



Materials Package – Contents List

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- Draft EIR/EIS Fast Facts Fact Sheet
- How to Comment on the Documents Fact Sheet
- Public Open House Meeting Poster Boards (32 total)
- Federal Agency Responsibilities Poster Board
- Federal and State Lead Agency Roles and Actions for the BDCP Poster Board
- Map of BDCP Plan Area and Associated Counties
- California Natural Resources Agency Final Tribal Consultation Policy
- Executive Order B-10-11
- Protecting California Native American Sites During Drought and Wild Land Fire Emergencies – A Guide to Relevant Laws and Cultural Resources Management Practices
- California Indian Tribal Homelands and Trust Lands Map – Northern Region
- California Indian Tribal Homelands and Trust Lands Map – North Central Region
- California Indian Tribal Homelands and Trust Lands Map – South Central Region
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- FloodSAFE Mega Programs Handout
- 2013 FloodSAFE Annual Report Summary
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- Climate Change Poster Board
- Climate Change Handout – The Past, Present, and Future of the DWR Climate Change Program
- Climate Change Handout – The California Landscape Conservation Cooperative (CA LCC) TEK Survey
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- 2013 Tribal Water Summit Poster Board

South Central Region Tribal Consultation Meeting
June 17, 2014
Clovis Veterans Memorial District - Freedom Conference Room
808 4th St. Clovis, California 93612

10:00 a.m. – 4:00 p.m.

Agenda

- 9:30 a.m. – 10:00 a.m.** **Check-in and Register**
- 10:00 a.m. – 10:15 a.m.** **Formal Introductions and Discussion of Meeting Purpose**
- Paula Landis, *Chief, DWR - Division of Integrated Resources Water Management*
 - BG Heiland, *Executive Advisor to the Chief Deputy Director, DWR*
 - Anecita Agustinez, *Tribal Policy Advisor, DWR*
- 10:15 a.m. – 12:15 p.m.** **Presentations/Q&A**
- General BDCP updates and Cultural Resources: Alisa Reynolds, *Senior Archaeologist, ICF* and Meg Scantlebury, *Senior Associate, ICF*
 - Federal Process Updates: Ann Stine, *Natural Resources Specialist, USBR*, Laureen Perry, *Regional Archaeologist, USBR* and Janis Offerman, *Senior Cultural Resources Specialist, URS*
 - Division of Integrated Regional Water Management Update: Paula Landis
 - DWR Program Updates:
 - IRWM Grants: Keith Wallace, *Program Manager, DWR*
 - Groundwater: Mike McGinnis, *Water Resources Engineer, DWR*
 - Drought: Ernie Taylor, *South Central Regional Coordinator, DWR*
 - TEK/Climate Change: Michelle Selmon, *Regional Climate Change Specialist, DWR*
 - Division of Environmental Services Updates: Jacqueline Wait, *Senior Environmental Planner, DWR*
- 12:15 p.m. – 1:30 p.m.** **Lunch** - *Informational poster boards and staff will be available for questions*
- 1:30 p.m. – 3:15 p.m.** **Consultation Session**
- Format:*
- Roundtable discussion facilitated by Anecita Agustinez and Paula Landis
- General Topics:*
- Draft BDCP and Draft BDCP EIR/EIS
 - Federal consultation process/policies
 - DWR Programs
 - DWR's Tribal Engagement Policy
- Panel:*
- DWR staff
 - Technical subject matter experts
 - Federal agency representatives
- 3:15 p.m. – 3:30 p.m.** **Closing Remarks** – Anecita Agustinez and Sophia Fadal, *Tribal Liaison, DWR*
- 3:30 p.m. – 4:00 p.m.** **Opportunity for Informal Discussion**

**Tribal Consultation Meeting on Proposed Bay Delta Conservation Plan and DWR
Tribal Engagement Policy**

Question/Comment Form

Name (Optional):

Region/County:

REPRESENTING Check One	<input type="checkbox"/> Tribal Chairman/Chairwoman	<input type="checkbox"/> Tribal Leader	<input type="checkbox"/> Community Member
	<input type="checkbox"/> Tribal Citizen	<input type="checkbox"/> State/Official Representative	<input type="checkbox"/> Other:

Please write your question or comment below:

Contact Information:
 Anecita Agustinez
 Tribal Policy Advisor
 1416 9th Street, Room 1155-C
 Sacramento, CA 94236
 Phone: 916-653-8726
 Cell: 916-216-8637
 E-mail:
 Anecita.Agustinez@water.ca.gov



**Tribal Consultation Meeting on Proposed Bay Delta Conservation Plan and DWR
Tribal Engagement Policy**

Question/Comment Form

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REPRESENTING Check One	<input type="checkbox"/> Tribal Chairman/Chairwoman	<input type="checkbox"/> Tribal Leader	<input type="checkbox"/> Community Member
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 Tribal Policy Advisor
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 Sacramento, CA 94236
 Phone: 916-653-8726
 Cell: 916-216-8637
 E-mail:
 Anecita.Agustinez@water.ca.gov



The BDCP is...

...a long-term strategy to secure California's water supplies and improve the ecosystem of the Sacramento-San Joaquin River Delta.

The BDCP Co-Equal Goals

WATER SUPPLY RELIABILITY

3 INTAKES

2 GRAVITY FLOW TUNNELS

30 MILES IN LENGTH

9,000 CFS* CAPACITY

*Cubic Feet per Second

ECOSYSTEM RESTORATION

150,000 ACRES OF RESTORED AND PROTECTED HABITAT

56 PROTECTED SPECIES

IMPROVED FLOW CONDITIONS TO BENEFIT FISH IN THE DELTA



The BDCP Would Benefit Millions of Californians

The BDCP is one part of California's overall water portfolio. It aims to protect our unique Delta ecosystem and secure water supplies for a vast part of the California economy.

