 tons

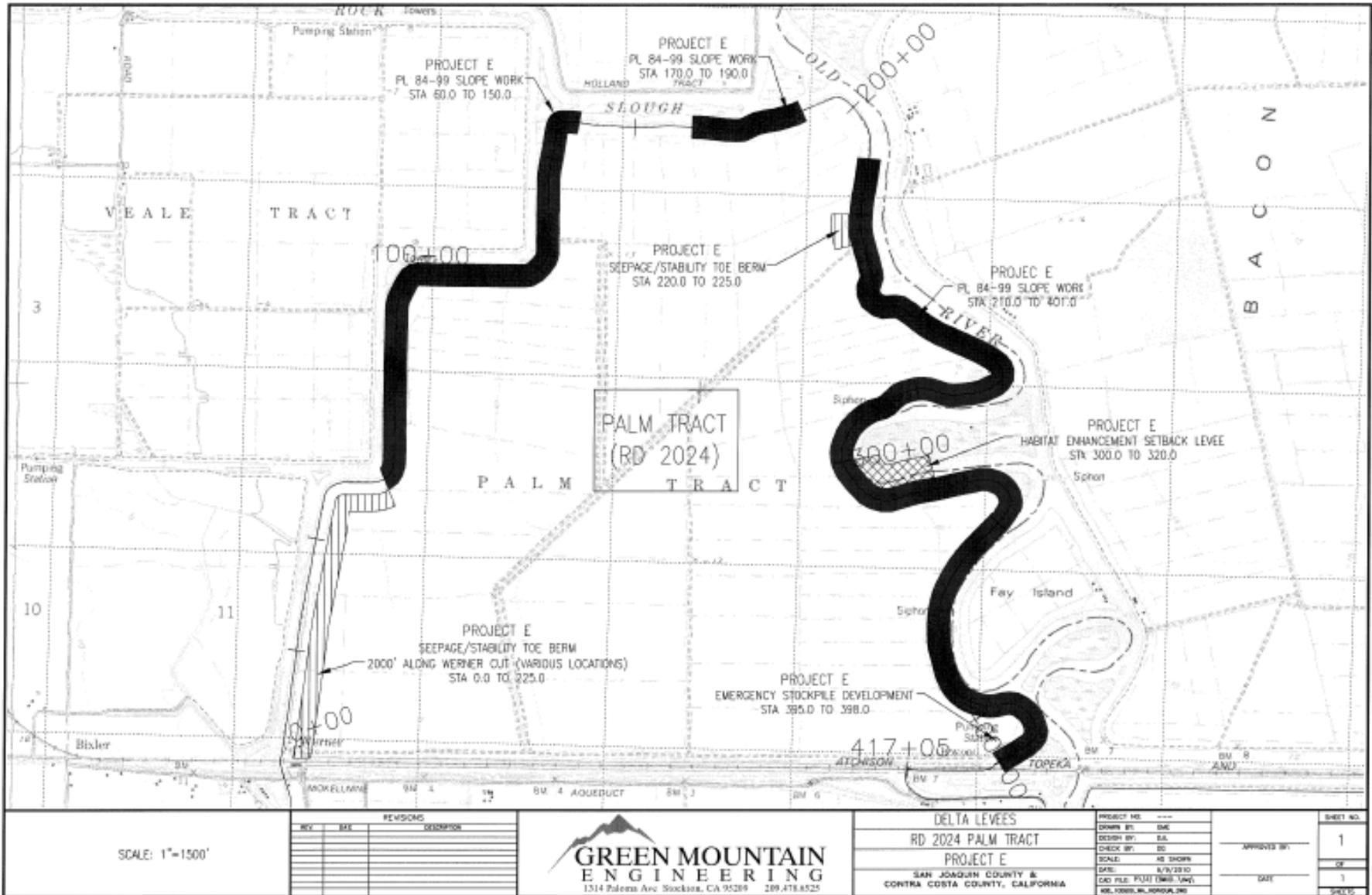
**Project E: Orwood and Palm Tracts, Reclamation District 2024 – continued**

Assets Protected

- Protection of life and safety (between 50 to 500 people)
- Burlington Northern Santa Fe Railroad
- EBMUD's aqueducts
- Kinder Morgan fuel transmission pipeline
- Western Area Power Administration habitat mitigation area
- PG&E gas transmission pipeline
- Cellular telephone transmission facilities
- Wildlife and Delta ecosystems
- Water quality in the Delta
- Export water deliveries

Total Project Cost: \$5,513,158





SCALE: 1"=1500'

REV	DATE	DESCRIPTION



DELTA LEVEES  
RD 2024 PALM TRACT  
PROJECT E  
SAN JOAQUIN COUNTY &  
CONTRA COSTA COUNTY, CALIFORNIA

PROJECT NO. ---	DATE
DRAWN BY: DMC	DATE
CHECKED BY: E.A.	DATE
CHECKED BY: SD	DATE
SCALE: AS SHOWN	DATE
DATE: 5/19/2010	DATE
CAD FILE: P01 (DWG).DWG	DATE
FILE: 10000_01_0000A.DWG	DATE

APPROVED BY:	1
DATE:	1
SCALE:	1

## **Project F: Orwood and Palm Tracts, Reclamation District 2024**

### Background

- Orwood and Palm Tracts comprise about 4,800 acres of land and about 14.3 miles (6.8 miles of Orwood and 7.8 miles of Palm Tract) of non project levee along the Werner Cut, Rock Slough, Old River and Indian Slough.
- Palm Tract provides habitat for many Delta wildlife species, including large numbers of migratory waterfowl of the Pacific Flyway including the WAPA habitat mitigation sites.

Objective: Improve levee to PL84-99 Standard

### Project Description

- The project consists of adding fill to the levee crown and landside slopes and construction of landside PL 84-99 seepage and stability toe berms to prevent or lessen seepage through and beneath the levee and provide additional stability.

### Construct PL84-99 seepage/stability toe berms

- Stations 70+00 to 110+00 and 175+00 to 190+00
- Length is 5,500 linear feet
- Total quantity of import fill is 88,000 tons
- Total quantity of Class 2 Aggregate Base is 1,000 tons

### Construct PL84-99 slope

- Stations 36+00 to 44+00 and 120+00 to 186+00
- Length is 7,400 linear feet
- Total quantity of import fill is 51,760 tons
- Total quantity of Class 2 Aggregate Base is 3,980 tons
- Total quantity of Rip Rap for slope protection is 3,000 tons

### Habitat Enhancement/Emergency Preparation

- Stations 120+00 to 130+00
- Length is 1,000 linear feet
- Total quantity of import fill for setback levee is 20,000 tons
- Total quantity of Class 2 Aggregate Base is 2,000 tons
- Total quantity of Rip Rap for slope protection is 330 tons
- Construct Shaded Riverine Habitat to enhance the connectivity of the existing Tidal Freshwater Marsh along sections that the setback levee is constructed to provide valuable habitat and protection for Delta smelt and other aquatic species

### Emergency Preparation

- Construct a storage pad for emergency levee materials
- Near Station 132+00
- Total quantity of import fill is 20,000 tons
- Total quantity of Class 2 Aggregate Base is 2,000 tons
- Total quantity of Rip Rap for slope protection is 3,000 tons

**Project F: Orwood and Palm Tracts, Reclamation District 2024 – continued**

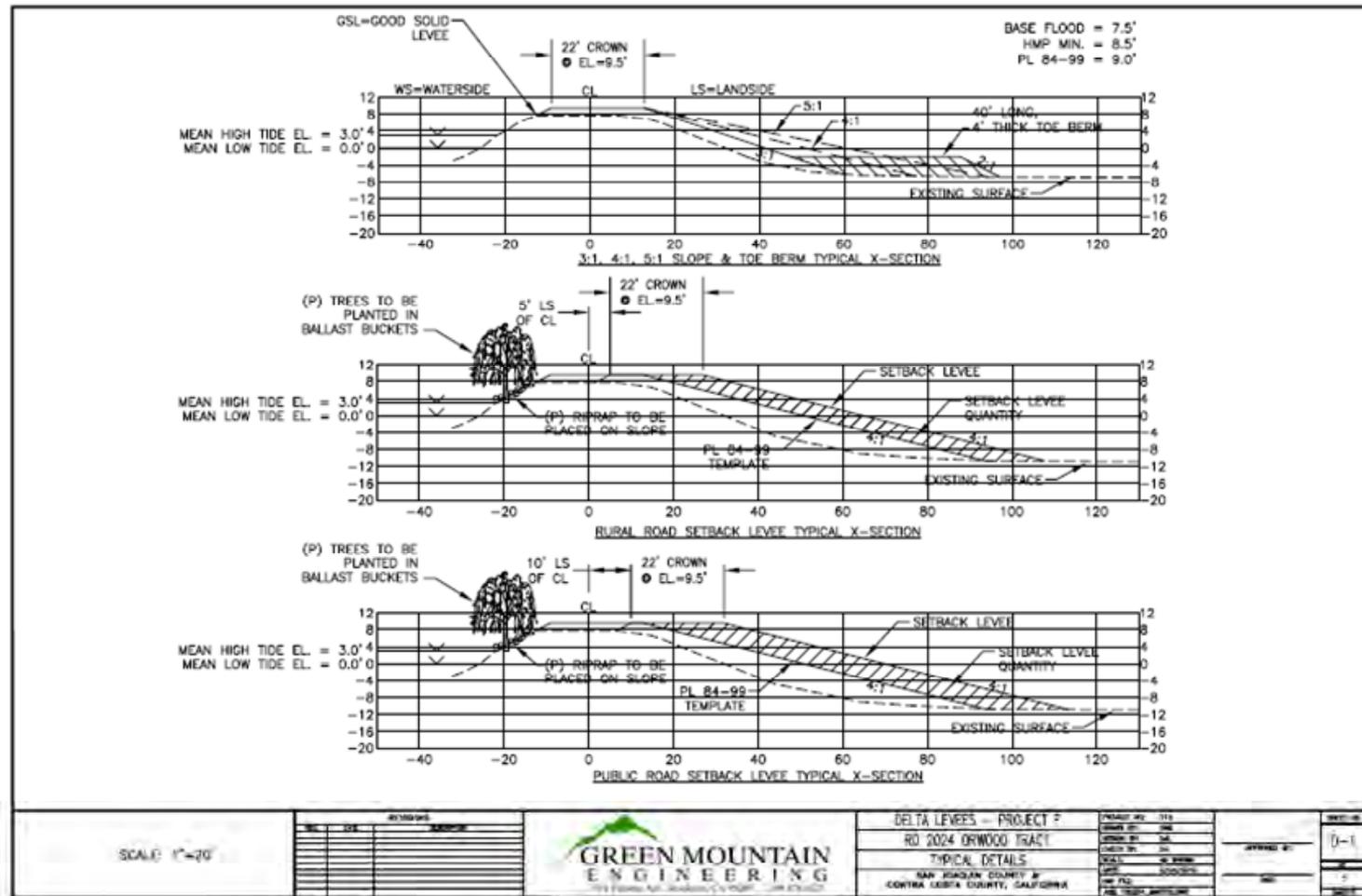
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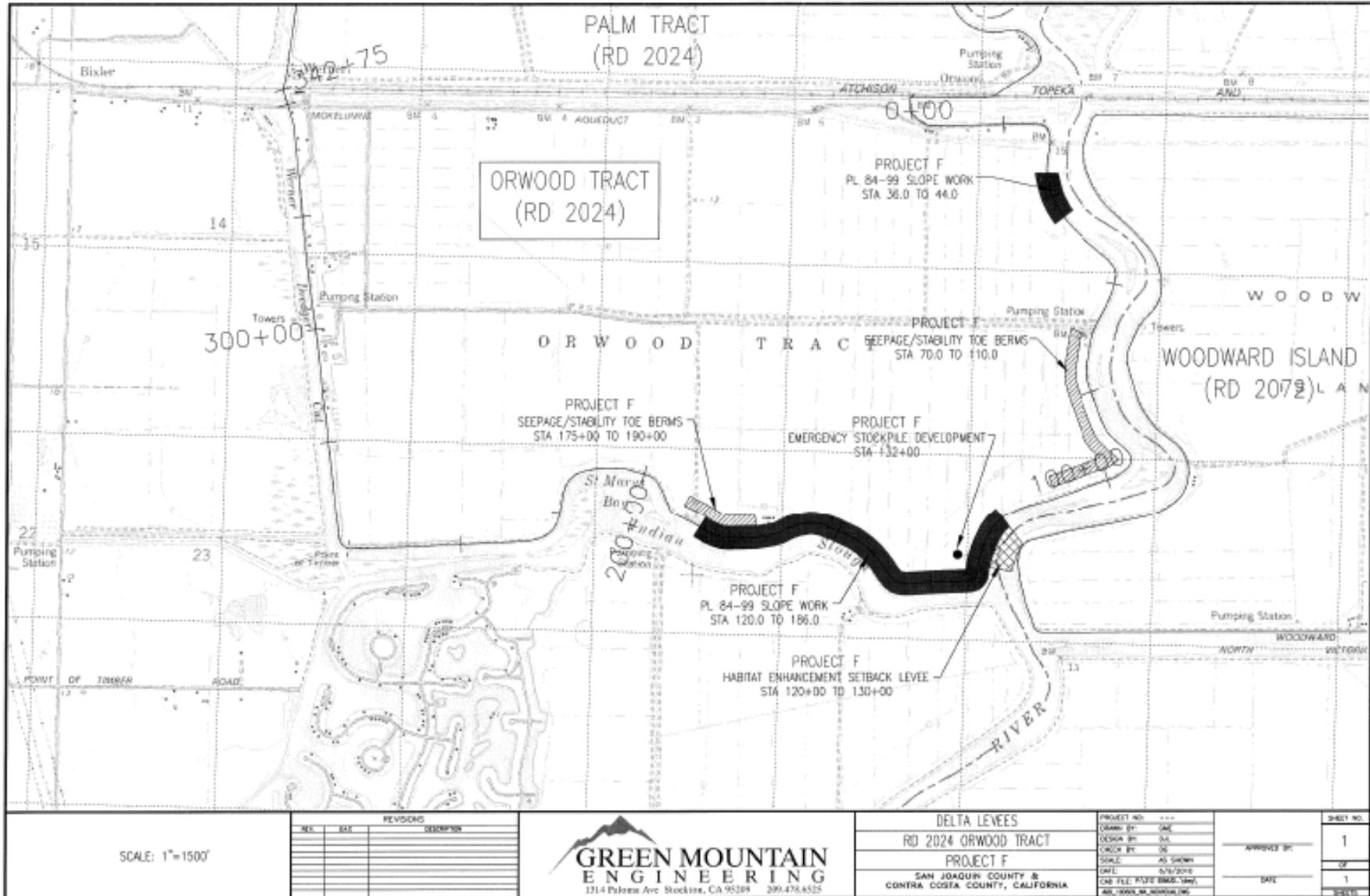
- Protection of life and safety (between 50 to 500 people)
- Burlington Northern Santa Fe Railroad
- EBMUD's aqueducts
- Kinder Morgan fuel transmission pipeline
- Western Area Power Administration habitat mitigation area
- PG&E gas transmission pipeline
- Cellular telephone transmission facilities
- Wildlife and Delta ecosystems
- Water quality in the Delta
- Export water deliveries

Total Project Cost: \$3,093,864



# Orwood and Palm Tracts, Reclamation District 2024





SCALE: 1"=1500'

REVISIONS		
NO.	DATE	DESCRIPTION



DELTA LEVEES  
RD 2024 ORWOOD TRACT  
PROJECT F  
SAN JOAQUIN COUNTY &  
CONTRA COSTA COUNTY, CALIFORNIA

PROJECT NO.	----
DRAWN BY	CAK
DESIGN BY	SL
CHECK BY	SL
SCALE	AS SHOWN
DATE	5/13/2016
CAD FILE	RD2024.DWG
PL	2004.M.00000.DWG

APPROVED BY:	
DATE:	

SHEET NO.	1
OF	1
SCALE	

## **Project G: Woodward Island, Reclamation District 2072**

### Background

- Woodward Island comprises about 1,850 acres of land and about 8.92 miles of non-project levee along Middle River, Woodward Cut (North Victoria Canal), Old River and Santa Fe Cut.
- Woodward Island provides habitat for many Delta wildlife species, including large numbers of migratory waterfowl of the Pacific Flyway.

Objective: Improve levee to PL84-99 Standard

### Project Description

- The project consists of adding fill to the levee crown and landside slopes and construction of landside PL 84-99 seepage and stability toe berms to prevent or lessen seepage through and beneath the levee and provide additional stability.

### Construct PL84-99 slope

- Stations 0+00 to 15+00 and 385+00 to 471+00
- Length is 10,100 linear feet
- Total quantity of import fill is 227,614 tons
- Total quantity of Class 2 Aggregate Base is 8,230 tons

### Habitat Enhancement/Emergency Preparation

- Stations 315+00 to 325+00
- Length is 1,000 linear feet
- Total quantity of import fill is 33,073 tons
- Total quantity of Class 2 Aggregate Base is 500 tons
- Total quantity of Rip Rap for slope protection is 500 tons
- Construct Shaded Riverine Habitat to enhance the connectivity of the existing Tidal Freshwater Marsh along sections that the setback levee is constructed to provide valuable habitat and protection for Delta smelt and other aquatic species

### Emergency Preparation

- Construct a storage pad at Station 390+00 for emergency levee materials
- Stockpile 2,000 tons of slope protection and all weather road materials
- Total quantity of Class 2 Aggregate Base is 750 tons
- Total quantity of Rip Rap to be stockpiles is 2,000 tons

### Slope Protection

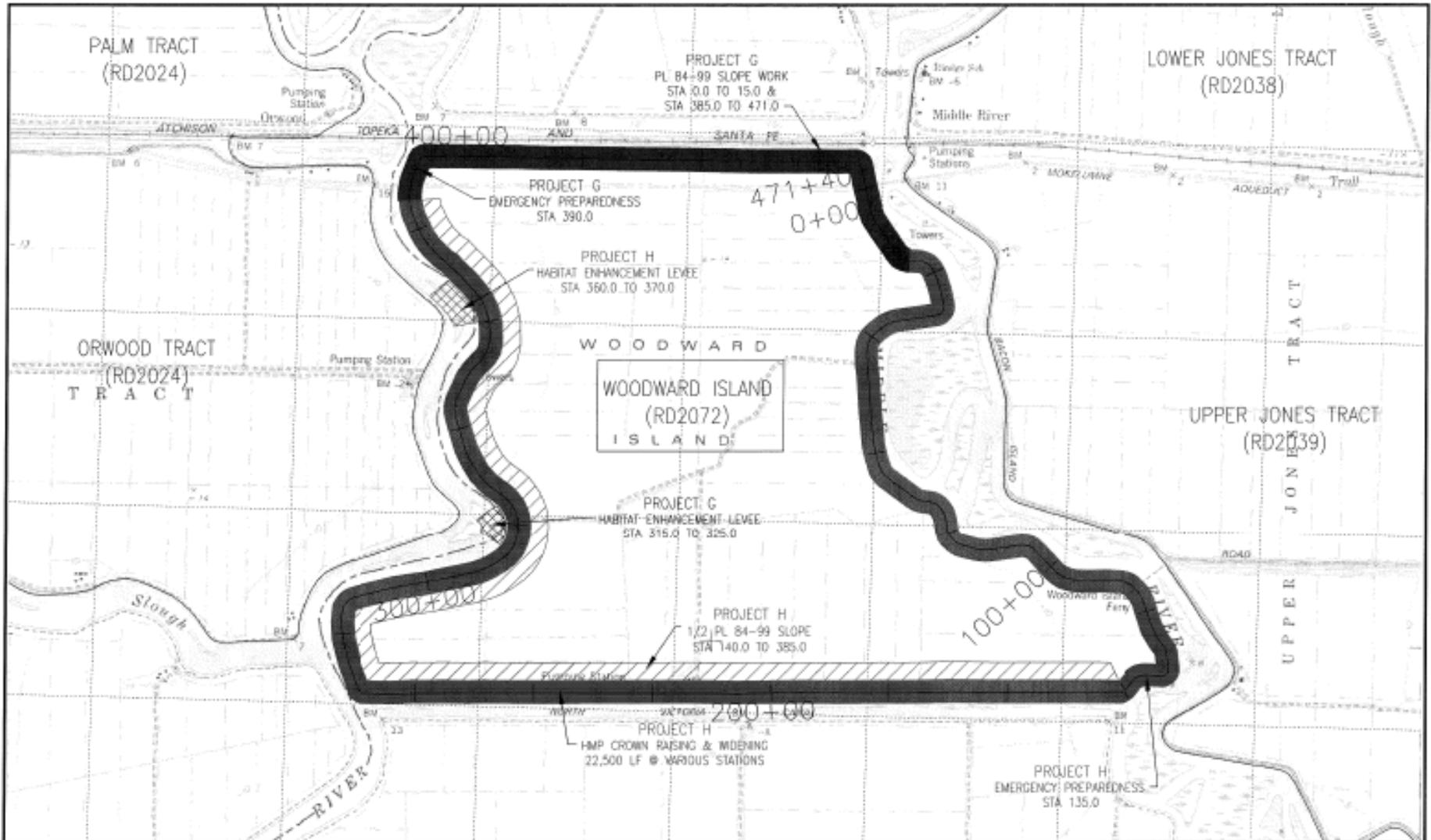
- Replace slope protection at areas with minimal to no rock protection
- Length is 5,240 linear feet
- Total quantity of Class 2 Aggregate Base is 400 tons
- Total quantity of Rip Rap for slope protection is 10,656 tons

### Assets Protected

- Protection of life and safety (between 50 to 500 people)
- Burlington Northern Santa Fe Railroad
- EBMUD's aqueducts
- Kinder Morgan fuel transmission pipeline
- Highway 4
- PG&E gas transmission pipeline
- Cellular telephone transmission facilities
- Wildlife and Delta ecosystems
- Water quality in the Delta
- Export water deliveries

Total Project Cost: \$5,244,158





<p>SCALE: 1"=1500'</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>REVISIONS</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	REV	DATE	REVISIONS	DESCRIPTION																																									 <p><b>GREEN MOUNTAIN ENGINEERING</b> 1314 Paloma Ave Stockton, CA 95219 209.476.6323</p>	<p><b>DELTA LEVEES</b> RD 2072 WOODWARD ISLAND PROJECTS G &amp; H SAN JOAQUIN COUNTY &amp; CONTRA COSTA COUNTY, CALIFORNIA</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>PROJECT NO.</td><td>---</td></tr> <tr><td>DRAWN BY:</td><td>ONE</td></tr> <tr><td>DESIGN BY:</td><td>DL</td></tr> <tr><td>CHECK BY:</td><td>DE</td></tr> <tr><td>SCALE:</td><td>AS SHOWN</td></tr> <tr><td>DATE:</td><td>6/9/2010</td></tr> <tr><td>CAD FILE PATH:</td><td>SMG\DWG</td></tr> <tr><td>FILE NUMBER:</td><td>RD2072_12.DWG</td></tr> </table>	PROJECT NO.	---	DRAWN BY:	ONE	DESIGN BY:	DL	CHECK BY:	DE	SCALE:	AS SHOWN	DATE:	6/9/2010	CAD FILE PATH:	SMG\DWG	FILE NUMBER:	RD2072_12.DWG	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>APPROVED BY:</td><td> </td></tr> <tr><td>DATE:</td><td> </td></tr> <tr><td>SHEET NO.:</td><td>1</td></tr> <tr><td>TOTAL SHEETS:</td><td>1</td></tr> </table>	APPROVED BY:		DATE:		SHEET NO.:	1	TOTAL SHEETS:	1
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TOTAL SHEETS:	1																																																																								

## **Project H: Woodward Island, Reclamation District 2072**

### Background

- Woodward Island comprises about 1,850 acres of land and about 8.92 miles of non-project levee along Middle River, Woodward Cut (North Victoria Canal), Old River and Santa Fe Cut.
- Woodward Island provides habitat for many Delta wildlife species, including large numbers of migratory waterfowl of the Pacific Flyway.

Objective: Improve levee to PL84-99 Standard

### Project Description

- The project consists of adding fill to the levee crown and landside slopes and construction of landside PL 84-99 seepage and stability toe berms to prevent or lessen seepage through and beneath the levee and provide additional stability.

### Construct one half of PL84-99 slope

- South Levee Stations 140+00 to 385+00
- Length is 24,500 linear feet
- Total quantity of import fill is 98,953 tons
- Total quantity of Class 2 Aggregate Base is 500 tons

### Habitat Enhancement/Emergency Preparation

- Stations 360+00 to 370+00
- Length is 1,000 linear feet
- Total quantity of import fill is 31,364 tons
- Total quantity of Rip Rap for slope protection is 800 tons
- Construct Shaded Riverine Habitat to enhance the connectivity of the existing Tidal Freshwater Marsh along sections that the setback levee is constructed to provide valuable habitat and protection for Delta smelt and other aquatic species

### Emergency Preparation

- Construct a storage pad for emergency levee materials at Station 135+00
- Total quantity of import fill is 2,000 tons
- Total quantity of Class 2 Aggregate Base is 750 tons
- Total quantity of Rip Rap for slope protection is 3,000 tons

### Raise and widen the crown of the levee

- Stations 1+00 to 100+00, 130+00 to 230+00, 357+00 to 362+00, 395+00 to 405+00, 455+00 to 465+00
- Length is 22,500 linear feet
- Total quantity of import fill is 66,593 tons
- Total quantity of Class 2 Aggregate Base is 18,333 tons
- Total quantity of Rip Rap for slope protection is 1,125 tons

**Project H: Woodward Island, Reclamation District 2072 – continued**

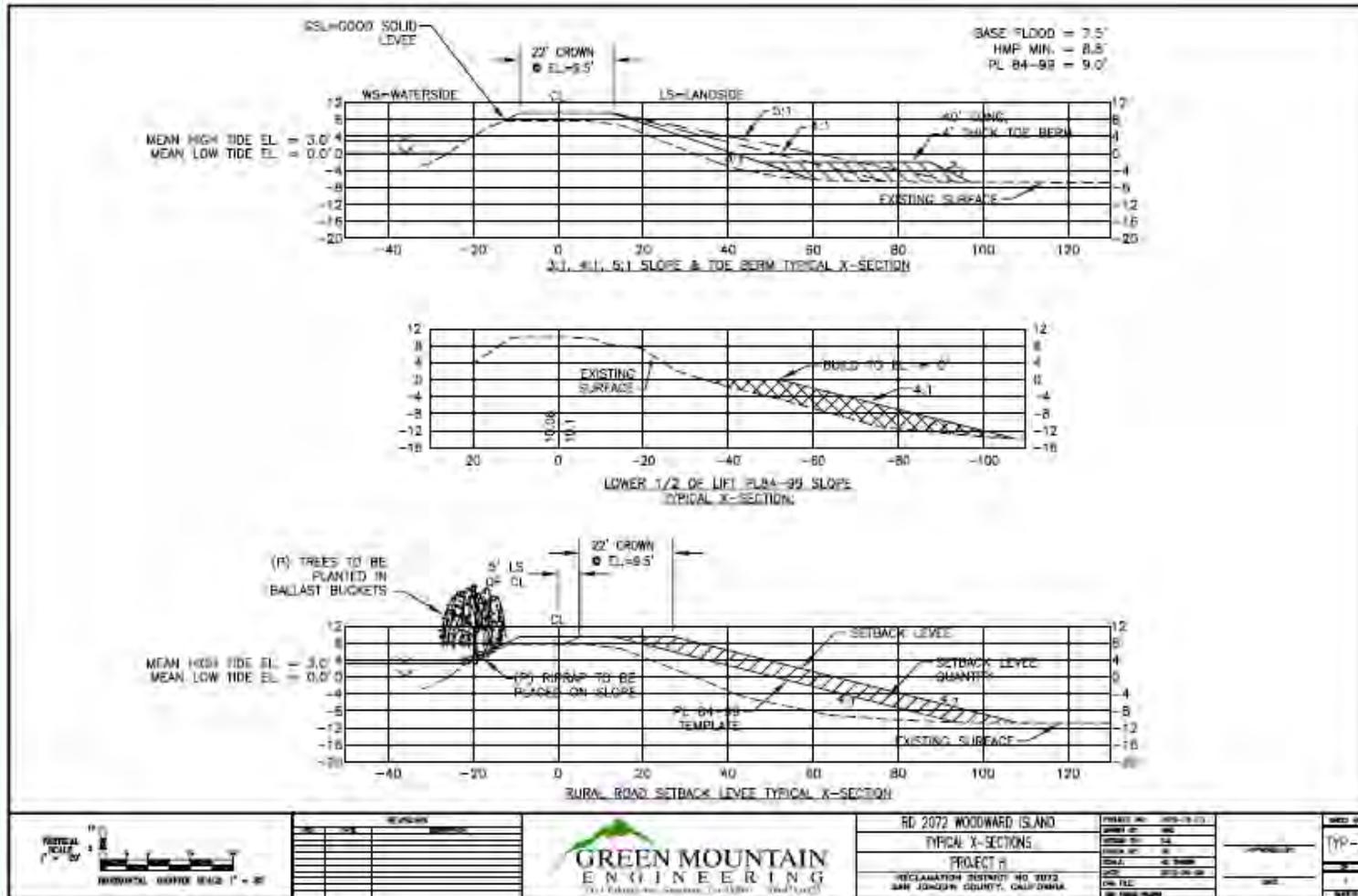
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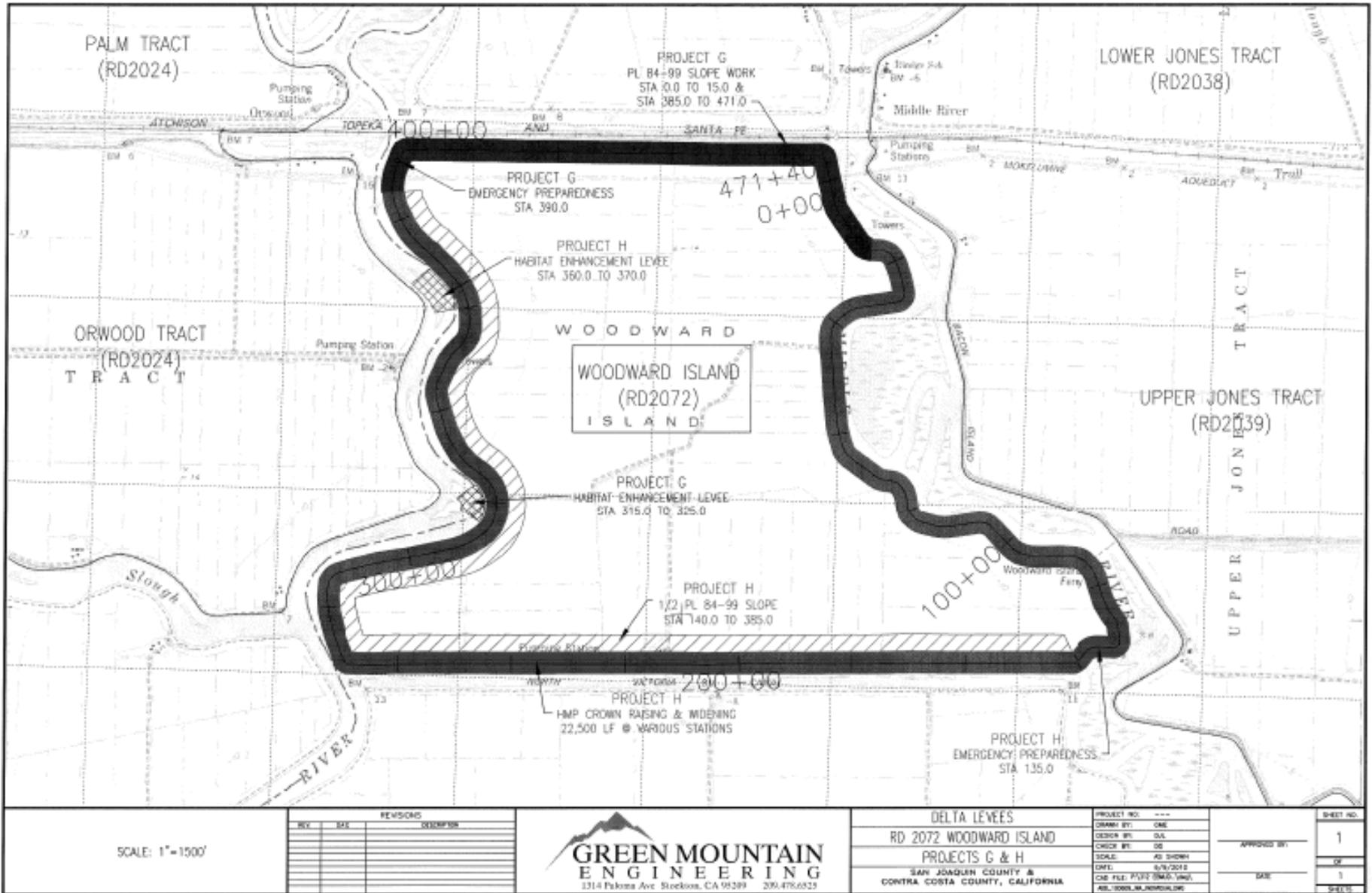
- Protection of life and safety (between 50 to 500 people)
- Burlington Northern Santa Fe Railroad
- EBMUD's aqueducts
- Kinder Morgan fuel transmission pipeline
- Highway 4
- PG&E gas transmission pipeline
- Cellular telephone transmission facilities
- Wildlife and Delta ecosystems
- Water quality in the Delta
- Export water deliveries

Total Project Cost: \$5,225,942



# Woodward Island, Reclamation District 2072





SCALE: 1"=1500'

REV.	DATE	REVISIONS	DESCRIPTION



**DELTA LEVEES**  
RD 2072 WOODWARD ISLAND  
PROJECTS G & H  
SAN JOAQUIN COUNTY &  
CONTRA COSTA COUNTY, CALIFORNIA

PROJECT NO. ---
DRAWN BY: GME
DESIGN BY: G.A.
CHECK BY: DE
SCALE: AS SHOWN
DATE: 6/8/2012
CAD FILE: P072 2840 V02
FILE: 10000_04_00000.DWG

APPROVED BY:	SHEET NO. 1
DATE:	OF 1
SCALE:	SCALE:

## **Project I: Upper Jones Tract, Reclamation District 2039**

### Background

- Upper Jones Tract comprises about 6,170 acres of land and about 4.83 miles of non-project levee along Middle River.
- Upper Jones Tract provides habitat for many Delta wildlife species, including large numbers of migratory waterfowl of the Pacific Flyway.

Objective: Improve levee to PL84-99 Standard

### Project Description

- The project consists of adding fill to the levee crown and landside slopes and construction of landside PL 84-99 seepage and stability toe berms to prevent or lessen seepage through and beneath the levee and provide additional stability.

### Construct PL84-99 seepage/stability toe berms

- Stations 100+00 to 120+00, 135+00 to 150+00, 175+00 to 194+00, 215+00 to 250+00
- Length is 8,900 linear feet
- Total quantity of import fill is 90,978 tons
- Total quantity of Class 2 Aggregate Base is 500 tons
- Total quantity of Rip Rap for slope protection is 400 tons

### Construct PL84-99 slope

- Stations 90+00 to 152+00
- Length is 6,200 linear feet
- Total quantity of import fill is 45,095 tons
- Total quantity of Class 2 Aggregate Base is 1,000 tons
- Total quantity of Rip Rap for slope protection is 100 tons

### Replace Slope Protection

- Stations 90+00 to 240+00 various locations
- Total "D" Graded Rock is 9,600 linear feet
- Total "F" Graded Rock is 440 linear feet
- Total quantity of Class 2 Aggregate Base is 1,000 tons
- Total quantity of Rip Rap for slope protection is 20,080 tons

### Habitat Enhancement/Emergency Preparation

- Stations 110+00 to 126+00
- Length is 1,600 linear feet
- Total quantity of import fill for setback levee is 52,995 tons
- Total quantity of Rip Rap for setback levee is 1,200 tons
- Construct Shaded Riverine Habitat to enhance the connectivity of the existing Tidal Freshwater Marsh along sections that the setback levee is constructed to provide valuable habitat and protection for Delta smelt and other aquatic species

**Project I: Upper Jones Tract, Reclamation District 2039 – continued**

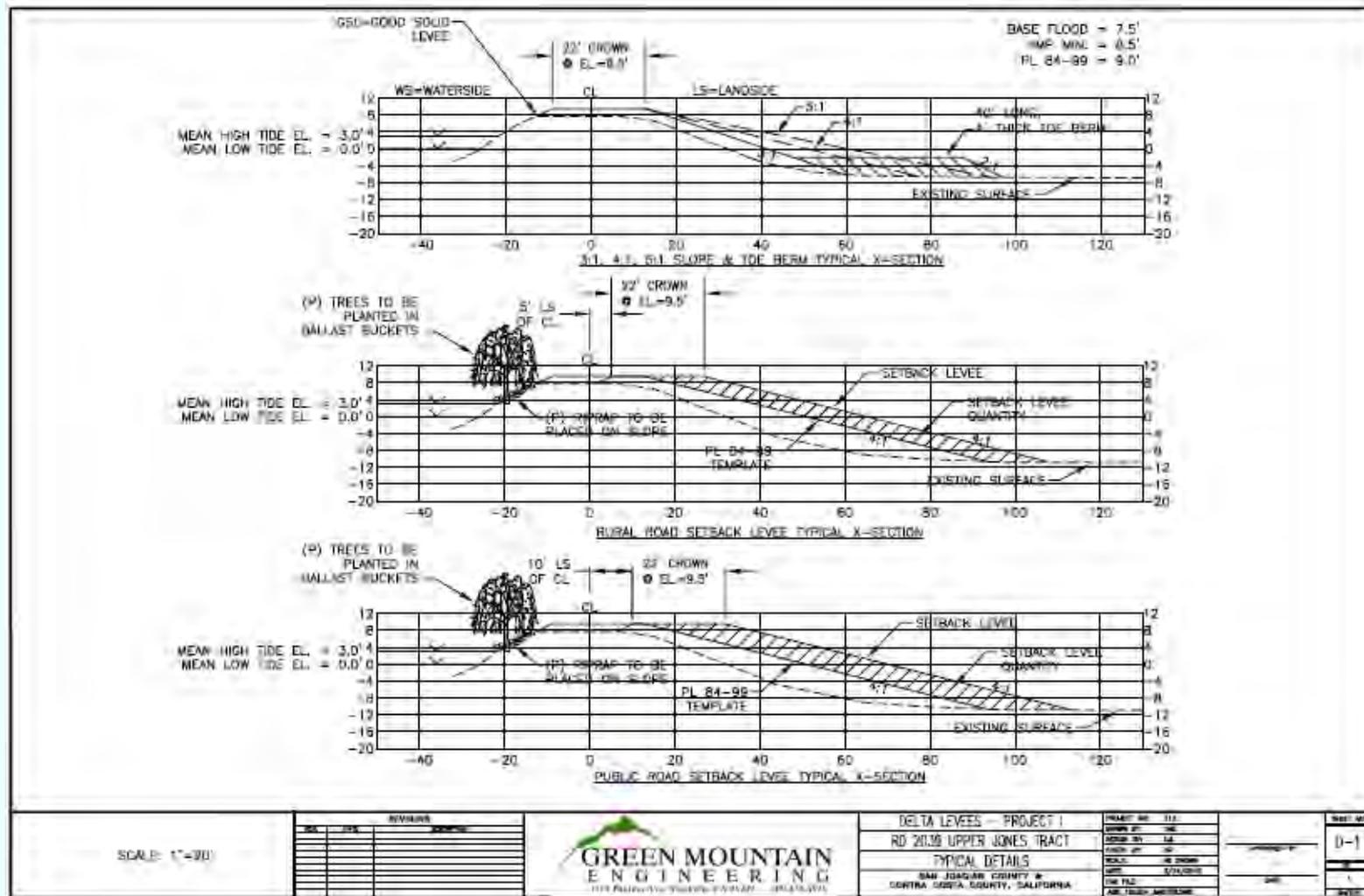
Assets Protected

- Protection of life and safety (between 50 to 500 people)
- Burlington Northern Santa Fe Railroad
- EBMUD's aqueducts
- Kinder Morgan fuel transmission pipeline
- Highway 4
- PG&E gas transmission pipeline
- Cellular telephone transmission facilities
- Access to Woodward Island Ferry
- The Bacon Island Road
- Wildlife and Delta ecosystems
- Water quality in the Delta
- Export water deliveries

Total Project Cost: \$3,573,983



# Upper Jones Tract, Reclamation District 2039





## **Project J: Lower Jones Tract, Reclamation District 2038**

### Background

- Lower Jones Tract comprises about 5,682 acres of land and about 9.03 miles of non-project levee along Middle River, Empire Cut and Whiskey Slough.
- Upper Jones Tract provides habitat for many Delta wildlife species, including large numbers of migratory waterfowl of the Pacific Flyway.

Objective: Improve levee to PL84-99 Standard

### Project Description

- The project consists of adding fill to the levee crown and landside slopes and construction of landside PL 84-99 seepage and stability toe berms to prevent or lessen seepage through and beneath the levee and provide additional stability.

#### Construct seepage/stability toe berms

- Stations 180+00 to 280+00
- Length is 10,000 linear feet
- Total quantity of import fill is 148,148 tons
- Total quantity of Class 2 Aggregate Base is 500 tons

#### Construct PL84-99 slope

- Stations 45+00 to 70+00 and Stations 210+00 to 280+00
- Length is 9,500 linear feet
- Total quantity of import fill is 197,382 tons
- Total quantity of Class 2 Aggregate Base is 3,870 tons
- Total quantity of Rip Rap for slope protection is 450 tons

#### Habitat Enhancement/Emergency Preparation

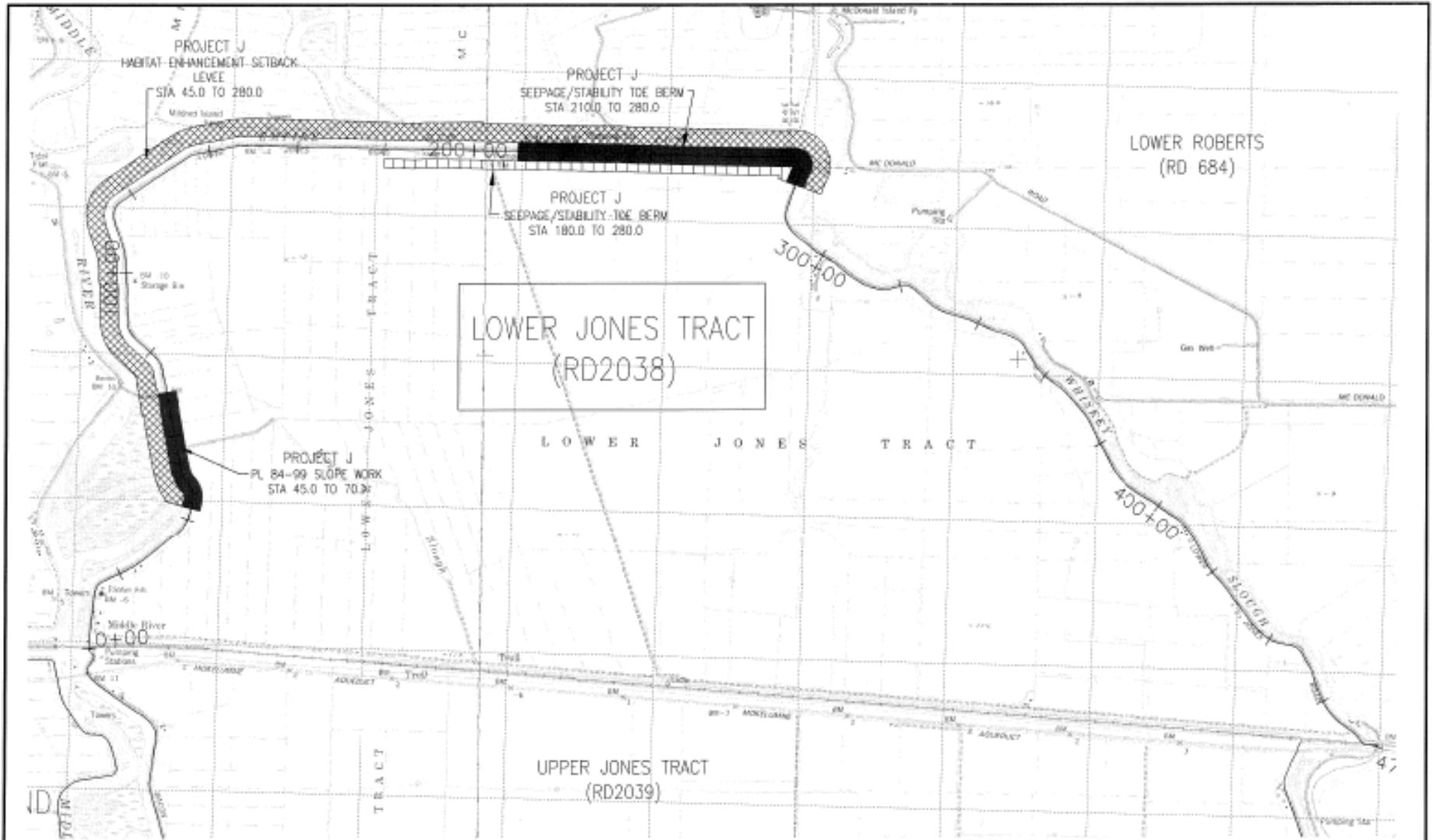
- Stations 45+00 to 70+00
- Total quantity of import fill for setback levee is 110,528 tons
- Total quantity of Class 2 Aggregate Base is 2,000 tons
- Total quantity of Rip Rap for slope protection is 1,875 tons
- Construct Shaded Riverine Habitat to enhance the connectivity of the existing Tidal Freshwater Marsh along sections that the setback levee is constructed to provide valuable habitat and protection for Delta smelt and other aquatic species
- Length is 2,500 linear feet

#### Assets Protected

- Protection of life and safety (between 50 to 500 people)
- Burlington Northern Santa Fe Railroad
- EBMUD's aqueducts
- Kinder Morgan fuel transmission pipeline
- Highway 4
- PG&E gas transmission pipeline
- Cellular telephone transmission facilities
- Wildlife and Delta ecosystems
- Water quality in the Delta
- Export water deliveries

Total Project Cost: \$5,540,216



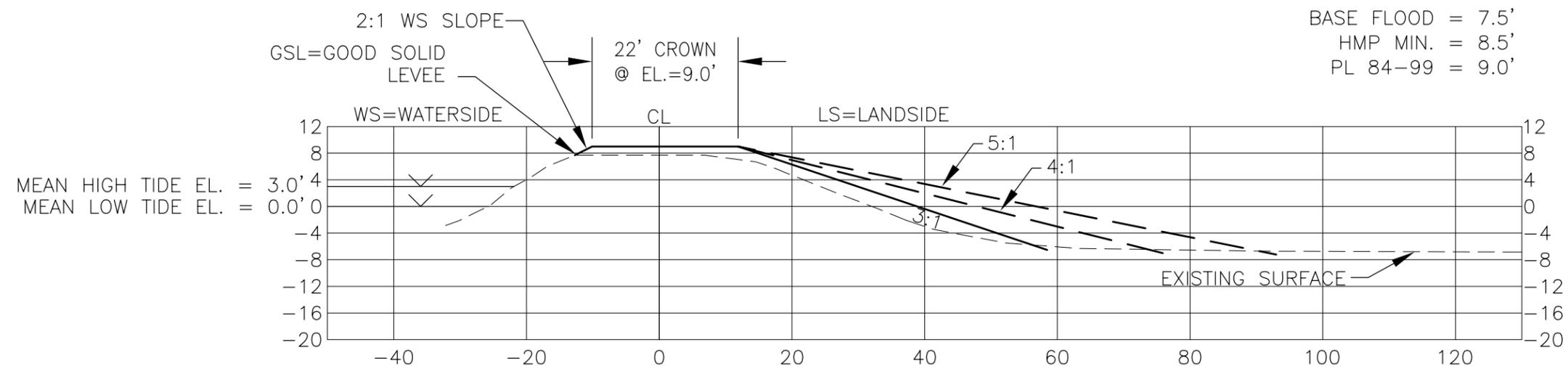


SCALE: 1"=2000'	REVISIONS	 <b>GREEN MOUNTAIN ENGINEERING</b> 1214 Polaris Ave Stockton, CA 95209 209.476.6523	DELTA LEVEES RD 2038 LOWER JONES TRACT PROJECT J SAN JOAQUIN COUNTY & CONTRA COSTA COUNTY, CALIFORNIA	PROJECT NO: ---- DRAWN BY: JAC CHECK BY: JAC SCALE: AS SHOWN DATE: 6/16/2010 (DO FILE FOLD EMBL 1047)	APPROVED BY: _____ DATE: _____	SHEET NO: 1 OF 1 SCALE															
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REV	DATE	DESCRIPTION																			

# PL 84-99 (PUBLIC LAW 84-99, ARMY CORPS OF ENGINEERS)

## TEMPLATE WITH 3:1, 4:1, 5:1 LANDSIDE SLOPE

### TYPICAL X-SECTION



SCALE: 1"=20'

REVISIONS		
REV.	DATE	DESCRIPTION



DELTA LEVEES
PL 84-99 TEMPLATE
TYPICAL DETAIL
SAN JOAQUIN COUNTY & CONTRA COSTA COUNTY, CALIFORNIA

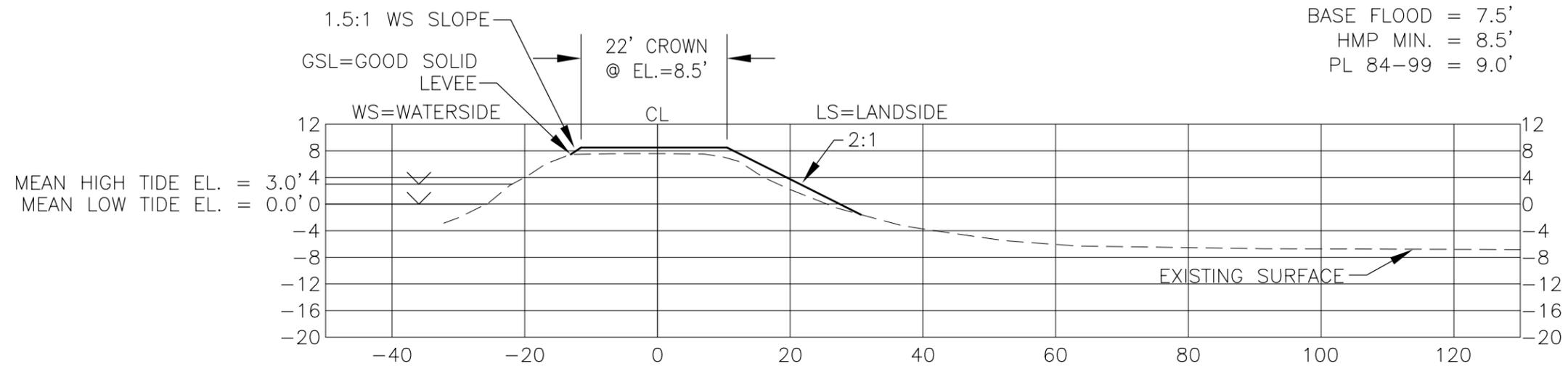
PROJECT NO:	312
DRAWN BY:	GME
DESIGN BY:	DJL
CHECK BY:	DG
SCALE:	AS SHOWN
DATE:	3/24/2010
CAD FILE:	A08_100324_MASTER.DWG

APPROVED BY:	
DATE:	

SHEET NO.	1
OF	1
SHEETS	1

6.18.2010

# HMP (HAZARD MITIGATION PLAN) TEMPLATE TYPICAL X-SECTION



SCALE: 1"=20'

REVISIONS		
REV.	DATE	DESCRIPTION



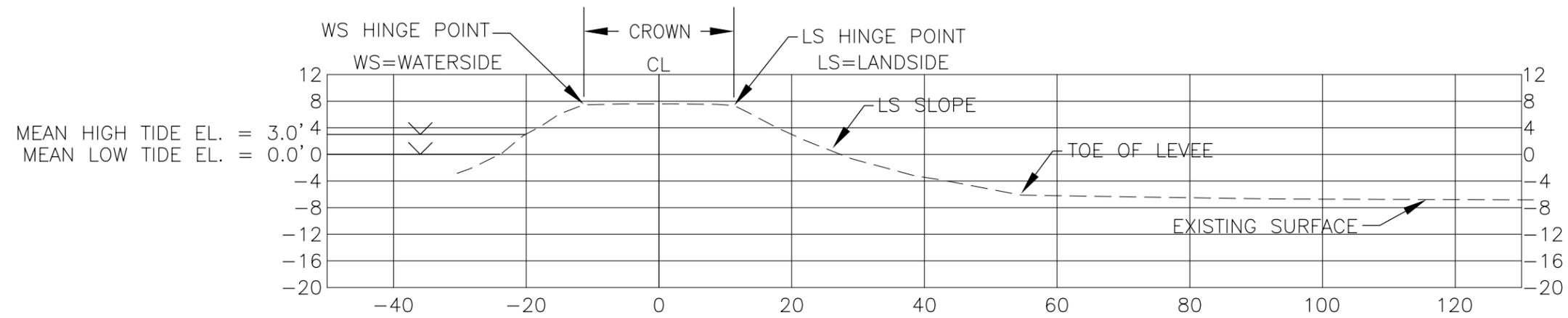
DELTA LEVEES	PROJECT NO: 312
HMP TEMPLATE	DRAWN BY: GME
TYPICAL DETAIL	DESIGN BY: DJL
SAN JOAQUIN COUNTY & CONTRA COSTA COUNTY, CALIFORNIA	CHECK BY: DG
	SCALE: AS SHOWN
	DATE: 3/24/2010
	CAD FILE: A08_100324_MASTER.DWG

APPROVED BY:	
DATE	

SHEET NO.	TYP
OF	1
SHEETS	1

6.18.2010

# LEVEE TYPICAL X-SECTION



SCALE: 1"=20'

REVISIONS		
REV.	DATE	DESCRIPTION



DELTA LEVEES
STANDARD LEVEE
TYPICAL DETAIL
<b>SAN JOAQUIN COUNTY &amp; CONTRA COSTA COUNTY, CALIFORNIA</b>

PROJECT NO:	312
DRAWN BY:	GME
DESIGN BY:	DJL
CHECK BY:	DG
SCALE:	AS SHOWN
DATE:	3/24/2010
CAD FILE:	A08_100324_MASTER.DWG

APPROVED BY:	
DATE	

SHEET NO.	TYP
OF	1
SHEETS	1

6.18.2010

## Interim Plan Activities

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**Requested Action:** 1) Discuss the first draft Interim Plan and provide direction on second draft Interim Plan. 2) Approve or modify the approach for the early consultation and review process.

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### Summary

The Delta Stewardship Council (Council) discussed and gave direction for the Interim Plan at its May 27 and 28, 2010 meeting:

1. Interim Plan:
  - a. Approved the schedule for development, with the following key dates:
    - i. First draft Interim Plan: June 24-25 Council meeting
    - ii. Second draft Interim Plan: July 22-23 Council meeting
    - iii. Final Interim Plan: adopt at August 26-27 Council meeting
  - b. Approved the structural outline, which is primarily based upon eight policy objectives defined in statute (Water Code §85020).
  - c. Approved the elements of a transparency and public engagement plan, including work groups.
2. Directed staff to engage in early consultations with entities proposing to undertake covered actions, and develop an early consultation process.

### Background:

1. First Draft Interim Plan (Action Item)

#### Purpose of the Interim Plan

The Interim Plan will provide a framework for actions by the Delta Stewardship Council until the Delta Plan replaces it as an enforceable regulation. The Interim Plan will also inform actions of public agencies, businesses and individuals regarding policies critical for the future of California during this time period. Finally, the Council expects the Interim Plan to contribute to development of the Delta Plan.

Per direction from the Council, staff prepared an initial draft Interim Plan that incorporates the approved structural framework of the eight policy

objectives, as well as an implementation approach. The first draft Interim Plan is included as Attachment 1.

The Interim Plan satisfies Section 85084, "The Council shall develop an interim plan that includes recommendations for early actions, projects, and programs." This brief statement, without a date for completion, addresses the gap in time between the effective date of SBX7-1 and the requirement to "On or before January 1, 2012, the Council shall develop, adopt and commence implementation of the Delta Plan pursuant to this part that furthers the coequal goals." (Section 85300(a)).

#### Organization of the Interim Plan

This Interim Plan is organized in five sections:

- (I) Purpose
- (II) Uses of the Interim Plan
- (III) Policy objectives
- (IV) Interim Framework for Implementation of the Sacramento San Joaquin Delta Reform Act of 2009
- (V) Interim Plan Implementation

The draft Interim Plan includes six appendices. Appendix I lists "Council-approved Actions," which will provide a legal record of actions by the Council until the Delta Plan is adopted. It will include, for example, Council rules and organizational action, naming members to the Independent Science Board, any actions taken in regard to approval of the economic sustainability plan of the Delta prepared by the Delta Protection Commission (Section 29761.5(b)), actions regarding the Bay Delta Conservation Plan (BDCP) (Section 85320(e)), and adoption of the Interim Plan itself (Section 85084). Appendices II through V are intended to identify projects, plans, programs, policies, and strategies and proposals of relevance to the Council in developing and implementing the Interim Plan and the Delta Plan. These listings are not static, but will be updated with additions and deletions. This is not a list of activities approved by the Council, nor an indication that the activities listed will be included.

#### Use of the Interim Plan

The Interim Plan will have the following uses:

1. Provide the framework to develop the required recommendations on "...early actions, projects and programs."

2. Inform Council advice to—or review of the recommendations of—other agencies, as required in SBX7 1 or elsewhere, including:
  - Advice to local and regional planning agencies (Section 85212)
  - Review and approval of Proposition 1E expenditures for selected projects (Water Code §83002 (a)(1))
3. Include important organizational and procedural matters to assist the Council in its role as a responsible agency in development of the environmental impact report for BDCP (Section 85320(c)) and potentially as an appellate body regarding the DFG determination of whether BDCP has met specified criteria (Section 85320(e)).
4. The Council will be asked to comment on many projects and plans affecting the Delta that are undergoing environmental review, and those reviews should be based on the full range of policy objectives and responsibilities included in SBX7 1.
5. Anticipate important elements that will be addressed in the Delta Plan and benefit other individuals and agencies with early knowledge of the range of possible Council actions.

## 2. Early Consultation and Review Process (Action Item)

One of the core responsibilities of the Council is related to review of covered actions, projects, systems, and processes to ensure consistency with the Sacramento-San Joaquin Delta Reform Act and to be supportive of the Council's roles regarding engaging federal agencies (Sections 85082) and tracking progress in achieving the coequal goals through the use of performance measures (Section 85211); and to conduct early consultations regarding proposed covered actions (Section 85225.5).

### Definition of Covered Actions and Projects

Covered actions are defined in Section 85057.5(a) as a plan, program, or project as defined pursuant to Section 21065 of the Public Resources Code that meets all of the following conditions:

- Will occur, in whole or in part, within the boundaries of the Delta or Suisun Marsh
- Will be carried out, approved, or funded by the state or a local public agency
- Is covered by one or more provisions of the Delta Plan

- Will have a significant impact on achievement of one or both of the coequal goals or the implementation of government-sponsored flood control programs to reduce risks to people, property, and state interests in the Delta.

A project is defined in Section 20165 of the Public Resources Code as an activity which may cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and which is any of the following:

- An activity directly undertaken by any public agency
- An activity undertaken by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies.
- An activity that involves the issuance to a person of a lease, permit, license, certificate, or other entitlement for use by one or more public agencies.

(Section 85057.5(b) identifies actions excluded from the definition of “covered action”.)

#### Procedures for Determining Consistency

The Council needs to develop early procedures regarding consistency of proposed covered actions through development of requirements (under Section 85210(i)) that ensure full information is received from proponents to determine consistency through timely and effective considerations by the Council. The information required in the statement of consistency should include at least:

- Identification of project proponent and all parties with an economic interest in the project
- Adequate site and project descriptions
- A schedule that extends from planning through the full use of the proposed project
- Evidence of completion of reviews and actions by other governmental agencies, including but not limited to environmental documentation, habitat and species reviews, and permits and approvals
- Information on financing of the proposed project, including any public funding, and adequate demonstration of the status of proposed funding. The financing plan must include on-going operations and maintenance and information on planned financial coverage of contingences for failure

- Assessment of the impact on all eight policy objectives of Section 85020, including information sufficient to assess impact on the performance measures of those eight policy objectives
- Any scientific or engineering assessments of the proposed covered action

A detailed process for early consultations and project reviews will be developed for the July 2010 Council meeting, following direction to be received at the June 2010 meeting.

### 3. Workgroups (Information Item)

At the May 2010 Council meeting, staff received direction to establish workgroups to provide the Council information and frame a range of viewpoints on particular issues related to the Interim Plan and Delta Plan. Workgroups with charges covering the areas of public outreach, early action prioritization, and Delta Protection Commission Resource Management Plan review were discussed and approved.

Staff identified that these issues may best be addressed by creating four workgroups focused on broader topics over the long-term. The four proposed workgroups and preliminary charges are:

- i. **Public Outreach:** Provide viewpoints on effective and preferred methods that the Council can use to communicate with and inform the public.
- ii. **Risk Reduction and Co-Equal Goals:** Address issues related to the State of California's policy for the Delta in Water Code Sections 85020 (a) and (g). Issues will be raised by the Council and specific charges defined for the work group by Council staff. This work group may consider early action prioritization. (Objectives 85020 (a) and (g) combined because they are likely of interest to a similar set of participants.)
- iii. **Governance and Plan Implementation:** Address issues related to the State of California's policy for the Delta in Water Code Sections 85020 (b) and (h). Issues will be raised by the Council and specific charges defined for the work group by Council staff. This work group may consider the Delta Protection Commission's Resource Management Plan review.
- iv. **Reduced Reliance on the Delta:** Identify issues, develop strategies, and frame viewpoints related to the State of California's policy for the Delta in Water Code Section 85021. Related, specific issues or strategies may be raised by the Council or defined for the work group by Council staff.

Council staff will ensure that a variety of viewpoints are represented on each workgroup. All workgroup meetings will be noticed and open to the public.

Workgroup deliverables may include white papers or presentations to the Council.

4. Delta Activities Timeline (Information Item)

The Delta Activities Timeline (Attachment 2) has been updated to reflect current schedules and deliverables as they affect the Delta Plan. Upcoming activities of note include:

- Department of Fish and Game: Currently working with the State Water Resources Control Board Delta flow criteria; draft quantifiable biological objectives for external review in July 2010.
- State Water Resources Control Board: Developing new flow criteria for the Delta ecosystem by August 12, 2010 (Sec. 85086(c)).
- Delta Protection Commission: Preparing recommendations regarding the potential expansion or change to the Primary Zone of the Delta for submittal to the legislature by July 1, 2010.

**List of Attachments:**

Attachment 1 - First Draft-Interim Plan  
Attachment 2 - Delta Activities Timeline

**Contact**

Terry Macaulay  
Acting Deputy Executive Officer

Phone: (916) 445-5825

THE DELTA STEWARDSHIP COUNCIL INTENDS TO ADOPT AN INTERIM PLAN AT ITS MEETING OF AUGUST 27, 2010. THERE WILL BE THREE (3) DRAFT VERSIONS OF THE PLAN PRIOR TO THE FINAL ACTION; THIS DRAFT IS THE FIRST.

THE COUNCIL SOLICITS ELECTRONIC COMMUNICATIONS SPECIFICALLY DIRECTED TO THE VARIOUS DRAFTS OF THE INTERIM PLAN AS DESCRIBED BELOW.

ALL COMMENTS WILL BE POSTED ON THE DSC WEBSITE, AND STAFF AND CONSULTANTS ARE DIRECTED TO REVIEW AND CONSIDER SUBMITTED COMMENTS IN PREPARATION OF THE SECOND AND THIRD VERSIONS OF THIS PLAN, IN ADDITION TO TESTIMONY DELIVERED AT PUBLIC HEARINGS OF THE COUNCIL.

PURSUANT TO THE COUNCIL ACTION ON MAY 27, 2010, FOCUSED WORK GROUPS MAY BE UTILIZED TO DEVELOP LANGUAGE OR ALTERNATIVES TO SECTIONS OF THIS PLAN.

# First Draft Interim Plan

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Prepared for consideration by the Delta Stewardship Council

California Water Code Section 85084

June 14, 2010

**Not reviewed by or approved by the  
Delta Stewardship Council**

Send comments to [interimplan@deltacouncil.ca.gov](mailto:interimplan@deltacouncil.ca.gov).

**Comments received by July 2, 2010, will be considered for revisions made in developing the Second Draft Interim Plan. All comments received are posted to the Delta Stewardship Council web site: <http://www.deltacouncil.ca.gov/>**

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## I. Introduction

The Delta Stewardship Council (Council) has been directed by the Governor and Legislature to adopt a Delta Plan no later than January 1, 2012 (Section 85300). The Delta Plan will be a legally enforceable regulation of the State of California and, accordingly, must have appropriate environmental documents.

The Council has been directed to adopt an Interim Plan "...that includes recommendations for early actions, projects, and programs" (Section 85084). Although no legislative deadline was given, the Council has set August 27, 2010, as the date for adoption of the Interim Plan. The Interim Plan will guide the Council's actions until adoption of the Delta Plan, but it is not a regulation and needs no environmental review documents. A well-structured, usable Interim Plan will provide an effective framework with which the Council can consistently assess important issues until the Delta Plan is adopted.

The Interim Plan and Delta Plan will assist in meeting the State Legislature's basic goals for the Delta in Public Resources Code Section 29702, which address the need in the Delta for balanced land development and conservation, enhanced environmental quality, improved flood protection, and achievement of the coequal goals of "providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."

Work on the Delta Plan will begin while the Interim Plan is being finalized. The Council has decided to structure both documents around the common set of policy objectives contained in Senate Bill X7 1 (the Sacramento-San Joaquin Delta Reform Act of 2009) (SBX7 1), the governance legislation at the heart of the water/Delta bill package enacted into law in November 2009. These objectives listed in Water Code Section 85020 follow from the State's goals for the Delta.

This Interim Plan is organized in five sections:

- I. Introduction
- II. Uses of the Interim Plan
- III. Policy objectives: the heart of the Interim Plan
- IV. Interim Framework for Implementation of the Sacramento-San Joaquin Delta Reform Act of 2009
- V. Interim Plan Implementation

This draft Interim Plan includes six appendices. Appendix I lists "Council-approved Actions," which will provide a legal record of actions by the Council until the Delta Plan is adopted. It will include, for example, Council rules and organizational action, naming members to the Independent Science Board, any actions taken in regard to approval of the economic sustainability plan of the Delta prepared by the Delta Protection Commission (Public Resources Code Section 29761.5(b)), actions regarding the Bay Delta Conservation Plan (BDCP) (Water Code Section 85320(e)), and adoption of the Interim Plan itself (Section 85084).

Appendices II through V are intended to identify projects, plans, programs, policies, and strategies and proposals of relevance to the Council in developing and implementing the Interim Plan and the Delta Plan. These listings are not static, but will be updated with additions and deletions. **This is not a list of activities approved by the Council, nor an indication that the activities listed will ultimately be included. Instead, it is a way to begin to formulate the Interim Plan.**

This information is organized as follows:

- Appendix II. Strategies and Actions from the *Delta Vision Strategic Plan* (Illustrative Only)
- Appendix III. Submitted Stakeholder and Public Recommendations (Illustrative Only)
- Appendix IV. Preliminary Draft Language for Sections 85020 (c), (d), (e), (f), and (g) (Illustrative Only), to be reviewed by the Council with subsequent drafts of the Interim Plan in July and August 2010
- Appendix V. Plans or Projects Related to Delta Water and Environmental Resources and Delta as a Place
- Appendix VI. Policy-type Programs Related to Delta Water and Environmental Resources and Delta as a Place

This draft Interim Plan is the first for Council's consideration. Comments received on this draft will be reviewed by the Council for incorporation in the Second Draft Interim Plan.

Important terms used in this Interim Plan, and their definitions, are as follows:

- Activities Covered: (language will be submitted for consideration in Second Draft Interim Plan)
- Geographic Scope: (language will be submitted for consideration in Second Draft Interim Plan)
- Performance Measures and Targets: (language will be submitted for consideration in Second Draft Interim Plan)
- Best Available Science: (language will be submitted for consideration in Second Draft Interim Plan)
- Saving Clauses: (language will be submitted for consideration in Second Draft Interim Plan)

## II. Uses of the Interim Plan

The Interim Plan provides a framework based on SBX7 1 for effective and consistent actions of the Council until the Delta Plan is approved. Section 85084 requires the Council to develop an Interim Plan that includes "...recommendations for early actions, projects, and programs." However, all sections of SBX7 1 provide the statutory basis upon which the Interim Plan is based. Without understanding of the full statute, the Council would have no basis on which to make recommendations called for in Section 85084 or other recommendations required before January 1, 2012.

First, the Interim Plan will provide the framework to develop the required recommendations on "...early actions, projects and programs." Many early actions identified in SBX7 1 are assigned to other agencies, but the Interim Plan will guide how the work of other agencies will inform actions of the Council and how the Council will deal with the issues required in the Delta Plan, should any agency report or information not be available on time or provide only limited information. Some of the early actions identified in SBX7 1 include:

- Delta flow criteria assigned to the Department of Fish and Game (DFG) for recommendations (85084.5, which also requires "...quantifiable biological objectives for aquatic and terrestrial species of concern dependent on the Delta.") and the State Water Resources Control Board (SWRCB) in Section 85086(c)(1)
- Responsibilities of the Department of Water Resources (DWR) under Section 85085, including:
  - (a) Coordinate with DFG, the SWRCB, the regional water quality control boards (RWQCBs), and the State Lands Commission efforts to cooperate with the U.S. Bureau of Reclamation to construct and implement the Two-Gates Fish Protection Demonstration Project by December 1, 2010.
  - (b) Evaluate the effectiveness of the Threemile Slough Barrier project.
  - (c) Expediently move ahead with other near-term actions as identified in the Delta Vision Strategic Plan.
  - (d) Assist in implementing early action ecosystem restoration projects, including, Dutch Slough tidal marsh restoration and Meins Island tidal marsh restoration.
- Preparation of a proposal to coordinate flood and water supply operations of the State Water Project (SWP) and the federal Central Valley Project (CVP) (Section 85309), for which DWR has lead responsibility
- Review of the report of the Delta Protection Commission (DPC) regarding potential changes in the Primary and Secondary Zones of the Delta. The Council must review this study in light of the coequal goals and the mandates of SBX7 1.
- Completion of the economic sustainability plan by the DPC no later than July 1, 2011 (Public Resources Code Section 29759) to be reviewed by the Council within 180 days for consistency with the Delta Plan (Section 29761.5(b))
- Developing the Delta Protection Commission's proposal "...to protect, enhance, and sustain the unique cultural, historical, recreational, agricultural, and economic values of the Delta as an evolving place, in a manner consistent with the coequal goals" (Water Code Section 85301)

Second, the Interim Plan will inform Council advice to—or review of the recommendations of—other agencies, as required in SBX7 1 or elsewhere, including:

- Advice to local and regional planning agencies (Water Code Section 85212)
- Review and approval of Proposition 1E expenditures for selected projects (Section 83002 (a)(1))

Third, the Interim Plan will include important organizational and procedural matters that will assist the Council in its role as a responsible agency in development of the environmental impact report for BDCP (Section 85320(c)) and potentially as an appellate body regarding the DFG determination of whether BDCP has met specified criteria (Section 85320(e)).

Fourth, the Council will be asked to comment on many projects and plans affecting the Delta that are undergoing environmental review, and those reviews should be based on the full range of policy objectives and responsibilities included in SBX7 1. At its May 27-28, 2010 meeting, the Council discussed how to meet these responsibilities, directing staff to develop procedures for this purpose, which will be included in the Interim Plan.

Fifth, the Interim Plan anticipates important elements that will be addressed in the Delta Plan and benefits other individuals and agencies with early knowledge of the range of possible Council actions.

DRAFT

### **III. Policy Objectives: The Heart of the Interim Plan and the Delta Plan**

The State Legislature's basic goals for the Delta are found in Public Resources Code Section 29702. This section expresses the coequal goals as state policy: "(a) Achieve the two coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."

The clearest statement of these goals in the Sacramento-San Joaquin Delta Reform Act of 2009 is found in the eight policy objectives (Water Code Section 85020):

The policy of the State of California is to achieve the following objectives that the Legislature declares are inherent in the coequal goals for management of the Delta:

- (a) Manage the Delta's water and environmental resources and the water resources of the state over the long term.
- (b) Protect and enhance the unique cultural, recreational, and agricultural values of the California Delta as an evolving place.
- (c) Restore the Delta ecosystem, including its fisheries and wildlife, as the heart of a healthy estuary and wetland ecosystem.
- (d) Promote statewide water conservation, water use efficiency, and sustainable water use.
- (e) Improve water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta.
- (f) Improve the water conveyance system and expand statewide water storage.
- (g) Reduce risks to people, property, and state interests in the Delta by effective emergency preparedness, appropriate land uses, and investments in flood protection.
- (h) Establish a new governance structure with the authority, responsibility, accountability, scientific support, and adequate and secure funding to achieve these objectives.

The findings and declarations of SBX7 1 are a very important summary judgment on the current state of the management of the state's water and environmental resources. Section 85001 states:

- "The Legislature finds and declares... (a) The Sacramento-San Joaquin Delta watershed and California's water infrastructure are in crisis and existing Delta policies are not sustainable. Resolving the crisis requires fundamental reorganization of the state's management of Delta watershed resources.
- (b) In response to the Delta crisis, the Legislature and the Governor required development of a new long-term strategic vision for managing the Delta. The Governor appointed a Blue Ribbon Task Force to recommend a new "Delta Vision Strategic Plan" to his cabinet committee, which, in turn, made recommendations for a Delta Vision to the Governor and the Legislature on January 3, 2009.
  - (c) By enacting this division, it is the intent of the Legislature to provide for the sustainable management of the Sacramento-San Joaquin Delta ecosystem, to provide for a more reliable water supply for the state, to protect and enhance the quality of water supply from the Delta, and to establish a governance structure that will direct efforts across state agencies to develop a legally enforceable Delta Plan."

The eight policy objectives in Section 85020 serve as a useful organizing structure for complying with SBX7 1 and addressing the findings declared by the Legislature. They follow closely the seven goals of the Delta Vision Strategic Plan, plus breaking improved water quality out as a separate policy objective. Using these statutory objectives also assists in meeting the requirement that the Council "...consider each of the strategies and actions set forth in the Strategic Plan and may include any of those strategies or actions in the Delta Plan" (Section 85300(a)). Other statements of goals, such as those in Sections 85021 through 85023, can be organized under the eight policy objectives.

SBX7 1 also includes several statutory requirements for the Delta Plan which reasonably apply to the Interim Plan and which will be important in implementing the Interim Plan, discussed below:

- Activities covered (e.g., Sections 85057.5, 85210(j) but see also sections which preserve existing statutes, Section 85301 or 85322, or exclude an activity, Section 85057.5(b), and consultation and consistency requirements, Section 85300(b))
- Geographic scope (as the Delta watershed, Sections 85021 and 85307(a), or as the Delta and Suisun Marsh, Sections 85057.5(a)(1) and 85302(b))
- Performance measures (Section 85211)
- Use of the best available scientific information (Section 85308)

This section of the Interim Plan will analyze the eight policy objectives, and some specific features by providing the following information for each:

- Background
- Basic Legal Authority,
- Performance Measures and Targets
- Current Status and Trends Toward Meeting Performance Measures
- Best Available Science

**For this first draft Interim Plan, the performance measures from the Delta Vision Strategic Plan are included as illustrative, and they may be replaced with refined or wholly different performance measures in the adopted Interim Plan.** The Delta Vision Strategic Plan provides performance measures across all eight policy objectives that were developed in a systematic, transparent process, which SBX7 1 requires the Council to consider.

## **Section 85020(a): Manage the Delta's water and environmental resources and the water resources of the state over the long term.**

### Background

Formed by the confluence of the state's two largest rivers—the Sacramento and the San Joaquin—the Delta is one of the most valuable and unique natural resources in the state. As such, it is subject to many competing demands: It is the source of drinking water for nearly two-thirds of the state's population; it is home to more than half a million residents; its flows are critical to the state's \$37 billion agricultural industry, as well as to the commercial salmon fishing industry; and its islands and waterways form important habitat for hundreds of plant and animal species. Additionally, the estuary draws tourists and recreationists from around the state and the world, adding further value to the state's economy. The

Delta also contains major infrastructure of statewide importance, including aqueducts, natural gas pipelines, electricity transmission lines, railroads, shipping channels, and highways.

In the past several years, the challenges of effectively addressing both water supply and ecosystem function have led to increased conflicts. Despite passage of the federal and state Endangered Species Acts, ever-more-rigorous water quality laws, and federal and state environmental protection acts that require policy makers to address impacts of natural resource use, the natural resources of the Delta are not effectively protected, nor are reliable supplies of water being provided for many who are dependent on exports through the Delta.

The challenges in meeting these often-competing uses are compounded by new scientific information suggesting increased risks from climate change, which is causing sea level rise—changing water levels and salinity in the Delta—and the potential for increased flooding along Delta rivers. This new science also indicates the risk of major seismic events, with the potential to cause devastating impacts on public health, safety, and welfare, is greater than previously understood.

Thus, this policy objective captures the requirement of the coequal goals: addressing environmental resources and water supply reliability. It also emphasizes a long-term perspective on the management of these resources.

#### Basic Legal Authority

Section 85020 identifies policy objectives essential to achieving the coequal goals. As previously indicated, the Council views the coequal goals defined in Public Resources Code Section 29702(a) as a complete statement of state policy.

This understanding of the definition of “coequal goals” is repeated in Water Code Section 85054, and directly or indirectly implied in other sections of the legislation. Thus, the objectives must be viewed through the prism of the coequal goals, according to the plain language of the statute, “The policy of the State of California is to achieve the following objectives that the Legislature declares are inherent in the coequal goals for management of the Delta:”

SBX7 1 also includes four sections referencing early actions that relate to this policy objective:

- Develop and implement a strategy to engage federal agencies (Section 85082), including building off the Interim Federal Action Plan for the California Bay-Delta (December 22, 2009), Sections II and III and IV.A (pages 8-22). These sections include specific interim actions relevant to policy objectives 85020(c)(d)(e) and (f).
- Coordinate with and support the DFG in developing flow criteria (Section 85084.5). This interim action relates to the SWRCB responsibilities under Section 85086.
- Coordinate with and support DWR, DFG, SWRCB, the RWQCBs, and the State Lands Commission in specified responsibilities regarding evaluation and/or action on Two-Gates, Threemile Slough Barrier, other near-term actions specified in the *Delta Vision Strategic Plan* and implementing early action ecosystem restoration projects, including tidal marsh restoration in Dutch Slough and Meins Island, and others. These actions also relate to policy objectives Section 85020(b) and (c). Section 85350(a) provides funding for a potential Two-Gates project.
- Coordinate with and support the SWRCB in establishing an effective system of Delta watershed diversion data collection and reporting and new flow criteria for the Delta ecosystem (Section 85086). This interim action relates to the DFG responsibilities under Section 85084.5.