SECURING WATER SUPPLIES



4.7-5.6

MILLION ACRE-FEET ON AVERAGE ANNUALLY

(An acre-foot is roughly as much water as two California households use, indoors and outdoors, in a year)

CREATING & PROTECTING JOBS



1.1 MILLION

FULL-TIME EQUIVALENT JOBS CREATED AND SAVED FOR CALIFORNIA

(Based on a year by year estimate)

BOOSTING THE ECONOMY



\$84 BILLION

INCREASE IN STATE ECONOMIC PRODUCTIVITY

The BDCP is Important for California

WATER SUPPLY RELIABILITY

25 MILLION PEOPLE

from the Bay Area to San Diego rely on water from the Delta



MORE THAN 3 MILLION ACRES OF FARMLAND

rely on water from the Delta

ECOSYSTEM RESTORATION



DELTA FISH AND WILDLIFE

depend upon a healthy Delta ecosystem

CLIMATE RISK ADAPTATION



LEVEE FAILURES

RISING SEA LEVELS

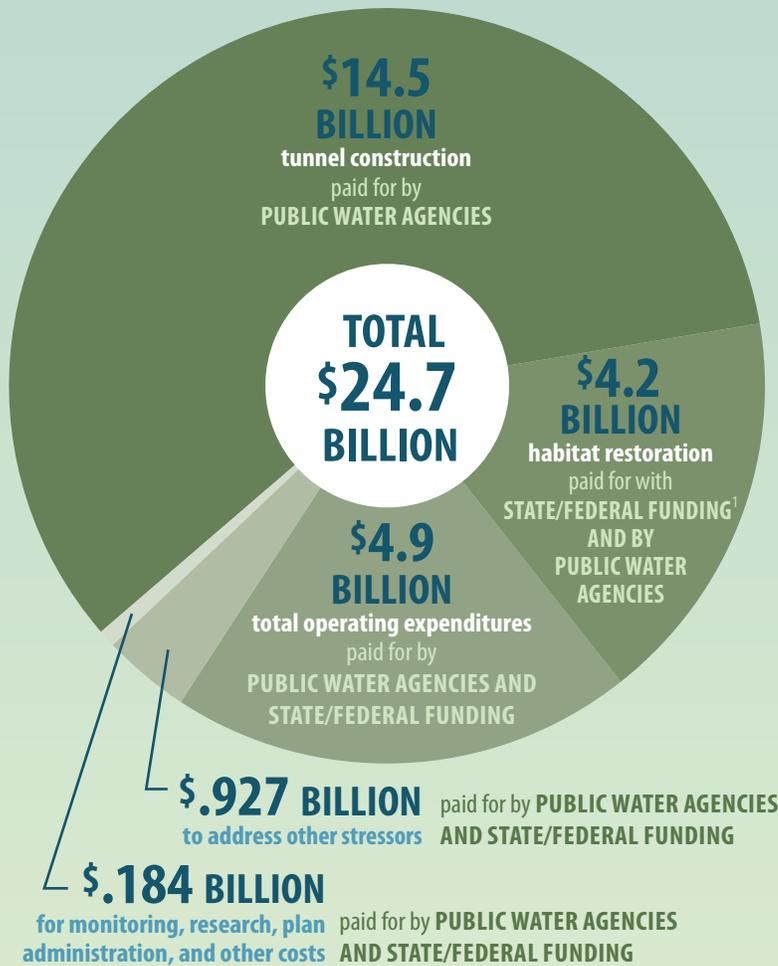
EARTHQUAKES

NATURAL RISKS AND CLIMATE CHANGE

threaten the reliability of the existing system

BDCP Cost and Funding...

...implemented over a 50-year period.



¹ The availability of federal funds will be contingent on future federal appropriations.

The BDCP is Guided by the Best Available Science



ADAPTIVE MANAGEMENT PROGRAM

to implement and monitor BDCP biological goals and objectives



WATER OPERATIONS

by the Department of Water Resources and the U.S. Bureau of Reclamation



OVERSIGHT

by state and federal fish and wildlife agencies

The BDCP Would Benefit the Delta Ecosystem

DELTA RESTORATION

BDCP would contribute to the conservation of 56 species of fish, plants and wildlife in the Delta.

45



SPECIES OF PLANTS & WILDLIFE CONSERVED

through protection and enhancements in the quantity and quality of habitat in the Delta.

52%



INCREASE IN PROTECTED LAND

in the Delta

11



FISH SPECIES BENEFIT,

from an increase in the amount and quality of habitat, food sources, and ecological function of Delta flows. Species include Chinook salmon and delta smelt.