### Performance Measures and Targets

The *Delta Vision Strategic Plan* includes a single performance measure for this policy objective:

- ✓ Integration of ecosystem and water policies, which the Council understands as being equivalent to the coequal goals adopted in SBX7 1

In the Final Interim Plan, the Council will endorse other performance measures and targets in this section that reflect priorities for immediate action in the interim, until the Delta Plan is adopted. For example, the Council may consider:

- ✓ Achievement of interim actions listed in the Interim Federal Action Plan for the California Bay-Delta
- ✓ Development and acceptance of flow criteria developed by DFG and SWRCB
- ✓ Completion of evaluations and/or construction of near-term actions such as Two-Gates and Threemile Slough and ecosystem restoration projects such as Dutch Slough and Meins Island
- ✓ Establishment of a Delta watershed diversion data collection and reporting system

The Council will also work with the Independent Science Board to develop specific, measurable performance measures which are based on the best available science.

### Current Status and Trends Toward Meeting Performance Measures

This section will be developed and submitted for consideration in the Second Draft Interim Plan.

### Best Available Science

This section will be developed with assistance from the Independent Science Board and submitted for consideration in the Second Draft Interim Plan.

## **Section 85020(b): Protect and enhance the unique cultural, recreational, and agricultural values of the California Delta as an evolving place**

### Background

This section focuses on the concept of the “Delta as place,” emphasizing the need for responsible management that acknowledges the uniqueness of its natural resources, its inhabitants, and the economic benefits it brings to the state as a whole.

The Delta is a significant region with a distinctive social, cultural, and natural heritage formed by pioneer farmers from several corners of the world, all working the Delta’s peaty soils and building its levees. The Delta’s predominant land use is agriculture, especially within the primary zone defined by the Delta Protection Act of 1992. The primary zone also contains the small unincorporated communities—“legacy towns”—of Clarksburg, Courtland, Hood, Locke, and Ryde. These historically significant sites possess a rural charm and slow pace of life that are attractive to many visitors. The secondary zone encompasses a large area ranging from West Sacramento in the north, to Stockton in the southeast, and Antioch in the west. Until the recent economic downturn, this zone was characterized by rapidly expanding suburban development.

The Delta Protection Act also created the Delta Protection Commission (DPC), and it requires that land development proposals within the Delta primary zone be consistent with the DPC’s Delta Resource

Management Plan. Since the passage of the Delta Protection Act, no new housing development has occurred within the primary zone, much of which is deeply subsided and at high flood risk. Future economic development initiatives in the Delta must continue to recognize the inherent risks in primary-zone development proposals, and even many secondary-zone proposals. Some past and pending development projects in the secondary zone are in locations that could compromise flood protection for existing Delta islands and residents by constraining floodways and limiting flood-fighting options.

Significant areas of the Delta are held as conservation lands. These include Jersey Island, Twitchell Island, and most of Sherman Island (which are owned by the state), and Staten Island and McCormack-Williamson Tract (which are owned by the Nature Conservancy). The State Parks Department also operates Brannan Island State Park and Delta Meadows State Park within the legal Delta. The Department of Fish and Game manages the Yolo Wildlife Area, Lower Sherman Island WA, Grizzly Island WA, and Calhoun Cut Ecological Reserve.

The Delta's location between Sacramento and the Bay Area make it a prime recreation destination for millions of people. Numerous recreational activities are pursued within the Delta and Suisun Marsh, including boating, fishing, hunting, bicycling, windsurfing, and camping, among others. The planning and construction of the Great Delta Trail, authorized by SB 1556 in 2006, will create a connected pedestrian and bicycle trail network totaling hundreds of miles in length, and connecting to the 450-mile San Francisco Bay Trail.

The last systematic estimate of the Delta's gross regional product, carried out by the Delta Protection Commission in 1994, found that the entire Delta produced over \$21 billion in goods and services. This represented approximately 2.4% of the Gross State Product in 1994, which totaled \$860 according to the California Department of Finance.

Much of this economic output occurred in the secondary zone, which encompasses significant portions of cities like Stockton and West Sacramento. Delta agriculture, according to this estimate, contributed approximately \$1 billion to the regional economy. The Delta also contains major infrastructure of statewide importance, including aqueducts, natural gas pipelines, electricity transmission lines, railroads, shipping channels, and highways. The potential cost of a mass failure of this infrastructure to the state of California's economy is difficult to estimate, but is certainly in the tens of billions of dollars. The entire Delta is estimated to produce billions of dollars in goods and services. Much of this economic output occurs in the secondary zone, which encompasses significant portions of cities like Stockton and West Sacramento.

The Delta as a region is facing important challenges and opportunities. Drivers of change such as sea level rise, continued subsidence, and seismic and flood risks suggest the need for adaptability if the Delta's regional vitality is to be sustained. At the same time, the Delta also possesses extraordinary assets that could be the basis of new ventures, and even new regional industries, that grow and diversify the Delta's economy for the future.

### Basic Legal Authority

Water Code Section 85020(b) identifies the need to "protect and enhance the unique cultural, recreational, and agricultural values of the California Delta as an evolving place" as one of the key policy objectives.

SBX7 1 also includes provisions related to the DPC, Delta land use, and economic development in the Delta. The DPC is identified as:

- The appropriate agency to identify and provide recommendations to the Delta Stewardship Council on methods of preserving the Delta as an evolving place (Public Resources Code Section 29703.5(a))
- Eligible to be “the facilitating agency for the implementation of any joint habitat restoration plan or enhancement programs located within the primary zone of the Delta...,” including a national heritage area designation in the Delta (Section 29756.5)
- Required to submit to the Legislature “recommendations regarding the potential expansion of or a change to the primary zone or the Delta” including considerations of Rio Vista, Isleton, Bethel Island, Brannan-Andrus Island, the Cosumnes/Mokelumne floodway, and the San Joaquin/South Delta lowlands (Section 29773.5) by July 1, 2010.

Water Code Section 85301 requires the DPC to report to the Council with recommendations that may be included in the Delta Plan including:

- (a) The commission shall develop, for consideration and incorporation into the Delta Plan by the council, a proposal to protect, enhance and sustain the unique cultural, historical, recreational, agricultural, and economic values of the Delta as an evolving place, in a manner consistent with the coequal goals.
- (b)(1) The commission shall include in the proposal a plan to establish state and federal designation of the Delta as a place of special significance, which may include application for a federal designation of the Delta as a National Heritage Area.  
(2) The commissions shall include in the proposal a regional economic plan to support increased investment in agriculture, recreation, tourism and other resilient land uses in the Delta. The regional economic plan shall include detailed recommendations for the administration of the Delta Investment Fund...
- (c)(1) The Department of Parks and Recreation shall prepare a proposal...to expand within the Delta the network of state recreation areas, combining existing and newly designated areas.  
(2) The Department of Food and Agriculture shall prepare a proposal...to establish market incentives and infrastructure to protect and enhance the economic and public values of Delta agriculture.
- (d) The commission shall submit the proposal developed pursuant to subdivision (a) to the council. The council shall consider the proposal and may include any portion of the proposal in the Delta Plan if the council, in its discretion, determines that the portion of the proposal is feasible and consistent with the objectives of the Delta Plan and the purposes of this division.

The Council will interact with and support the activities of the DPC, Department of Parks and Recreation, and Department of Food and Agriculture as they prepare their recommendations. A complete statement addressing a framework for this interaction and support will be submitted for consideration in the Second Draft Interim Plan.

Additionally, SBX7 1 also creates the Delta Investment Fund (Public Resources Code Section 29778.5), allows the Delta Conservancy to allocate funds for “economic sustainability in the Delta” (Section 32360(b)(3)), and articulates a series of “fundamental goals for managing land use in the Delta” (Water Code Section 85022(d)).

### Performance Measures and Targets

For this policy objective, the *Delta Vision Strategic Plan* includes these performance measures:

- ✓ Achievement of special designations
- ✓ Gross regional product from agriculture
- ✓ Gross regional product from sustainable agriculture
- ✓ Acres of land providing public benefits of habitat, flood conveyance, subsidence reversal, or carbon sequestration
- ✓ Gross regional product from recreation and tourism
- ✓ Success rate of small and new Delta businesses
- ✓ Amount of new private investment leveraged with public funds

In the Final Interim Plan, the Council may endorse these and other performance measures and targets that reflect priorities for immediate action in the interim, until the Delta Plan is adopted. For example, the Council may consider:

- ✓ Creation and funding of a Delta Investment Fund
- ✓ Increase in investment in agriculture, recreation, tourism, and other resilient land uses
- ✓ Increase in statewide public awareness and recognition of the Delta

### Current Status and Trends Toward Meeting Performance Measures

This section will be developed and submitted for consideration in the Second Draft Interim Plan.

#### Best Available Science

This section will be developed with assistance from the Independent Science Board and submitted for consideration in the Second Draft Interim Plan.

### **Section 85020(c): Restore the Delta ecosystem, including its fisheries and wildlife, as the heart of a healthy estuary and wetland ecosystem**

A preliminary draft of suggested language is attached as Appendix IV. A complete statement will be submitted for consideration in the Second Draft Interim Plan.

### **Section 85020(d) Promote statewide water conservation, water use efficiency, and sustainable water use**

A preliminary draft of suggested language is included in Appendix IV. A complete statement will be submitted for consideration in the Second Draft Interim Plan.

### **Section 85020(e): Improve water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta**

A preliminary draft of suggested language is included in Appendix IV. A complete statement will be submitted for consideration in the Second Draft Interim Plan.

## **Section 85020(f): Improve the water conveyance system and expand statewide water storage**

A preliminary draft of suggested language is included in Appendix IV. A complete statement will be submitted for consideration in the Second Draft Interim Plan.

## **Section 85020(g): Reduce risks to people, property, and state interests in the Delta by effective emergency preparedness, appropriate land uses, and investments in flood protection**

A preliminary draft of suggested language is included in Appendix IV. A complete statement will be submitted for consideration in the Second Draft Interim Plan.

## **Section 85020(h): Establish a new governance structure with the authority, responsibility, accountability, scientific support, and adequate and secure funding to achieve these objectives**

### Background

SBX7 1 provides important new tools to address the widely accepted inadequacies of prior governance of the Delta. A short summary from the *Delta Vision Strategic Plan* (2008, page 121) notes: "When viewing the current governance structures in the Delta three key points emerge: state interests are neither clearly expressed nor effectively pursued, literally hundreds of federal, state and local governmental entities share responsibility for the Delta and its resources, and no one entity is responsible for managing important state interests."

The reforms launched in SBX7 1 are substantial and offer promise of more effective action. They are initiated at time when many agree action is needed, but important stakeholders disagree on the meaning of the enacted legislation. Concurrently, the state's fiscal future looks bleak for many years, which means that financing aspects of the legislation will be uncertain. Lack of a stable financing structure may lead to difficulty in achieving the coequal goals.

### Basic Legal Authority

The recently enacted SBX7 1 and the companion bills adopted in 2009 make fundamental changes in the governance structure of the Delta and agencies that deal with the complex interaction of water laws and the Delta ecosystem and Delta as place. It is the intention of the council to evaluate how those changes work with the old system and to make recommendations for inclusions in the Interim Plan and/or the Delta Plan which help to explain, clarify, and reinforce the important statutory actions.

SBX7 1 includes major governance reforms, creating a new Delta Stewardship Council as an independent state agency (Water Code Section 85200) and making it the successor to the California Bay Delta Authority (Section 85034), including a reconstituted Delta Independent Science Board (Sections 85080 and 85280), creating a new Delta Conservancy (Public Resources Code Section 32320), revising the composition and responsibilities of the Delta Protection Commission (Sections 29735-29754), and giving the Delta Stewardship Council responsibility to develop and implement the Delta Plan to guide actions of state and local agencies (Water Code Section 85300). The act also assigns responsibilities to the SWRCB (e.g., Sections 85086 through 85089), the DFG (e.g., Section 85084.5), and the DWR (e.g., Sections 85085 and 85309) among state agencies. New policies are established for completion of the BDCP (e.g., Sections 85320, 85321). In other sections, SBX7 1 establishes or reinforces broad state policy, including reducing reliance on the Delta for water supply linked to increased regional self reliance

(Section 85021), establishing reasonable use and public trust as the foundation of state water policy (Section 85023), and requiring use of performance measures in implementing the Delta Plan (Section 85211).

These new legal authorities and policies will require consistent, effective effort to launch and sustain. The Council will have to establish procedures and policies for its work, as will the newly created Delta Conservancy. Working relationships will have to be established with other agencies. Areas of overlapping jurisdiction and competencies will have to be sorted out. A specific such example is the geographical overlap of authority in the Suisun Marsh of the existing San Francisco Bay Conservation and Development Commission and the Delta Plan, but many other examples exist with local governments and state agencies. Critically, SBX7 1 provides no long-term financing for operations of the Delta Stewardship Council or the Delta Conservancy, nor increased funding for the Delta Protection Commission, which was assigned additional responsibilities. Equally important, no funding streams are identified for any projects of these entities.

SBX7 1 includes three interim actions related to this policy objective:

- Appoint a Delta Independent Science Board (Section 85080).
- Develop and implement a strategy to engage federal agencies (Section 85082), including building off the Interim Federal Action Plan for the California Bay-Delta (December 22, 2009), Section I (pages 7-8).
- Consult with and support the SWRCB in appointing a Delta Watermaster (Section 85230).

#### Performance Measures and Targets

The *Delta Vision Strategic Plan* does not provide performance measures for this policy objective. In the Final Interim Plan, the Council may endorse performance measures that reflect priorities for immediate action in the interim, until the Delta Plan is adopted. Given creation of new entities, new responsibilities, and new or reinforced policy direction, the first performance measures could focus on the effective launching of the entities and their work. For example, the Council may consider:

- ✓ Development and implementation of federal engagement strategy, with evidence of cooperation
- ✓ Appointment of a Delta Watermaster
- ✓ Development of financing and sustainable funding stream for the Council and Conservancy
- ✓ Development of procedures and policies for evaluating consistency across multiple plans and agencies in the Delta

#### Current Status and Trends Toward Meeting Performance Measures

This section will be developed and submitted for consideration in the Second Draft Interim Plan.

#### Best Available Science

This section will be developed with assistance from the Independent Science Board and submitted for consideration in the Second Draft Interim Plan.

## **IV. Interim Framework for Implementation of the Sacramento-San Joaquin Delta Reform Act of 2009**

Section III organized important sections of SBX7 1 into the eight policy objectives enumerated in Water Code Section 85020, and provided background and possible performance measures for each of the eight. The goal of this section is to provide a framework for organizing that and additional information as a basis for Council action in a wide range of activities under the Interim Plan, some unknowable at this time. The organization proposed will also facilitate communication of measurable progress in meeting the requirements of SBX7 1. The next section outlines procedural steps in Council decision making.

The framework relies on six tools to organize critical information:

1. Delta water flow plan
2. Delta ecosystem restoration plan
3. Map and table of current levee system integrity
4. Map of planned Delta land uses
5. Finance plan
6. Indicators of progress in meeting California's future water supply needs on a regional basis

These six tools focus on core responsibilities of the Council to achieve the coequal goals and organize much of what will be required for decision making. They do not include all elements required for Council action. Importantly, although these tools must be based on the best available science, consequential specific actions before the Council will require bringing to bear the best available science relevant to that specific action. Additionally, the six tools miss some dimensions of economic sustainability in the Delta and of progress in implementing improved governance. An effective graphic for each tool can be used to communicate effectively with those relevant to the work of the Council, from agencies to a broad public. In each case, the graphic would be supported with accessible information allowing more detailed analysis of relevant performance measured against goals.

None of the tools will be fully developed by August 27, 2010, when the Interim Plan is scheduled to be adopted by the Council. However, even in incomplete form, they will inform Council work under the Interim Plan and will be further developed over time.

### **Delta Water Flow Plan**

The Delta flow criteria developed by the SWRCB under Water Code Section 85086 with contributions of the DFG under Section 85084.5 will provide an early core element of the Delta water flow plan. Over time, additional information will be added, including whatever results from the BDCP, plus the additional instream flow studies required by Section 85087. Water quality requirements must be incorporated by the SWRCB under Section 85086 and can be updated as those regulations change. The water flow plan must include plans to "... promote options for new and improved infrastructure relating to the water conveyance in the Delta, storage systems, and for the operation of both to achieve the coequal goals" (Section 85304).

### **Delta Ecosystem Restoration Plan**

Actions taken to restore the Delta ecosystem are expected to include at least changes in water flows, water quality, and land forms and uses (Sections 85023, 85084.5, 85302(c)(e)). The CALFED Ecosystem

Restoration Program provides tools and processes for evaluating and guiding decision making about restoration actions under the Interim Plan. These include the program's Strategic Plan and the Delta Regional Ecosystem Restoration Implementation Plan conceptual models. Summary information on progress on ecosystem restoration will not be easily captured in maps, so other graphic formats will be required. One option is to organize reports in bar chart formats or line graph by performance measures. The *Delta Vision Strategic Plan* includes approximately 40 ecosystem performance measures,<sup>1</sup> more than easily understood in public policy making processes, but they are organized around five policy strategies. To the extent possible, these (or other) measures of ecosystem function can be combined into summary indices, maintaining the detailed information for use when needed.

## Map and Table of Current Levee System Integrity

All uses of the Delta require a certain level of protection against river flooding, sea level rise, and earthquakes. The Interim Plan must ensure progress toward congruence between the uses and resources at risk and the levees that provide protection. Pending the development of more detailed information on levee conditions and policies required under Sections 85306 and 85309, the Interim Plan may follow the recommendations of the Delta Vision Strategic Plan, Action 6.3.3, and Table 2-2, Delta Levees Classifications. Estimates of current levels of protection will be developed based on information developed in the Delta Risk Management Strategy (DRMS), or whatever else is the best information now available. Table 2-2, Delta Levees Classifications, is included here to illustrate linkages between levees classified into eight groups in ascending levels of protection against flood and seismic risks and four types of land uses.

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1 . See *Delta Vision Strategic Plan* performance measures for Goal 3, "Restore the Delta ecosystem as the heart of a healthy ecosystem," pages 67-91.

[http://deltavision.ca.gov/StrategicPlanningProcess/StaffDraft/Delta\\_Vision\\_Strategic\\_Plan\\_standard\\_resolution.pdf](http://deltavision.ca.gov/StrategicPlanningProcess/StaffDraft/Delta_Vision_Strategic_Plan_standard_resolution.pdf)

TABLE 2-2 DELTA LEVEES CLASSIFICATIONS

Levee Goals		Land Use					Technical Characteristics	Estimated Cost per Mile (millions of 2005 \$) <sup>e</sup>
Levee Classification	Description	Wetlands/Habitat	Agricultural	Populated <sup>d</sup>	Infrastructure			
Class 1	No specific goal <sup>a</sup>	✓	N/A	N/A	N/A	Typical height is less than 8 feet. Crest width is 12 feet or less. Exterior and interior slopes, assume 2H:1V. No seismic capability. Freeboard varies but levee is usually overtopped for water level with 1% annual frequency (i.e., 100-year return period or 100-year flood). Expect frequent failure.	For new levee is \$0.2 to \$0.3. Upgrade from existing levee would be less. <sup>f</sup>	
Class 2 <sup>b</sup>	HMP	✓	✓	N/A	✓	16 foot crest width. All-weather patrol road. Steep exterior slope (1.5H:1V). Steep interior slope (2H:1V). Marginal static stability (FS = 1.1+/-). No seismic capability. Freeboard = 1.0 foot (for water level with 1% annual frequency or 100-year flood).	Upgrade from existing \$0.45. <sup>f</sup>	
Class 3	PL84-99	N/A	✓	N/A	✓	16 foot crest width. All-weather patrol road. Exterior slope (2H:1V). Interior slope (2H:1V to 5H:1V), based on levee height and depth of peat. Static stability (FS = 1.25). Levee toe drain 30 feet landward. Essentially no seismic capability. Freeboard = 1.5 feet (for 1% annual frequency or 100-year flood).	Upgrade— For 10 feet of peat, \$1.3 to \$1.8. For thicker peat, up to \$3.5. <sup>f</sup>	
Class 4	FEMA – 100-year	N/A	N/A	✓ <sup>h</sup>	✓	16 foot crest width. All-weather patrol road. Toe drain. Exterior Slope (2H:1V). Interior Slope (varies, stability/seepage, 3H:1V to 5H:1V). Static stability (FS = 1.4 to 1.9). Seepage exit gradient ≤ 0.5. (FS and Seepage per Corps documents). Very little seismic capability. Freeboard = 3.0+ feet (for 1% annual frequency or 100-year flood).	For 10 feet of peat, \$9.1. For special local conditions, may be \$4.0 or less. <sup>f</sup>	
Class 5	FEMA – 200-year	N/A	N/A	✓	✓	Like Class 4 but improved design and higher level of protection. Freeboard = 3.0+ feet (for 0.5% annual frequency or 200-year flood).	Less than \$1.0 more than for Class 4. <sup>f</sup>	
Class 6	Seismic – fail/repair	N/A	N/A	N/A	✓	16 foot crest width. All-weather patrol road; toe drain. Exterior Slope (3H:1V to 5H:1V) Interior Slope (3H:1V to 10H:1V). Static stability (FS = 1.8 to 2.1). May slump up to 5 feet in design earthquake (200-year earthquake). Some breaches expected. Freeboard = 3.0+ feet (for 1% annual frequency or 100-year flood).	For 10 feet of peat, \$21.1. For thicker peat, up to \$28.1. <sup>f</sup>	
Class 7 <sup>c</sup>	Seismic – no fail	N/A	N/A	✓	✓	16 foot crest width. All-weather patrol road; toe drain. Exterior Slope (3H:1V and 5H:1V) Interior Slope (3H:1V and 10H:1V). Static stability (FS = 1.8 to 2.1). Dynamic stability (Ky = 0.15 to 0.27). Foundation and levee prepared, treated or compacted to resist liquefaction. May slump up to 1 foot in design earthquake (200-year earthquake). Freeboard = 3.0+ feet (for 1% annual frequency or 100-year flood).	For 10 feet of peat. \$21.1 to \$38.0. For thicker peat, up to \$63.5. <sup>f</sup>	
Class 8	Seismic super levee	N/A	N/A	✓	✓	Wide crest (as much as 200 feet). All-weather road(s) on crest. Other design factors similar to seismically resistant above. Cost estimates do not cover deep peat, extensive loose sand layers, levees over 20 feet, or non-local borrow.	\$6 to \$12—little peat and sand, short levee height (10 to 20 feet), use of local borrow. <sup>g</sup>	

Notes:

- <sup>a</sup> Class 1 levees are designed to serve the need of the habitat; there is no specific goal.
- <sup>b</sup> Islands with a Class 2 goal are judged to have no Statewide interest and may not be reclaimed after a levee failure.
- <sup>c</sup> For populated areas subject to deep flooding, only a Class 7 levee provides adequate protection of life and safety.
- <sup>d</sup> Levee protection for legacy towns should be determined based on site specific needs (e.g., floodwalls) and financing available.
- <sup>e</sup> Estimated cost depends on foundation material and other site construction factors.
- <sup>f</sup> Based on DRMS estimated costs.
- <sup>g</sup> Based on actual levees constructed.
- <sup>h</sup> Levees for populated areas should ultimately upgrade to at least Class 5 (FEMA 200-year).

## Map of Planned Delta Land Uses

Many actions taken under SBX7 1 will affect the land forms and land uses in the Delta, including work on flood management policies affecting levees; flood ways and allowable land uses; patterns of land use allowed under the policies of the DPC and local governments; ecosystem restoration projects, including those in which the Delta Conservancy is a party; improved water conveyance; and other infrastructure investments. One of the primary goals of SBX7 1 is to achieve more effective integration of land use policies in the Delta, reflected in the very first section of the act, Public Resources Code Section 29702, every clause of which affects land uses in the Delta and all of which are further developed in other sections of the act:

Section 29702. The Legislature further finds and declares that the basic goals of the state for the Delta are the following:

- (a) Achieve the two coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place.
- (b) Protect, maintain, and, where possible, enhance and restore the overall quality of the Delta environment, including, but not limited to, agriculture, wildlife habitat, and recreational activities.
- (c) Ensure orderly, balanced conservation and development of Delta land resources.
- (d) Improve flood protection by structural and nonstructural means to ensure an increased level of public health and safety.

The map developed for use here must integrate the various policies affecting land uses in the Delta in one or more intelligible graphics showing land uses that will result from those policies. One possible way to do so is as one or more overlays on existing land uses. No existing Delta map has yet been identified to serve as a starting point for this graphic. However, the seven maps of subareas of the San Francisco Bay shoreline within its jurisdiction developed for use by the San Francisco Bay Conservation and Development Commission provide an example of one possible approach.<sup>2</sup> Land use maps will then be evaluated in relation to the map and table of Levee System Integrity to ensure progress toward congruence between land uses, risks, and levels of protection.

## Finance Plan

SBX7 1 does not address financing operations of the Council, the Delta Conservancy, or new roles of the DPC, nor does it provide financing for actions recommended by these bodies. The issue of adequate financing must be addressed. The *Delta Vision Strategic Plan* includes one strategy (7.3) and three related actions (7.3.1, 7.3.2, and 7.3.3)<sup>3</sup> that must be considered in developing the Delta Plan.

The Interim Plan can make progress on two important beginning points in a finance plan: (1) beginning to develop accurate and complete information on current finances and (2) principles to guide future financial actions. No accurate and complete accounting of the finances of public activities in the Delta exists and the creation of the first compilation of these data should be given high priority.

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2 . See Part V and associated maps and text: [http://www.bcdc.ca.gov/laws\\_plans/plans/sfbay\\_plan.shtml](http://www.bcdc.ca.gov/laws_plans/plans/sfbay_plan.shtml)

3 . See:

[http://deltavision.ca.gov/StrategicPlanningProcess/StaffDraft/Delta\\_Vision\\_Strategic\\_Plan\\_standard\\_resolution.pdf](http://deltavision.ca.gov/StrategicPlanningProcess/StaffDraft/Delta_Vision_Strategic_Plan_standard_resolution.pdf). Pages 133-37.

As with measures of ecosystem restoration, the useful graphic here is unlikely to take the form of a map. Instead, some combination of bar charts and/or stacked trend lines that capture current financial flows by source and purpose and provide a good foundation for decisions about future financial investments are likely to be more useful.

## **Indicators of Progress in Meeting California’s Future Water Supply Needs on a Regional Basis**

This tool is intended to summarize progress in satisfying Water Code Section 85021, which states: “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 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.” This will require information about the regional efforts listed and the graphic on statewide diversions developed for the *Delta Vision Strategic Plan* (Figure 1-12, page 35) could provide a conceptual starting point for an effective graphic that would have to also incorporate information about regional progress toward self-sufficiency. That graphic is included as a possible starting point for this effort.

DRAFT

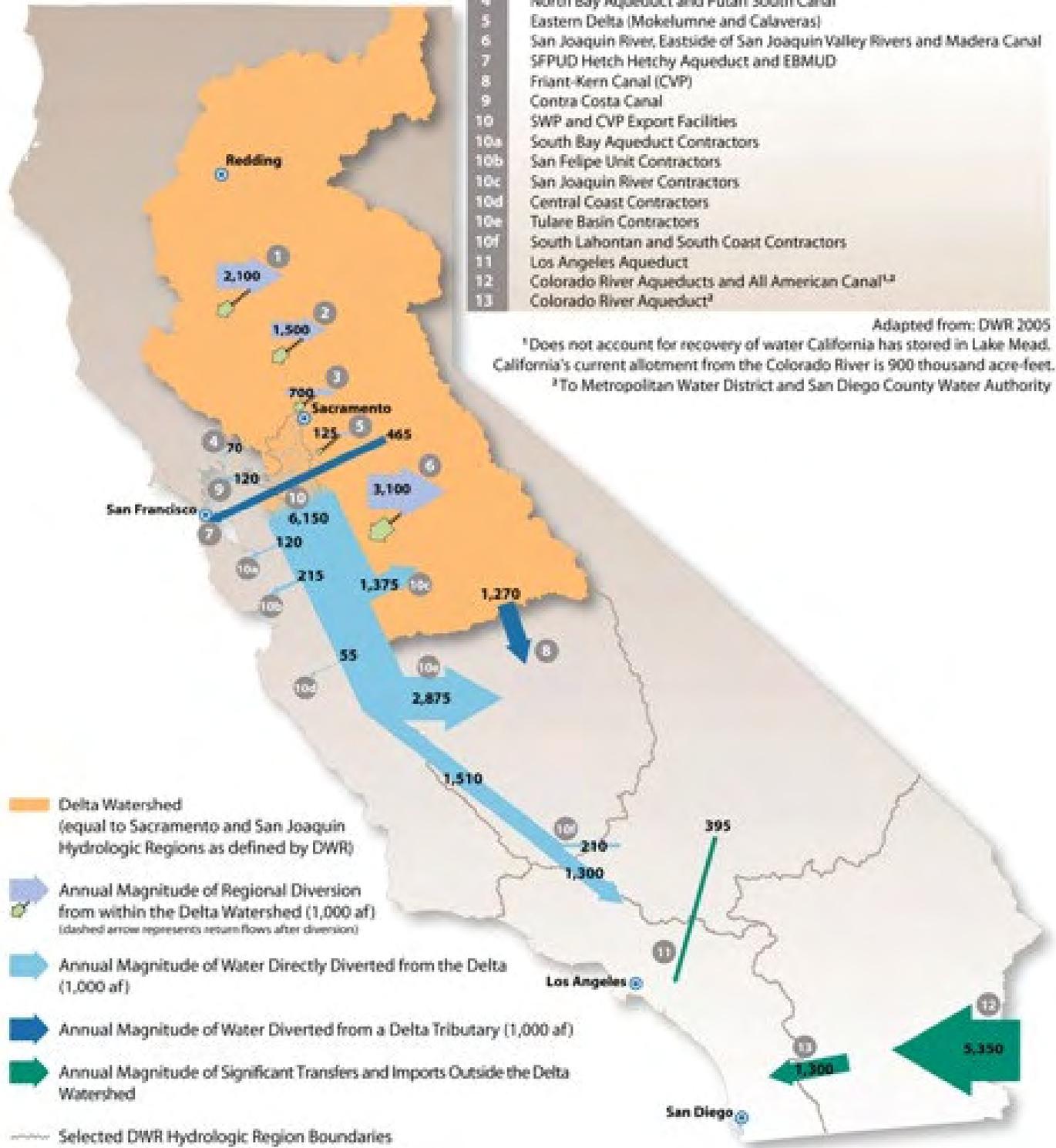
**Regional Diversion or Export Group Description**

1	Sacramento River Diversions (from Keswick to Knights Landing)
2	Feather, Yuba and Bear Rivers
3	Northern Delta (Yolo, Sacramento, and Placer Counties)
4	North Bay Aqueduct and Putah South Canal
5	Eastern Delta (Mokelumne and Calaveras)
6	San Joaquin River, Eastside of San Joaquin Valley Rivers and Madera Canal
7	SFPUD Hetch Hetchy Aqueduct and EBMUD
8	Friant-Kern Canal (CVP)
9	Contra Costa Canal
10	SWP and CVP Export Facilities
10a	South Bay Aqueduct Contractors
10b	San Felipe Unit Contractors
10c	San Joaquin River Contractors
10d	Central Coast Contractors
10e	Tulare Basin Contractors
10f	South Lahontan and South Coast Contractors
11	Los Angeles Aqueduct
12	Colorado River Aqueducts and All American Canal <sup>1,2</sup>
13	Colorado River Aqueduct <sup>2</sup>

Adapted from: DWR 2005

<sup>1</sup>Does not account for recovery of water California has stored in Lake Mead. California's current allotment from the Colorado River is 900 thousand acre-feet.

<sup>2</sup>To Metropolitan Water District and San Diego County Water Authority



## V. Interim Plan Implementation

Neither statutes nor plans are self-executing; they require focused and sustained actions by responsible public agencies for success. This section of the Interim Plan outlines procedures and process the council will use in implanting the Interim Plan, many of which can carry forward to implementation of the Delta Plan and can also serve to structure the council's work in developing the Delta Plan.

To effectively meet its responsibilities and manage its work flow, the Council will develop:

1. A systematic plan of outreach to agencies whose activities are related and affected by the requirements of SBX7 1 with the goal of effective communication of the activities of the Council under the act
2. A formal annual or biannual work plan for Council implementation
3. Formalized procedures for core, repetitive responsibilities of the Council
4. Simple decision rules, which may vary by categories of decisions.

Outreach to agencies whose activities are affected by SBX7 1 regarding the work of the Council and how the Council will discharge its roles should begin soon and can be expected to be needed through the early years of implementation of the Delta Plan.

The work plan can be brief or extensive but serves to focus energy, communicate intent to others, and provide accountability.<sup>4</sup> A formal work plan provides the structure by which the Council uses its resources most effectively and manages relationships with others to achieve its goals.

Among the core, repetitive responsibilities of the Council, early attention will be given to its responsibilities related to reviews of proposed actions and plans. As discussed in Section II of this Interim Plan, the Council will be making recommendations on several issues before adoption of the Delta Plan. High priority will be given to establishing systems and processes that establish effective relationships with state and local agencies whose actions and plans are relevant to the roles of the Council.

One area of early attention is developing procedures and processes to bring information and requests for recommendations to the Council. For projects, that information will include:

1. Identification of the project proponent and all parties with an economic interest in the project
2. Adequate locality, site, and project descriptions
3. A time schedule through full use of the proposed project
4. Evidence of completion of reviews and actions by other governmental agencies, including but not limited to environmental documentation, species protection, and land use permits.
5. Information on financing of the proposed project, including any public funding, and adequate demonstration of the status of proposed funding. The financing plan must include ongoing

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4 . The San Francisco Bay Conservation and Development Commission provided monthly updates on its strategic plan as a form of a work plan. [http://www.bcdc.ca.gov/reports/strategic\\_status\\_rpt.pdf](http://www.bcdc.ca.gov/reports/strategic_status_rpt.pdf). For a highly detailed work plan that focuses on transportation projects, see that developed annually by the Southern California Association of Governments, which includes several hundred pages of text and an associated budget. <http://www.scag.ca.gov/owp/index.htm>.

operations and maintenance and information on planned financial coverage of contingencies for failure

6. Information needed to assess the proposed covered action's impact on all eight policy objectives of SBX7 1, minimally requiring information sufficient to assess impact on the performance measures of those eight policy objectives
7. Any scientific or engineering assessments of the proposed covered action

The Council will adopt procedures regarding receipt and processing of information and requests, including at least:

1. Forms for use in submitting materials, expected to be similar in form to those currently used by state, regional, and local governments
2. The Council will not consider and act on "conceptual" proposals nor will the Council issue "in concept" approvals
3. The Council will issue specific written findings and decisions

The decision rules adopted by the Council will include:

1. Transparency and adequate opportunities for interested parties and the public to participate in decision making, including availability of information related to a decision well before the meeting at which it is considered
2. Use of the best available science
3. Consideration of any project or decision against all eight policy objectives, including use of performance measures, and use of the six framework tools as a basis for analysis
4. Commitment to make progress on all eight policy objectives over roughly similar time frames, with roughly equivalent certainty regarding effectiveness and with roughly equivalent commitments of any public state or local funds

In adopting this Interim Plan, the council also clearly conveys its commitment to meeting its obligations under the Sacramento-San Joaquin Delta Reform Act of 2009, including:

1. All ecosystem restoration, water conveyance, and flood management proposals advanced in the state and local public policy processes of the past five years (e.g., the Ecosystem Restoration Program of the DFG, the BDCP, the Suisun Marsh Plan, or Floodsafe) will be considered in developing the Delta Plan. The compilation of activities in Appendices IV and V is a start at identifying activities which may require consistency or coordination with the Delta Plan. No state or local agency should undertake or approve a project that is potentially a covered action until the Delta Plan is adopted, unless the project is included in the specific exclusions enumerated in SBX7 1. Any agency considering an action that is potentially a covered action under the Delta Plan is invited to contact the Council staff to initiate an early consultation regarding the project.
2. The Council seeks strong working relationships with agencies and stakeholders in developing an effective Delta Plan that can also serve as many of their missions and goals as is possible within SBX7 1. Important components of those effective working relationships are procedures that ensure transparency and robust procedures for early consultation that are used consistently.

Finally, implementation requires full consideration of public input. Opportunities will be provided for the public to engage in the development and implementation of the Interim Plan. A statement describing these opportunities will be submitted for consideration in the Second Draft Interim Plan.

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**Appendices**

## Introduction to Appendices

The information is organized as follows, in order of mention in the First Draft Interim Plan:

- Appendix I: Council Approved Actions
- Appendix II: Strategies and Actions from the Delta Vision Strategic Plan (Illustrative Only)
- Appendix III: Submitted Stakeholder and Public Recommendations (Illustrative Only)
- Appendix IV: Preliminary Draft Language for Sections 85020 (c), (d), (e), (f), and (g) (Illustrative Only)
- Appendix V. Plans or Projects Related to Delta Water and Environmental Resources and Delta as a Place
- Appendix VI. Policy-type Programs Related to Delta Water and Environmental Resources and Delta as a Place

Appendix I contains a record of Council-approved actions. It is intended to be the formal record of final Council actions in satisfying SBX7 1. It would include, for example, any actions taken in regard to approval of the economic sustainability plan of the Delta prepared by the Delta Protection Commission (Public Resources Code Section 29761.5(b)), actions regarding BDCP (Section 85320(e)), or adoption of the Interim Plan (Water Code Section 85084). The appendix would not include requests of other agencies or interim actions taken unless they have some formal effect on actions (e.g., an interim ruling).

Appendices II, III, V, and VI are intended to identify projects, plans, programs, policies, and strategies and proposals of relevance to the council in developing and implementing the Interim Plan and the Delta Plan. For ease of reference, all on the list are characterized as “activities.” It is not a static list, but will change over time with both additions and deletions. **This is NOT a list of activities approved by the council, nor an indication that the activities listed will ultimately be included. Instead, it is a way to begin to formulate the Interim Plan.**

Some of the activities identified will be “covered actions” (Section 85057.5(a)) for which certification of consistency will have to be filed (Section 85225), many agency’s actions will need to be coordinated with the Delta Plan (Section 85204), and other plans may be incorporated into the Delta Plan (Section 85350) including special provisions regarding the Bay Delta Conservation Plan (Section 85320). Section 85300(a) requires that the council consider each of the strategies and actions set forth in the Delta Vision Strategic Plan, so those recommendations too are relevant to developing the Delta Plan and can be considered also in developing the Interim Plan. Finally, the council is establishing processes for public engagement which will generate additional recommendations for consideration, including invitations to submit recommendations, work groups and opportunities to comment on posted drafts.

Appendix IV contains preliminary draft wording for Sections 85020 (c), (d), (e), (f), and (g), which will be further developed for the Second Draft Interim Plan.

**Note: No effort has yet been made to identify or reduce redundancies or inconsistencies among the entries in these appendices.**

## Appendix I. Council Approved Actions

Date of Council action	Action ("Project" is used consistent with Public Resources Code Section 20165)	Responsible Agency	Relevant code sections	Relevant section of Interim Plan or Delta Plan

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## **Appendix II: Strategies and Actions from the Delta Vision Strategic Plan (Illustrative Only)**

Water Code Section 85300 (a) requires that strategies and actions set forth in the *Delta Vision Strategic Plan* be considered by the Council for inclusion in the Delta Plan. The strategies and actions are listed in this appendix for reference.