10



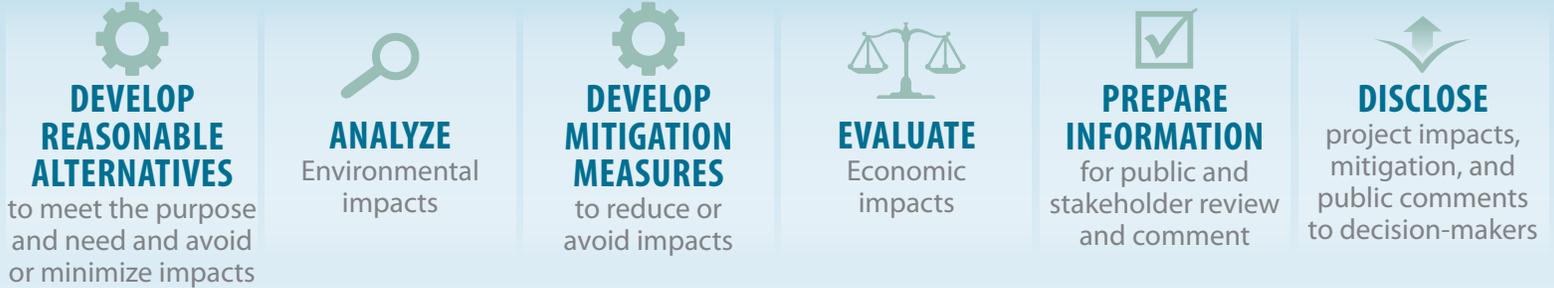
OTHER STRESSOR REDUCTION MEASURES

would reduce adverse effects, such as invasive species, predation, and contaminants, to improve the ecological function of the Delta.

The BDCP Draft EIR/EIS is...

An analysis of BDCP and its alternatives' negative and beneficial impacts on the human environment, and actions to avoid or minimize negative impacts, with the goal of improving the Delta ecosystem and ensuring reliable water supplies for 25 million Californians.

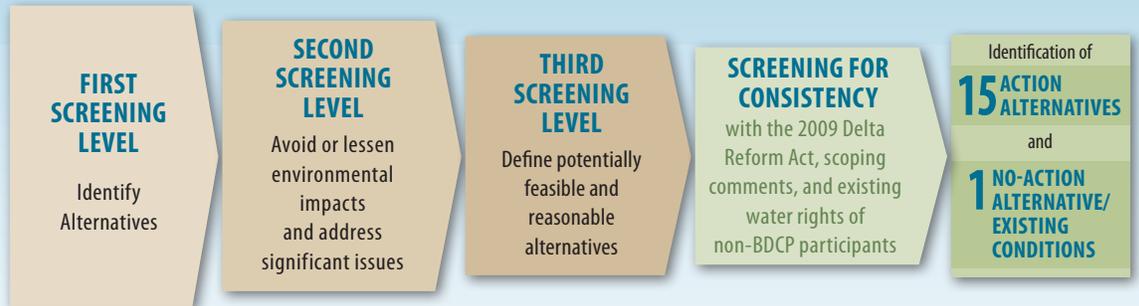
Environmental Analysis Objectives



Robust, Science Driven Screening Process

Alternatives evaluated in the Draft EIR/EIS must:

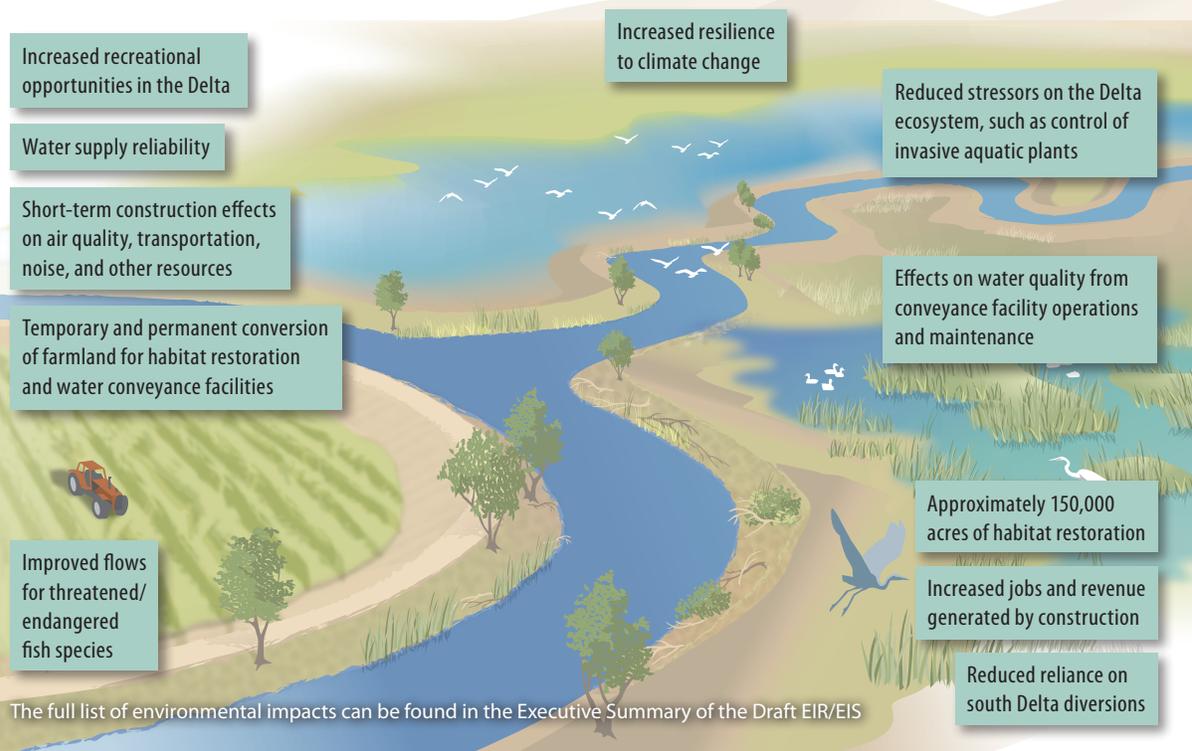
- 1 Be feasible and reasonable
- 2 Meet project objectives
- 3 Avoid or substantially reduce significant impacts



The BDCP Draft EIR/EIS Analyzes more than 600 resource area impact categories. Of these resource impact categories, 65-79 environmental impacts were deemed beneficial, depending upon the alternative evaluated. 57-60 resource areas were found to have no impact, and up to 431 resource area impacts were deemed less than significant.

The Draft EIR/EIS determined 54-72 significant and unavoidable impacts (as determined by the California Environmental Quality Act), depending upon alternative, that may be reduced with the implementation of additional mitigation measures.

BDCP Environmental Benefits and Impacts



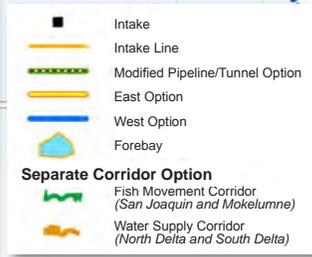
The full list of environmental impacts can be found in the Executive Summary of the Draft EIR/EIS

15 Draft EIR/EIS Action Alternatives:

The Draft EIR/EIS alternatives represent a combination of water conveyance configurations, capacities and operational criteria, habitat restoration and conservation targets, stressor reduction measures, and various avoidance and minimization measures.

The BDCP will include approximately 150,000 acres of restored and protected habitat for 56 covered species, and improve flow conditions to benefit fish in the Delta.

Alternative	Maximum Water Diversions	Intakes	Action Alternative Examples
1A	15,000 cfs	1-5	ALTERNATIVE 4: <ul style="list-style-type: none"> CEQA (or state) Preferred Project Recently improved to reduce the footprint by nearly one-half of its original size
2A	15,000 cfs	1-3, 6, 7, or 1-5	
3	6,000 cfs	1 & 2	
4	9,000 cfs	2, 3 & 5	
5	3,000 cfs	1	
6A	15,000 cfs	1-5	
7	9,000 cfs	2, 3 & 5	
8	9,000 cfs	2, 3 & 5	
1B	15,000 cfs	1-5	ALTERNATIVE 1B: <ul style="list-style-type: none"> Eastern Delta lined or unlined open canal Five intakes between Clarksburg and Walnut Grove
2B	15,000 cfs	1-3, 6, 7, or 1-5	
6B	15,000 cfs	1-5 isolated	
1C	15,000 cfs	West (W)1	ALTERNATIVE 9: <ul style="list-style-type: none"> Screened intakes at Delta Cross Channel and Georgiana Slough Four basic corridors: <ul style="list-style-type: none"> North Delta corridor (Sacramento River to Middle River) South Delta corridor (Middle River and Victoria Canal to Clifton Court Forebay) San Joaquin separate fish movement corridor Mokelumne separate fish movement corridor
2C	15,000 cfs	W1-W5	
6C	15,000 cfs	W1-W5	
9	15,000 cfs	Delta Cross Channel and Georgiana Slough channel modifications	
NO ACTION/NO PROJECT	Current operations	N/A	



NOTE: A full description of the 15 Action Alternatives, and the No Action Alternative, can be found in Chapter 3 (Alternatives) of the Draft EIR/EIS.

Commenting on the Draft Bay Delta Conservation Plan (BDCP) and Associated Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)

May 2014

The Draft BDCP and BDCP Draft EIR/EIS are being made available to the public for a 228-day review period¹. The public review and comment period is effective December 13, 2013 through July 29, 2014.

Draft documents are available to view at:

Department of Water Resources,
3500 Industrial Blvd., Room 117,
West Sacramento, CA 95691

and at:

National Marine Fisheries Service,
650 Capitol Mall, Suite 5-100,
Sacramento, CA 95814

and electronically on the project website at www.BayDeltaConservationPlan.com and at libraries throughout the state. Visit www.BayDeltaConservationPlan.com to find a location near you.

Copies of the documents referenced in the Draft EIR/EIS will be available at the DWR Office at 3500 Industrial Blvd., Room 117, West Sacramento, CA 95691.

How to make effective comments

All comments received on the Draft EIR/EIS will be considered in the Final EIR/EIS and decision-making process. The most effective comments are those that follow the guidelines below:

- Comments should be concise and focus directly on the analysis in the EIR/EIS.
- Comments should identify the specific part of the EIR/EIS at issue and should include supporting evidence and facts.
- The commenter should provide complete references and/or citations, particularly when referring to websites (that is, provide a specific URL address rather than simply citing "DWR website," for example).

The comment period is from
December 13, 2013 through July 29, 2014.

Comments must be received electronically
or postmarked on or before
July 29, 2014.

HOW TO COMMENT:



Mail to

BDCP Comments
Ryan Wulff, National Marine Fisheries Service
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814