### **Goal 1: Legally acknowledge the co-equal goals of restoring the Delta ecosystem and creating a more reliable water supply for California**

**Strategy 1.1:** Make the co-equal goals the foundation of Delta and water policy making.

**Action 1.1.1:** Write the co-equal goals into the California Constitution or into statute.

**Action 1.1.2:** Incorporate the co-equal goals into the mandated duties and responsibilities of all state agencies with significant involvement in the Delta.

**Action 1.1.3:** Require the achievement or advancement of the co-equal goals in all water, environmental, and other bonds, and operational agreements and water contracts or water rights permits, that directly or indirectly fund activities in the Delta.

### **Goal 2: Recognize and enhance the unique cultural, recreational, and agricultural values of the California Delta as an evolving place, an action critical to achieving the co-equal goals**

**Strategy 2.1:** Apply for federal designation of the Delta as a National Heritage Area, and expand the State Recreation Area network in the Delta.

**Action 2.1.1:** Apply by 2010 for the designation of the Delta as a federally recognized National Heritage Area.

**Action 2.1.2:** Expand by 2010 the State Recreation Area network in the Delta, combining existing and newly designated areas.

**Strategy 2.2:** Establish market incentives and infrastructure to protect, refocus, and enhance the economic and public values of Delta agriculture.

**Action 2.2.1:** Establish special Delta designations within existing federal and state agricultural support programs.

**Action 2.2.2:** Conduct needed research and development for agricultural sustainability in the Delta.

**Action 2.2.3:** Establish new markets for innovative agricultural products and enterprises in the Delta.

**Strategy 2.3:** Develop a regional economic plan to support increased investment in agriculture, recreation, tourism, and other resilient land uses.

**Action 2.3.1:** Charge the Delta Protection Commission with facilitating a consortium of local governments to create a regional economic development plan that addresses agriculture, recreation, tourism, and other innovative land uses.

**Action 2.3.2:** Establish special enterprise zones at the major "gateways" to the Delta as part of the economic development plan.

**Strategy 2.4:** Establish a Delta Investment Fund to provide funds for regional economic development and adaptation.

**Action 2.4.1:** Initiate the Delta Investment Fund with state funding.

**Action 2.4.2:** Structure the Fund so that it can accept revenues from federal, state, local, and private sources.

**Action 2.4.3:** Place the Fund under the joint management of the Delta Protection Commission and a consortium of local governments.

**Strategy 2.5:** Adopt land use policies that enhance the Delta's unique values, and that are compatible with the public safety, levee, and infrastructure strategies of Goal 6.

**Actions:** See Goals 3 and 6 for actions to address this Strategy.

### **Goal 3: Restore the Delta ecosystem as the heart of a healthy estuary**

**Strategy 3.1:** Restore large areas of interconnected habitats—on the order of 100,000 acres—within the Delta and its watershed by 2100.

**Action 3.1.1:** Increase the frequency of floodplain inundation and establish new floodplains.

**Action 3.1.2:** Restore tidal habitats and protect adjacent grasslands and farmlands throughout the Delta, with active near-term pursuit of restoration targets.

**Strategy 3.2:** Establish migratory corridors for fish, birds, and other animals along selected Delta river channels.

**Action 3.2.1:** Improve physical habitats along selected corridors by 2015.

**Action 3.2.2:** Provide adequate flows at the right times to support fish migrations, and reduce conflicts between conveyance and migration, by 2012.

**Action 3.2.3:** Immediately use the Central Valley Flood Protection Plan to identify areas of the San Joaquin River within and upstream of the Delta where flood conveyance capacity can be expanded.

**Action 3.2.4:** Using the National Heritage Area and regional economic development planning efforts, begin immediately to identify ways to encourage recreational investment along the key river corridors.

**Strategy 3.3:** Promote viable, diverse populations of native and valued species by reducing risks of fish kills and harm from invasive species.

**Action 3.3.1:** Reduce fish kills in Delta pumps by instituting diversion management measures by 2009, implementing near-term conveyance improvements by 2015, and relocating diversions.

**Action 3.3.2:** Control harmful invasive species at existing locations by 2012, and minimize or preclude new introductions and colonization of new restoration areas to non-significant levels.

**Strategy 3.4:** Restore Delta flows and channels to support a healthy Delta estuary.

**Action 3.4.1:** Charge the Department of Fish and Game with completing recommendations for in-stream flows for the Delta and high priority rivers and streams in the Delta watershed by 2012 and for all major rivers and streams by 2018.

**Action 3.4.2:** Develop and adopt management policies supporting increased diversion during wet periods, a joint effort of the State Water Resources Control Board, the Department of Fish and Game, the Department of Water Resources, and related federal agencies, to be completed by 2012.

**Action 3.4.3:** Adopt new State Water Resources Control Board requirements by 2012 to increase spring Delta outflow. Commence implementation no later than 2015.

**Action 3.4.4:** Adopt new State Water Resources Control Board requirements by 2012 to reintroduce fall outflow variability no later than 2015.

**Action 3.4.5:** Increase San Joaquin River flows between February and June by revising the State Water Resources Control Board's Vernalis flow objectives and the state and federal water

projects' export criteria. Revise the flow objectives and criteria no later than 2012 and commence implementation as soon as possible thereafter.

**Action 3.4.6:** Provide short-duration San Joaquin River pulse flows in the fall starting by 2015.

**Action 3.4.7:** Reconfigure Delta waterway geometry by 2015 to increase variability in estuarine circulation patterns.

**Strategy 3.5:** Improve water quality to meet drinking water, agriculture, and ecosystem longterm goals.

**Action 3.5.1:** Require the Central Valley Regional Water Quality Control Board to conduct three actions:

\_ Immediately re-evaluate wastewater treatment plant discharges into Delta waterways and upstream rivers and set discharge requirements at levels that are fully protective of human health and ecosystem needs.

\_ Adopt by 2010 a long-term program to regulate discharges from irrigated agricultural lands.

\_ Review by 2012 the impacts of urban runoff on Delta water quality and adopt a plan to reduce or eliminate those impacts.

**Action 3.5.2:** Relocate as many Delta drinking water intakes as feasible away from sensitive habitats and to channels where water quality is higher.

**Action 3.5.3:** Establish Total Maximum Daily Load programs by 2012 for upstream areas to reduce organic and inorganic mercury entering the Delta from tributary watersheds.

**Action 3.5.4:** Begin comprehensive monitoring of water quality and Delta fish and wildlife health in 2009.

## **Goal 4: Promote statewide water conservation, efficiency, and sustainable use**

**Strategy 4.1:** Reduce urban, residential, industrial, and agricultural water demand through improved water use efficiency and conservation, starting by achieving a statewide 20 percent per capita reduction in water use by 2020.

**Action 4.1.1:** Improve statewide water use efficiency and conservation.

**Action 4.1.2:** Reduce urban per-capita water demand through specific recommended actions.

**Action 4.1.3:** Ensure the most efficient use of water in agriculture.

**Strategy 4.2:** Increase reliability through diverse regional water supply portfolios.

**Action 4.2.1:** Modify the Water Recycling Act of 1991 to add a statewide target to recycle on the order of 1.5 million acre-feet of water annually by 2020.

**Action 4.2.2:** Enact legislation now to encourage local water agencies to at least triple the current statewide capacity for generating new water supplies through ocean and brackish water desalination by 2020.

**Action 4.2.3:** Request that the State Water Resources Control Board set goals by 2015 for infiltration and direct use of urban storm water runoff throughout the Delta watershed and its export areas.

**Action 4.2.4:** Request agencies to ensure that accurate and timely information is collected and reported on all surface water and groundwater diversions in California by 2012.

**Action 4.2.5:** Require that all water purveyors develop an integrated contingency plan by 2015 in case of Delta water supply curtailments or drought.

**Action 4.2.6:** Establish a regulatory framework that encourages efficient and integrated management of water resources at local, regional, and statewide levels, with a focus on specific actions.

## **Goal 5: Build facilities to improve the existing water conveyance system and expand statewide storage, and operate both to achieve the co-equal goals**

**Strategy 5.1:** Expand options for water conveyance, storage, and improved reservoir operations.

**Action 5.1.1:** Direct the Department of Water Resources and other allied agencies to further investigate the feasibility of a dual conveyance facility, building upon the Bay Delta Conservation Plan effort.

**Action 5.1.2:** Direct the Department of Water Resources, the Department of Fish and Game, and other allied agencies to recommend the size and location of new storage and conveyance facilities by the end of 2010. Develop a long-term action plan to guide design, construction, and operation, and present the recommendation and plan to the California Delta Ecosystem and Water Council for a consistency determination.

**Action 5.1.3:** Complete substantial development and construction of new surface and groundwater storage and associated conveyance facilities by 2020, with the goal of completing all planned facilities by 2030.

**Strategy 5.2:** Integrate Central Valley flood management with water supply planning.

**Action 5.2.1:** Change the operating rules of existing reservoirs to incorporate and reflect modern forecasting capabilities.

**Action 5.2.2:** Require the Department of Water Resources to immediately create a flood bypass along the lower San Joaquin River.

**Action 5.2.3:** Request that the Department of Water Resources encourage greater infiltration as part of watershed management planning.

## **Goal 6: Reduce risks to people, property, and state interests in the Delta by effective emergency preparedness, appropriate land uses, and strategic levee investments**

**Strategy 6.1:** Significantly improve levels of emergency protection for people, assets, and resources.

**Action 6.1.1:** Complete a Delta-wide regional emergency response plan by 2010 that establishes legally binding regional coordination.

**Action 6.1.2:** Immediately begin a comprehensive series of emergency management and preparation actions.

**Action 6.1.3:** Conduct a comprehensive analysis of the costs and benefits of highway protection strategies, and adopt a policy based on its findings by 2012.

**Action 6.1.4:** Complete a comprehensive analysis of the costs and benefits of infrastructure protection strategies. Adopt a policy based on its findings by 2012.

**Strategy 6.2:** Discourage inappropriate land uses in the Delta region.

**Action 6.2.1:** Immediately strengthen land use oversight of the Cosumnes/Mokelumne floodway and the San Joaquin/South Delta lowlands.

**Action 6.2.2:** Immediately strengthen land use oversight for Bethel Island, the city of Isleton, and Brannan-Andrus Island.

**Action 6.2.3:** Immediately prepare local plans for these five at-risk locations within the primary zone: Walnut Grove (including the residential area on Grand Island), Locke, Clarksburg, Courtland, and Terminous.

**Action 6.2.4:** Immediately form a landowner consortium to create a new land use strategy that fosters recreation, increases habitat, reverses subsidence, sequesters carbon, improves handling of dredged material, and continues appropriate agriculture on Sherman, Twitchell, and Jersey Islands.

**Strategy 6.3:** Prepare a comprehensive long-term levee investment strategy that matches the level of protection provided by Delta levees and the uses of land and water enabled by those levees.

**Action 6.3.1:** Require the Department of Water Resources, in cooperation with local Reclamation Districts and other agencies, to develop a comprehensive plan for Delta levee investments.

**Action 6.3.2:** Prioritize the \$750 million appropriated by Proposition 1E and Proposition 84 funds for the improvement of Delta levees, including in legacy towns.

**Action 6.3.3:** Require those preparing the comprehensive levee plan to incorporate the Delta Levees Classification Table to ensure consistency between levee designs and the uses of land and water enabled by those levees.

**Action 6.3.4:** Continue the existing Department of Water Resources levee subventions program until the comprehensive levee plan is completed.

**Action 6.3.5:** Vest continuing authority for levee priorities and funding with the California Delta Ecosystem and Water Council to ensure a cost-effective and sustainable relationship between levee investments and management of the Delta over the long term.

## **Goal 7: Establish a new governance structure with the authority, responsibility, accountability, science support, and secure funding to achieve these goals**

**Strategy 7.1:** Establish a new California Delta Ecosystem and Water Council as a policy making, planning, regulatory, and oversight body. Abolish the existing California Bay-Delta Authority, transferring needed CALFED programs to the California Delta Ecosystem and Water Council. Establish a new Delta Conservancy to implement ecosystem restoration projects, and increase the powers of the existing Delta Protection Commission.

**Action 7.1.1:** Establish a California Delta Ecosystem and Water Council to replace the Bay-Delta Authority and take over CALFED programs.

**Action 7.1.2:** Establish a California Delta Conservancy as early as possible in the 2009 legislative session.

**Action 7.1.3:** Strengthen the Delta Protection Commission through legislation.

**Action 7.1.4:** Require the California Delta Ecosystem and Water Council to create a Delta Science and Engineering Program and a Delta Science and Engineering Board by September 1, 2009.

**Action 7.1.5:** Improve the compliance of diversions water use with all applicable laws.

**Strategy 7.2:** Require the California Delta Ecosystem and Water Council to prepare a California Delta Ecosystem and Water Plan to ensure sustained focus and enforceability among state, federal, and local entities.

**Action 7.2.1:** Develop a legally enforceable California Delta Ecosystem and Water Plan.

**Action 7.2.2:** Institutionalize adaptive management through updates to the California Delta Ecosystem and Water Plan every five years.

**Action 7.2.3:** Charge the Delta Science and Engineering Board, with support of the Delta Science and Engineering Program, to develop a science-based adaptive management program to provide for continued learning of, and adaptation to, actions implemented by state, federal, and local agencies in the Delta.

**Strategy 7.3:** Finance the activities called for in the California Delta Ecosystem and Water Plan from multiple sources.

**Action 7.3.1:** Enact a series of principles regarding design of financing into legislation authorizing the California Delta Ecosystem and Water Council.

**Action 7.3.2:** Establish a base of revenues outside the state General Fund for the work of the California Delta Ecosystem and Water Council, the Delta Conservancy, the Delta Protection Commission, and related core activities of the Department of Fish and Game, the Department of Water Resources, and the State Water Resources Control Board.

**Action 7.3.3:** Find new revenue sources beyond the traditional bond funds or public allocations.

**Strategy 7.4:** Optimize use of the CALFED Record of Decision and Coastal Zone Management Act to maximize participation of federal agencies in implementation of the California Delta Ecosystem and Water Plan.

**Action 7.4.1:** Use existing authority under the CALFED Record of Decision to maximize participation of federal agencies in implementation of the Delta Vision Strategic Plan until the California Delta Ecosystem and Water Plan is completed.

**Action 7.4.2:** Prepare the California Delta Ecosystem and Water Plan according to guidelines of the Coastal Zone Management Act, in order to achieve ongoing federal consistency.

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## Appendix III: Submitted Stakeholder and Public Recommendations (Illustrative Only)

Through June 9, 2010, thirty-five individuals submitted recommendation on the Interim Plan to the DSC web site. All comments are posted on line at:

[http://www.deltacouncil.ca.gov/public\\_involvement/interim\\_delta\\_plan\\_public\\_comments.html](http://www.deltacouncil.ca.gov/public_involvement/interim_delta_plan_public_comments.html).

All recommendations will be included in the meeting packets of DSC members. The recommendations are being analyzed by consultants and staff for contribution to the Interim Plan. They will be considered in the next draft Interim Plan to be submitted to the Council in July 2010. This listing is illustrative of recommendations received.

1. The Council must undertake its own independent analysis of agency assumptions to ensure that the best available science is utilized in the Delta Plan
2. Conceptual alternatives for positive barrier low-flow fish screens on South Delta exports,
3. Address decline in salmon and steelhead
4. The Delta Protection Commission's Resource and Land Use Plan should inform the Interim Plan
5. Prepare a Management Plan for Sherman Island
6. Work closely with the Department of Fish and Game and the State Water Resources Control Board to develop recommended quantifiable biological objectives and goals to assist these agencies and the BDCP in the completion of tasks that the legislature has assigned to them
7. Delta Stewardship Council shall accept and use only verified correct data regarding all proposed near term actions and other Delta Plan projects
8. Strategic levee investments should be considerably strengthened
9. The Council should establish a procedure, within its interim plan, for adding projects to the list of interim actions. This procedure could be applied immediately to projects that are ready but for some reason were not included in the legislation
10. Develop a financing proposal to provide for the administrative costs of the Council
11. Develop protocols for appropriate cooperation/consultation with state and federal agencies in the development/implementation of the Interim Delta Plan
12. Consider recommendations of the Ecosystem Restoration Program
13. Funding for Delta governance, projects, programs and studies should be a key component of the Interim Plan. Current and long term funding for each segment of the governance structure with linkages to all the legislatively mandated efforts should be included
14. McCormack-Williamson Tract Flood Control and Ecosystem Restoration Improvements
15. Expedite efforts for a multi-agency coordinated emergency response action plan in the event of levee failure to protect lives, personal injury and disease. Local and state emergency response agencies should be involved, using state and local funding

16. There are a number of strategic, high priority levee improvement projects that will clearly provide protection in the short and long term; among them are the western Delta islands and levees that protect important infrastructure and Delta communities.
17. Coordinate & Integrate Flood Management
18. Compensation (for economic losses in the Delta) must include adequate, reliable, and permanent financing mechanisms (i.e. an endowment, annuity, or dedicated stream of revenue), especially for maintenance of habitat properties, neighboring land impacts, and for payment of all local in lieu taxes and assessments due to the local government agencies
19. Thorough collaboration between the council and local stakeholders is critical
20. Protect “Delta as an evolving place” and integrate council work with efforts of local governments
21. Analyze cumulative impacts of projects
22. Give the Delta Corridors Plan full consideration
23. Focus on promoting water recycling and securing needed funding
24. Promote regional sustainability in water supplies
25. Strive to accomplish the coequal goals
26. The Delta must be managed for multiple species and address multiple causes of decline
27. Development of Delta Disaster Recovery Plan
28. Implementation of Delta diversion management and enforcement
29. Question “rapid science” on Two-gates project
30. Programs to encourage farmers to switch to crops needing less water, eliminate farming on selenium-filled land and eliminate reselling water rights should be added to this plan

## **Appendix IV. Preliminary Draft Language for Sections 85020 (c), (d), (e), (f), and (g) (Illustrative Only)**

These preliminary draft sections will be reviewed by the Council as part of subsequent drafts of the Interim Plan in July and August 2010. These draft sections are under development and may be revised prior to discussion.

### **Section 85020(c): Restore the Delta ecosystem, including its fisheries and wildlife, as the heart of a healthy estuary and wetland ecosystem**

#### Background

The Delta and Suisun Marsh ecosystem, along with the San Francisco Bay system to which it is connected, forms the largest estuary on the west coast of North America. Because of its size, location, and unusual configuration, it is a highly distinctive ecosystem that is habitat for hundreds of fish, bird, and animal species. It is the only aquatic passageway from the Pacific Ocean through the Coast Range and into the rivers and streams of the valley and the Sierra Nevada.

The Delta ecosystem has been dramatically altered from its pre-Gold Rush conditions by many factors, including:

- The levee system and the ecological changes associated with the levees
- Land subsidence;
- Changes in water flow pattern because of dams and water project operations
- Proliferation of invasive species
- Recent, dramatic crashes in several pelagic (i.e., open-water) fish species
- Reductions in physical habitat diversity caused by construction of cross-cut canals
- Entrainment of fish, eggs, and larvae in pumps and at other water diversion points
- Poor water quality, including the presence of toxins, pollutants, and low dissolved oxygen levels, and changes in salinity patterns
- Changes and reductions in habitat vital to the birds, mammals, and reptile and amphibious species that rely on the Delta

Additionally, sudden events such as an earthquake or flood could dramatically alter the physical habitat of the Delta by destroying levees, with unpredictable effects. More gradual changes, such as sea level rise, rising water temperatures due to climate change, or additional invasions of exotic species, also could transform the current ecosystem in ways that are difficult to anticipate or manage.

#### Basic Legal Authority

Section 85020 (c) identifies the need to “restore the Delta ecosystem, including its fisheries and wildlife, as the heart of a healthy estuary and wetland ecosystem” as one of the key policy objectives.

Section 85302 details the specific mandate that the Delta Plan must fulfill with respect to the Delta ecosystem, including “measures that promote all of the following characteristics of a healthy Delta ecosystem” (Section 85302 (c)):

1. Viable populations of native resident and migratory species
2. Functional corridors for migratory species
3. Diverse and biologically appropriate habitats and ecosystem processes
4. Reduced threats and stresses on the Delta ecosystem
5. Conditions conducive to meeting or exceeding the goals in existing species recovery plans and state and federal goals with respect to doubling salmon populations

Additionally, Section 85302 (e) identifies “subgoals and strategies for restoring a healthy ecosystem,” which are:

1. Restore large areas of interconnected habitats within the Delta and its watershed by 2100.
2. Establish migratory corridors for fish, birds, and other animals along selected Delta river channels.
3. Promote self-sustaining, diverse populations of native and valued species by reducing the risk of take and harm from invasive species.
4. Restore Delta flows and channels to support a healthy estuary and other ecosystems.
5. Improve water quality to meet drinking water, agriculture, and ecosystem long-term goals.
6. Restore habitat necessary to avoid a net loss of migratory bird habitat and, where feasible, increase migratory bird habitat to promote viable populations of migratory birds.

SBX7 1 also contains several other provisions that are important to the management of the Delta ecosystem, including:

- The enumeration of the powers of the Delta Conservancy (Sections 32360 – 32381)
- The requirement to the SWRCB to “develop new flow criteria for the Delta ecosystem necessary to protect public trust resources” (Section 85086) and to “submit to the Legislature a prioritized schedule...to complete instream flow studies for the Delta and for high priority rivers and streams in the Delta watershed...by 2012, and for all major rivers and streams outside the Sacramento River watershed by 2018” (Section 85087)
- The conditions under which the point of diversion for the state and federal water project may be moved (Sections 85088 – 85089), and under which the BDCP may be incorporated into the Delta Plan (Section 85320)

### Performance Measures and Targets

The Delta Vision Strategic Plan (2008) provides multiple performance measures regarding progress in ecosystem restoration, organized around five policy strategies as follows:

- Restore interconnected habitats:
  - ✓ Acres of restored tidal marsh, Delta (not accounting for sea level rise)

- ✓ Acres of restored tidal marsh, Suisun (not accounting for sea level rise)
- ✓ Acres of restored shallow open water habitat in the Delta
- ✓ Acres of active floodplain
- ✓ Acres of seasonal wetlands and grasslands
- ✓ Acres of fall open water habitat between 0.5 to 6 parts per thousand salinity
- ✓ Percent of aquatic food web support by diatoms
- ✓ Number and geographic distribution of large habitat complexes incorporating two or more interconnected habitat types
- Restore migratory corridors along selected Delta river channels:
  - ✓ Number of functional migratory corridors per river system (Sacramento, San Joaquin, Mokelumne/Cosumnes)
  - ✓ River miles connected to adjacent floodplain, tidal marsh, and shallow open water habitats
  - ✓ Distribution of large habitat complexes along estuarine gradients and with extensive internal connectivity
  - ✓ Incidents of migratory passage delays, blockages, or mortalities due to physical barriers, low dissolved oxygen, high temperatures, or toxics
  - ✓ Dissolved oxygen concentrations in anadromous fish migratory corridors at all times
  - ✓ Percentage of adult salmon, steelhead, and sturgeon surviving migration through Delta
  - ✓ Percentage of juvenile salmon, steelhead, and sturgeon surviving migration through Delta
  - ✓ Miles of habitat maintained with suitable water temperatures, flows, and habitat conditions for spawning and rearing of anadromous species
- Reduce risks of fish kills and harm from invasive species:
  - ✓ Number of new, uncontrolled harmful invasive species
  - ✓ Percentage of 1995-2000 average abundance and distribution of invasive clams (*Corbula* and *Corbicula*)
  - ✓ Percentage of 1990-2000 average abundance and distribution of Brazilian waterweed (*Egeria*)
  - ✓ Abundance of warm water centrarcid fish species (such as large mouth bass)
  - ✓ Proportion of population of resident and migratory species (as larvae, juveniles or adults) taken at exports particularly when abundances are low

- ✓ Quantity of primary and secondary production taken at exports
- ✓ Percentage of outmigrating juvenile salmonid population entrained at Delta diversions
- ✓ Delta smelt and longfin smelt entrained at Delta diversions
- ✓ Ducks sustained at peak wintering abundance in Delta and Suisun Marsh combined
- Restore Delta flows and channels:
  - ✓ February to June Delta outflow meeting target as percent of unimpaired runoff, with greater percent increase at lower flows and lesser percent increase at higher flows
  - ✓ Net downstream flow on San Joaquin River at Jersey Point February 1 to June 30
  - ✓ Number of 7- to 14-day duration fall flow pulses on San Joaquin River Vernalis reaching adopted target between September and November each year
  - ✓ Number of months between August and November with Delta outflow reaching targets in below normal, above normal, and wet years
  - ✓ Percentage of achievement of the state and federal “doubling goal” for wild, fall-run Chinook salmon

In the Final Interim Plan, the Council may endorse these and other performance measures and targets that reflect priorities for immediate action in the interim, until the Delta Plan is adopted. For example, the Council may consider:

- ✓ Completion of evaluations and/or construction of near-term actions and ecosystem restoration projects such as Two-Gates, Threemile Slough, Dutch Slough, and Meins Island
- ✓ Development and acceptance of flow criteria developed by DFG

The Council will also work with the Independent Science Board to develop specific, measurable performance measures which are based on the best available science.

#### Current Status and Trends Toward Meeting Performance Measures

This section will be developed and submitted for consideration in the Second Draft Interim Plan.

#### Best Available Science

This section will be developed with assistance from the Independent Science Board and submitted for consideration in the Second Draft Interim Plan.

### **Section 85020(d) Promote statewide water conservation, water use efficiency, and sustainable water use (Illustrative Only)**

#### Background

Water conservation and water use efficiency are two terms for using water more efficiently to yield net water savings. The reduction in the amount of water used per capita or per unit of crop produced provides water for other uses and/or results in less diversion from the water source. Improvements in

water use efficiency both within the Delta watershed and within the service area using water from the Delta make water use more sustainable. Over the past few decades, increased emphasis has been placed on improving water use efficiency as part of water portfolios for both agricultural and urban users.

However, analyses in the *Delta Vision Strategic Plan (2008)* found success in selected areas, but little progress when judged statewide, reaching these conclusions:

The state's water supply is not growing, but the demand continues to rise. Although there is evidence of more efficient water use in both the urban and agricultural sectors, efficiency gains continue to be offset by the growing demand for water.

Reliable information on water use in California is surprisingly sparse though better information is available on urban use than agricultural, the far bigger of the two uses. The most recent estimates provided by the Department of Water Resources (DWR) indicate that in an average year,<sup>5</sup> urban areas use is about 8.9 million acre-feet, and agriculture uses about 31 million acre-feet, statewide. Over the last 40 years, overall urban water use has doubled while estimated agricultural water use has remained unchanged. During this same period, agricultural production increased. In the last 20 years, agricultural production increased 11 percent.

In the urban sector, statewide per capita water use in 1950, prior to the State Water Project (SWP), averaged 168 gallons daily. By 1972, per capita use averaged 220 gallons daily and has remained unchanged through today. This trend indicates that despite recent technological improvements in toilets, showers, and faucets, increases in water used for landscaping, pools, and industry have offset indoor efficiency gains, particularly in the driest areas of the state. Urban per capita water use in the Central Valley regions of the state is now nearly twice that of the North Coast and San Francisco Bay regions.<sup>6</sup>

Although per capita water use has been steady, overall urban water use has doubled over the last 40 years as a result of growth in several urban sectors including population, landscape irrigation, and industry. DWR estimates that, under current population and use trends, overall urban use will increase 33 percent by 2030.<sup>7</sup>

In the agricultural sector, technological advancements have improved water use efficiency in some parts of the state. There is also evidence that farmers are gaining more value from water: between 1980 and 2000, inflation adjusted gross value per acre-foot of applied water increased by 11 percent, due in part to shifts to higher-value crops such as orchards and vineyards. However, despite increases in efficiency and value, average agricultural applied water use has remained unchanged in the last 40 years. Shifts to higher-value crops have also reduced land available to fallow, reducing management flexibility under conditions of water shortage.

Important for California water policy makers, there is no evidence that aggregate water use for agriculture is decreasing.<sup>8</sup> Although DWR has predicted that agricultural water use will decrease over

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<sup>5</sup> . DWR. California Water Plan Update 2005. Bulletin 160-05. 2005. An "average year" is approximated by water use in 2000, when precipitation was 98 percent of average over recorded history.

<sup>6</sup> . DWR and California Department of Food and Agriculture "Current Water Use Efficiency Policy and Programs and Estimate of Agricultural and Urban Water Use." Report prepared for the Delta Vision Task Force, 2008.

<sup>7</sup> . ( 1) DWR and California Department of Food and Agriculture. "Current Water Use Efficiency Policy and Programs and Estimate of Agricultural and Urban Water Use." Report prepared for the Delta Vision Task Force, 2008. (2) Groves, Matyac, and Hawkins. "Quantified Scenarios of 2030 California Water Demand." Prepared for the California Water Plan Update 2005.

<sup>8</sup> . DWR. Working draft background documents. Water Plan Update 2009.

the next 20 years as a result of efficiency gains, fallowing, and urbanization, current water use trends indicate that with no clear policy direction, the agricultural community will continue to use the same amount of water annually (Figure 1-3).

Overall, these data reveal the challenges of providing water for California: population and economic activity increases result in growing demand for water. Despite some evidence of efficiency improvements, more water must be conserved to meet tomorrow's demands, as well as to address today's water shortages and fish declines.

The water package passed in November 2009, SB7X 7 creates a framework for future planning and actions by urban and agricultural water suppliers to reduce California's water use. This bill specifies a number of water use reduction targets and interim targets and plans for both urban and agricultural water suppliers and users, such as:

- Section 10608.16 requires that the state achieve a 20-percent reduction in urban per capita water use in California on or before December 31, 2020 and reduce urban per capita water use by at least 10 percent on or before December 31, 2015.
- Section 10608.20 requires that each urban retail water supplier develop urban water use targets and an interim urban water use target by July 1, 2011.
- Section 10608.48(a) requires that an agricultural water supplier implement specified efficient water management practices on or before July 31, 2012.
- Section 10608.64 requires that DWR "in consultation with the Agricultural Water Management Council, academic experts, and other stakeholders...develop a methodology for quantifying the efficiency of agricultural water use" and report to the legislature by December 31, 2011.
- Section 10820 requires agricultural water management plans: "An agricultural water supplier shall prepare and adopt an agricultural water management plan in the manner set forth in this chapter on or before December 31, 2012, and shall update that plan on December 31, 2015, and on or before December 31 every five years thereafter."

#### Basic Legal Authority

Section 85300(a) requires that, "In developing the Delta Plan, the council shall consider each of the strategies and actions set forth in the Strategic Plan and may include any of those strategies or actions in the Delta Plan." The Delta Vision Strategic Plan addresses water conservation in Goal 4, including two strategies, nine action items, and six performance measures. Those strategies, action items, and performance measures are incorporated here for consideration, as required in Section 85300(a).

The basic legal authority from SBX7 1 for this element is Section 85020 of the California Water Code, which includes "(d) Promote statewide water conservation, water use efficiency, and sustainable water use" as an objective for management of the Delta. In addition, SBX7 1 makes other provisions:

- Section 85021 states, "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 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."

- Section 85303 states, “The Delta Plan shall promote statewide water conservation, water use efficiency, and sustainable use of water.”

There is also one early action item related to this policy objective:

- Section 85086(a) instructs the SWRCB to establish an effective system of Delta watershed diversion data collection and public reporting by December 31, 2010.

### Performance Measures and Targets

Section 85308 requires that the Delta Plan “(b) Include quantified or otherwise measurable targets associated with achieving the objectives of the Delta Plan.” Water conservation performance measures identified in the Delta Vision Strategic Plan (2008) include the following:

- ✓ Water use per capita, relative to 2008 baseline, by hydrologic region
- ✓ Water use per unit industrial economic output, relative to 2008 baseline, by hydrologic region
- ✓ Water use per unit agricultural economic output, relative to 2008 baseline, by hydrologic region
- ✓ Length of time, at average rates of use over a three-year period, that a given water district’s alternative and stored supplies will last if there is a catastrophic outage of the Delta
- ✓ Amount of water in accessible surface and groundwater storage compared to 2008 baseline
- ✓ Amount of water exported from the Delta that is recycled or re-infiltrated (excluding water lost to direct consumption by crops and people, or evapotranspiration) compared to 2008 baseline

In the Final Interim Plan, the Council will endorse other performance measures and targets that reflect priorities for immediate action in the interim, until the Delta Plan is adopted. The Council may consider, for example:

- ✓ Development of regional self-sufficiency standards
- ✓ Progress toward and establishment of a Delta watershed diversion data collection and public reporting system by SWRCB
- ✓ Development of statewide and regional strategies to reduce reliance on the Delta in meeting California’s future water supply needs
- ✓ Urban retail water suppliers that have developed interim urban water use targets by July 1, 2011
- ✓ Progress of DWR and Agricultural Water Management Council toward developing methodology for quantifying efficiency of agricultural water use by December 31, 2011
- ✓ Agricultural water suppliers that have adopted agricultural water management plans in appropriate manner by December 31, 2012

The Council will also work with the Independent Science Board to develop specific, measurable performance measures which are based on the best available science.

### Current Status and Trends Toward Meeting Performance Measures

This section will be developed and submitted for consideration in the Second Draft Interim Plan.

### Best Available Science

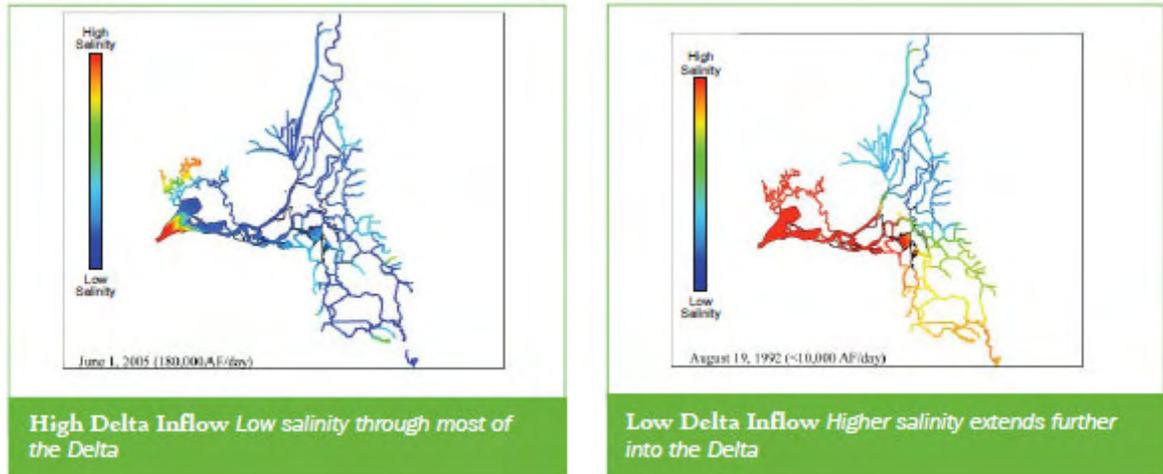
This section will be developed with assistance from the Independent Science Board and submitted for consideration in the Second Draft Interim Plan.

## **Section 85020(e): Improve water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta (Illustrative Only)**

### Background

Delta water quality is affected by upstream runoff, waste discharges, tidal action, water circulation, sea water intrusion, legacy contaminants, and even species that filter nutrients from the water. A complicating issue with Delta water quality is that ecosystem, agricultural, and urban water quality needs are not always the same. Other issues include:

1. Water from approximately 40 percent of California drains into San Francisco Bay carrying with it pollutants from point and nonpoint sources. Up to 40,000 metric tons of at least 65 different pollutants enter the Bay annually.
2. The Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary establishes objectives for the protection of the estuary's beneficial uses from the effects of salinity (from saltwater intrusion and agricultural drainage) and water project operations (flows and diversions). This plan supplements other water quality control plans and policies adopted by the State Water Resources Control Board and the Central Valley and San Francisco Regional Boards.
3. Elevated levels of contaminants adversely affect water-oriented recreation uses and impair Bay fish, other aquatic organisms, and wildlife. The state has issued health advisories recommending limits on human consumption of fish from the Bay and has had to close beaches because of water pollution.
4. Water quality varies significantly throughout the Delta due to the locations of waste discharge, tidal action, and water circulation in Delta channels.
5. Salinity enters the Delta from the tides and from return flows from agricultural lands, principally in the San Joaquin Valley. Prior to the construction of today's water supply and flood control facilities, salinities were lower in the winter and spring and higher in the summer and fall. Delta salinity levels are mandated by water quality control regulations. Some evidence indicates that the current (less variable) salinity regime may favor invasive species to the detriment of native species. Small amounts of salt in urban supplies can negatively affect consumer perception and acceptance of tap water. Slightly higher salinities decrease crop yields. Increasing salinity in both agricultural and urban water decreases how the water can be used and, at too high a level, can make the water unusable. While the ecosystem may benefit from more variability in the salinity, the water diversions for agricultural and urban uses rely upon a more constant low level salinity. The bromide in seawater is one contributor to disinfection byproducts in treated drinking water.



6. The California Water Plan Update 2009 estimates that the Sacramento River Hydrologic Region provides over 2 million tons of salt to the Delta and the San Joaquin River supplies about 1 million tons of salt. The California Aqueduct exports about 1 million tons of salt from the Delta and the Delta Mendota Canal exports about 900,000 tons of salt.
7. Levee failures can significantly increase Delta salinity as salt water from the Bay flows into the Delta to flood Delta islands. Depending on the timing and extent of failures, Delta water can be unusable for in-Delta and export uses until repairs can be made and high salinity water flushed from the Delta. In some cases stored water in upstream reservoirs may be used to help flush the Delta of salt, but those operations affect water supply. The increase in salinity can also drastically alter conditions in the ecosystem.
8. Mercury can be found throughout the Delta as a result of natural occurrence in the Coast Range and historical upstream mining activities. Mercury accumulates in the food chain. The entire Delta is on the State Water Resources Control Board (SWRCB) list for impaired water bodies for mercury.
9. Pesticides and herbicides, including insecticides, fungicides, and other substances used to prevent, destroy, or repel pests, are widely used in the Delta and its watersheds and are being investigated as possible contributors to pelagic organism decline.
10. Dissolved Oxygen depletion on the San Joaquin River near Stockton may impede passage of fall-run salmon migrating upstream to spawn. Relatively low river flows, algae growth fueled by high nutrient concentrations, waste discharges, and the configuration of the Stockton Deep Water Ship Channel all contribute to episodes of oxygen depletion in this part of the Delta. Some seasonal water discharge from managed wetland and possibly other sources has been associated with harm to aquatic resources in the tidal waters of Suisun Marsh, due to its low dissolved oxygen and high biological oxygen demand levels. This water, commonly referred to as "blackwater," has also been associated with elevated methylmercury levels. A study sponsored by the SWRCB will evaluate a range of modified managed wetland practices aimed at reducing blackwater discharge.
11. Organic Carbon is essential for aquatic life. However, some of the disinfection practices used to kill harmful pathogens in drinking water treatment plants can react with some forms of organic

carbon to produce potentially carcinogenic byproducts. This may lead to conflicts between ecosystem restoration and drinking water quality objectives.

12. Ongoing studies are being conducted to determine if nutrient loads (such as nitrogen) from upstream dischargers may be affecting algae at the base of the food web support system for Delta fish.

### Basic Legal Authority

The basic legal authority from SBX7 1 for this element is Section 85020, which includes “(e) Improve water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta” as an objective for management of the Delta. In addition, SBX7 1 makes other amendments or additions for risk reduction in the following code:

- Section 85022 of the California Water Code includes fundamental goals for managing land use in the Delta, “(d) ... (6) Improve water quality to protect human health and the environment consistent with achieving water quality objectives in the Delta.”
- Section 85302 states, “(d) The Delta Plan shall include measures to promote a more reliable water supply that address all of the following: ... (3) Improving water quality to protect human health and the environment.”
- Section 85302 also states, “(e) The following subgoals and strategies for restoring a healthy ecosystem shall be included in the Delta Plan: ... (5) Improve water quality to meet drinking water, agriculture, and ecosystem long-term goals.”

### Performance Measures and Targets

Water quality performance measures identified in the Delta Vision Strategic Plan (2008) include the following, starting with six performance measures included under ecosystem restoration (Goal 3):

- ✓ Percentage of time that contaminants or their precursors meet, or are better than, water quality targets
- ✓ Pathogen concentrations at Delta drinking water intakes
- ✓ Net levels of salinity in major groundwater aquifers
- ✓ Number of nuisance growths of algae or aquatic plants in the Delta or water project facilities
- ✓ Concentrations of contaminants in urban runoff and agricultural drainage flowing into the Delta
- ✓ Toxicity to aquatic life using standard species and methods
- ✓ Salinity variability between fresh to brackish conditions during periods necessary to meet life history requirements of broad range of desirable aquatic species
- ✓ Number of days per year water temperature exceeds life history requirements for broad range of desirable aquatic species
- ✓ Number, duration, and areal extent of incidences during which dissolved oxygen levels drop below regulatory standards
- ✓ Extent of areas listed as low dissolved oxygen impaired water bodies on RWQCB Section 303(d) list

- ✓ Number, duration, and areal extent of incidences during which pH falls outside regulatory standards
- ✓ Concentration of methyl mercury in Delta water and sentinel species compared to 2008 baseline and Water Quality Control Plan standards
- ✓ Concentration of selenium in San Joaquin River, Delta waters and sentinel species compared to 2008 baseline and Water Quality Control Plan standards
- ✓ Concentration of ammonia in Delta waters compared to 2008 baseline and Water Quality Control Plan standards
- ✓ Number of new contaminants added to RWQCB Section 303(d) list
- ✓ Percentage of time that contaminants or their precursors meet, or are better than, water quality targets

In the Final Interim Plan, the Council may endorse these and other performance measures and targets that reflect priorities for immediate action in the interim, until the Delta Plan is adopted. For example, the Council may consider:

- ✓ Development of a plan to address nitrogen loading in the Delta to the extent it affects human health and the environment

The Council will also work with the Independent Science Board to develop specific, measurable performance measures which are based on the best available science.

#### Current Status and Trends Toward Meeting Performance Measures

This section will be developed and submitted for consideration in the Second Draft Interim Plan.

#### Best Available Science

This section will be developed with assistance from the Independent Science Board and submitted for consideration in the Second Draft Interim Plan.

### **Section 85020(f): Improve the water conveyance system and expand statewide water storage (Illustrative Only)**

#### Background

This section will be developed and submitted for consideration in the Second Draft Interim Plan.

#### Basic Legal Authority

The basic legal authority from SBX7 1 for this policy objective is addressed in several provisions of the California Water Code.

Section 85004 states that the "Legislature finds and declares all of the following:

- (a) The economies of major regions of the state depend on the ability to use water within the Delta watershed or to import water from the Delta watershed. More than two-thirds of the residents of the state and more than two million acres of highly productive farmland receive water exported from the Delta watershed.
- (b) Providing a more reliable water supply for the state involves implementation of water use efficiency and conservation projects, wastewater reclamation projects, desalination, and new and improved infrastructure, including water storage and Delta conveyance facilities."

Section 85020 (f) identifies the need to "...improve the water conveyance system and expand statewide water storage" as one of the key policy objectives.

Section 85304 states that the "Delta Plan shall promote options for new and improved infrastructure relating to the water conveyance in the Delta, storage systems, and for the operation of both to achieve the coequal goals."

Section 85302 (b)(2) states that the BDCP shall not be incorporated into the Delta Plan unless the BDCP environmental documentation evaluates a "reasonable range of Delta conveyance alternatives, including through-Delta, dual conveyance, and isolated conveyance alternatives and including further capacity and design options of a lined canal, an unlined canal, and pipelines" (Section 85302 (b)(2)(B); and "resilience and recovery of Delta conveyance alternatives in the event of catastrophic loss caused by earthquake or flood or other natural disaster" (Section 85302 (b)(2)(F)).

#### Performance Measures and Targets

Performance measures for improvement of water conveyance, storage, and improved reservoir operations identified in the Delta Vision Strategic Plan (2008) include the following:

- ✓ Achievement of new conveyance and storage system to support the co-equal goals
- ✓ Annual probability of a catastrophic interruption of Delta conveyance system
- ✓ Amount of water in accessible surface and groundwater storage compared to 2008 baseline
- ✓ Integration of Central Valley flood management and water supply planning to increase annual yield from major reservoirs, and increase flood conveyance capacity on major rivers leading into the Delta

In the Final Interim Plan, the Council may endorse these and other performance measures and targets that reflect priorities for immediate action in the interim, until the Delta Plan is adopted. For example, the Council may consider:

- ✓ Development of a catastrophic failure emergency plan for the Delta levee and canal conveyance system
- ✓ Progress toward completion of the Bay Delta Conservation Plan

The Council will also work with the Independent Science Board to develop specific, measurable performance measures which are based on the best available science.

#### Current Status and Trends Toward Meeting Performance Measures

The Delta provides a wide-range of water related benefits to all of California from in-stream, riparian, and tidal marsh ecosystem habitat; drinking water supplies to over 25 million California residents; and

irrigation water supplies for lands in the Central Valley, South Bay Area, Central Coast, and Southern California.

Over the past 150 years, demands for water and land resources have become more competitive between ecosystem resources, agricultural users, municipal and industrial users, power generators, and flood management operations in the Delta watershed. Prior to development of water resources facilities, anadromous fish were attracted upstream during storm events from fall through the spring. The storm flows also provided pulse flows to move fish downstream from the upper reaches of the streams and high flows to reduce salinity intrusion into the Delta. Development of water storage and conveyance facilities modified the flow patterns by shifting peak river flows from fall through spring months to summer months. Construction of levees eliminated many wetland and shallow water zones where spawning and rearing of estuarine species occurred. Levee maintenance programs also eliminated riparian vegetation that provided shade for temperature control and protection from ultraviolet radiation. Insects that lived in the vegetation and fell into the water provided food for the fish. The vegetation also provided food and habitat for many different types of wildlife. These changes affected anadromous fish species and Delta water quality patterns. Implementation of SWP and CVP pumping plants in the Delta also changed flow patterns and direction in the western Delta and San Joaquin River system.

The changes in aquatic habitat and water quality have led to regulatory requirements to protect threatened and endangered species listed under the listed federal and state endangered species acts. The requirements have restricted both quantity and timing of diversions by the SWP and CVP South Delta intakes, especially when anadromous fish and estuarine fish are present near the intakes near the Old River system of the San Joaquin River. As the listed aquatic species continue to decline, as previously discussed, the regulatory requirements have continued to reduce the amount of water available for local and SWP and CVP water supplies.

Projections for climate change in the next 50 years indicate that temperatures and sea levels will rise throughout California. These changes could require additional water supplies for the ecosystem and agricultural water demands. The sea level rise will increase salinity intrusion into the Delta which will require additional water released from reservoirs to maintain freshwater areas in the Delta.

Some climate change projections indicate the presence of more frequent and intense storm events. These conditions in conjunction with the aging levee conditions increase the risk of levee failure, especially during storm and seismic events. Massive levee failures would be difficult to repair, and cause saltwater intrusion into the Delta that could only be reversed over a long-period of time using high volumes of freshwater releases from upstream reservoirs or storm events. Increased salinity would substantially degrade the Delta aquatic habitat, Delta water supplies used by local communities and agriculture, and quality of water used by SWP and CVP water users.

Additional storage, both upstream and downstream of the Delta, and conveyance around the Delta would provide flexibility for water operations to provide a reliable water supply for the ecosystem and agricultural and municipal and industrial water users. Upstream storage could provide benefits for storage of flows during flood events that could later be released to meet Delta inflow and outflow requirements and local and statewide water supplies. Downstream storage could provide flexibility to store water that would be diverted from the upstream area and/or the Delta during high flow events for later use. Currently, many areas that use SWP or CVP water do not have adequate water storage and therefore, water demands may not be met if pumping restrictions are in place in the Delta. Additional conveyance also could be used to allow for diversions during periods when anadromous and/or

estuarine fish are present in the South Delta or water quality conditions are restricted to protect the local water users and the SWP and CVP water users.

The analyses in the Delta Vision Strategic Plan (2008) recommended two strategies to achieve coequal goals: Expand options for water conveyance, storage, and improved reservoir operations (Strategy 5.1) and

The recommendations proposed a dual conveyance facility using a combination of continued use a through-Delta concept that conveys water to the South Delta intakes and isolated facility that would convey water from the Sacramento River to the SWP and CVP pumping plants. The recommendations also included additional storage. Together, improved conveyance and storage facilities would provide a flexible approach that would result in water supply and quality reliability and sustainability for both the ecosystem and agricultural, municipal, and industrial water users.

### Best Available Science

This section will be developed and submitted for consideration in the Second Draft Interim Plan.

## **Section 85020(g): Reduce risks to people, property, and state interests in the Delta by effective emergency preparedness, appropriate land uses, and investments in flood protection (Illustrative Only)**

### Background

The risks to people, property, and state interests in the Delta stem primarily from potential failures of levees that protect land areas and define water channels within the Delta. Levee failures can occur during high Delta water inflow, earthquakes, and even undetected levee problems during normal conditions. Levee failures not only create direct damage and potential loss of life from flooding, but also change the configuration (water and land) of the Delta and mixing of fresh water with salt water. These temporary or long-term changes influence water supply, the ecosystem, and other Delta uses. Climate change is likely to compound the risk of levee failures from increases in storm runoff to the Delta and from a rise in sea level that will place more pressure on Delta levees. In addition, uncertainties about future regulations for Delta water management for ecosystem and consumptive uses and water quality increases risks for water users within the Delta watershed and those relying on water exported from the Delta.

### Basic Legal Authority

Section 85020 includes “(g) Reduce risks to people, property, and state interests in the Delta by effective emergency preparedness, appropriate land uses, and investments in flood protection” as an objective for management of the Delta. In addition, SBX7 1 makes other amendments or additions for risk reduction in the following codes:

- Section 29702 includes “(d) Improve flood protection by structural and nonstructural means to ensure an increased level of public health and safety.”
- Section 29759 instructs the DPC to prepare the economic sustainability plan, including “(b)(1) Public safety recommendations, such as flood protection recommendations.”
- Section 85305 states, “(a) The Delta Plan shall attempt to reduce risks to people, property, and state interests in the Delta by promoting effective emergency preparedness, appropriate land uses, and strategic levee investments. (b) The council may incorporate into the Delta Plan the

emergency preparedness and response strategies for the Delta developed by the California Emergency Management Agency pursuant to Section 12994.5.”

SBX7 1 also identifies possible early actions related to this policy objective, including:

- Develop and implement a strategy to engage federal agencies (85082) including building off the Interim Federal Action Plan for the California Bay-Delta (December 22, 2009), Section IV.B (pages 22-23).
- Coordinate with and support DWR, in consultation with the U.S. Army Corps of Engineers and the Central Valley Flood Protection Board, in preparation of a plan to coordinate flood and water supply operations of the SWP and CVP (85309).
- Section 85306 states, “The council, in consultation with the Central Valley Flood Protection Board, shall recommend in the Delta Plan priorities for state investments in levee operation, maintenance, and improvements in the Delta, including both levees that are a part of the State Plan of Flood Control and nonproject levees.”

### Performance Measures and Targets

Section 85308 requires that the Delta Plan “(b) Include quantified or otherwise measurable targets associated with achieving the objectives of the Delta Plan.” Risk performance measures identified in the Delta Vision Strategic Plan (2008) include the following:

- ✓ Mileage of designated state highways secured against catastrophic failure by adequate levee improvement, elevation, or other means
- ✓ Completion of response plans and regular scenario “gaming” and full-scale response drills
- ✓ Number of people living in legal Delta in areas with less than 200-year flood protection
- ✓ Number of structures in deep floodplains (more than 10 feet below sea level or river flood stage) that are not protected by 200-year levees
- ✓ Number of people living and working in deep floodplains (more than 10 feet below sea level or river flood stage) that are not protected by 200-year levees
- ✓ Number of miles of levees that achieve compatibility between levee designs and land use, ecosystem, and water supply values protected by the levees.

In the Final Interim Plan, the Council may endorse these and other performance measures and targets that reflect priorities for immediate action in the interim, until the Delta Plan is adopted. For example, the Council may consider:

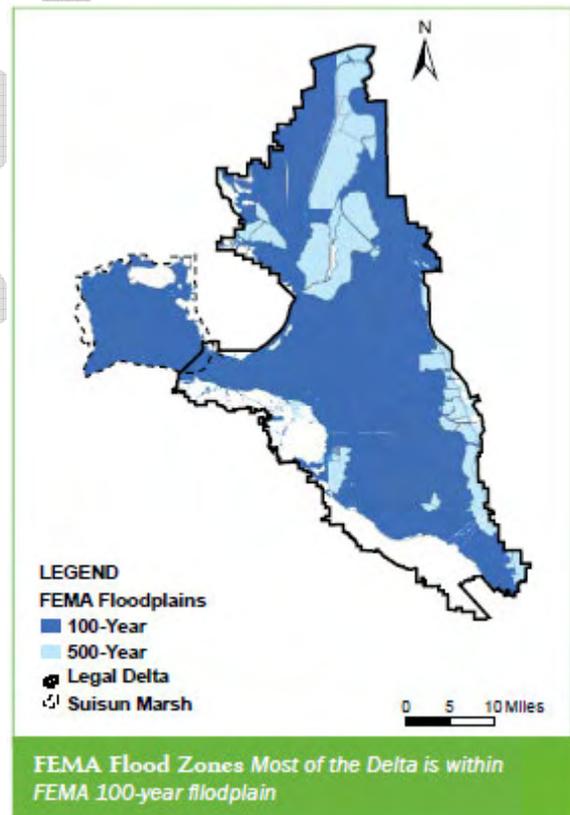
- ✓ Restrictions on development in the Primary Zone
- ✓ Establishment of priority system for levee investments
- ✓ Development of a catastrophic failure emergency plan for the Delta levee system

The Council will also work with the Independent Science Board to develop specific, measurable performance measures which are based on the best available science.

### Current Status and Trends Toward Meeting Performance Measures

Risk is defined as the product of the probability of an event occurring and the consequences of the event. The Delta Risk Management Strategy (DRMS)(DWR, 2008) is the most recent estimation of the risks associated with Delta levee failures. While DRMS was based on available data with no new subsurface geotechnical investigations, it provides an indication of the severity of levee failures that could be expected from high inflows to the Delta, seismic events, and unexpected “sunny day” failures. Some pertinent facts that influence risk of Delta levee failures are as follows:

- The main flood management facilities include about 1,100 miles of levees in the Delta and about 230 miles of levees in the Suisun Marsh and the Yolo Bypass.
- Because the Delta is an estuary with so much land below sea level, water is constantly exerting pressure against the levees. Therefore, levees can fail at any time for various reasons, including increased water pressure caused by island subsidence, the burrowing activities of animals, long-term erosion (from high flow events, wind-induced waves, and boat wakes), deferred maintenance, seepage through sand layers underlying levee foundations, and seismic events.
- While Flood management in the Delta begins with its levees, the Delta relies on levees, bypasses, and dams in the upstream watershed.
- DWR has primary responsibility for flood management throughout the Central Valley on “project levees” that are part of an authorized federal flood control project. More than 700 miles, or 65 percent, of Delta levees are classified as “non-project” because they are not part of an authorized federal flood control project. These levees have been built and maintained by landowners or reclamation districts to protect agricultural lands. Frequently, they are not as durable as the project levees.
- Most Delta islands have flooded at least once. Levee failures have flooded Delta islands 166 times since 1900.
- Most of the Delta levees do not meet the Federal Emergency Management Agency’s definition for 100-year flood protection.
- In general, the levee work by reclamation districts is financed by the owners of the lands within the levees. Over about the last 30 years, the State of California has provided supplemental financing for levee maintenance and emergency response through DWR’s Flood Control Subventions Program. State law requires that the levee work be consistent with net long-term habitat improvement with net benefits to aquatic species in the Delta.



Best Available Science

This section will be developed and submitted for consideration in the Second Draft Interim Plan.

DRAFT

NOTE: This Appendix is not a list of activities approved by the Council, nor an indication that the activities listed will ultimately be included.

<p><b>Appendix V. Plans or Projects Related to Delta Water and Environmental Resources and Delta as a Place</b></p>			
<p><b>Section 85020 subsection</b></p>	<p><b>Primary Agencies</b></p>	<p><b>Plan or Project</b></p>	<p><b>Description</b></p>
<p>d (and section 85021)</p>	<p>California Department of Water Resources</p>	<p>California Water Plan Update 2009</p>	<p>The California Water Plan provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The Plan, which is updated every five years, presents basic data and information on California's water resources (including water supply evaluations and assessments of agricultural, urban, and environmental water uses) to quantify the gap between water supplies and uses. The Plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the State's water needs.</p>
<p>a</p>	<p>California Department of Water Resources and California Department of Fish and Game</p>	<p>Delta Fish Agreement (Four Pumps Project)</p>	<p>The 1986 Delta Pumping Plant Fish Protection (Delta Fish) Agreement between the DWR and DFG provides a mechanism for offsetting adverse fishery impacts caused by the diversion of water at the Harvey O. Banks Delta Pumping Plant, a part of the State Water Project located at the head of the California Aqueduct. Direct losses of Chinook salmon, steelhead, and striped bass are offset or mitigated through the funding and implementation of fish mitigation projects. DWR and DFG work closely with the Fish Advisory Committee to implement the agreement and projects funded under the agreement. The Fish Advisory Committee is made up of representatives of the State Water Contractors, sport and commercial fishing groups, and environmental groups.</p> <p>The agreement was signed by the Directors of DWR and DFG on December 30, 1986, and has been amended twice since that time.</p> <p>The Delta Fish Agreement is also commonly known as the Four Pumps Agreement because it was subsequently identified as mitigation for the enlargement of the Banks Pumping Plant, including four additional pumps.</p>

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<p>c</p>	<p>California Department of Fish and Game, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, and Suisun Marsh Charter Group</p>	<p>Suisun Marsh Habitat Management, Preservation, and Restoration Plan</p>	<p>The Suisun Marsh Charter Group, a collaboration of federal, state, and local agencies with primary responsibility in Suisun Marsh, is preparing the Suisun Marsh Habitat Management, Preservation, and Restoration Plan. The plan balances implementation of the CALFED Program, the Suisun Marsh Preservation Agreement, and other management and restoration programs within the Suisun Marsh in a manner that is based upon voluntary participation by private landowners and that responds to the concerns of stakeholders. Charter agencies include U.S. Bureau of Reclamation (Reclamation), Department of Water Resources (DWR), U.S. Fish and Wildlife Service (USFWS), Suisun Resource Conservation District (SRCD), and other agencies.</p> <p>The Charter Group is charged with developing a regional plan that would outline the actions needed in Suisun Marsh to preserve and enhance managed seasonal wetlands, restore tidal marsh habitat, implement a comprehensive levee protection/improvement program, and protect ecosystem and drinking water quality. The proposed plan would be consistent with the goals and objectives of the Bay-Delta Program, and would balance those goals and objectives with the Suisun Marsh Preservation Agreement and federal and state endangered species programs within the Suisun Marsh. The Suisun Marsh Plan also would provide for simultaneous protections and enhancement of: 1) existing wildlife values in managed wetlands, 2) endangered species, 3) tidal marshes and other ecosystems, and 4) water quality, including, but not limited to, the maintenance and improvement of levees.</p>

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<p>c</p>	<p>California Department of Water Resources</p>	<p>Meins Landing Habitat Restoration Project</p>	<p>The Meins Landing property was purchased during December 2005 as a collaborative effort between the DWR Delta-Suisun Marsh Office (DSMO, now in DWR FloodSafe Environmental Stewardship and Statewide Resources Office [FESSRO]), the Suisun Marsh Preservation Agreement (SMPA) Agencies (DWR, Department of Fish and Game (DFG), Reclamation, SRCD) and the California Coastal Conservancy (Conservancy). This collaboration enables a broad approach to regional wetland management in the Bay-Delta estuary. The acquisition and restoration of the Meins Landing property was proposed to provide habitat mitigation for impacts associated with levee improvements, and to meet CALFED restoration goals in Suisun Marsh.</p> <p>Restoration of the 666 acre Meins Landing waterfowl hunting club to tidal wetlands, permanent wetlands, and other habitats provides an opportunity for restoration that is anticipated to benefit a range of species. Meins Landing restoration is anticipated to significantly complement the tidal wetland restoration goals identified in the Habitat Preservation and Restoration Plan for the Suisun Marsh (SMP). The project also provides the opportunity to provide mitigation for levee improvements and increased flood protection on 24 miles of levees in Suisun Marsh under the AB 360 program (Van Sickle, Wheeler, Simmons Island) and potentially mitigation for the dredging program authorized under the Letter of Permission and/or for upland impacts of tidal restoration in the Suisun Marsh. Improving the integrity of levees along the Suisun Marsh, which is supported through mitigation in this restoration project, will reduce the potential for impacts to Delta water quality that would result from uncontrolled levee failure and flooding.</p> <p>These cumulative benefits could not be achieved without the important linkages and partnerships established for the Meins Landing restoration. Coordination with the Principal Suisun Marsh Charter agencies throughout project planning will ensure that Meins Landing Tidal Restoration Project and associated levee rehabilitation on Van Sickle Island will be consistent with the Suisun Marsh Plan.</p> <p>DWR acquired the property in December 2005. Projected planning has been hampered by numerous site constraints, but renewed planning efforts beginning in 2010 are anticipated to lead to implementation as early as 2012.</p> <p>DWR, SMPA agencies (through Suisun Marsh Mitigation Agreement funding), and the Coastal Conservancy each contributed one-third of the acquisition costs for a total of \$900,000. DWR DSMO funding interim management and restoration planning and has entered into a lease back agreement with the former landowner during the restoration planning period. DWR staff is responsible for project management, but the project is a collaboration of interdisciplinary staff from DWR, DFG, SRCD, U.S. Fish and Wildlife (USFWS), Reclamation District 1607, Jones and Stokes and others.</p>

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<p>c</p>	<p>California Department of Water Resources</p>	<p>Meins Landing Habitat Restoration Project (CONTINUED)</p>	<p>In FY 08-09, \$2 million in funding from the Delta Levees Special Flood Control Projects program was allocated to support the development of restoration plans, data collection, permitting and levee upgrades. The funding for the current year is a combination of General Fund and Special Project funding through Proposition 84.</p> <p>Specific performance measures have not yet been developed for this project, but will be based on the anticipated project outcomes including both ecological and regulatory performance.</p>
<p>c</p>	<p>California Department of Water Resources and California State Coastal Conservancy</p>	<p>Dutch Slough Tidal Marsh Restoration Project</p>	<p>The Dutch Slough Tidal Marsh Restoration Project will restore tidal marsh and associated wetland and terrestrial habitats on 1,166 acres near Oakley in eastern Contra Costa County. The project is expected to provide habitat for endangered winter-run Chinook salmon, threatened spring-run Chinook salmon, Sacramento splittail, other native aquatic species, as well as terrestrial species such as western pond turtle, black rail, and waterfowl. In addition, through the restoration of natural hydrology and increases in primary productivity, the project is expected to provide important benefits to the Delta ecosystem. The Dutch Slough project will be designed and implemented to maximize opportunities to assess the development of restored habitats and measure ecosystem responses so that future Delta restoration projects will be more successful. In addition, the restored site will offer recreational and educational opportunities.</p> <p>Land was purchased by DWR with funds from State Coastal Conservancy (SCC) and the Ecosystem Restoration Program (ERP, now part of DFG). The preliminary Conceptual Plan and EIR were prepared with funding from SCC. The Natural Heritage Institute has been instrumental in developing and promoting the project since its inception. DWR and SCC are funding preparation of final conceptual designs and preparation of 80% engineering drawings. DWR, SCC and ERP will fund construction of the project. Several local agencies are coordinating their efforts with planning for the Dutch Slough project. These include: City of Oakley, Contra Costa Water District, Contra Costa Flood Control and Water Conservation District, Ironhouse Sanitary District, and Reclamation Districts 2137 and 799. The property was purchased in 2003. Conceptual Plan and Feasibility Report released in 2006. Contracted with Phil Williams and Associates to prepare final conceptual design and 80% engineering drawings in 2009. Final EIR approved and certified in March 2010. Final design expected in July 2010, 80% design drawings in summer 2011. Importation of fill and earthwork will begin in 2011. Major construction in 2012. Breaching in 2013. Total cost is expected to be \$32 million. Funds will be provided by DWR, ERP, and SCC. Additional funds are being sought from Federal funding partners.</p>

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<p>c</p>	<p>California Department of Water Resources and California State Coastal Conservancy</p>	<p>Dutch Slough Tidal Marsh Restoration Project (CONTINUED)</p>	<p>The project will be designed to facilitate scientific experiments to test several general hypotheses about marsh development. Results of those experiments will guide future Delta restorations. In addition, an extensive monitoring program will be instituted to measure parameters such as water quality, vegetation growth and colonization, channel development, and numerous biotic factors. Specific performance goals have not yet been established, but will be concerned primarily with release of dissolved organic carbon and methyl mercury, development of native vegetation, size and sustainability of marsh channels, levels of use of the site by native species (both aquatic and terrestrial), and effects on groundwater.</p> <p>The results of the experiments to test marsh restoration hypotheses will be valuable in increasing the likelihood of success of future Delta restoration projects. These results are expected to guide the location, size, design and elevation of future restorations.</p>
<p>g,c</p>	<p>California Department of Water Resources, U.S. Army Corps of Engineers (USACE), Reclamation District 2110 (RD 2110), and The Nature Conservancy (TNC).</p>	<p>North Delta Flood Control and Ecosystem Restoration Project</p>	<p>The purpose of the North Delta Flood Control and Ecosystem Restoration Project (North Delta Project) is to implement flood control improvements in the area of the North Delta where the Mokelumne River, Consumnes River, Morrison Creek, and Dry Creek converge. Flood flows in the area threaten levees, bridges, roadways, and surrounding agricultural lands when levees on McCormack-Williamson Tract are overtopped and a flood surge occurs. The proposed project will help regulate peak flood flows and prevent flood surges. It will also provide substantial aquatic and terrestrial habitats benefiting native species.</p> <p>Public Scoping was initiated in 2003 and the Final EIR is nearly complete (summer 2010); USACE is working on an EIS estimated for completion in 2011. Design and construction could take an additional 2 years.</p> <p>This is a cooperative effort and costs could be augmented by federal sponsorship with USACE as part of the CALFED Levee Stability Program.</p> <p>Failure to implement this project will result in continued flooding and flood-related damages, on-going degradation of habitats that support various life stages of aquatic and terrestrial species in the North Delta, and the loss of outside funds requiring a cost match. This project provides much-needed flood protection while making significant habitat improvements in the North Delta. Project implementation will provide floodplain spawning habitat for the Sacramento splittail and floodplain rearing habitat for Chinook salmon. This project provides a significant opportunity to partner with other State and federal agencies and make use of non-state funds. The project would also fulfill previous investments of public funds for property acquisition and initial improvements on McCormack-Williamson Tract.</p>

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<p>c</p>	<p>U.S. Fish and Wildlife Service</p>	<p>Stone Lakes National Wildlife Refuge Comprehensive Conservation Plan</p>	<p>USFWS published a final Comprehensive Conservation Plan (CCP) for Stone Lakes National Wildlife Refuge in January 2007 to describe the selected alternative for managing Stone Lakes National Wildlife Refuge for the next 15 years. The refuge is located about 10 miles south of Sacramento, straddling I-5 and extending south from Freeport to Lost Slough. Under the plan, the Refuge will continue its focus of providing wintering habitat for migratory birds and management to benefit endangered species. Management programs for migratory birds and other Central Valley wildlife will be expanded and improved and public use opportunities will also be expanded. The number of refuge units open to the public will increase from one to five. In addition, environmental education, interpretation, wildlife observation, wildlife photography, hunting, and fishing programs will be expanded. The plan achieves the refuge's purposes, vision, and goals; contributes to the Refuge System mission; addresses the significant issues and relevant mandates; and is consistent with principles of sound fish and wildlife management.</p>
<p>c</p>	<p>California Department of Water Resources, Suisun Resource Conservation District, California Department of Fish &amp; Game, U.S. Fish &amp; wildlife Service; U.S. Bureau of Reclamation</p>	<p>Blacklock Restoration Project</p>	<p>Blacklock (SRCD ownership number 635) was purchased in December 2003 with CALFED Ecosystem Restoration Program funds received by DWR in 2001. The project is to restore this managed wetland property to a fully functioning tidal wetland in the northeast portion of Suisun Marsh along Little Honker Bay. The parcel is approximately 70 acres, which includes about 67 acres seasonal wetland and 3 acres upland/levee. Since July 2006, the property has been a muted tidal wetland because of deteriorating levee conditions.</p> <p>The levee was breached in September 2006 during a storm event. A monitoring program is ongoing thru 2016.</p> <p>The monitoring program is estimated to cost \$716,000. DWR is working with DFG to obtain a \$300,000 ERP Grant to support the monitoring program. On-going costs to maintain the site are unknown.</p> <p>Loss of monitoring and maintenance funds would jeopardize the long term restoration potential and DWR would not meet its Bay Conservation &amp; Development Commission permit requirements.</p> <p>This project is the flagship restoration project for the Suisun Marsh and will inform later restoration acquisitions and related activities anticipated in the Suisun Marsh Preservation Agreement (Revised).</p>

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<p>c</p>	<p>California Department of Water Resources and California Department of Fish and Game</p>	<p>Cache Slough Area Restoration</p>	<p>The Cache Slough Complex is located in the northern Delta where Cache Slough and the southern Yolo Bypass meet. It currently includes Liberty Island, Little Holland Tract, Prospect Island, Little Egbert Tract and the surrounding waterways. Levee height on these tracts is restricted and designed to allow overtopping in large flow events to convey water from the upper Yolo Bypass. Since 1983 and 1998 respectively, Little Holland Tract and Liberty Island have remained breached. Restoration is occurring naturally on the islands.</p> <p>Restoration in the Cache Slough Complex was identified as an Interim Delta Action by Governor Schwarzenegger in July 2007 and is being evaluated through the Bay Delta Conservation Plan process. Other planning processes such as Delta Vision and the Delta Risk Management Strategy have also identified the Cache Slough Area as a potential priority restoration site.</p> <p>The Cache Slough Complex has potential for restoration success because of its relatively high tidal range, historic dendritic channel network, minimal subsidence, and remnant riparian and vernal pool habitat. Restoration efforts would support native species, including delta smelt, longfin smelt, Sacramento splittail, and Chinook salmon, by creating or enhancing natural habitats and improving the food web fish require.</p> <p>Surrounding lands that are at elevations that would function as floodplain or marsh if not separated by levees could also be included in the Cache Slough Area. This broader area includes roughly 45,000 acres of existing and potential open water, marsh, floodplain and riparian habitat.</p> <p>The goals of restoration in the Cache Slough Complex are to: 1) re-establish natural ecological processes and habitats to benefit native species, 2) contribute to scientific understanding of restoration ecology, and 3) maintain or improve flood safety. Three restoration actions are currently contemplated in the Cache Slough Complex, including restoration actions at Calhoun Cut, Little Holland Tract, and Prospect Island. These are briefly described in the following.</p> <p><b>Calhoun Cut</b></p> <p>Calhoun Cut is a manmade, excavated, east-west running channel that was originally created to improve navigation in the area. The channel initiates at the confluence of Lindsey and Barker sloughs, and runs west in a straight line until it intersects the terminal portion of Lindsey Slough. Calhoun Cut adversely influences tidal action in the historic arms of Lindsey Slough. Restoration of tidal action would entail removal of features that restrict flow through the slough, excavating starter channels to initiate channel evolution and promote tidal flow, and potentially blocking Calhoun Cut to restore the tidal channel system in Lindsey Slough.</p>

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	<p>California Department of Water Resources and California Department of Fish and Game</p>	<p>Cache Slough Area Restoration - CONTINUED</p>	<p><b>Little Holland Tract</b>                      Little Holland Tract encompasses about 1,640 acres within the Cache Slough Complex. Similar to Prospect Island, Little Holland Tract was acquired by the federal government (USACE) in anticipation of transferring ownership to the U.S. Fish and Wildlife Service as a component of a North Delta National Wildlife Refuge. The tract has been subject to tidal influence since 1983, when levees separating Little Holland Tract and the Toe Drain failed. Since that time, the site has naturally returned to a mixture of tidally influenced emergent wetlands, mudflats, and riparian habitat. Restoration actions would complement what has occurred naturally by increasing wetland values at the site.</p>

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	<p>California Department of Water Resources and California Department of Fish and Game</p>	<p>Cache Slough Area Restoration - CONTINUED</p>	<p><b>Prospect Island</b></p> <p>This action entails breaching the Prospect Island levees to restore tidal marsh and open water habitat and some upland and riparian habitats. Prospect Island offers a unique opportunity for restoration due to comparatively little subsidence, resulting in elevations in the island interior that, pending more specific data, are assumed suitable for supporting tidal wetlands. These habitats are relatively rare in the Delta, and the opportunities for restoring them are limited. DWR acquired the northern ¾ of Prospect Island from the federal General Services Administration in January 2010 and is in discussion with the Port of West Sacramento regarding the incorporation of their property (the southern ¼ of the island) into the project.</p> <p>Total cost, which includes acquisition, interim land management, levee maintenance, construction, and monitoring, is estimated to be \$15 million.</p> <p>DWR and DFG will assess the baseline habitat in 2011. DWR, in consultation with DFG, will develop an implantation schedule and adaptive management plan within the next year. DWR will be obtaining preliminary data (topographic information) and undertaking modeling to analyze hydrologic changes in 2010. After this information is obtained and analyzed, design alternatives will be developed by an interagency technical team, and the environmental documentation and analyses will be done. Final design, permitting, construction, and post-project monitoring will then follow. DWR will monitor the project for five years post-construction, after which the property will be transferred to DFG.</p> <p>Several delta aquatic species are listed under the federal and state Endangered Species Acts, and the decline of many more is documented. The collapse of the delta aquatic ecosystem is responsible for these declines, requiring restoration of habitat, water quality, and important ecological and physical processes. Failure to achieve ecosystem restoration will result in the loss of a significant portion of California's biodiversity.</p> <p>Tidal marsh restoration is required under the National Marine Fisheries Service (NMFS) and USFWS Biological Opinions for operations of the State and federal water projects and the California Endangered Species Act (CESA) Longfin Smelt Incidental Take Permit. Failure to construct Prospect Island could delay recovery of listed species which could have water delivery, water management, and other significant economic repercussions.</p>

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	California Department of Water Resources and California Department of Fish and Game	Cache Slough Area Restoration - CONTINUED	<p><b>Liberty Island</b></p> <p>Liberty Island was formerly in agricultural production. The levees breached in 1998 and were not repaired. Since this time, the island has undergone passive restoration and currently there exists upland habitat, tidal marsh, subtidal wetlands, and pelagic habitat. In addition, a highly significant resident population of delta smelt exists in the southern pelagic zone. There have been no specific restoration plans developed for Liberty Island but some conceptual ideas include: enhance marsh habitat to increase primary and secondary production to enhance the delta food web; develop a management plan to facilitate the passive restoration that is occurring; develop a water management plan and potentially relocate nearby agricultural and municipal diversion so that increased production is not entrained and exported outside the ecosystem.</p> <p>Several delta aquatic species are listed under the federal and state Endangered Species Acts, and the decline of many more is documented. The collapse of the delta aquatic ecosystem is responsible for these declines, requiring restoration of habitat, water quality, and important ecological and physical processes. Failure to achieve ecosystem restoration will result in the loss of a significant portion of California's biodiversity.</p> <p>Tidal marsh restoration is required under the NMFS and USFWS Biological Opinions for operations of the State and federal water projects and the CESA Longfin Smelt Incidental Take Permit. Failure to protect and enhance Liberty Island could delay recovery of listed species which could have water delivery, water management, and other significant economic repercussions.</p> <p>The Trust for Public Land (TPL), using public funds provided by CALFED, bought Liberty Island in 1999 to facilitate the transfer of the property to the USFWS for inclusion in the proposed North Delta Wildlife Refuge <b>[SEE SEPARATE ENTRY ON THIS TABLE.]</b> Congress failed to authorize the refuge, so TPL remained the primary landowner until this year when DFG acquired a significant portion of the property. Wildlands Inc. owns another small portion of the property, which they plan to operate as a mitigation bank. TPL is retaining another significant portion of the property adjacent to the Wildlands property, which they are leasing to Wildlands for inclusion in the mitigation bank. There is concern that the mitigation bank may affect the hydrodynamic processes of Liberty Island, which could cause impacts to delta smelt habitat and the recovery of delta smelt.</p>

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<p>c</p>	<p>California Department of Fish and Game</p>	<p>Fish Screen Project at Sherman and Twitchell Islands</p>	<p>The project would install fish screens on up to 10 currently unscreened agricultural intakes used to irrigate state-owned lands on Sherman and Twitchell Islands in the Delta. The project is intended to contribute to the protection of delta smelt and other sensitive aquatic species and the restoration of habitat in the Delta.</p> <p>Initiated in 2007, but design completion and construction have been delayed due to environmental permits acquisition. The current target construction completion date is December 2011.</p> <p>The total project cost is about \$8.4 million. All project costs are paid for by State Water Project funds. The design is 95% complete. The design will be completed once all permits are received.</p> <p>The project is part of the Governor Schwarzenegger's water supply plan as presented in his July 2007 press release. The timely completion of the project will help protect the federally threatened Delta smelt and minimize the attachment of invasive aquatic species on water supply intake facilities.</p> <p>This project has received positive support from the USACE, USFWS, and NMFS. The proposed screens will also complement existing environmental programs located on Twitchell Island, such as the U.S. Geological Survey (USGS) Subsidence Reversal Research project and the DWR' Subsidence Mitigation Rice Cultivation Research program, by screening their diversions.</p>

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<p>c</p>	<p>California Department of Fish and Game</p>	<p>Lower Sherman Island Wildlife Area Land Management Plan</p>	<p>The Lower Sherman Island Wildlife Area (LSIWA) occupies roughly 3,100 acres, primarily marsh and open water, at the confluence of the Sacramento and San Joaquin Rivers in the western Sacramento–San Joaquin River Delta (Delta). This extensive tract of natural vegetation and Delta waters provides diverse and valuable wildlife habitats and related recreational opportunities and is integral to the functioning and human use of the Delta.</p> <p>The mission of DFG is to manage California’s diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. The land management plan (LMP) is consistent with that mission.</p> <p>The purpose of the LMP is to: (1) guide management of habitats, species, and programs described in the LMP to achieve the DFG’s mission to protect and enhance wildlife values; (2) serve as a guide for appropriate public uses of the LSIWA; (3) serve as descriptive inventory of fish, wildlife, and native plant habitats that occur on or use the LSIWA; (4) provide an overview of the property’s operation and maintenance and of the personnel requirements associated with implementing management goals (this LMP also serves as a budget planning aid for annual regional budget preparation); and (5) present the environmental documentation necessary for compliance with state and federal statutes and regulations, provide a description of potential and actual environmental impacts that may occur during plan management, and identify mitigation measures to avoid or lessen these impacts.</p>