Email to

BDCP.comments@noaa.gov

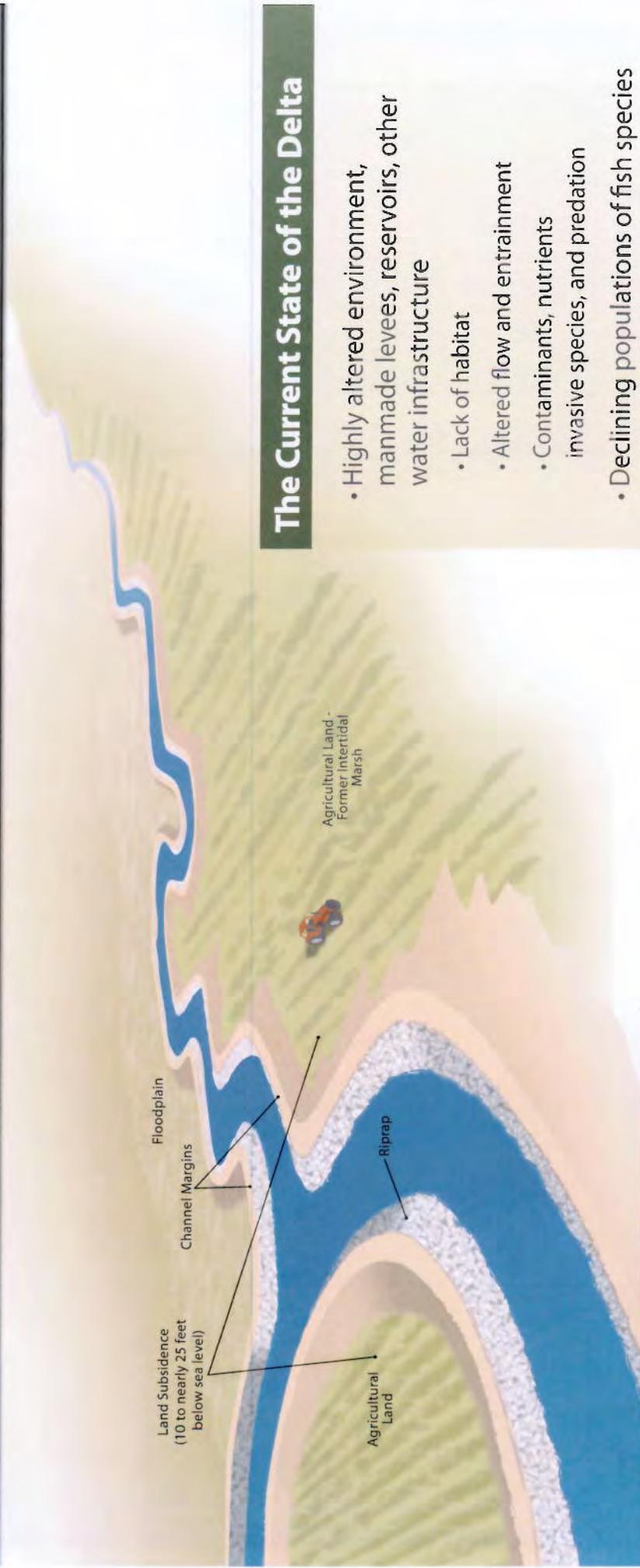
Only comments submitted via the methods listed above are considered formal comments.

Statements made to project team members are not considered formal comments. **All comments received on the Draft EIR/EIS will be considered in the Final EIR/EIS and decision-making process.** No final decisions have been made regarding going forward with the BDCP or in selecting an alternative; those decisions will only occur after completion of the CEQA and NEPA processes.

The Draft Implementing Agreement was released on May 30, 2014 for a 60-day public review and comment period through July 29, 2014. More information is available on the project website at www.BayDeltaConservationPlan.com.

¹The Draft BDCP and Draft EIR/EIS are being made available for public review in accordance with the California Natural Community Conservation Planning Act (NCCCPA), Section 10 of the federal Endangered Species Act (ESA), the California Environmental Quality Act (CEQA), and the National Environmental Policy Act (NEPA). The public comment period has been extended to a 228-day comment period. This extension will allow the public more time to review and comment on the public draft documents.

The Problem



The Current State of the Delta

- Highly altered environment, manmade levees, reservoirs, other water infrastructure
 - Lack of habitat
 - Altered flow and entrainment
 - Contaminants, nutrients
 - Invasive species, and predation
- Declining populations of fish species
- Increasingly unreliable water deliveries
- Increasing threats of continuing land subsidence, seismic events and climate change

The heart of California's water system rests in the Delta, and its current configuration puts it—and the broader economy—at serious risk. The status quo of the Delta—both the ecosystem and the water system depending on it—is not sustainable.

The Proposed BDCP Would Benefit

Millions of Californians

The BDCP is one part of California's overall water portfolio. It aims to protect our unique Delta ecosystem and secure water supplies for a vast part of the California economy by:

SECURING WATER SUPPLIES



4.7-5.6 MILLION ACRE-FEET ON AVERAGE ANNUALLY
(An acre-foot is roughly as much water as two California households use, indoors and outdoors, in a year)

CREATING & PROTECTING JOBS



1.1 MILLION FULL-TIME EQUIVALENT JOBS CREATED AND SAVED FOR CALIFORNIA
(Based on a year by year estimate)

BOOSTING THE ECONOMY



\$84 BILLION INCREASE IN STATE ECONOMIC PRODUCTIVITY

The Delta Ecosystem

DELTA RESTORATION

BDCP would contribute to the conservation of 56 species of fish, plants and wildlife in the Delta.



45 SPECIES OF PLANTS & WILDLIFE CONSERVED
through protection, restoration, creation, and enhancement of the quantity and quality of habitat in the Delta.



11 FISH SPECIES BENEFIT
from an increase in the quantity and quality of habitat, food sources, and ecological function of Delta flows. Species include Chinook salmon and delta smelt.



52% INCREASE IN PROTECTED LAND
in the Delta for habitat.



10 OTHER STRESSOR REDUCTION MEASURES
would reduce adverse effects, such as invasive species, predation, and contaminants, to improve the ecological function of the Delta.

The Proposed BDCP is

The proposed project includes:

WATER SUPPLY RELIABILITY

3 INTAKES

2 GRAVITY FLOW TUNNELS

30 MILES IN LENGTH

9,000 CFS* CAPACITY

*Cubic Feet per Second

ECOSYSTEM RESTORATION

150,000 ACRES OF RESTORED AND PROTECTED HABITAT

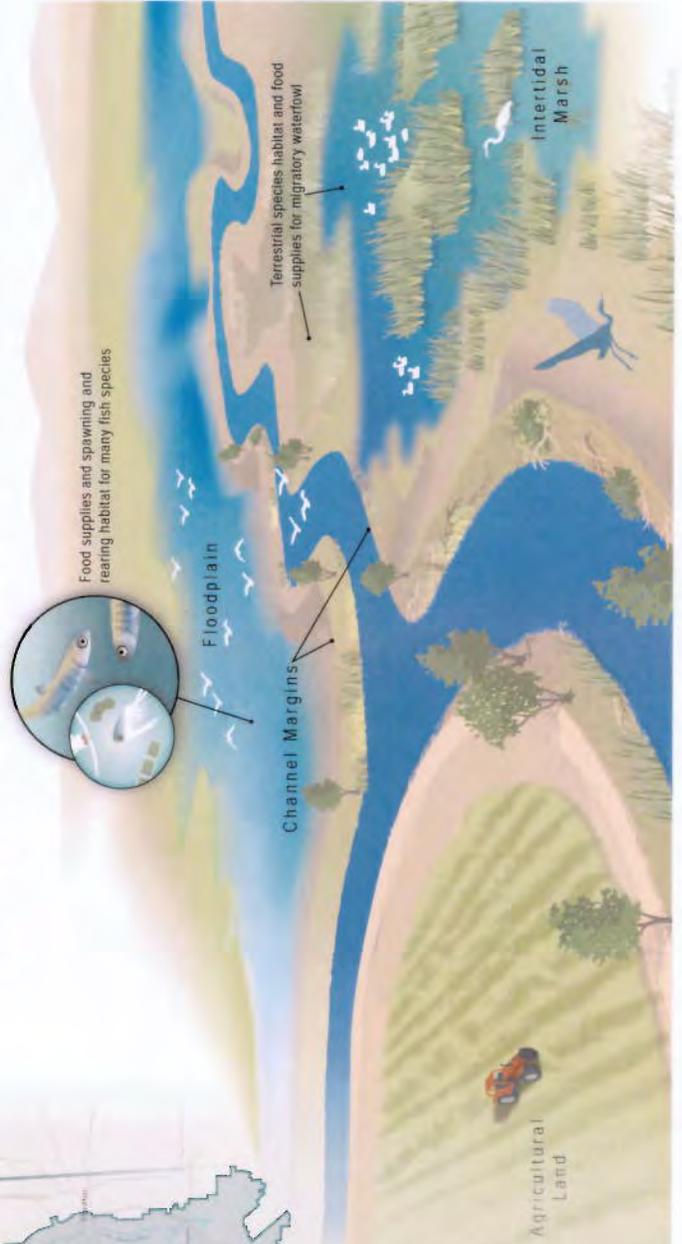
56 PROTECTED SPECIES

IMPROVED FLOW CONDITIONS TO BENEFIT FISH IN THE DELTA



- A part of California's water management portfolio
- A long term strategy to improve the reliability of California's water supplies and improve the ecosystem of the Sacramento-San Joaquin Delta
- A Habitat Conservation Plan

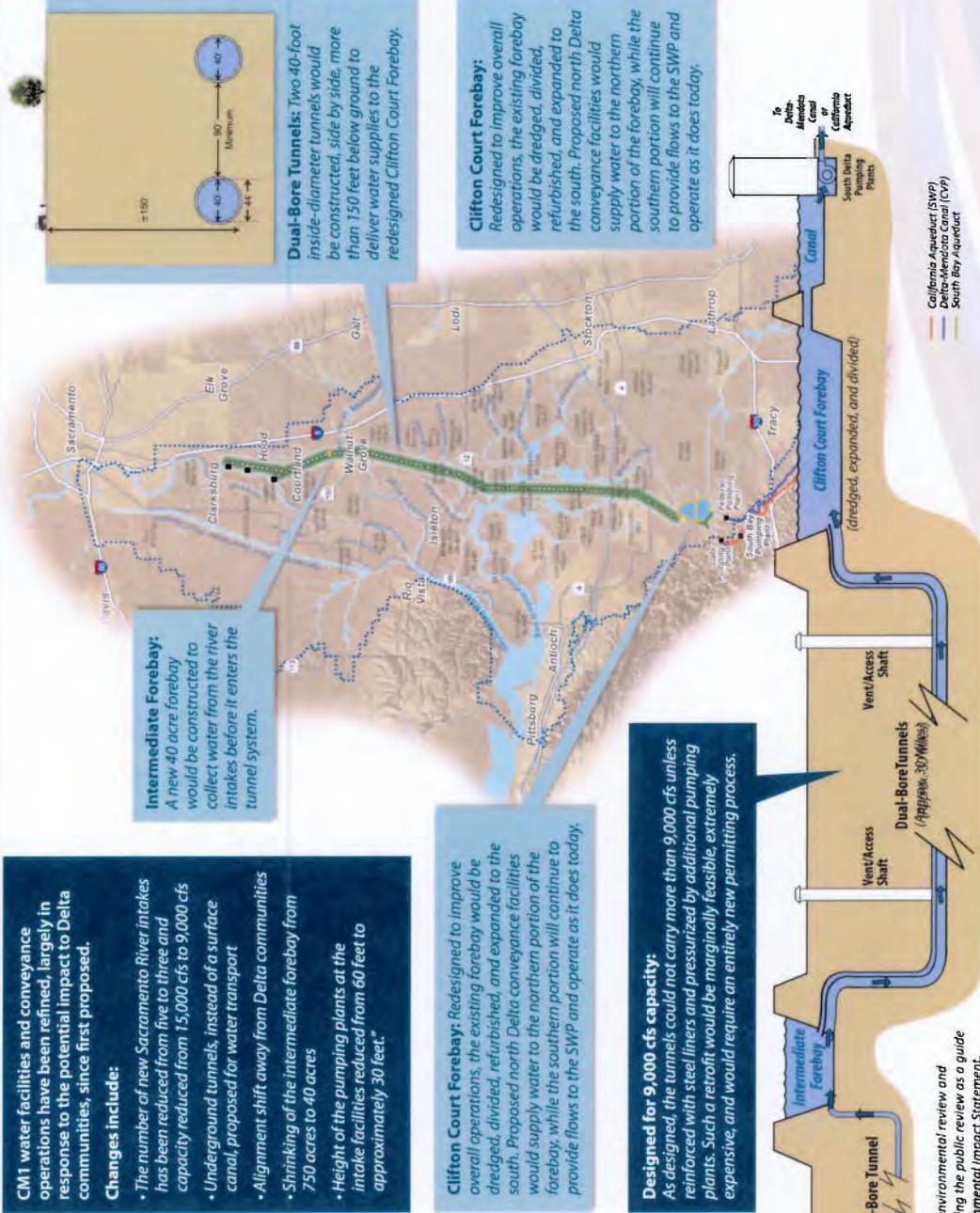
The BDCP provides a way to improve water supply reliability and ecosystem health.