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<p>c</p>	<p>California Department of Water Resources and U.S. Bureau of Reclamation</p>	<p>Franks Tract Project</p>	<p>DWR and Reclamation are conducting studies to evaluate the feasibility of installation of operable gates to control the flow of water at key locations (Threemile Slough and/or West False River) to reduce sea water intrusion, and to positively influence the movement of fish species of concern to areas providing favorable habitat conditions. This project evolved from the CALFED Flooded Islands Study completed in 2005/2006. The Feasibility Study and EIR/EIS are scheduled for completion in 2011.</p> <p>The results of earlier studies indicated that modifying the hydrodynamic conditions near Franks Tract may substantially reduce salinity in the Delta and protect fishery resources, including populations of delta smelt, a federally listed and state-listed species that is endemic to the Delta. As a result, DWR and Reclamation propose to implement the Franks Tract Project to improve water quality and fisheries conditions in the Delta. DWR and Reclamation are evaluating installing operable gates to control the flow of water at key locations (Threemile Slough and/or West False River) to reduce sea water intrusion, and to positively influence movement of fish species of concern to areas that provide favorable habitat conditions. The project gates would be operated seasonally and during certain hours of the day, depending on fisheries and tidal conditions. Boat passage facilities would be included to allow for passing of watercraft when the gates are in operation. The Franks Tract Project is consistent with ongoing planning efforts for the Delta to help balance competing uses and create a more sustainable system for the future. By protecting fish resources, this project also could improve operational reliability of the State Water Project and Central Valley Project because curtailments in water exports (pumping restrictions) are likely to be less frequent.</p> <p>The costs to date consist of approximately \$10 million in State and federal funding. The State has shared these costs with Reclamation using a combination of Bond Funds and State Water Project Contractor funds. An estimated \$7 million in additional funding is needed to complete the EIR/EIS and a preliminary estimate of \$141 million is needed to complete planning and design, construct facility, and implement necessary mitigation.</p> <p>Completion of various reports including, but not limited to, Value Engineering Study, Initial Alternatives Investigation Report, Plan Formulation Report, and Public Scoping Report. Modeling activities to evaluate operable barrier performance under new biological opinions issued by USFWS and NMFS Service are underway.</p>

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<p>f,c</p>	<p>U.S. Bureau of Reclamation and San Luis-Delta Mendota Water Authority</p>	<p>2-Gates Fish Protection Demonstration Project</p>	<p>The proposed project would install and operate removable gate structures at two key Delta locations to test the ability of the structures to improve protection for delta smelt and other sensitive aquatic species. In a five-year pilot study, the gates would control flows in selected interior Delta channels to evaluate whether these changes reduce entrainment of fish into pumps and improve water supplies to the California’s State Water Project (SWP) and the federal Central Valley Project (CVP). The gates would be used to validate proposed modifications of Delta flow patterns for fish protection and management of reliable water supplies. Reclamation is the lead agency for the project, with DWR providing technical assistance. Scientific advice will be provided by a panel of experts. The project hypothesis is that by operating the gates, movement of adult and juvenile delta smelt into the South Delta pumping area can be controlled. Gates would be closed for short periods December through February to control adult delta smelt movement and for moderate periods March through June to control larvae/juvenile delta smelt movement. Boat ramps would be used to allow boat passage when the gates are closed. From July through November, a period of high Delta boating activity, the gates would not operate, remaining in a fully open position.</p> <p>The central Delta locations are on Old River between Bacon Island and Holland Tract, and Connection Slough between Mandeville and Bacon Islands. Computer simulation studies indicate the 2-Gates Project may at times allow more water to be delivered from the Delta for use in the San Joaquin Valley, Bay Area and Southern California while providing better protection for delta smelt than currently exists. State and federal water and fish agencies are evaluating the project for water quality, water supply and fish protection benefits. Currently, efforts to protect delta smelt and other aquatic species impose severe restrictions on pumping operations, thus reducing water supplies and reliability of the SWP and CVP.</p> <p>Studies are to begin in 2010 to develop, investigate, select, and implement immediate and near-term alternatives (e.g. operational models, barriers, gates, screens, etc.) to protect sensitive aquatic species from the export facilities within current operational constraints, with the additional project phase into 2017. Over \$16 million in Proposition 13 funding was provided by DWR to Reclamation pursuant to a cost-sharing agreement for project under the federal Central Valley Project Improvement Act (CVPIA). Additional funding is proposed in the state budget from Proposition 50 funds. Reclamation has requested additional federal funding in the proposed budget.</p>

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<p>c</p>	<p>California Department of Fish and Game</p>	<p>Yolo Bypass Wildlife Area Land Management Plan</p>	<p>The Yolo Bypass Wildlife Area comprises approximately 16,770 acres of managed wildlife habitat and agricultural land within the Yolo Bypass. The bypass conveys seasonal high flows from the Sacramento River to help control river stage and protect the cities of Sacramento, West Sacramento, and Davis and other local communities, farms, and lands from flooding. Substantial environmental, social and economic benefits are provided by the Yolo Bypass, benefiting the people of the State of California.</p> <p>The stated purposes of the Yolo Bypass Wildlife Area Land Management Plan are to: (1) guide the management of habitats, species, appropriate public use, and programs to achieve California Department of Fish and Game's mission; (2) direct an ecosystem approach to managing the Yolo Bypass Wildlife Area in coordination with the objectives of the CALFED ERP; (3) identify and guide appropriate, compatible public-use opportunities within the Yolo Bypass Wildlife Area; (4) direct the management of the Yolo Bypass Wildlife Area in a manner that promotes cooperative relationships with adjoining private-property owners; (5) establish a descriptive inventory of the sites and the wildlife and plant resources that occur in the Yolo Bypass Wildlife Area; (6) provide an overview of the Yolo Bypass Wildlife Area's operation, maintenance, and personnel requirements to implement management goals, and serve as a planning aid for preparation of the annual budget for the Bay- Delta Region (Region 3); and (7) present the environmental documentation necessary for compliance with state and federal statutes and regulations, provide a description of potential and actual environmental impacts that may occur during plan management, and identify mitigation measures to avoid or lessen these impacts.</p>
<p>c</p>	<p>California Department of Fish and Game</p>	<p>Fremont Landing Conservation Bank</p>	<p>The project is the restoration, enhancement, and preservation of 100 acres of habitat for the federally and state listed Chinook salmon and Central Valley steelhead at Fremont Landing Conservation Bank site. The project would preserve and enhance 40 acres of existing riparian and wetland habitat, and restore/create 60 acres of riparian woodland and wetland sloughs within the floodplain of the Sacramento River. Three borrow pits would be connected to the Sacramento River in order to reduce or eliminate fish stranding. The project also includes preservation and restoration of shaded riverine aquatic habitat and placement of large woody debris along the Sacramento River.</p>

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<p>g,c</p>	<p>California Department of Water Resources and Reclamation District 341</p>	<p>Mayberry Farms Subsidence Reversal and Carbon Sequestration Project</p>	<p>The Project will create permanently flooded wetlands on a 307-acre parcel on Sherman Island that is owned by DWR. The project will restore approximately 192 acres of emergent wetlands and enhance approximately 115 acres of seasonally flooded wetlands. The project is a demonstration project that will provide subsidence reversal benefits and develop knowledge that can be used by operators of private wetlands, including “duck clubs,” which manage lands for waterfowl-based recreation. By maintaining permanent water, the growth and subsequent decomposition of emergent vegetation is expected to control and reverse subsidence. The project is also anticipated to provide climate benefits by sequestering atmospheric carbon. The parcel is expected to provide year-round wetland habitat for waterfowl and other wildlife.</p> <p>The Restoration Design was developed in 2007. The project will be constructed during the summer of 2010.</p> <p>This project is anticipated to cost \$1.6 million to construct. Methyl-mercury monitoring, as required by the Regional Water Quality Control Board (RWQCB) in the 401 permit, may significantly increase this cost.</p> <p>Wildlife use and habitat quality, subsidence reversal, and other parameters will be measured. Greenhouse gas flux will be measured if feasible.</p>

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<p>g,c</p>	<p>California Department of Water Resources and local reclamation districts</p>	<p>Subsidence Reversal and Carbon Sequestration Program</p>	<p>DWR has implemented several projects to demonstrate the potential for subsidence reversal and carbon sequestration, including USGS Subsidence Research Project on Twitchell Island, Mayberry Farms Permanent Wetlands on Sherman Island, and a Farm Scale Rice Pilot Project on Twitchell Island. This program furthers the early projects and plans to build about 600 acres of wetlands. Sequestering atmospheric carbon via plant photosynthesis and net retention of carbon within the soil by decomposing plant matter will not only reverse subsidence in the Western Delta, which lessens flood risk, but also may reduce the impacts caused by greenhouse gasses. As a result of the potential benefits, DWR continues to construct projects to measure their ability to reverse subsidence and sequester carbon in the Western Delta.</p> <p>These projects are planned be funded with Prop. 1E [\$5.75 million FY2010/11 and \$2.25 million/year for FY2011/12 through FY2014/15,. However, appropriations are made annually through the budget process and lack of bond cash flow has delayed implementation. This funding will ensure continued levels for planning, design, and construction of subsidence-reversal land management practices in the Delta. Specific monitoring activities will also be implemented, as required by environmental regulatory permits and to ensure project performance. Some of the monitoring activities that may be included in projects on a case by case basis include: carbon flux (atmospheric and soil), methane and nitrous-oxide production (atmospheric), methyl-mercury and other water quality constituents, vector (mosquito) impacts, biological (native plant and animal) improvements, as well as appropriate agronomy investigations.</p>

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<p>g</p>	<p>Department of Water Resources and Reclamation District 1601 (Twitchell Island)</p>	<p>Subsidence Mitigation through Rice Cultivation</p>	<p>Rice is a wetland crop with an existing agricultural market that has the potential to accrete land mass and sequester carbon. The Subsidence Mitigation Rice Cultivation Research project will determine whether growing rice reverses subsidence, can be done without deleterious effects to the environment, and is economically feasible in the Delta. The project area consists of a 300 acre parcel on Twitchell Island; approximately 150 acres were planted and harvested in 2009, and approximately 300 acres were planted in 2010. DWR and Twitchell Island are collaborating with a team of private consultants as well as experts from the University of California and the USGS. Data from monitoring in 2009 shows that Carbon is being sequestered, subsidence was eliminated and potentially reversed, the rice fields acted as a methylmercury sink, and cold tolerant rice strains can be grown in the Delta. The project is scheduled to continue through Fall 2012.</p> <p>These projects are planned be funded planned bond expenditures [\$2.5 million FY2010/11, \$1.9 million for FY2011/12, and \$0.5 million/year for FY2012/13 through FY2014/15,. However, appropriations are made annually through the budget process and lack of bond cash flow has delayed implementation. This funding will ensure continued levels for monitoring activities including carbon flux (atmospheric and soil), methane and nitrous-oxide production (atmospheric), methyl-mercury and other water quality constituents, vector (mosquito) impacts, as well as appropriate agronomy investigations.</p>

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<p>g</p>	<p>Department of Water Resources and United States Geological Services (USGS)</p>	<p>USGS Subsidence Research Project on Twitchell Island</p>	<p>Since 1997, DWR and USGS have been studying subsidence reversal on DWR-owned property on Twitchell Island. The project consists of two wetland sites totaling approximately 15 acres. Researchers have monitored land surface elevation changes and carbon accretion due to the accumulation and decay of plant materials. Studies at this facility have shown that surface elevation changes due to accretion ranges from 3.2 and 5.6 cm/yr (1.3 - 2.2 in/yr), while surrounding areas used for agricultural purposes lost elevation due to subsidence. Additional research activities proposed by USGS include assessments of water quality impacts, greenhouse gas (GHG) release, and other impacts of tule cultivation in subsided Delta Islands. This project will continue through September 2010.</p> <p>The project has cost approximately \$10 million to date, which has been provided mainly by General Funds. The project is currently underfunded by the State due to the state budget crisis but USGS has provided funding for this project to continue research activities.</p> <p>This project has shown that implementing wetlands not only stops subsidence but also reverses subsidence. The project has created a fairly robust data set for accretion as well as other subsidence related topics.</p> <p>Using the information that was collected from this study and constructing wetlands strategically throughout the Delta will provide benefits to both habitat, levee stability, as well as air and water quality.</p> <p>This research project has proven to be the basis for constructing subsidence reversal projects, and providing habitat (Conservation Strategy for the CVFPP).</p>

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<p>f</p>	<p>California Department of Water Resources</p>	<p>Low-Flow Screened Intake to Clifton Court Forebay</p>	<p>DWR prepared an initial assessment of the feasibility and effectiveness of a low-flow screened intake to the Clifton Court Forebay (Forebay). This assessment describes conceptual alternatives for a low-flow screened intake to the Forebay and identifies additional information required for any subsequent assessment efforts.</p> <p>This project was identified as an Interim Action by the Governor in July 2007. The report included a review of previous Forebay screening studies and initiatives. The report was completed in December 2009.</p> <p>Conceptual construction cost estimates provided solely for relative comparison of the proposed alternatives range from \$75 million to \$328 million. These conceptual construction-cost estimates do not include costs of planning, design, environmental impact analysis, permits, mitigation, land acquisition, construction management, administration, and operation. These estimates should not be compared to any other options not included in the assessment as they are not directly comparable.</p> <p>The maximum diversion capacity of the proposed screened LFI has been limited to 2,000 cfs in order to provide reliability by considering the unit capacities at the Banks Pumping Plant (two units rated at 375 cfs, four units rated at 1,067 cfs, and five units rated at 1,130 cfs). Subsequent efforts to refine the recommended alternatives will require hydraulic analyses similar to those performed for the 1996 Interim South Delta Program Draft EIS/EIR which indicated that hydraulic restrictions in Italian Slough may limit conveyance from 2,000 to 3,000 cfs. In addition, modeling activities to evaluate intake performance under new biological opinions issued by USFWS and NMFS will be necessary.</p>
<p>c</p>	<p>California Department of Water Resources, U.S. Bureau of Reclamation, South Delta Water Agency</p>	<p>South Delta Temporary Barriers Project</p>	<p>Seasonal installation of three agricultural rock barriers and one rock or non-physical barrier in the south Delta to improve water levels, circulation, and conditions for migrating salmon and steelhead. Initiated in 1991, this has been an ongoing project and will continue until replaced by permanent gates.</p> <p>The average annual cost for this project is about \$6.6 million and the project is funded from State Water Project funds.</p> <p>Performance of the project is through real-time monitoring of water levels and water quality in the south Delta. Limited operational changes can be made to the agricultural barriers to respond to differing water level and quality conditions. Performance of the fish barrier is evaluated by monitoring acoustically tagged juvenile outmigrating salmon (spring installation) and monitoring dissolved oxygen in the lower San Joaquin River (fall installation).</p>

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<p>e</p>	<p>California Department of Water Resources</p>	<p>Stockton Deep Water Ship Channel Demonstration Dissolved Oxygen Project</p>	<p>The Stockton Deep Water Ship Channel Demonstration Dissolved Oxygen Project is a multiple-year study of the effectiveness of elevating dissolved oxygen (DO) concentrations in the channel. DO concentrations drop as low as 2 to 3 milligrams per liter (mg/L) during warmer and lower water flow periods in the San Joaquin River. The low DO levels can adversely affect aquatic life including the health and migration behavior of anadromous fish (e.g., salmon). The objective of the study is to maintain DO levels above the minimum recommended levels specified in the State of California Water Quality Control Plan (Basin Plan) for the Sacramento River and San Joaquin River basins. The Basin Plan water quality objectives for DO are 6.0 mg/l in the San Joaquin River (between Turner Cut and Stockton, 1 September through 30 November) and 5.0 mg/l the remainder of the year.</p> <p>The project's full-scale aeration system includes two 200-foot-deep u-tube aeration tubes; two vertical turbine pumps capable of pumping over 11,000 gallons of water each; a liquid-to-gas oxygen supply system; and numerous pieces of ancillary equipment and control systems. The system has been sized to deliver approximately 10,000 pounds of oxygen per day into the Deep Water Ship Channel. The aeration system is anticipated to be operated only when channel DO levels are below the Basin Plan DO water quality objectives (approximately 100 days per year). The project study includes an on-going assessment of DO levels in the channel and vicinity and a study of potential adverse effects of low DO on salmon.</p>
<p>e</p>	<p>Central Valley Regional Water Quality Control Board</p>	<p>Cache Creek, Bear Creek, Sulfur Creek, Harley Gulch Mercury TMDL</p>	<p>Historic mining activities in the Cache Creek watershed have discharged and continue to discharge large volumes of inorganic mercury to creeks in the watershed. Much of the mercury discharged from the mines is now distributed in the creek channels and floodplain downstream from the mines. Natural erosion processes are expected to slowly move the mercury downstream out of the watershed over the next several hundred years. However, current and proposed activities in and around the creek channel can enhance mobilization of this mercury. To reduce mercury loads in these streams, which ultimately connect to the northern Delta, the Central Valley Regional Water Quality Control Board is implementing mercury TMDLs for Cache Creek and its tributaries, as well as Sulfur Creek. The implementation plans require a reduction in mercury loads through a combination of actions to clean up mines, sediments, and wetlands; identify engineering options; control erosion reduction actions, and perform studies and monitoring.</p>

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<p>e</p>	<p>Central Valley Regional Water Quality Control Board</p>	<p>Sacramento-San Joaquin Delta Estuary TMDL for Methylmercury</p>	<p>RWQCB has identified the Delta as impaired because of elevated levels of methylmercury in Delta fish that pose a risk for human and wildlife consumers. As a result, it has initiated the development of a water quality attainment strategy to resolve the mercury impairment. The strategy has two components: the methylmercury total maximum daily load (TMDL) for the Delta and the amendment of the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins (the Basin Plan) to implement the TMDL program. The draft Basin Plan amendment would require methylmercury load and waste load allocations for dischargers in the Delta and Yolo Bypass to be met as soon as possible, but no later than 2030. The regulatory mechanism to implement the Delta Mercury Control Program for point sources would be through NPDES permits. Nonpoint sources would be regulated in conformance with the State Water Resources Control Board's Nonpoint Source Implementation and Enforcement Policy. Both point and nonpoint source dischargers would be required to conduct mercury and methylmercury control studies to develop and evaluate management practices to control mercury and methylmercury discharges. The Regional Water Board will use the study results and other information to amend relevant portions of the Delta Mercury Control Program during the Delta Mercury Control Program Review.</p> <p>The draft Basin Plan amendment also would require proponents of new wetland and wetland restoration projects scheduled for construction after 2011 to either participate in a comprehensive study plan or implement a site-specific study plan, evaluate practices to minimize methylmercury discharges, and implement newly developed management practices as feasible. Projects would be required to include monitoring to demonstrate effectiveness of management practices.</p> <p>Activities, including changes to water management and storage in and upstream of the Delta, changes to salinity objectives, dredging and dredge materials disposal and reuse, and changes to flood conveyance flows, would be subject to the open water methylmercury allocations. Agencies would be required to include requirements for projects under their authority to conduct control studies and implement methylmercury reductions as necessary to comply with the allocations by 2030.</p>

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<p>c</p>	<p>U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, California Department of Water Resources, and California Department of Fish and Game</p>	<p>Construction and Upgrade of Facilities to Restore Delta Smelt and Other Native Aquatic Species</p>	<p>In its Interim Federal Action Plan for the California Bay-Delta, the federal government outlined its commitment to the vision of a healthy and sustainable Bay-Delta ecosystem that provides for a high-quality, reliable, and sustainable long-term water supply for California, and restores the environmental integrity and sustainability of the Bay-Delta ecosystem.</p> <p>One of the action items was a federal-state and local partnership, led by the U.S. Fish and Wildlife Service to promote the development of a permanent fish restoration facility (the Bay Delta Center for Collaborative Science and Restoration Propagation of Native Imperiled Aquatic Species) to be located at Rio Vista. This facility would be capable of maintaining genetic refugia of delta smelt and other imperiled native aquatic species and producing the numbers of fish necessary for restoration and recovery. Federal agencies expect to partner with the state and local agencies in conducting initial engineering design, site demolition and preparation activities, planning and environmental compliance consultation, and other activities.</p> <p>In addition to the fish restoration facility, the plan calls for developing a backup delta smelt refugium to guard against a catastrophic event and loss of genetic diversity and to provide an interim restoration propagation facility until the Rio Vista facility is operational. Federal agencies will work with the University of California, Davis and the state to upgrade and ensure safety compliance for the existing facility Delta Smelt Research and Culture Facility at Banks Pumping Plant.</p>

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<p>c</p>	<p>University of California, Davis, California Department of Water Resources, California Department of Fish and Game, U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service</p>	<p>Delta Smelt Interim and Permanent Refugia Facilities</p>	<p>The University of California, Davis (UC Davis), DWR, DFG, USFWS, and Reclamation re cooperating to operate and maintain an interim delta smelt refugial population, and to develop a permanent facility to house the population at Byron Fish Facility in the Delta. Reclamation currently funds UC Davis to operate the facility.</p> <p>DFG and USFWS are identifying improvements and funding needed to make the temporary facility more secure, until USFWS can plan and construct a permanent refuge facility. Back-up refugial population is currently housed at Livingston Stone Fish Hatchery.</p> <p>The temporary smelt refuge has been operating since 2008. It will be needed until a more permanent facility can be constructed. USFWS is evaluating the feasibility of constructing a permanent delta smelt refuge within about 5 years as part of a new USFWS Science Center at Rio Vista. Temporary facility may be part of back-up facilities for refugial population.</p> <p>Reclamation and DFG (using SWRCB money) are currently funding UC Davis to operate the temporary facility. DWR is providing a building, and other in-kind support. Annual operations and maintenance costs are projected at about \$1 million. Another \$2.6 million needs to be secured to expand and improve the reliability of the existing temporary facility. Note this amount is an initial estimate the actual amount may be higher once the necessary engineering and design work is completed.</p> <p>The USFWS is providing initial funding needed to start the evaluation of its Rio Vista Science Center. Additional funding needs to be identified to continue operation and improve the reliability of the temporary facility, and to plan and construct a permanent refuge facility.</p> <p>The refuge is designed to culture and maintain genetically diverse population of 500 adult delta smelt, which requires producing over 8000 breeding adults annually.</p> <p>The temporary facility may support the most genetically diverse population of delta smelt available to seed a conservation hatchery if one is determined needed to restock the Delta. Loss of the refugial population may severely impair what remains of the delta smelt diversity. Failure to improve the security of the temporary refuge facilities (i.e. - water supply and electrical supply and backup, site security) or provide a permanent facility leaves that stock in jeopardy of loss.</p> <p>The temporary and permanent refuge can provide a genetically diverse seed stock for a future restoration hatchery. The future hatchery would restock delta smelt into the Delta, if determined necessary, in conjunction with planned Delta habitat restoration efforts.</p>

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<p>c</p>	<p>University of California, Davis, California Department of Water Resources, and U.S. Bureau of Reclamation</p>	<p>UC Davis Fish Conservation and Culture Laboratory</p>	<p>The Fish Conservation and Culture Lab spawns and rears delta smelt for scientific studies, and develops and improves fish-cultural methods for delta and longfin smelt, and conducts some other research on site.</p> <p>UCD has operated the Culture Lab since the mid-1990s. It has been an ongoing program which will be needed in some form until delta smelt are no longer required for research.</p> <p>Reclamation is currently providing UCD with about \$750,000 for annual operation and maintenance.</p> <p>UCD has successfully met demand for delta smelt research fish, conducted research on site, and submitted summary reports. Delta smelt are necessary to meet annual projected research needs.</p> <p>Inability to conduct certain scientific research, including some needed to better understand the smelt's physiological requirements, smelt tolerances to contaminants and other environmental factors, and smelt behavior to and survival at fish screens.</p> <p>The Culture Lab is a basic infrastructure program needed for the scientific research of delta smelt. It provides research fish and essential methodologies needed to rear and maintain delta smelt for research projects. It is also supplies about half of the capacity currently needed to support the temporary delta smelt refugial population until refugial facilities can be expanded.</p>
<p>e,f</p>	<p>California Department of Water Resources and Solano County Water Agency</p>	<p>North Bay Aqueduct Alternative Intake Project</p>	<p>DWR issued a Notice of Preparation on December 2, 2009 to construct and operate an alternative intake on the Sacramento River, generally upstream of the Sacramento Regional Wastewater Treatment Plant, and connect it to the existing North Bay Aqueduct system by a new segment of pipe. The proposed alternative intake would be operated in conjunction with the existing North Bay Aqueduct intake at Barker Slough. The proposed project would be designed to improve water quality and to provide reliable deliveries of State Water Project supplies to its contractors, the Solano County Water Agency and the Napa County Flood Control and Water Conservation District.</p>

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<p>a,f,c,e</p>	<p>California Department of Water Resources, U.S. Bureau of Reclamation, Metropolitan Water District of Southern California, the Kern County Water Agency, the Santa Clara Valley Water District, Alameda County Flood Control and Water Conservation District, Zone 7 Water Agency, the San Luis and Delta-Mendota Water Authority (SLDMWA), Westlands Water District, and Mirant Delta LLC</p>	<p>Bay Delta Conservation Program</p>	<p>The Bay Delta Conservation Plan is initiated and funded by public water agencies has been developed through a collaboration of public water agencies, State and federal fish and wildlife agencies, non-governmental organizations, agricultural interests, and the general public, is intended to address the increasingly significant and intensifying conflict between the ecological needs of a number of at-risk species adversely affected by a range of human activities and the need for adequate and reliable water supplies from the Sacramento-San Joaquin River Delta, and the streams tributaries thereto, for people, communities, agriculture, and industry. The BDCP sets out near-term and long-term conservation strategies for the Delta that reflect the co-equal planning goals of restoring the ecological functions of the Delta and improving water supply reliability to large portions of the State of California. The goal is to formulate a plan that could ultimately be approved as a Habitat Conservation Plan (HCP) under the provisions of federal Endangered Species Act section 10(a)(1)(B) and a Natural Community Conservation Plan (NCCP) under Fish and Game Code sections 2800 et seq., and/or the California Endangered Species Act, sections 2050 et seq.</p> <p>DWR is preparing an EIR to evaluate potential impacts of approval of the proposed BDCP with respect to improved water conveyance infrastructure and other habitat conservation measures that will be developed to advance the goals and objectives of the proposed BDCP while meeting its California Environmental Quality Act (CEQA) obligations.</p> <p>USFWS and NMFS are preparing an EIS to evaluate potential impacts of approval of the proposed BDCP Habitat Conservation Plan (HCP), including issuance of incidental take permits by USFWS and NMFS to DWR, and issuance of incidental take statements and biological opinions by USFWS and NMFS to U.S. Bureau of Reclamation (Reclamation).</p> <p>Reclamation is participating as a co-lead Federal agency in the EIS to evaluate potential impacts of approval of the proposed BDCP with respect to actions to improve water supply reliability for the Central Valley Project (CVP) water contractors while meeting its Federal Endangered Species Act (ESA) and National Environmental Policy Act (NEPA) obligations.</p>
<p>g,c</p>	<p>U.S. Army Corps of Engineers</p>	<p>Lower San Joaquin Feasibility Study</p>	<p>The Lower San Joaquin Feasibility Study is intended to determine if there is a federal interest in providing flood risk management and ecosystem restoration improvements along the Lower (northern) San Joaquin River. The Lower San Joaquin River study area includes the San Joaquin River from the Mariposa Bypass downstream to, and including, the city of Stockton. The study area also includes the channels of the San Joaquin River in the southernmost reaches of the Delta: Paradise Cut and Old River as far north as Tracy Boulevard and Middle River as far north as Victoria Canal. The floodplains of the lower San Joaquin River and its tributaries are also included in the study area.</p>

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<p>b</p>	<p>U.S. Army Corps of Engineers</p>	<p>Suisun Bay Channel Operations and Maintenance</p>	<p>The project is located 30 miles northeast of San Francisco and is part of the San Francisco Bay to Stockton Ship Channel. The project provides for annual maintenance dredging of the main channel, 300 feet wide and -35 feet deep at Mean Lower Low Water, from the Carquinez Strait at Martinez to Pittsburg (called Suisun Bay Channel), and maintenance dredging of New York Slough Channel farther upstream to Antioch (a distance of 17 miles). The project also provides annual maintenance dredging for a channel 250 feet wide and -20 feet deep south of Seal Islands, from the main channel at Point Edith to the main channel again at Port Chicago at mile 6.</p>
<p>b</p>	<p>U.S. Army Corps of Engineers</p>	<p>Suisun Channel (Slough) Operation and Maintenance</p>	<p>The Suisun Channel connects the City of Suisun near Fairfield, California to Grizzly Bay and thus to Suisun Bay 30 miles northeast of San Francisco. Project operations and maintenance provides for maintenance dredging of an entrance channel in Suisun Bay 200 feet wide and -8 feet deep, and thence a channel 100 to 125 feet wide and -8 feet deep for 13 miles to the head of navigation at City of Suisun, with a turning basin. This shallow draft channel is maintained on an infrequent basis.</p>
<p>g</p>	<p>U.S. Army Corps of Engineers and California Department of Water Resources</p>	<p>Delta Islands and Levees Feasibility Study</p>	<p>The feasibility study will address flood risk management, ecosystem restoration, water quality, water supply, and a variety of other issues. The California Department of Water Resources' (DWR) Delta Risk Management Strategy studies will be used to define problems, opportunities, and specific planning objectives. The feasibility study provides the mechanism by which the U.S. Army Corps of Engineers (USACE) can participate in a cost-shared solution to a variety of water resources needs for which it has authority. USACE and DWR share the cost of the feasibility study equally.</p>
<p>b</p>	<p>U.S. Army Corps of Engineers, Port of Stockton, and Contra Costa County Water Agency</p>	<p>San Francisco Bay to Stockton Deep Water Ship Channel Project</p>	<p>The San Francisco Bay to Stockton Deep Water Ship Channel Project is a congressionally authorized project being implemented by the U.S. Army Corps of Engineers (USACE), the Port of Stockton, and Contra Costa County Water Agency. A joint EIS/EIR will evaluate the action of navigational improvements to the Stockton Deep Water Ship Channel. A General Reevaluation Report is being prepared to determine the feasibility of modifying the current dimensions of the West Richmond, Pinole Shoal, Suisun Bay, and Stockton Ship Channels, which are currently maintained to 35 feet and provide access to oil terminals, industry in Pittsburg, and the Port of Stockton. The proposed action consists of altering the depth of the deep draft navigation route.</p>

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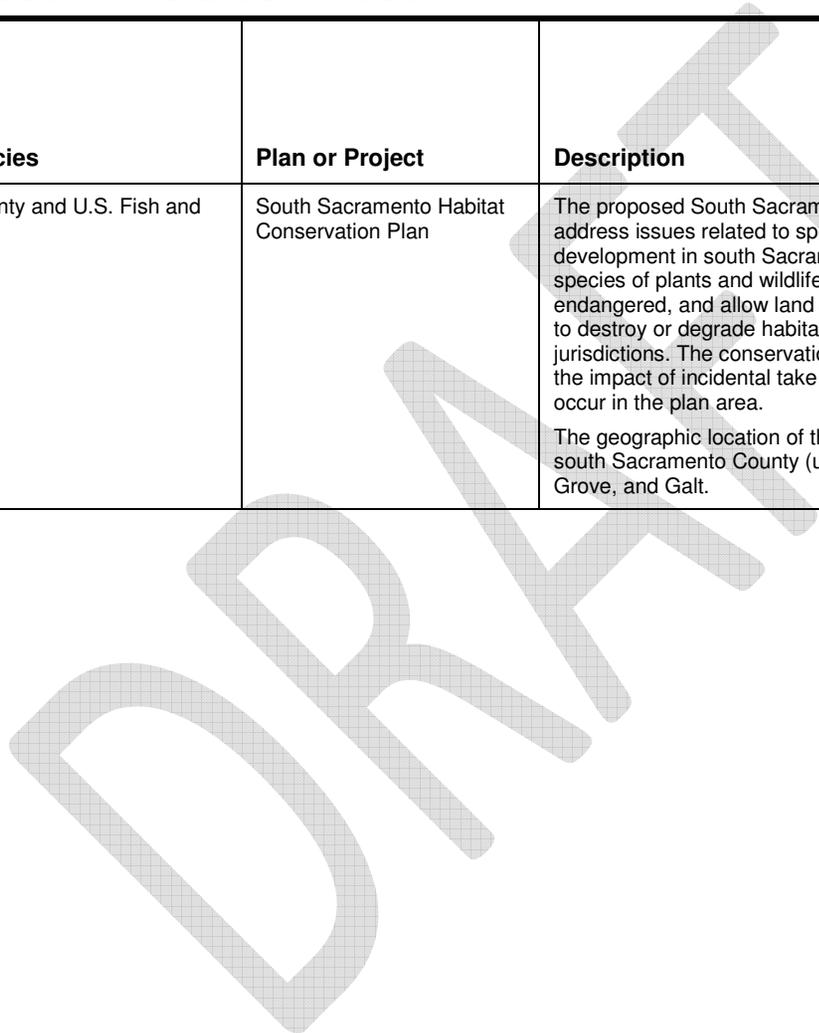
<p><b>Appendix V. Plans or Projects Related to Delta Water and Environmental Resources and Delta as a Place</b></p>			
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<p>b</p>	<p>U.S. Army of Corps of Engineers and Port of Sacramento</p>	<p>Sacramento Deep Water Ship Channel Project</p>	<p>The Sacramento River Deep Water Ship Channel Project is a Congressionally authorized project being implemented by USACE and the Port of Sacramento. The proposed project would complete the deepening and widening of the navigation channel to its authorized depth of 35 feet. Deepening of the existing ship channel is anticipated to allow for movement of cargo via larger, deeper draft vessels. Widening portions of the channel would increase navigational safety by increasing maneuverability. The 46.5-mile-long ship channel lies within Contra Costa, Solano, Sacramento, and Yolo counties and serves the marine terminal facilities at the Port of Sacramento. The Sacramento Deep Water Ship Channel joins the existing 35-foot-deep channel at New York Slough, thereby affording the Port of Sacramento access to San Francisco Bay Area harbors and the Pacific Ocean.</p>
<p>g</p>	<p>U.S Army Corps of Engineers and West Sacramento Area Flood Control Agency</p>	<p>West Sacramento Levee Improvements Program</p>	<p>The West Sacramento Levee Improvements Program (WSLIP) would construct improvements to the levees protecting West Sacramento to meet local and federal flood protection criteria. The program area includes the entire WSAFCA boundaries which encompasses portions of the Sacramento River, the Yolo Bypass, the Sacramento Bypass, and the Sacramento Deep Water Ship Channel. The levee system associated with these waterways includes over 50 miles of levees in Reclamation District (RD) 900, RD 537, RD 811, DWR's Maintenance Area 4, and the Deep Water Ship Channel. These levees completely surround the West Sacramento. For the purposes of this program, the levees have been generally divided into the nine reaches: Sacramento River Levee North, Sacramento River Levee South, Port North Levee, Port South Levee, South Cross Levee, Deep Water Ship Channel Levee East, Deep Water Ship Channel Levee West, Yolo Bypass Levee, and Sacramento Bypass Levee.</p>
<p>g</p>	<p>Sacramento County</p>	<p>Sacramento County General Plan Update</p>	<p>The existing Sacramento County General Plan, adopted in 1993, has a time horizon of 2010. In 2002, the County initiated a comprehensive general plan update to guide the growth and development of the County through the year 2030. In June 2007, the county issued a draft updated general plan and began environmental review.</p> <p>The general plan update covers the entire unincorporated portion of Sacramento County, including portions of the Delta within Sacramento County. The update also includes a Delta Protection Element that identifies goals and objectives within the primary zone of the Delta.</p>

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<p>b</p>	<p>San Joaquin County</p>	<p>San Joaquin County General Plan Update</p>	<p>The San Joaquin County General Plan 2010 was adopted on July 29, 1992. The general plan provides guidance for future growth in a manner that preserves the county's natural and rural assets. Most of the urban growth is directed to existing urban communities.</p> <p>In June 2008, San Joaquin County began the process to update the 1992 general plan. The general plan update will provide the blueprint for growth in the county unincorporated areas through 2030.</p>
<p>c,b</p>	<p>Contra Costa County and East Contra Costa County Habitat Conservancy</p>	<p>East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan</p>	<p>The East Contra Costa County Habitat Conservation Plan / Natural Community Conservation Plan (Plan) was adopted in 2006 and provides regional conservation and development guidelines to protect natural resources while improving and streamlining the permit process for endangered species and wetland regulations. The Plan was developed by a team of scientists and planners with input from independent panels of science reviewers and stakeholders. Within the 174,018- acre inventory area, the Plan provides permits for between 8,670 and 11,853 acres of development and will permit impacts on an additional 1,126 acres from rural infrastructure projects. The Plan will result in the acquisition of a preserve system that will encompass 23,800 to 30,300 acres of land that will be managed for the benefit of 28 species as well as the natural communities that they depend upon.</p> <p>The East Contra Costa County Habitat Conservancy is a joint exercise of powers authority formed by Contra Costa County and the cities of Brentwood, Clayton, Oakley and Pittsburg to implement the Plan. It allows Contra Costa County, the Contra Costa County Flood Control and Water Conservation District, the East Bay Regional Park District and the cities of Brentwood, Clayton, Oakley, and Pittsburg (collectively, the Permittees) to control permitting for activities and projects they perform or approve in the region that have the potential to adversely affect state- and federally listed species. The Plan also provides for comprehensive species, wetlands, and ecosystem conservation and contributes to the recovery of endangered species in northern California. The Plan avoids project-by-project permitting that often results in uncoordinated and biologically ineffective mitigation.</p>

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<p>c,b</p>	<p>Sacramento County and U.S. Fish and Wildlife Service</p>	<p>South Sacramento Habitat Conservation Plan</p>	<p>The proposed South Sacramento Habitat Conservation Plan (HCP) is a regional plan to address issues related to species conservation, agricultural protection, and urban development in south Sacramento County. The proposed HCP would cover 40 different species of plants and wildlife including 10 that are state or federally listed as threatened or endangered, and allow land owners to engage in the "incidental take" of listed species (i.e., to destroy or degrade habitat) in return for conservation commitments from local jurisdictions. The conservation measures outlined in the HCP would minimize and mitigate the impact of incidental take and provide for the conservation of covered species that may occur in the plan area.</p> <p>The geographic location of the proposed HCP includes a combined 341,000 acres within south Sacramento County (unincorporated area) and the cities of Rancho Cordova, Elk Grove, and Galt.</p>



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<p>c,b</p>	<p>San Joaquin Council of Governments</p>	<p>San Joaquin County Multi-Species Habitat Conservation and Open Space Plan</p>	<p>Completed in 2000, the key purpose of the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (Plan) is to provide a strategy for balancing the need to conserve open space and the need to convert open space to non-open space uses. These goals are intended to be met while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish and wildlife species, especially those that are currently listed, or may be listed in the future, under the federal Endangered Species Act (ESA) or the California Endangered Species Act (CESA); providing and maintaining multiple-use open spaces that contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to project proponents and society at large.</p> <p>The conservation strategy relies on minimizing, avoiding, and mitigating impacts on the species covered by the Plan. Minimization of impacts on covered species takes a species-based approach emphasizing the implementation of measures to minimize incidental take by averting the actual killing or injury of individual covered species and minimizing impacts to habitat for such species on open space lands converted to non-open space uses. Unavoidable impacts to covered species are addressed through a habitat-based approach that emphasizes compensation for habitat losses through the establishment, enhancement and management-in-perpetuity of preserves composed of a specific vegetation types or association of vegetation types (habitats) upon which discrete groups of covered species rely. The purchase of easements from landowners willing to sell urban development rights is the primary method for acquiring preserves. The Plan identifies zones distinguished by a discrete association of soil types, water regimes (e.g., Delta lands subject to tidal influence, irrigated lands, lands receiving only natural rainfall), elevation, topography and vegetation types. In general, impacts within a particular zone are mitigated within the same zone.</p>