BDCP Proposed Water Conveyance System (CM1)

CM1 Features:

- Three intakes, together capable of diverting up to 9,000 cfs.
- State-of-the-art fish screens that would protect passing fish.
- A forebay for collection of the water diverted from the river.
- Two tunnels to carry water 30 miles to the existing pumping plants in the south Delta. From there, water would be moved into existing aqueducts that supply much of the state.



BDCP Cost and Funding



Estimated COSTS	
Capital	\$19.85 BILLION
Operations & Maintenance	\$4.9 BILLION
Total	\$24.75 BILLION

Estimated FUNDING	
Total	\$24.75 BILLION

¹The availability of federal funds will be contingent on future federal appropriations.

²Program oversight includes monitoring and research, adaptive management, management/administration, changed circumstances, and property tax revenue replacement.

BDCP Governance

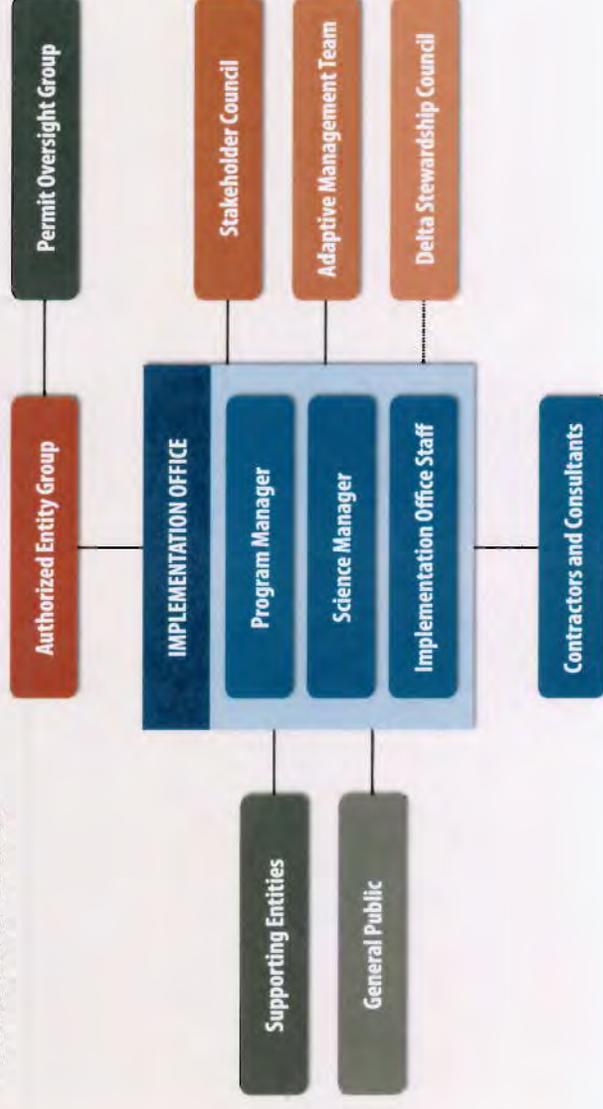
The proposed governance and implementation structure of the BDCP is envisioned as a collaborative effort with defined roles and responsibilities, and a clear process for addressing issues and conflicts as they arise.

The implementation structure is designed to ensure that:

- Sufficient institutional expertise, capacity, resources, and focus are brought to bear to accomplish the BDCP goals and objectives
- The entities receiving regulatory authorizations are accountable to those agencies granting the regulatory authorizations
- The decision-making process regarding BDCP implementation is transparent and understandable to the public

The implementation structure includes:

- Implementation Office
- Authorized Entity Group
- Permit Oversight Group
- Adaptive Management Team
- Stakeholder Council



BDCP Expected Outcomes (Effects Analysis)

Chapter 5, Effects Analysis, of the public Draft BDCP looks at the outcomes that are expected to result in the BDCP implementation.

The Effects Analysis:

- Evaluates the effects of the BDCP actions by comparing an environmental baseline condition to the conditions expected under BDCP
- Compares all conservation measures at various times during BDCP implementation
- Describes the level of take (harm or harassment of species) and the effect of that take from BDCP actions
- Considers climate impacts over the entire 50-year implementation period

Net Effects

The BDCP Effects Analysis evaluates the combined effects of all covered activities, including the conservation measures, to determine the net effect of implementing the Plan for:

- Ecosystems and landscapes
- Natural communities
- Covered plants and wildlife
- Covered fish

To calculate the net benefit of BDCP actions, the EA summarizes the positive and negative effects of the plan to determine the net effect to each covered species.