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<p>f,c</p>	<p>Solano County Water Agency</p>	<p>Solano Multispecies Habitat Conservation Plan</p>	<p>The Solano HCP is intended to support the issuance of an incidental take permit under the federal Endangered Species Act for a period of 30 years. This permit is required by the March 19, 1999 Solano Project Contract Renewal Biological Opinion between the U.S. Fish and Wildlife Service and U.S. Bureau of Reclamation. The scope of the Solano HCP was expanded beyond the requirements of the Biological Opinion to include additional voluntary applicants and additional species for incidental take coverage. These additional species include federally listed fish species under the jurisdiction of the National Marine Fisheries Service and species listed as threatened or endangered under the California Endangered Species Act. The HCP further addresses other species of concern (i.e., species recognized by groups such as the California Department of Fish and Game and California Native Plant Society as having declining or vulnerable populations, but not officially listed as threatened or endangered species). Thirty-seven (37) species are proposed to be covered under the Solano HCP. The minimum geographical area to be covered is the Solano County Water Agency's contract service area that is the cities of Fairfield, Vacaville, Vallejo, Suisun City, the Solano Irrigation District and the Maine Prairie Water District. The area covered by the HCP is all of Solano County and a small portion of Yolo County. The Final Administrative Draft was published in June 2009.</p> <p>The HCP includes a Coastal Marsh Natural Community Conservation Strategy designed to maintain the water and sediment quality standards, hydrology and ecological functions of this natural community; contribute to the restoration of tidally influenced coastal marsh habitat; contribute to the conservation and recovery of associated covered species; and promote habitat connectivity. Primary conservation actions include preservation (primarily through avoidance), restoration, invasive species control, and improvement of water quality.</p> <p>The plan area Covers 580,000 acres, which includes 12,000 acres of proposed development and 30,000 acres that will be preserved.</p>

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b,c	Yolo County Joint Powers Authority	Yolo County Habitat/Natural Community Conservation Plan	<p>The Yolo County Habitat Joint Powers Authority (JPA), consisting of five local public agencies, launched the Yolo Natural Heritage Program in March 2007. This effort includes the continuing preparation of a joint Habitat Conservation Plan/ Natural Community Conservation Plan (HCP/NCCP). Member agencies include: Yolo County, City of Davis, City of Woodland, City of West Sacramento and City of Winters.</p> <p>The HCP/NCCP will describe the measures that local agencies will implement in order to conserve biological resources, obtain permits for urban growth and public infrastructure projects, and continue to maintain the agricultural heritage and productivity of the county. The nearly 653,820-acre planning area provides habitat for 28 sensitive species occurring within five dominant habitats/natural communities. This list includes seven state-listed species: palmate-bracted birds beak, Colusa grass, Crampton's tuctoria, giant garter snake, Swainson's hawk, western yellow-billed cuckoo, and bank swallow. Interim conservation activities include acquiring permanent conservation easements for sensitive species habitat in the plan area.</p>
c	Yolo Basin Foundation and Delta Protection Commission	Lower Yolo Bypass Planning Forum	<p>The Lower Yolo Bypass Planning Forum (Forum) is an entity formed by the Yolo Basin Foundation and the Delta Protection Commission, with funding from the California Department of Fish and Game, to bring together stakeholders in the Yolo Bypass to address and resolve issues related to flood conveyance, sensitive species habitat, recreational opportunities, agriculture and privately managed habitat, and flood control levees. The Forum is providing guidance on strategies to increase the frequency and duration of spring flooding in the Yolo Bypass and fish passage, while maintaining existing land uses (e.g., agriculture) and flood control functions of the Bypass. The Forum encourages conservation strategies that consider the productivity of existing land uses, multiple conveyance options, willing landowners, existing planning efforts, and local stakeholder groups.</p>

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<p>f,c</p>	<p>Contra Costa Water District</p>	<p>Contra Costa Canal Fish Screen Project</p>	<p>Contra Costa Water District (CCWD) diversion of water from the Sacramento-San Joaquin Delta at Rock Slough serves as a major component of its water supply. Between 120,000 and 130,000 acre-feet of water per year is diverted by the canal for irrigation and municipal and industrial uses. The diversion at Rock Slough is one of the largest unscreened Delta sites. The project would install fish screens at the Rock Slough diversion to minimize the entrainment losses of sensitive fish species. It includes flow control and transition structures necessary to reduce tidal influences and maintain flow rates. This will help the screen perform properly and allow fish to pass by it easily. Improvements at the diversion site also would reduce potential predation on target species, fulfill legal requirements of the U.S. Fish and Wildlife Service's 2008 Biological Opinion for the threatened Delta smelt, complete the mitigation for the Los Vaqueros Biological Opinion, and complete CVPIA requirements in Section 3406(b)(5). Construction is estimated to be complete in 2010.</p>
<p>f</p>	<p>Contra Costa Water District</p>	<p>Contra Costa Canal Replacement Project</p>	<p>CCWD Canal Replacement Project will replace the canal with a pipeline along a portion of the 48-mile Contra Costa Canal near Oakley. The first phase was initiated in 2009. The project would encase a 1,900-foot portion of the Contra Costa Canal to reduce salinity and water quality impacts of groundwater seepage from adjacent agricultural areas, as well as to increase public safety and flood protection. Contra Costa Water District will be initiating plans for the remaining sections.</p>
<p>f</p>	<p>Contra Costa Water District and U.S. Bureau of Reclamation</p>	<p>Los Vaqueros Reservoir Expansion Project</p>	<p>Los Vaqueros Reservoir is a 100,000 acre-foot off-stream storage reservoir owned and operated by CCWD that is used to store water pumped from the Delta. This storage capacity allows CCWD to improve the water quality delivered to its customers and to adjust the timing of its Delta water diversions to accommodate the life cycles of Delta aquatic species, thus reducing species impact and providing a net benefit to the Delta environment.</p> <p>The proposed expansion project would increase the reservoir capacity to 275,000 acre-feet and add a new 470 cfs connection that would allow the Los Vaqueros system to provide water to South Bay water agencies – Alameda County Flood Control and Water Conservation District, Zone 7, Alameda County Water District, and Santa Clara Valley Water District – that otherwise would receive all of their Delta supplies through the existing SWP and CVP export pumps. It also would include construction of a new diversion on Old River with a capacity of 170 cfs. The new and expanded facilities would be operated in coordination with the U.S. Bureau of Reclamation and California Department of Water Resources to shift Delta pumping for the three South Bay water agencies from the CVP and SWP Delta export pumps to the expanded Los Vaqueros reservoir system.</p>

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<p>e,f</p>	<p>Contra Costa Water District, U.S. Bureau of Reclamation, and California Department of Water Resources</p>	<p>Alternative Intake Project</p>	<p>The Alternative Intake Project is under construction and will be complete in 2010. The project would locate a new drinking water intake at Victoria Canal, about 2.5 miles east of CCWD existing intake on the Old River, which would allow CCWD to divert higher quality water when it is available. The new screened intake includes a 2.5-mile pipeline extension and a new pumping plant that would tie into CCWD's existing conveyance system. The new intake would have the same capacity and similar design as the existing Old River intake (250 cubic feet of water per second).</p>
<p>f</p>	<p>Davis, Woodland, and University of California, Davis</p>	<p>Davis-Woodland Water Supply Project</p>	<p>The Davis-Woodland Water Supply Project would divert up to about 46,100 acre-feet per year of surface water from the Sacramento River and convey it for treatment and subsequent use in Davis and Woodland and on the University of California, Davis campus. The purposes of the project are to provide a reliable water supply to meet existing and future needs, improve water quality for drinking supply purposes, and improve treated wastewater effluent quality through 2040. Project activities would include construction and operation of a water intake/diversion, conveyance, and water treatment facilities. Surface water supplies would be acquired through new water rights and water rights transfers from senior water rights holders.</p> <p>The Project would be located in the east-central portion of Yolo County, between and within the cities of Woodland and Davis, the University of California, Davis campus, and west of the Sacramento River. The new water diversion facility would be constructed on the Sacramento River near the Interstate 5 crossing at the location of the existing Reclamation District 2035 diversion. The water treatment plant to treat the surface water diverted from the Sacramento River would have an ultimate capacity of up to 106 MGD.</p> <p>Water diversions under the project would be made in compliance with Standard Water Right Permit Term 91, which prohibits surface water diversions when water is being released from CVP or SWP storage reservoirs to meet in-basin entitlements, including water quality and environmental standards for protection of the Sacramento-San Joaquin Delta. Water supply needs during periods applicable to Term 91 would be satisfied by entering into water supply transfer agreements with senior water rights holders within the Sacramento River watershed.</p>

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<p>c</p>	<p>East Bay Municipal Utility District</p>	<p>Lower Mokelumne River Spawning Habitat Improvement Project</p>	<p>The Mokelumne River is tributary to the Sacramento-San Joaquin River Delta and supports five species of anadromous fish. The proposed project would initially place 4,000 to 5,000 cubic yards of suitably sized salmonid spawning gravel annually for a 3-year period at two specific sites, and then provide annual supplementation of 600 to 1,000 cubic yards thereafter. Fall-run Chinook salmon and steelhead are the primary management focus in the river. Availability of spawning gravel in this section of the Mokelumne River has been determined to be deficient because historic gold and aggregate mining operations removed gravel annually and upstream dams have reduced gravel transport to the area. This area was chosen because it is known to have supported fall-run Chinook salmon and steelhead spawning in the past and because the substrate is suitable for habitat improvement.</p>
<p>f</p>	<p>East Bay Municipal Utility District, Contra Costa Water District, Santa Clara Valley Water District, and San Francisco Public Utility Commission</p>	<p>Bay Area Regional Desalination Project</p>	<p>The Bay Area's four largest water agencies are jointly exploring the development of regional desalination facilities that would benefit Bay Area residents and businesses served by these agencies. The Bay Area Regional Desalination Project could consist of one or more desalination facilities, with an ultimate total capacity of up to 71 million gallons per day. The project would provide an additional source of water during emergencies, such as earthquakes or levee failures, increase supply reliability, and provide water during droughts or maintenance of other facilities. A pilot plant was constructed near the southern end of Antioch Bridge. Following the pilot study, environmental documentation and designs will be completed for a full-scale plant.</p>
<p>f</p>	<p>Freeport Regional Water Authority and U.S. Bureau of Reclamation</p>	<p>Freeport Regional Water Project</p>	<p>Freeport Regional Water Authority, a Joint Powers Authority created by exercise of a joint powers agreement between the Sacramento County Water Agency (SCWA) and the East Bay Municipal Utility District (EBMUD), is constructing a new water intake facility/pumping plant and 17-mile underground water pipeline within Sacramento County. The new water intake facility and pumping plant is located on the Sacramento River at the Freeport Bend, just upstream of Freeport and 10 miles south of Sacramento. The pumping plant will divert up to 185 million gallons per day of water from the river and pump it through new pipelines to EBMUD and SCWA project facilities. Components of the facility include an in-river intake fish screen, sheet-piled in-river transition structure, electrical substation, surge control facility, compressed air system, sediment collection and settling basin system, and utilities. Construction of the intake is expected to be completed in 2010; the water treatment plant is expected to be completed in 2012.</p>

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c	Reclamation District 2093	Liberty Island Conservation Bank	<p>This project received permits and approvals in 2009 to create a conservation bank on the northern tip of Liberty Island that would preserve, create, restore, and enhance habitat for native Delta fish species, including Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, California Central Valley steelhead, delta smelt, and Central Valley fall- and late fall-run Chinook salmon. The project consists of creating tidal channels, perennial marsh, riparian habitat, and occasionally flooded uplands on the site. The project also includes the breaching of the northernmost east-west levee, and preservation and restoration of shaded riverine aquatic habitat along the levee shorelines of the tidal sloughs.</p> <p>The island's private levees failed in the 1997 flood and were not recovered, leaving all but the upper 1,000 acres and the adjacent levees permanently flooded. These upper acres encompass the proposed bank. The lower nearly 4,000 acres will remain, at least for the near future, predominantly open water and subtidal because tidal elevations are too great for marsh or riparian habitat.</p>
f	Stockton	Delta Water Supply Project	<p>The Delta Water Supply Project would develop a new supplemental water supply for the Stockton Metropolitan Area by diverting water from the Delta and conveying it through a pipeline to a surface water treatment plant, where it would be treated to the highest drinking water standards and distributed. Initially, the project would have the capacity to treat and deliver up to 30 million gallons per day (mgd) or 33,600 acre-feet of water per year, meeting approximately one third of Stockton's water needs.</p>

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<p>f</p>	<p>Semitropic Water Storage District</p>	<p>Delta Wetlands Project</p>	<p>Delta Wetlands is a proposed a project for water storage and wildlife habitat enhancement on Bacon Island and Bouldin Island in San Joaquin County and Holland Tract and Webb Tract in Contra Costa County. The project description contained in the 2001 Final EIR/EIS, prepared by the State Water Resources Control Board and U.S. Army Corps of Engineers, involved the diversion and storage of winter flows on Bacon Island and Webb Tract for beneficial uses in summer, and developing seasonal wetlands and riparian habitats on Bouldin Island and most of Holland Tract. The project would divert 312,000 acre-feet of water from Delta through large siphons during December 15 through May 1. The stored water would be discharged to Delta outflows from May through July. From August to December, the habitat islands would be vegetated with wetland plants to support wintering waterfowl. From October through December the islands would be managed as waterfowl habitat, where private hunting would be permitted.</p> <p>In 2010, the Semitropic Water Storage District issued a Draft EIR to continue with the Delta Wetlands project and integrate the project with the Semitropic Groundwater Storage Banak and Antelope Valley Water Bank to provide water supply for agricultural uses in Semitropic Water Storage District and water quality enhancement in the Delta during fall months</p>

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<p><b>Appendix VI. Policy-type Programs Related to Delta Water and Environmental Resources and Delta as a Place</b></p>			
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<p>c</p>	<p>California Department of Boating and Waterways</p>	<p><i>Egeria Densa</i> Control Program</p>	<p>The <i>Egeria Densa</i> Control Program (EDCP) is part of the Department of Boating and Waterway's (DBW) Aquatic Pest Control Program. Cal Boating has operated the EDCP in the Sacramento-San Joaquin Delta, and its tributaries, since program inception in 2001. The program was developed in order to respond to 1997 State legislation (Rainey, AB 2193), authorizing the program. A Final EIR was published for the program in 2001. A second addendum to the 2001 EIR was published in January 2006, with 5-year program review and future operations plan. In June 2007, the National Marine Fisheries Services analyzed the potential effects of continued implementation of the EDCP on listed salmonids and green sturgeon and issued a Biological Opinion continuation of the program for 5 years (2007 through 2011).</p> <p>The program includes treatment with herbicides, environmental monitoring, regulatory compliance, and surveillance.</p>
<p>c</p>	<p>California Department of Boating and Waterways</p>	<p>Water Hyacinth Control Program</p>	<p>The Water Hyacinth Control Program is part of the California Department of Boating and Waterways' (DBW) Aquatic Pest Control Program. DBW has operated the Water Hyacinth Control Program in the Sacramento-San Joaquin Delta, and its tributaries, since program inception. In 1982, state legislation made DBW the lead agency for the control of water hyacinth in the Sacramento-San Joaquin Delta, its tributaries and the Suisun Marsh. The initial control plan used both short- and long term methods that involved chemical, mechanical, and biological control measures. The primary and most successful control measure is chemical spraying. Permits for the program were obtained in 2001.</p> <p>DWB published a Draft Programmatic Environmental Impact Report on September 10, 2009. The proposed selected alternative is continuation of the program.</p>
<p>c</p>	<p>California Department of Fish and Game</p>	<p>Invasive Species Program</p>	<p>The Invasive Species Program participates on efforts to prevent the introduction of non-native invasive species in California, detect and respond to introductions when they occur, and prevent the spread of non-native invasive species that have become established. Program activities include development of the California Aquatic Invasive Species Management Plan, the Marine Invasive Species Monitoring Program, and informational and education activities for quagga/zebra mussels, New Zealand mudsnails, northern pike (in Lake Davis), and dwarf eelgrass.</p>

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<p>c</p>	<p>California Department of Fish and Game</p>	<p>California Aquatic Invasive Species Management Plan</p>	<p>The California Aquatic Invasive Species Management Plan (CAISMP) was released in January 2008. The plan's overall goal is to identify the steps that need to be taken to minimize the harmful ecological, economic, and human health impacts of aquatic invasive species in California. This plan provides the state's first comprehensive, coordinated effort to prevent new invasions, minimize impacts from established aquatic invasive species and establish priorities for action statewide. In addition, it proposes a process for annual plan evaluation and improvement so that aquatic invasive species can continue to be managed in the most efficient manner in the future. Eight major objectives and 163 actions were identified in the CAISMP.</p>
<p>c</p>	<p>California Department of Fish and Game</p>	<p>Aquatic Invasive Species Draft California Rapid Response Plan</p>	<p>The California Aquatic Invasive Species Management (described above) proposes an Aquatic Invasive Species Rapid Response Plan for the State of California. The Rapid Response Plan establishes a draft general procedure for rapid response following detection of new aquatic invasive species infestation. It provides a framework for developing and implementing a rapid response plan. It is preliminary in that it describes types of information, resources and decisions necessary to finalize the plan. In order to finalize, fund, and implement the draft Rapid Response Plan, DFG expects that cooperating agencies will assign staff to participate. DFG Invasive Species Program staff will provide coordination for the interagency activities called for in the agreement(s).</p>
<p>c</p>	<p>California Department of Fish and Game, California Department of Water Resources, and California State Lands Commission</p>	<p>Zebra Mussel Rapid Watch Program and Response Plan for California</p>	<p>As part of the Zebra Mussel Early-Detection Monitoring and Outreach Program and the California Zebra Mussel Watch Program, this rapid response plan was developed to outline necessary actions and resources needed to respond to confirmed introductions of zebra mussels into the state. The plan outlines available options for eradication and/or control of zebra mussels (and quagga mussels) and provides guidance for resource managers and agency personnel. The plan includes a list of potential zebra mussel infestation scenarios with possible treatment and post-treatment monitoring techniques. The Zebra Mussel Rapid Response Plan for California is a working document that requires additional information (which will be incorporated as it becomes available) regarding funding sources, permitting requirements, specific roles of agency personnel, legal information, and infestation site specific information. The draft plan will serve as the template for a statewide plan that staff from the California Department of Water Resources will continue to develop.</p>

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<p>c</p>	<p>California Department of Fish and Game</p>	<p>Fish Screen and Passage Program</p>	<p>Under the Fish Screen and Fish Passage Program, DFG conducts inventories of all screened and unscreened diversions and fish passage problems via site visits, and gathers information on the size and number of diversions at each site and presence of existing fish protective facilities. DFG performs the following activities: 1) inventory of water diversion and fish passage problems; 2) evaluation and prioritization of fish screening and fish passage problems; 3) implementation and coordination of fish protection activities; 4) evaluation of existing and proposed fish protective installations; and 5) review of fish screening and fish passage literature. In addition, it maintains a database that is fairly comprehensive for the Central Valley streams (Sacramento and San Joaquin Rivers systems).</p>
<p>c</p>	<p>California Department of Fish and Game</p>	<p>Delta-Bay Enhanced Enforcement Program</p>	<p>The Delta-Bay Enhanced Enforcement was initiated in 1991 through the Four Pumps Agreement between the California Department of Fish and Game and California Department of Water Resources (funded by the State Water Project Contractors). In 1994, the U.S. Bureau of Reclamation began funding additional warden positions. The program provides increased enforcement to reduce illegal harvest of species in the San Francisco Bay and Delta, upstream into the Sacramento and San Joaquin basins. In 2008, the program had 10 wardens that focused enforcement efforts to protect steelhead and salmon, as well as other anadromous species of concern. In the Sacramento Basin, the program targets enforcement during the spring-run Chinook salmon migration and summer holding period.</p>

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<p>c</p>	<p>California Department of Fish and Game</p>	<p>Ecosystem Restoration Program Conservation Strategy</p>	<p>The Ecosystem Restoration Program (ERP) Conservation Strategy proposes to address the critical environmental conditions in the Delta and Suisun Marsh/Bay during the first phase of Stage 2 implementation (2009-2020).</p> <p>The Strategy includes an ecosystem restoration program plan, multi-species conservation strategy, strategic plan for implementation that includes adaptive management, performance measures and monitoring, and proposed performance targets. The adaptive management framework will include “phased” implementation of ERP as the initial “ecosystem enhancement” element that could be a more comprehensive program, allowing for additional ecosystem enhancement components to be developed in the future if ongoing ERP implementation does not achieve desired Delta ecosystem objectives.</p> <p>Proposed performance targets and goals include Delta outflow and other in-Delta flows, restored acres of tidal marsh and other habitats, other stressors, and species abundance.</p> <p>This conservation strategy is based on the assumption that the most promising approach for achieving both ecosystem and water supply goals for the Delta involves a conveyance system with new points of diversion, dependent upon design, operational, and institutional considerations currently under development. This includes construction and operation of a new point (or points) of diversion in the north Delta, on the Sacramento River, and an isolated conveyance facility around the Delta.</p>

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<p>c</p>	<p>California Department of Fish and Game and U.S. Fish and Wildlife Service</p>	<p>Hatchery and Stocking Program</p>	<p>DFG operates a statewide system of fish hatchery facilities that rear and subsequently release millions of trout, salmon, and steelhead of various age and size classes into state waters. These fish are reared and released for recreational and commercial fishing, for conservation and restoration of fish species that are native to California waters, for mitigation of habitat losses caused by construction of dams on the state's major rivers, and for mitigation of fish lost at state-operated pumping facilities in the Sacramento-San Joaquin River Delta.</p> <p>DFG's Hatchery Program includes:</p> <ul style="list-style-type: none"> <li>- operation of 14 trout hatchery facilities owned by DFG and the related stocking of fish,</li> <li>- operation of eight salmon and steelhead hatchery facilities owned by others and the related stocking of fish,</li> <li>- operation of two salmon and steelhead hatchery facilities owned by DFG and the related stocking of fish,</li> <li>- providing education staff and fish for stocking under the Fishing in the City program,</li> <li>- issuing authorizations and providing fish eggs for the Classroom Aquarium Education Project (CAEP)</li> <li>- issuing permits for stocking public and private waters with fish reared at private aquaculture facilities, and</li> <li>- implementing the fish production and native trout conservation requirements contained in California Fish and Game Code Section 13007.</li> </ul> <p>The fundamental objectives of DFG's Hatchery Program are to continue the rearing and stocking of fish from its existing hatchery facilities for the recreational use of anglers, for mitigation of habitat loss due to dam construction and blocked access to upstream spawning areas, for mitigation of fish losses caused by operation of the state-operated Sacramento-San Joaquin Delta pumps, and for conservation and species restoration.</p>

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<p>c</p>	<p>California Department of Fish and Game, California Department of Food and Agriculture, California State Parks</p>	<p>Watercraft Inspection Programs</p>	<p>Several local boat and watercraft inspection programs have been initiated to prevent the spread of invasive species such as quagga mussels. Since early 2007, more than 150,000 watercraft have been inspected at CDFA's Border Protection Stations. Pests have been detected on nearly 200 occasions. Another 14,000 watercraft were cleaned and/or drained of all water that could harbor the mussels. The inspections are ongoing. After quagga mussels were detected in 2007 in the Colorado River, funding was granted to enable the California Department of Food and Agriculture (CDFA) to inspect watercraft at six border stations along the Nevada and Arizona borders: Truckee, Needles, Winterhaven, Blythe, Yermo and Vidal. When exotic mussels are detected by CDFA inspectors, the watercraft are cleaned and the owners issued a quarantine notice prohibiting the craft from entering California waters until a final inspection is conducted by the California Department of Fish and Game (DFG).</p> <p>DFG conducts boat inspection training and activities around the state, and has initiated inspections at several water bodies.</p>
<p>b</p>	<p>California State Parks</p>	<p>Central Valley Vision</p>	<p>In 2003, California State Parks began work on a long-term Central Valley Vision to develop a strategic plan for State Parks expansion in the Central Valley. The plan will provide a 20-year road map for State Park actions to focus on increasing service to Valley residents and visitors. Within the Great Central Valley (San Joaquin Valley, Sacramento Valley and the Delta region), California State Parks operates and maintains 32 state park units representing 7% of the total state park system acreage. Plans include: Delta Meadows River Park, Brannon Island SRA, Franks Track SRA, Locke Boarding House, and San Joaquin and Sacramento Rivers.</p> <p>In 2008, California State Parks published a Draft Central Valley Vision Implementation Plan that focuses on meeting the public's recreation needs in the Central Valley 20 years into the future. It outlines planning options to develop new and improved recreation opportunities, acquire new park lands, and build economic and volunteer partnerships.</p>

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<p>g</p>	<p>California Department of Water Resources</p>	<p>Central Valley Flood Protection Plan</p>	<p>Legislation passed in 2007 directs the California Department of Water Resources to develop three documents that will guide improvement of integrated flood management:</p> <ul style="list-style-type: none"> <li>• State Plan of Flood Control (SPFC) Descriptive Document to inventory and describe the flood management facilities, land, programs, conditions, and mode of operations and maintenance for the State-federal flood protection system in the Central Valley.</li> <li>• Flood Control System Status Report to assess the status of the facilities included in the SPFC Descriptive Document, identify deficiencies, and make recommendations.</li> <li>• Central Valley Flood Protection Plan (CVFPP) to describe a sustainable, integrated flood management plan that reflects a system-wide approach for protecting areas of the Central Valley currently receiving protection from flooding by existing facilities of the SPFC. The plan will incorporate the SPFC and Flood Control System Status Update. The plan must be prepared by January 1, 2012, and it is scheduled for adoption by the Central Valley Flood Control Board by July 1, 2012.</li> </ul> <p>The CVFPP will be a sustainable, integrated flood management plan describing the existing flood risk in the Central Valley and recommending actions to reduce the probability and consequences of flooding. Produced in partnership with federal, tribal, local, and regional partners and other interested parties, the CVFPP will also identify the mutual goals, objectives, and constraints important in the planning process; distinguish plan elements that address mutual flood risks; and, finally, recommend improvements to the state-federal flood protection system.</p>
<p>g</p>	<p>California Department of Water Resources</p>	<p>Delta Levees Flood Protection Program</p>	<p>The Bay-Delta Levees Branch of DWR administers the Delta Levees Flood Protection Program as authorized by the California Water Code, Sections 12300 thru 12318 and 12980 thru 12995. This is a grants program that works with more than 60 reclamation districts in the Delta and Suisun Marsh to maintain and improve the flood control system and provide protection to public and private investments in the Delta including water supply, habitat, and wildlife. The program, through its two major components (Delta Levees Maintenance Subventions Program and Delta Levees Special Flood Control Projects), works with the local agencies to maintain, plan, and complete levee rehabilitation projects.</p>

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<p>c</p>	<p>California Department of Water Resources and California Department of Fish and Game</p>	<p>Delta Levees Flood Protection Program - Habitat Enhancement and Restoration Projects</p>	<p>California Department of Water Resources Delta Levees Program is sponsoring a Project Solicitation Package to support Habitat Enhancement and Restoration Projects for \$15 million from Propositions 1E and 84, contingent on bond cash flow. California Department of Fish and Game has approval authority over all project scopes of work in the Delta Levees Program. Applications were due on May 24, 2010. Projects are anticipated to be selected during Summer 2010, and implemented subject to the availability of funds.</p> <p>This solicitation specifically seeks Projects that improve habitat in the Delta, including habitats that have historically been impacted by levee maintenance and rehabilitation work. Such projects may include protection, improvement (enhancement), and/or restoration of degraded Delta habitats. Restoration and enhancement work may include improvements to tidal marshes and other wetland and floodplain habitats, as well as riparian habitats, shaded riverine aquatic habitats, scrub shrub habitats, and freshwater marsh habitats.</p> <p>Project performance measures depend on the type of restoration and objectives, but includes appropriate vegetation and wildlife responses in keeping with net long term habitat enhancement goals.</p> <p>If project is not implemented, new restoration in the Delta will be delayed. Ecosystem benefits and fish enhancement not realized.</p> <p>Projects are being chosen in part based on their links to other Delta habitat objectives, including Delta Vision, Bay Delta Conservation Plan, Central Valley Flood Protection Program.</p>
<p>g,b</p>	<p>California Department of Water Resources</p>	<p>Delta Levees Maintenance Subvention Program</p>	<p>The Delta Levees Maintenance Subvention Program is a grants program that works with more than 60 levee maintaining agencies in the Delta. The purpose of the Subventions Program is to provide both technical and financial assistance to the local levee maintaining agencies in continued maintenance of the levees in the Delta. It has been in effect since passage of the Way Bill in 1973, which has been modified periodically by legislation. The program is under the authority of the Central Valley Flood Protection Board (Board) and is managed by DWR. One of the requirements to participate in the Program is the project to result in no net loss of habitat in the Delta. The Program is authorized under the California Water Code §§12980 – 12995. The law requires the Department to obtain Central Valley Flood Protection Board approval on its annual plan.</p>

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<p>g,b</p>	<p>California Department of Water Resources</p>	<p>Delta Levees Special Flood Control Projects</p>	<p>The Delta Levees Special Flood Control Projects provides financial assistance to local levee maintaining agencies for rehabilitation of levees in the Delta. The program was established by the California Legislature under SB 34, SBX7 1 065, and AB 360.</p> <p>This is a grants program that works with more than 60 levee maintaining agencies in the Delta. The purpose of the Program is to provide both technical and financial assistance to the local levee maintaining agencies in continued improvement of the levees and restoration and enhancement of habitat in the Delta. One of the requirements to participate in the Special Projects Program is the project has to result in no net loss of habitat in the Delta, and the program as a whole must provide net habitat enhancement. The Program is authorized under the California Water Code §§12300 – 12318. The Special Projects is a competitive grant program. In recent years, the Department has released guidelines and Projects Solicitation Packages as part of project selection process.</p> <p>This is an ongoing program (since 1988), with many projects spanning multiple years. All projects need to be completed and inspected prior to the final payment.</p> <p>The current State cost share ranges from 75% to 100% of the project cost. Staff reviews all project completion reports and audits invoices submitted by local agencies to calculate the reimbursement amount. The current bond expenditure plan for FY 10/11 and 11/12 includes \$32 M from Prop. 84 and \$170M from Prop. 1E; approximately \$15-20M/year is devoted to Subventions, with the remainder provided for Special Projects.</p> <p>The Special Projects Program has been continuing since passage of the SB 34 in 1988. The Program has made levee improvement in the Delta possible. Performance measures are incorporated in the projects' monitoring plans.</p> <p>Since the inception of the program, more than \$100 million have been provided to local agencies in the Delta for flood control and related habitat projects. The program presently focuses on flood control projects and related habitat projects for eight western Delta Islands (Bethel, Bradford, Holland, Hotchkiss, Jersey, Sherman, Twitchell and Webb Islands) and for the towns of Thornton and Walnut Grove.</p>

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<p>g,f,b</p>	<p>California Department of Water Resources</p>	<p>Delta Risk Management Strategy</p>	<p>The 2000 CALFED Record of Decision presented a Preferred Program Alternative that described actions, studies, and conditional decisions to help the Delta. The Preferred Program Alternative for Stage 1 implementation included the completion of a Delta Risk Management Strategy (DRMS) that would examine the sustainability of the Delta, and would assess major risks to Delta resources for projections ranging from 50 to 200 years.</p> <p>The first phase of DRMS analyzes the risks and consequences of levee failure in the Delta region. The analysis considers current and future risks of levee failures from earthquakes, high water conditions (storms and tides), climate change, subsidence, dry-weather events, and a combination of these factors. The analysis also estimates the consequences of levee failures to the local and state economy, public health and safety and the environment. The DRMS Phase 1 report findings will be used to help develop a set of strategies to manage levee failure risks in the Delta and to improve the management of state funding that supports levee maintenance and improvement. Various scenarios to reduce the risks and consequences of levee failure are considered in Phase 2 of the DRMS Project.</p>

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<p>g</p>	<p>California Department of Water Resources</p>	<p>FloodSAFE California</p>	<p>In 2006, DWR initiated FloodSAFE California, which is a multi-faceted program to improve public safety through integrated flood management. Under the FloodSAFE Program, DWR provides leadership and works with local, regional, state, tribal and federal officials to improve flood management and emergency response systems throughout California, primarily by investing funds provided by Propositions 1E and 84. Although DWR is leading FloodSAFE, successful implementation of the program depends on active participation from many key partners and substantial federal and local cost participation.</p> <p>The FloodSAFE vision is a sustainable integrated flood management and emergency response system throughout California that improves public safety, protects and enhances environmental and cultural resources, and supports economic growth by reducing the probability of destructive floods, promoting beneficial floodplain processes, and lowering the damages caused by flooding.</p> <p>The FloodSAFE Program is designed to help improve integrated flood management statewide with a significant emphasis on the Central Valley and Delta where communities and resources face high risk of catastrophic damage. Integrated Flood Management includes recognition of: the interconnection of flood management actions within broader water resources management and land use planning, the value of coordinating across geographic and agency boundaries, the need to evaluate opportunities and potential impacts from a system perspective, and the importance of environmental stewardship and sustainability.</p> <p>FloodSAFE will guide the development of regional flood management plans that encourage regional cooperation in identifying and addressing flood hazards. The plans will emphasize multiple objectives, system resiliency, and compatibility with state goals and Integrated Regional Water Management Plans.</p>

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g	U. S. Army Corps of Engineers, California Department of Water Resources, Reclamation Districts in the Delta, and the five Delta counties (Sacramento, San Joaquin, Solano, Yolo, and Contra Costa)	Delta Flood Emergency Preparedness and Response Plan	<p>In 2006, the Department of Water Resources (the Department) launched the FloodSAFE California Initiative (FloodSAFE)-a comprehensive strategy to improve public safety through integrated flood management through seven different Functional Areas. The Delta Flood Preparedness, Response, and Recovery Element is part of Functional Area 1, Emergency Response. Three components make up this element:</p> <ul style="list-style-type: none"> <li>• DWR Delta Flood-Emergency Preparedness and Response Plan (EPRP) documents the Department's plan for preparing for, responding to and recovering from a catastrophic flood event in the Delta. The DWR Delta Flood EPRP will guide the Department's decision makers and emergency responders and describe the actions the Department will perform during a flood emergency in the Delta. The plan will address techniques and tools that can be applied to an isolated incident on a single island or a large, multi-island disaster caused by a major earthquake in the southwestern region of the Delta.</li> <li>• DWR Delta Flood-Multi Agency Plan Integration consists of coordinating and integrating the Department's plan with the emergency response plans of other State, federal, and local jurisdictions in the Delta</li> <li>• DWR Delta Flood-Facilities and Logistics Implementation includes the purchase of lands, flood-fight emergency supplies, and construction of supply and storage facilities.</li> </ul> <p>Authorized by SB X2-1 (September 2008) using Proposition 1E funds, this project's fiscal authority will end June 30, 2010. A Reappropriation Request has been submitted to the Legislature to extend the project's budgetary capability beyond June 30, 2010.</p> <p>SB X2-1 appropriated \$135 million for the acquisition, design, and construction of essential emergency preparedness supplies.</p> <p>Completion of a Delta Flood Emergency Preparedness and Response Plan will define how DWR responds to and recovers from a Delta flood emergency event. If the project is not completed, DWR will be less prepared to respond to multiple levee failures and island inundations that threaten life, property, critical infrastructure and California's economy.</p>

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<p>g</p>	<p>California Department of Water Resources in cooperation with other state, federal, and local agencies</p>	<p>Delta Region Flood Emergency Response Exercise</p>	<p>On-going training and exercises for improvements to flood emergency preparedness and response methods are made, training and exercises are implemented to test these improvements.</p> <p>Primary funding for these activities comes from baseline General Funds allocated to the Flood Operations Branch, Hydrology and Flood Operations Office, Division of Flood Management. Some Prop 84 Bond funding supports enhanced exercise development and documentation.</p> <p>Completion of this project will dramatically enhance the Department's ability to respond to a flood event in the Delta.</p> <p>If training and exercises are not implemented, evaluations to flood emergency preparedness and response methods cannot be made, improvements cannot be implemented and new staff cannot be trained. These mission critical activities are necessary to protect lives, property, infrastructure and the environment.</p> <p>This project is the foundation for conducting flood and non-flood emergency preparedness and response training and exercises within the Department. This project also interacts with a number of other federal, State and local agencies including, but not limited to: California Emergency Management Agency, US Army Corps of Engineers, California Conservation Corps, CalFire, 5 County Operational Areas (Sacramento, Yolo, Solano, San Joaquin, and Contra Costa), and a number of Delta region cities and Delta local maintaining agencies. Indirectly, many other agencies benefit from this project such as the South Bay Area water suppliers, Delta and Central Valley agriculture, and southern California water suppliers. This project is also an important part of SB 27 and Golden Guardian 2011. Both of these efforts will test multi-agency multi hazard emergency response actions.</p>

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<p>g</p>	<p>California Department of Water Resources</p>	<p>Levee Repair-Levee Evaluation Program</p>	<p>On February 24, 2006, Governor Arnold Schwarzenegger declared a State of Emergency for California's levee system, commissioning up to \$500 million of state funds to repair and evaluate state/federal project levees. Following the emergency declaration, the Governor directed DWR to secure the necessary means to fast-track repairs of critical erosion sites. Hundreds of levee sites have been identified for immediate repair throughout the Central Valley. These repairs are necessary to maintain the functionality of flood control systems that have deteriorated over time and/or do not meet current design standards. While many of the most urgent repairs have been completed or are near completion, other sites of lower priority are still in progress, and still more are in the process of being identified, planned, and prioritized.</p> <p>In general, repairs to state/federal project levees are being conducted under three main programs: the Critical Erosion Repairs Program, the Sacramento River Bank Protection Project, and the PL84-99 Rehabilitation Program. A fourth program to repair critically damaged levees on the San Joaquin Flood Control System is under development by DWR.</p> <p>DWR is conducting geotechnical exploration, testing, and analysis of state and federal levees that protect the highly populated urban areas of greater Sacramento, Stockton/Lathrop, and Marysville/Yuba City. This program is being implemented simultaneously with the various urgent levee repairs.</p> <p>To expedite efforts to protect these communities, levee evaluations are being conducted in a fast-track manner over a two- to three-year period. During this time, technical specialists are reviewing existing levee historical data; mapping near-surface geology; conducting field explorations; performing engineering, stability and seepage analyses; and preparing preliminary design and construction estimates for repairing and upgrading the levees, where needed.</p>

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c	California Department of Water Resources, California Department of Fish and Game, State Water Resources Control Board, U.S. Geological Service, U.S. Bureau of Reclamation, U. S. Army Corps of Engineers, U.S. Fish and Wildlife Service, National Marine Fisheries Service	Interagency Ecological Program (IEP)	<p>The mission of the IEP is to provide information on the factors that affect ecological resources in the Sacramento - San Joaquin Estuary as a means to support more efficient management of the estuary. The program also interfaces with U.S. Environmental Protection Agency and San Francisco Estuarine Institute. Program partners work together to develop a better understanding of the estuary's ecology and the effects of the State Water Project (SWP) and federal Central Valley Project (CVP) operations on the physical, chemical, and biological conditions of the San Francisco Bay-Delta estuary. The program conducts monitoring of water quality and biota in the Delta to assess the impacts of water exports by the SWP and CVP on the ecosystem to meet specific requirements in Water Rights Decisions, such as the current D-1641. Activities include data collection and analysis, evaluation of the impacts of human activities on fish and wildlife, interpretation of information and development of measures to avoid or offset impacts of water project operation and other human activities on the estuary, and assistance with planning, coordination and integration of estuarine studies by other agencies. The IEP Science Advisory Group also conducts independent scientific reviews of modeling activities and study programs in the Delta when requested.</p> <p>Since 2006, efforts have been focused on evaluation of the decline of pelagic species in the upper San Francisco Estuary. These efforts emphasize modeling and integration of results, and respond to management interests by including temperature modeling, wastewater impacts, contaminants, salvage efficiency, 3-dimensional particle tracking and individual based modeling for striped bass and longfin smelt. The ammonia work includes source, fate, and transport modeling, field studies, and a review and syntheses of data and studies on the effects of ammonia on aquatic species. The temperature work is closely coordinated with the CALFED-funded Computational Assessments of Scenarios of Change for the Delta Ecosystem (CASCaDE) project, and will analyze the trends of water temperature stress zones and refugia in the Delta. Annual reports, peer reviewed journal articles, and publically available data sets. IEP Website, <a href="http://www.water.ca.gov/iep/">http://www.water.ca.gov/iep/</a></p> <p>Initiated in 1970, this program will continue as long as operational conditions require compliance with existing laws and regulations. Core funding is \$16,567,000 per year for mandated water quality, hydrodynamic monitoring, fisheries, benthic, and food chain monitoring. An additional \$15,623,000 is spent through coordinated activities, such as the Delta Science program, and special investigations such as the POD.</p>

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<p>g</p>	<p>California Department of Water Resources</p>	<p>Delta Scour Monitoring Programs</p>	<p>The North Central Region Office of the Department of Water Resources monitors cross sections at many fixed sites in the north and south Delta regions to help establish the natural variations in channel bathymetry under existing conditions. This information may also assist in evaluating changes in the natural scour or sedimentation regime. Sites in the south Delta near the Clifton Court intake gates have been monitored since 1969. Sites in the north Delta generally in the North Mokelumne and South Mokelumne rivers have been monitored since 1993. The number of locations monitored has increased over the years and currently 38 sites in the north Delta and 74 sites in the south Delta are monitored. Depending upon funding, the sites are visited once or twice a year – in the fall or in fall and spring.</p>
<p>c</p>	<p>California Department of Water Resources</p>	<p>Zebra Mussel Watch Program</p>	<p>The Zebra Mussel Watch Program is composed of several elements: a risk assessment, an early detection monitoring program, a centralized reporting system "How to Report a Zebra Mussel Sighting," a rapid response plan, and public outreach and education. The risk assessment involves identifying water bodies in California that have a high probability of zebra mussel establishment. High risk areas have suitable zebra mussel habitat (based on substrate type, pH, and mineral availability), appropriate water temperatures for spawning, adequate food supplies, and high levels of boating activity. Early detection monitoring is conducted at high risk rivers and reservoirs in the Central Valley watershed. Sampling consists of suspending artificial substrates in the water column to provide attachment sites for zebra mussels. The artificial substrates checked for the presence of zebra mussels every month. The monitoring is conducted by private citizens, marina staff, DWR staff, and staff from other agencies. Information is managed in a centralized system created for reporting zebra mussel sightings.</p>

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<p>g</p>	<p>California Department of Water Resources, California Department of Fish and Game, U.S. Army Corps of Engineers</p>	<p>CALFED Levee System Integrity Program</p>	<p>The CALFED Record of Decision requires that the Levee System Integrity Program be managed to provide for long-term protection for Delta resources through maintenance and improvement of the Delta levee system. Goals are to protect life, infrastructure, and properties; and reduce the risk to land use and associated economic activities, water supply, infrastructure, and ecosystem from catastrophic breaching of Delta levees. The primary focus is on the legal Delta as defined in Section 12220 of the California water Code. Protection and maintenance of a total of 1,300 miles of project and non-project levees has taken place since the inception of the CALFED Program in 2000. Other major undertakings include restoration of native vegetation and reuse of dredge material to bolster levee stability.</p> <p>Major activities include levee maintenance, levee improvement, environmental mitigation, emergency response functions, and other components carried out using local funds, with additional funds provided by the state and federal governments. However, uncertainty in program funding has required that some goals be revised and schedules be extended. Proposition 50 provided \$70 million for Delta Levees.</p>

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<p>a</p>	<p>California Department of Water Resources</p>	<p>California Drought Contingency Plan</p>	<p>DWR is developing the California Drought Contingency Plan and has collaborated with California Emergency Management Agency (Cal EMA) to define each agency’s role and responsibilities in responding to future emergency droughts. Drought coordination and response will occur through the DWR and Cal EMA regions. For activities in the Delta areas, coordination will occur through the DWR North-Central Region Office and the Cal EMA Coastal or Inland Regions.</p> <p>The purpose of the Drought Contingency Plan is to minimize drought impacts by improving agency coordination; enhancing monitoring and early warning capabilities; water shortage impact assessments; and preparedness, response, and recovery programs.</p> <p>The administrative version of the Plan will be finalized in mid-2010. The document then will be distributed to the public for a 45-day review/comment period. A workshop will be held after release of the public review draft to solicit comments.</p> <p>State agencies participating in the drought preparedness or response activities are expected to function within existing agency authorities, responsibilities, and funding.</p> <p>The Plan has been presented to the Steering Committee of the California Water Plan and comments have been incorporated. The Plan will next undergo a public review. The drought contingency plan is intended to become part of the California Water Plan Update process which occurs every five years. As the plan gets refined, it will include updated information, technology, and strategies.</p> <p>If the Drought Contingency plan is not developed, state agencies will be less ready to respond to and recover from drought, and drought impacts will be felt more acutely.</p> <p>Through the DWR and Cal EMA regional offices, the State will coordinate with local agencies, regions, and operational areas to identify local drought-related impacts, assess resulting damages and costs, and assign appropriate response strategies. State agencies may be tasked to provide technical and local assistance support on water conservation; drought preparedness; emergency response, recovery, and mitigation; and other programs. State agencies will also need to prioritize and streamline permitting and regulatory compliance actions for certain projects that provide drought relief.</p>

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d	California Department of Water Resources	"20x2020" Water Conservation Plan	<p>In response to SB x7-7: Chapter 4, Statutes of 2009 Seventh Extraordinary Session is also known as the Water Conservation Act of 2009 (Act), the California Department of Water Resources (DWR) and the newly formed agency team (the State Water Resources Control Board (SWRCB), California Public Utilities Commission (CPUC), California Department of Public Health (DPH), California Department of Food and Agriculture (DFA), California Bay Delta Authority (CBDA), California Department of Conservation (DC), US Bureau of Reclamation (Reclamation), California Urban Water Conservation Council (CUWCC) and the Agricultural Water Management Council (AWMC)) will provide comment and guidance to meet the goals required by the Act.</p> <p>In February, 2008, Governor Schwarzenegger introduced a seven-part comprehensive plan for improving the Sacramento-San Joaquin Delta. As part of this effort, the Governor directed state agencies to develop a plan to reduce statewide per capita urban water use by 20 percent by the year 2020. This marked the initiation of the 20x2020 Water Conservation Plan (20X2020 Plan) process. In February, 2010, the 20x2020 Water Conservation Plan prepared through the collaborative effort of an Agency Team which consisted of state and federal agencies including DWR, SWRCB, CBDA, California Energy Commission (CEC), DPH, CPUC, the California Air Resources Board (ARB) and USBR was released. The 20x2020 Plan sets forth a statewide road map to maximize the state's urban water efficiency and conservation opportunities between 2009 and 2020, and beyond. It aims to set in motion a range of activities designed to achieve the 20 percent per capita reduction in urban water demand by 2020.</p> <p>The Act not only requires the State to achieve 20X2020, but for DWR to take specific actions to help California reduce urban and agricultural water use. Project Management Plans and implementation procedures are being developed requiring all water suppliers to increase water use efficiency including the reduction of per capita urban water use by 20% by December 31, 2020. DWR will be required to review urban water management plans submitted by urban retail water suppliers and report to the Legislature on their progress toward meeting this goal. DWR, in consultation with SWRCB, will also report to the Legislature on agricultural efficient water management practices that have been implemented and are planned to be implemented and an assessment of the manner in which the implementation has affected and will affect agricultural operations including estimated water use efficiency improvements.</p>

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	<p>California Department of Water Resources</p>	<p>"20x2020" Water Conservation Plan - CONTINUED</p>	<p>The Act established deadlines for DWR to perform specific tasks to support the 20X2020 goal:</p> <ul style="list-style-type: none"> <li>• Post technical methodologies and criteria for the consistent implementation by urban retail water suppliers to calculate base daily per capita water use, baseline commercial, industrial and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use and criteria for adjustments on the DWR web site by October 1, 2010.</li> <li>• Grant urban retail water suppliers an extension of Urban Water Management Plan (UWMP) adoption to July 1, 2011 to allow use of technical methodologies developed by DWR.</li> <li>• Convene an alternative Best Management Practices (BMP) Task Force by April 1, 2010 to review the status of Commercial Industrial and Institutional (CII) water use efficiency research, develop alternative BMPs for CII and prepare a report to the Legislature by April 1, 2012.</li> <li>• Develop an urban per capita target method that results in a 20% reduction in per capita water use by December 31, 2020 and report to the Legislature by December 31, 2010.</li> <li>• By January 1, 2011 and updated as part of the California Water Plan. DWR shall prepare new statewide targets or review and update existing statewide targets for regional water resources management practices.</li> <li>• Update the urban per capita target methods and report to the Legislature by December 31, 2014.</li> <li>• Review the 2015 UWMPs and report to the Legislature by December 31, 2016 on progress towards achieving 20X2020. Recommend changes to water efficiency standards or urban water use targets and reflect efficiency information and technology changes.</li> <li>• Provide UWMP reporting options for an urban retail water supplier that elects to include agricultural water use in determining gross water use and developing its urban water use target.</li> </ul>

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	<p>California Department of Water Resources</p>	<p>"20x2020" Water Conservation Plan - CONTINUED</p>	<p>The law requires DWR to adopt regulations:</p> <ul style="list-style-type: none"> <li>• Adopt regulations that Ag water suppliers may use to measure water. This is to comply with the requirement to measure the volume of farm gate water deliveries to customers with sufficient accuracy and to adopt a pricing structure based at least in part on quantity delivered.</li> <li>• Develop and enact a regulation to require urban retail water suppliers to document their calculation of the volume of CII process water to be excluded from their calculation of gross water use, if industrial water use is substantial.</li> </ul> <p>The law also requires DWR to:</p> <ul style="list-style-type: none"> <li>• Revise grant and loan eligibility criteria by July 1, 2016 so that urban retail suppliers, with certain exceptions, are not eligible for water grants or loans unless a supplier complies with the requirement to reduce urban gpcd.</li> <li>• Update the Efficient Water Management Practices (EWMPs) for agricultural water suppliers.</li> <li>• Revise grant and loan eligibility criteria by July 1, 2013 so that with certain exceptions, an Ag water supplier is not eligible for State funding unless the supplier complies with the efficient water management practices.</li> <li>• Certain agricultural water suppliers to prepare Agricultural Water Management Plans and submit them to DWR. DWR is required to report to the Legislature by December 31, 2013 and years ending in six and one summarizing the status of Agricultural Water Management Plans adopted by Ag water suppliers and also report in the same years on EWMPs implemented and the effectiveness of the practices.</li> <li>• Develop a single standardized water use reporting form to meet the water use information needs of DWR, the State Water Resources Control Board (SWRCB), the California Bay-Delta Authority, the Department of Public Health and the Public Utilities Commission, including the needs of urban water suppliers that elect to determine and report progress toward achieving targets on a regional basis and for Ag compliance with EWMPs.</li> </ul> <p>Consult with the State Water Resources Control Board to promote implementation of regional water resource management practices through increased incentives and removal of barriers.</p> <p>DWR will also update the Urban Water Management Planning Guidebook and DWR Review Sheets to assist urban water suppliers seeking to comply with the Act.</p>

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	<p>California Department of Water Resources</p>	<p>"20x2020" Water Conservation Plan - CONTINUED</p>	<p>Initiated in 2010, this is an ongoing program through 2021. Funding is \$1.2 million in FY 09-10 for existing staff. Funding for additional staff totaling \$12.0 million over the next three years, FY 11-13, has been requested.</p> <p><b>Program Activities:</b></p> <p><b>CII Task Force-</b> An agreement is being developed with California Urban Water Conservation Council to administer the CII task force.</p> <p><b>Baseline and Compliance Calculation Methodologies-</b> This project is on track. Initial Draft of seven technical methodologies was presented at the second meeting of the Urban Stakeholder Committee (USC) in Sacramento on May 18.</p> <p><b>Water Use Target Method 4-</b> A USC Technical Subcommittee Charge and Evaluation Criteria was prepared and presented to the USC on May 18. The Subcommittee was formed and will meet on June 23rd in Southern California to review DWR and ACWA proposed method 4 options. DWR staff is preparing DWR Method 4 (3 options) for presentation to the USC Technical Subcommittee.</p> <p><b>CII Process Water Regulation-</b> DWR staff presented DWR's plan of rule making for adoption of CII process water regulation to USC on May 18. We plan to submit text of regulation to OAL in October 2010 and adopt permanent regulation by May of 2011.</p> <p><b>Urban Water Management Plan Guidebook-</b> a preliminary draft of UWMP Guidebook reflecting legislative changes since 2005 has been prepared. A partial working model of the online submittal system for UWMP data is planned to be ready in July or August pending availability of funding. Further testing of it will take several months.</p> <p><b>The Agricultural Stakeholder Committee-</b> The Ag Stakeholder Committee has been formed; we are waiting for new resources to initiate work on ag projects. Preliminary work on ag water measurement as required by AB 1404 has been done. Work on all ag and all other urban projects is pending availability of new staff and new funding.</p> <p><b>Public Website-</b>New website for SBX77 with complete information for the participants and the public: <a href="http://www.water.ca.gov/wateruseefficiency/sb77/">http://www.water.ca.gov/wateruseefficiency/sb77/</a></p> <p>Other water Conservation Activities include California Irrigation Management System providing weather data for irrigation scheduling, the State Model Water Efficient Landscape Ordinance for use by cities and counties, agricultural and urban water conservation grants, and technical assistance for review of agricultural water management plans.</p>

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<p>g</p>	<p>California Department of Water Resources</p>	<p>Pre-Deployment of Emergency Response Supplies</p>	<p>DWR has prepositioned flood flight supplies and material at strategic locations in the Delta. The Pre Deployment of Emergency Response Supplies is part of the Delta Flood Emergency Response and Preparedness Plan, which is investigating the strategic importance of obtaining additional rock stockpile and flood fight material storage locations and developing waterside material transfer facilities throughout the Delta.</p> <p>Authorized by SB X2-1 (September 2008) using Proposition 1E funds, this project's fiscal authority will end June 30, 2010. A Reappropriation Request has been submitted to the Legislature to extend the project's budgetary capability beyond June 30, 2010. SB X2-1 appropriated \$135 million for the acquisition, design, and construction of essential emergency preparedness supplies.</p> <p>Completion of this project will dramatically enhance the Department's ability to respond to a catastrophic flood event in the Delta.</p> <p>If the project is not continued, response to flood emergencies in the Delta will be delayed putting people, property, and critical infrastructure at risk with potential significant impacts to California's economy.</p>
<p>c</p>	<p>California State Lands Commission</p>	<p>Marine Invasive Species Program</p>	<p>The California Marine Invasive Species Program is charged with preventing or minimizing the introduction of nonindigenous species to California Waters from commercial vessels. The program began in 1999 with the passage of California's Ballast Water Management for Control of Nonindigenous Species Act, which addressed the threat of species introductions through ships' ballast water during a time when federal regulations were not mandatory. In 2003, the Marine Invasive Species Act (MISA) was passed, reauthorizing and expanding the 1999 Act. Subsequent amendments to MISA and additional legislation have further expanded the scope of the program. The law charged the California State Lands Commission with oversight of the state's program to prevent or minimize the introduction of nonindigenous species from commercial vessels. To advance this goal, the Commission uses a comprehensive approach that includes: ballast water and vessel fouling management tracking, compliance, and enforcement; sound policy development in consultation with a wide array of experts and stakeholders; applied research that advances the strategies for nonindigenous species prevention; and outreach and education to coordinate information exchange among scientists, legislators, and stakeholders.</p> <p>The Coastal Ecosystems Protection Act of 2006 directed the Commission to adopt performance standards for the discharge of ballast water by January 1, 2008, and prepare a report assessing the availability of treatment technologies to meet those standards. The Commission completed the rulemaking process and adopted the standards in October 2007; the technology assessment report was completed in December 2007.</p>

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<p>h</p>	<p>California State Water Resources Control Board</p>	<p>California Water Boards' Strategic Plan Update – 2008-2012</p>	<p>The Strategic Plan Update broadly identifies the State Water Resources Control Board's vision and direction for the future. It identifies goals intended to achieve that vision, which include: implementing strategies to fully support the beneficial uses for all 2006-listed water bodies; improving and protecting groundwater quality in high-use basins; increasing sustainable local water supplies available for meeting existing and future beneficial uses and ensuring adequate flows for fish and wildlife habitat; comprehensively addressing water quality protection and restoration in consideration of the connections between water quality, water quantity, and climate change, throughout California's water planning processes; improving Water Board transparency and accountability; enhancing consistency across the Water Boards; and ensuring that the Water Boards have access to information and expertise. The plan also identifies environmental priorities that focus on strategies for achieving environmental outcomes associated with protecting the State's surface waters and groundwaters, and promoting sustainable water supplies.</p> <p>To better address the implementation of coordinated activities in the Bay-Delta, the State Water Board adopted Resolution 2007-0079 in 2007; similar resolutions were adopted by the San Francisco Bay and Central Valley regional water boards. In those resolutions, the Water Boards committed to ensure the protection of beneficial uses of water, and to the equitable administration of water rights in the Bay-Delta and its tributaries. A strategic workplan, completed in July, 2008, describes the actions the Water Boards will undertake to protect beneficial uses of water in the Bay-Delta and the timelines and resource needs for implementing those actions. Workplan activities are divided into the nine broad elements covering a range of actions that: 1) implement the Water Boards' core water quality responsibilities; 2) continue meeting prior Water Board commitments; 3) are responsive to priorities identified by the Governor and the Delta Vision Blue Ribbon Task Force; and 4) build on existing processes, such as the Bay Delta Conservation Plan (BDCP). The Water Boards do not have the capacity or responsibility to conduct all the planning and implementation activities needed to protect and restore fisheries, aquatic habitats, and other beneficial uses in the Bay-Delta. Accordingly, the workplan identifies activities that will need to be coordinated with other efforts.</p>

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<p>e</p>	<p>California State Water Boards - San Francisco Bay Region Water Quality Control Board</p>	<p>San Francisco Bay Mercury TMDL</p>	<p>San Francisco Bay is impaired because mercury contamination is adversely affecting existing beneficial uses, including sport fishing, preservation of rare and endangered species, and wildlife habitat. On February 12, 2008, the U.S. Environmental Protection Agency approved a Basin Plan amendment incorporating a TMDL for mercury in San Francisco Bay and an implementation plan to achieve the TMDL. The amendment was formerly adopted by the San Francisco Bay Water Board, the State Water Resources Control Board, and the state Office of Administrative Law. It is now officially incorporated into the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan). The San Francisco Bay mercury TMDL, which includes the waters of the Delta within the San Francisco Bay region, is intended to: 1) reduce mercury loads to achieve load and wasteload allocations, 2) reduce methylmercury production and consequent risk to humans and wildlife exposed to methylmercury, 3) conduct monitoring and focused studies to track progress and improve the scientific understanding of the system, and 4) encourage actions that address multiple pollutants. The implementation plan establishes requirements for dischargers to reduce or control mercury loads and identifies actions necessary to better understand and control methylmercury production. In addition, it addresses potential mercury sources and describes actions necessary to manage risks to Bay fish consumers. Load reductions are expected via implementation of the Delta Methylmercury TMDL (river source), plus urban runoff management, Guadalupe River mine remediation, municipal and industrial wastewater source controls and pretreatment, and sediment remediation.</p>
<p>c</p>	<p>Central Valley Joint Venture</p>	<p>Central Valley Joint Venture Program</p>	<p>The Central Valley Joint Venture (CVJV) is a self-directed coalition consisting of 22 state and federal agencies and private conservation organizations. The partnership directs their efforts toward the common goal of providing for the habitat needs of migrating and resident birds in the Central Valley of California. The CVJV was established in 1988 as a regional partnership focused on the conservation of waterfowl and wetlands under the North American Waterfowl Management Plan. It has since broadened its focus to the conservation of habitats for other birds, consistent with major national and international bird conservation plans and the North American Bird Conservation Initiative.</p> <p>The CVJV provides guidance and facilitates grant funding to accomplish its habitat goals and objectives. Integrated bird conservation objectives for wetland habitats in the Central Valley identified in the 2006 Implementation Plan include restoration of 19,170 acres of seasonal wetland, enhancement of 2,118 acres of seasonal wetland annually, restoration of 1,208 acres of semi-permanent wetland, and restoration of 1,500 acres of riparian habitat.</p>

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<p>e</p>	<p>Central Valley Regional Water Quality Control Board</p>	<p>Irrigated Lands Regulatory Program</p>	<p>The Irrigated Lands Regulatory Program (ILRP) regulates discharges from irrigated agricultural lands. Its purpose is to prevent agricultural discharges from impairing the waters that receive the discharges. The California Water Code authorizes State and Regional water boards to conditionally waive waste discharge requirements if this is in the public interest. On this basis, the Los Angeles, Central Coast, Central Valley, and San Diego regional water quality control boards have issued conditional waivers of waste discharge requirements to growers that contain conditions requiring water quality monitoring of receiving waters. Participation in the waiver program is voluntary; dischargers must file a permit application as an individual discharger, stop discharging, or apply for coverage by joining an established coalition group. The waivers must include corrective actions when impairments are found.</p>
<p>b</p>	<p>Delta Protection Commission</p>	<p>Delta Protection Commission Land Use and Resource Management Plan Update</p>	<p>The Delta Protection Commission (Commission), created with passage of the Delta Protection Act, was formed to adaptively protect, maintain, and where possible, enhance and restore the overall quality of the Delta environment consistent with the Delta Protection Act and the Land Use and Resource Management Plan for the Primary Zone.</p> <p>The Commission updated the Land Use and Resource Management Plan (Management Plan) in February 2010. The Management Plan outlines the long-term land use requirements for the Sacramento-San Joaquin Delta and sets out findings, policies, and recommendations in the areas of environment, utilities and infrastructure, land use, agriculture, water, recreation and access, levees, and marine patrol/boater education/safety programs.</p> <p>The updated Management Plan will place increased emphasis on the requirement for local government general plans to provide for consistency with the provisions of the Management Plan. The Commission develops priorities and timelines for tasks to be implemented each year, and provides annual progress reports to the Legislature. One of the tasks identified by the Commission is to monitor the Delta Vision, Bay Delta Conservation Plan, and Delta Risk Management Strategy processes and provide input as deemed appropriate.</p>

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<p>h</p>	<p>San Francisco Estuary Project:</p>	<p>San Francisco Estuary Project 2007 Comprehensive Conservation and Monitoring Plan</p>	<p>The San Francisco Estuary Project is one of over 20 Estuary Projects established by the U.S. Environmental Protection Agency under Clean Water Act National Estuary Program to protect and improve the water quality and natural resources of estuaries nationwide. It was formed in 1987 as a cooperative federal/state/local program to promote effective management of the San Francisco Bay-Delta Estuary. The Estuary Project is financed by federal appropriations under the Clean Water Act and matching funds from the state and local entities.</p> <p>The San Francisco Estuary Project 2007 Comprehensive Conservation and Management Plan (CCMP) based on input from more than 80 representatives from federal and state agencies, local governments, environmental groups, business and industry, academia, and the public. The 2007 Draft CCMP contains many actions pertinent to the protection and restoration of San Francisco Bay and the Sacramento-San Joaquin Delta. It seeks to achieve high standards of water quality, including restoration and maintenance of a balanced indigenous population of fish, shellfish and wildlife, and recreational activities in the estuary, and assure that the designated uses of the estuary are protected.</p> <p>Recently proposed federal legislation has been introduced to provide up to \$100 million/year for 10 years to implement portions of the plan.</p>
<p>e,c</p>	<p>U.S. Army Corps of Engineers</p>	<p>Delta Dredged Sediment Long-Term Management Strategy</p>	<p>The Delta Dredged Sediment Long-Term Management Strategy is a cooperative planning effort to coordinate, plan, and implement beneficial reuse of sediments in the Delta. Five agencies (U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, California Department of Water Resources, California Bay Delta Authority, and the Central Valley Regional Water Quality Control Board) have begun to examine Delta dredging, reuse, and disposal needs. The strategy development process will examine and coordinate dredging needs and sediment management in the Delta to assist in maintaining and improving channel function (navigation, water conveyance, flood control, and recreation), levee rehabilitation, and ecosystem restoration. Agencies and stakeholders will work cooperatively to develop a sediment management plan that is based on sound science and protective of the ecosystem, water supply, and water quality functions of the Delta. As part of this effort, the sediment management plan will consider regulatory process improvements for dredging and dredged material management so that project evaluation is coordinated, efficient, timely, and protective of Delta resources.</p>

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<p><b>Appendix VI. Policy-type Programs Related to Delta Water and Environmental Resources and Delta as a Place</b></p>			
<p><b>Section 85020 subsection</b></p>	<p><b>Primary Agencies</b></p>	<p><b>Programs</b></p>	<p><b>Description</b></p>
<p>g</p>	<p>U.S. Army Corps of Engineers</p>	<p>CALFED Levee Stability Program</p>	<p>The California Bay-Delta Program's (CALFED) levee stability program provides for long-term protection of resources in the San Joaquin Delta by maintaining and improving the integrity of the area's extensive levee system. Funds will be used by the U.S. Army Corps of Engineers (USACE) and its state and local partners to continue levee stability projects in the San Joaquin Delta.</p> <p>The CALFED Act (PL 108-361) directed USACE to deliver a report that identified and prioritized potential levee stability projects in the Delta that could be carried out with the authorized \$90 million in federal funds. An additional \$106 million was authorized to be appropriated by Section 3015 of WRDA 2007. To identify critically needed projects with active non-federal support, USACE invited Delta stakeholders to submit project proposals with letters stating their willingness to participate as cost-sharing sponsors. In response, Delta area reclamation districts and flood management agencies submitted 54 project proposals totaling more than \$1 billion in estimated costs. USACE evaluated proposals and prioritized potential projects according to how well they met USACE environmental, economic, and other implementation criteria. The USACE short-term strategy is to move quickly to construction on high priority levee reconstruction projects identified in that report.</p> <p>As part of this program, USACE is conducting emergency response planning. USACE has entered into a Memorandum of Agreement with the California Department of Water Resources that allows the agencies to initiate GIS Flood Contingency Mapping for 5 Delta counties and the Delta region.</p>
<p>c</p>	<p>U.S. Bureau of Reclamation and U.S. Fish and Wildlife Service</p>	<p>Anadromous Fish Screen Program</p>	<p>The primary objective of the Anadromous Fish Screen Program (AFSP) is to protect juvenile chinook salmon (all runs), steelhead, green and white sturgeon, striped bass and American shad from entrainment at priority diversions throughout the Central Valley. Section 3406 (b)(21) of the Central Valley Project Improvement Act (CVPIA) requires the Secretary of the Interior to assist the State of California in developing and implementing measures to avoid losses of juvenile anadromous fish resulting from unscreened or inadequately screened diversions on the Sacramento and San Joaquin rivers, their tributaries, the Delta, and the Suisun Marsh. Additionally, all AFSP projects meet Goal 3 of the CALFED Ecosystem Restoration Program's (ERP) Draft Stage 1 Implementation Plan.</p>

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<p>c</p>	<p>U.S. Coast Guard</p>	<p>Ballast Water Management Program</p>	<p>In July 2004, the Coast Guard established a ballast water management program for all vessels equipped with ballast water tanks that enter or operate within U.S. waters. This program requires vessels to maintain a ballast water management plan that is specific for that vessel and allows any master or appropriate official to understand and execute the ballast water management strategy for that vessel. The Coast Guard may impose a civil penalty if ships headed to the U.S. fail to submit a ballast water management reporting form.</p> <p>The National Invasive Species Act (NISA) required the Coast Guard to establish national voluntary ballast water management guidelines. If the guidelines were deemed inadequate, NISA directed the Coast Guard to convert them into a mandatory national program. To comply with NISA, the Coast Guard has established both regulations and guidelines to prevent the introduction of these species because the original voluntary guidelines were deemed inadequate prior to establishing the regulations.</p>

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<p>c</p>	<p>U.S. Department of Commerce, National Marine Fisheries Service</p>	<p>Public Draft Recovery Plan for Sacramento River Winter-run Chinook Salmon, Central Valley Spring-run Chinook Salmon and Central Valley Steelhead</p>	<p>The Draft Recovery Plan provides a roadmap that describes the steps, strategy, and actions that should be taken to return winter-run Chinook salmon, spring-run Chinook salmon, and steelhead to viable status in the Central Valley, California thereby ensuring their long-term persistence and evolutionary potential. The general near-term strategic approach to recovery includes the following elements:</p> <ul style="list-style-type: none"> <li>Secure all extant populations.</li> <li>Begin collecting distribution and abundance data for <i>O. mykiss</i> in habitats accessible to anadromous fish.</li> <li>Minimize straying from hatcheries to natural spawning areas.</li> <li>Conduct critical research on fish passage above rim dams, reintroductions, and climate change.</li> </ul> <p>The long-term approach to recovery includes the following elements:</p> <ul style="list-style-type: none"> <li>Ensure that every extant diversity group has a high probability of persistence.</li> <li>Until all ESU viability criteria have been achieved, no population should be allowed to deteriorate in its probability of persistence.</li> <li>High levels of recovery should be attempted in more populations than identified in the diversity group viability criteria because not all attempts will be successful.</li> <li>Individual populations within a diversity group should have persistence probabilities consistent with a high probability of diversity group persistence.</li> <li>Within a diversity group, the populations restored/maintained at viable status should be selected</li> <li>Allow for normative metapopulation processes, including the viability of core populations, which are defined as the most productive populations.</li> <li>Allow for normative evolutionary processes, including the retention of the genetic diversity as well as an increase in genetic diversity through the addition of viable populations in historic habitats.</li> <li>Minimize susceptibility to catastrophic events.</li> </ul>

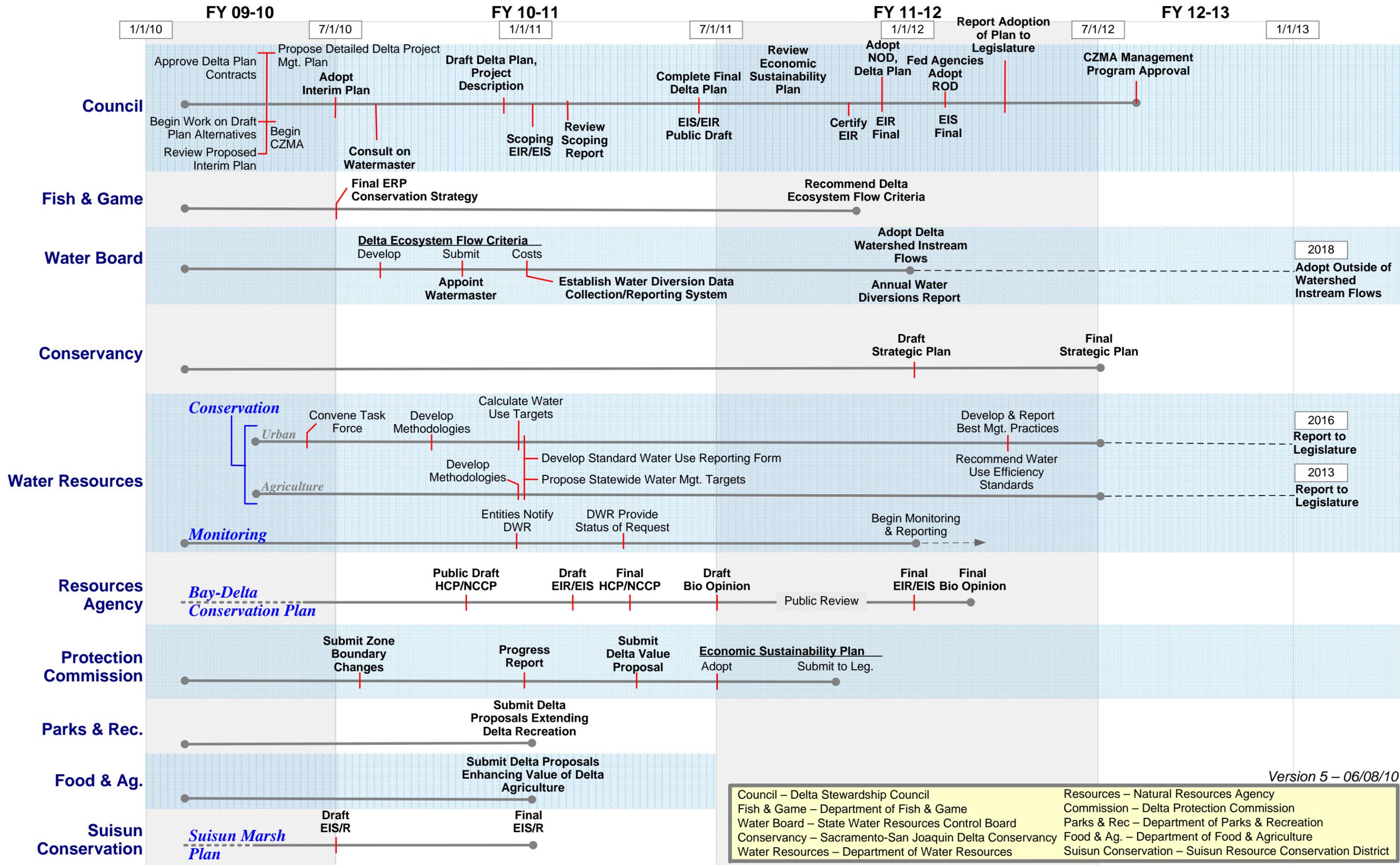
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<p>g</p>	<p>U.S. Department of Homeland Security, Federal Emergency Management Agency</p>	<p>National Flood Insurance Program</p>	<p>The National Flood Insurance Program (NFIP) is a federal program that enables property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. Participation in the NFIP is based on an agreement between communities and the Federal Government. If a community adopts and enforces a floodplain management ordinance to reduce future flood risk to new construction in floodplains, the Federal Government will make flood insurance available within the community as a financial protection against flood losses. This insurance is designed to provide an insurance alternative to disaster assistance to reduce the escalating costs of repairing damage to buildings and their contents caused by floods. The NFIP was created for the primary purposes of better indemnifying individuals for flood losses through insurance, reducing future flood damages through state and community floodplain management regulations; and reducing federal expenditures for disaster assistance and flood control.</p> <p>In addition to providing flood insurance and reducing flood damages through floodplain management regulations, the NFIP identifies and maps the Nation's floodplains. Mapping flood hazards creates broad-based awareness of the flood hazards and provides the data needed for floodplain management programs and to actuarially rate new construction for flood insurance.</p>
<p>c</p>	<p>U.S. Fish and Wildlife Service</p>	<p>North American Waterfowl Management Plan</p>	<p>The North American Waterfowl Management Plan, a collaboration of Canada, the United States, and Mexico to enhance waterfowl populations, was originally written in 1986 and envisioned as a 15-year effort to achieve landscape conditions that could sustain waterfowl populations. The plan has been modified twice since the 1986 Plan to account for biological, sociological, and economic changes that influence the status of waterfowl and the conduct of cooperative habitat conservation.</p> <p>The 2004 Plan is intended to define the needs, priorities, and strategies for the next 15 years, increase stakeholder confidence in the direction of Plan actions, and guide partners in strengthening the biological foundation of North American waterfowl conservation.</p>

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<p>c</p>	<p>U.S. Fish and Wildlife Service</p>	<p>Recovery Plan for the Sacramento-San Joaquin Delta Native Fishes</p>	<p>The recovery plan addresses the recovery needs for several fishes that occupy the Sacramento-San Joaquin Delta, including delta smelt, Sacramento splittail, longfin smelt, green sturgeon, Chinook salmon (spring-run, late fall-run, and San Joaquin fall-run), and Sacramento perch (believed to be extirpated). The objective of the plan is to establish self-sustaining populations of these species that will persist indefinitely. This would be accomplished by managing the estuary to provide better habitat for aquatic life in general and for the fish addressed by the plan. Recovery actions include tasks such as increasing freshwater flows; reducing entrainment losses to water diversions; reducing the effects of dredging, contaminants, and harvest; developing additional shallow-water habitat, riparian vegetation zones, and tidal marsh; reducing effects of toxic substances from urban non-point sources; reducing the effects of introduced species; and conducting research and monitoring.</p>
<p>c</p>	<p>U.S. Fish and Wildlife Service</p>	<p>Recovery Plan for the Sacramento-San Joaquin Delta Native Fishes</p>	<p>The recovery plan addresses the recovery needs for several fishes that occupy the Sacramento-San Joaquin Delta, including delta smelt, Sacramento splittail, longfin smelt, green sturgeon, Chinook salmon (spring-run, late fall-run, and San Joaquin fall-run), and Sacramento perch (believed to be extirpated). The objective of the plan is to establish self-sustaining populations of these species that will persist indefinitely. This would be accomplished by managing the estuary to provide better habitat for aquatic life in general and for the fish addressed by the plan. Recovery actions include tasks such as increasing freshwater flows; reducing entrainment losses to water diversions; reducing the effects of dredging, contaminants, and harvest; developing additional shallow-water habitat, riparian vegetation zones, and tidal marsh; reducing effects of toxic substances from urban non-point sources; reducing the effects of introduced species; and conducting research and monitoring.</p>

# Delta Activities – SBX7 Implementation





June 15, 2010

**Correspondence Received Prior to June 24-25, 2010  
Meeting of the  
Delta Stewardship Council  
(5th Batch)**

Correspondence is posted on the Delta Stewardship Council Web Page  
[http://www.deltacouncil.ca.gov/public\\_involvement/correspondence.html](http://www.deltacouncil.ca.gov/public_involvement/correspondence.html)

<b>Letter No.</b>	<b>From</b>	<b>Date</b>	<b>Subject</b>
2010-00034	Michael Boccadoro, President The Dolphin Group	06-03-10	Striped Bass – Letter from NMFS to Fish and Game Commission
2010-00036	Richard Pool, Pro-Troll Fishing Products Water 4 Fish	06-09-10	Restoration of the Fall Run Central Valley Salmon
2010-00037	Byron Buck, Executive Director State and Federal Contractors Water Agency	06-07-10	Legislative Water Policy Package – Section 85021 of Chapter 2. Delta Policy
2010-00038	Jonathan Overpeck, Lisa Graumlich, Gregg Garfin, Barbara Morehouse, University of Arizona; Glen MacDonald, UCLA; Mark Schwartz; UCD; Alexander Gershunov, Scripps institution of Oceanography, Kelly Redmond, Tim Brown, University of Nevada Reno; Brad Udall, University of Colorado	06-13-10	Soliciting Letter of Support for new DOI Climate Science Center
2010-00039	Barry Nelson Natural Resources Defense Council	06-14-10	EPA Letter on BDCP Purpose

*"Coequal goals" means the two goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. The coequal goals shall be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place."*

*– State Water Code §85054*