BENEFICIAL BDCP EFFECTS

+

ADVERSE BDCP EFFECTS

NET BDCP EFFECTS

For details regarding the positive and negative effects for each category, see Chapter 5, Effects Analysis, of the public Draft BDCP.

Scientific Uncertainty

Because the Delta is an ecologically complex estuary, there is a degree of scientific uncertainty. Where a high level of uncertainty is associated with the potential for a conservation measure to achieve plan objectives, that uncertainty will be addressed through research, monitoring, and the adaptive management program.

Anticipated Benefits to Habitat and Species Under Proposed BDCP



Expanding Sandhill Crane Habitat

The greater sandhill crane, one of the oldest living bird species, winters in California's Central Valley with one of the greatest concentrations in the central east Delta. The cranes roost in habitat consisting of wetlands or flooded agricultural fields.

In addition to the restoration identified in CM10, the BDCP includes a comprehensive strategy for contributing to the species' recovery. Construction and operation of conveyance facilities would be designed to avoid and minimize impacts to the crane. To ensure that the important crane population on Staten Island is unharmed by construction, the plan commits to a performance standard of no net loss of crane use days on Staten Island. This standard would be achieved through a number of avoidance and minimization measures.

Channel Margin

- Chinook Salmon
- Sacramento Splittail
- Central Valley Steelhead
- Pacific and River Lamprey
- Green Sturgeon
- White Sturgeon

Tidal Habitat

- Salt Marsh Harvest Mouse
- California Clapper Rail
- Delta Smelt
- Suisun Shrew
- California Black Rail
- White-tailed Kite
- Northern Harrier
- Short-eared Owl

Grassland

- San Joaquin Kit Fox
- Western Burrowing Owl
- California Tiger Salamander
- California Red-legged Frog
- Swainson's Hawk
- Northern Harrier
- White-tailed Kite
- Loggerhead Shrike
- Tricolored Blackbird
- Grasshopper Sparrow

Riparian

- Riparian Brush Rabbit
- Swainson's Hawk
- Valley Longhorn Elderberry Beetle
- Riparian Woodrat
- White-tailed Kite
- Cooper's Hawk
- Osprey
- Western Yellow-billed Cuckoo
- Least Bell's Vireo
- Yellow-breasted Chat
- Great Egret
- Great Blue Heron
- Snowy Egret
- Black-crowned Night Heron
- Western Pond Turtle



Channel Margin (20,000 Acres)

Tidal Habitat (65,000 Acres)

Grassland (10,000 Acres)

New Floodplain (10,000 Acres)

Riparian Habitat (5,000 Acres)

Cultivated Lands (45,000 Acres)

Managed Wetlands and Other Habitats (13,000 Acres)



New Floodplain

- Central Valley Steelhead
- Chinook Salmon
- Sacramento Splittail
- Western Pond Turtle
- Pacific and River Lamprey
- Green Sturgeon
- White Sturgeon

Cultivated Lands

- Greater Sandhill Crane
- Tricolored Blackbird
- Swainson's Hawk
- White-faced Ibis
- Great Egret
- Great Blue Heron
- Snowy Egret
- Northern Harrier

Managed Wetlands and Other Habitats

- White-tailed Kite
- Vertical Pool Tadpole Shrimp
- Giant Garter Snake
- White-faced Ibis
- Northern Harrier
- Loggerhead Shrike
- Giant Garter Snake
- Vernal Pool Fairy Shrimp
- All the other fairy shrimp

Purpose of the Draft Environmental Impact Report/ Environmental Impact Statement (EIR/EIS)

Helps to fulfill the requirements of the:

- ▶ California Environmental Quality Act (CEQA)
 - For CEQA compliance:
 - Describe the proposed project, identify its significant environmental impacts, and develop reasonable mitigation measures and alternatives to eliminate or reduce such impacts
 - May support future regulatory actions or approvals
- ▶ National Environmental Policy Act (NEPA)
 - For NEPA compliance:
 - Describe a reasonable range of alternatives that meet project purpose and need, analyze environmental impacts of each alternative, and develop mitigation measures that would avoid or minimize adverse impacts or enhance the environment
 - May support future regulatory actions or approvals

Draft EIR/EIS Project Objectives and Purpose and Need

Chapter 2 of the Draft EIR/EIS describes the project's objectives, purpose and need as required by CEQA and NEPA.

Project Need

"The need for the action is derived from the multiple, and sometimes conflicting, challenges currently faced within the Delta. The Delta has long been an important resource for California, providing municipal, industrial, agricultural and recreational uses, fish and wildlife habitat, and water supply for large portion of the state. However, by several key criteria, the Delta is now widely perceived to be in crisis. There is an urgent need to improve the conditions for threatened and endangered fish species within the Delta. Improvements to the conveyance system are needed to respond to increased demands upon and risks to water supply reliability, water quality, and the aquatic ecosystem."

CEQA Project Objectives

"DWR's fundamental purpose in proposing the BDCP is to make physical and operational improvements to the State Water Project (SWP) system in the Delta necessary to restore and protect ecosystem health, water supplies of the SWP and Central Valley Project (CVP) south-of-Delta, and water quality within a stable regulatory framework, consistent with statutory and contractual obligations."



Draft EIR/EIS Project Objectives and Purpose and Need

Chapter 2 of the Draft EIR/EIS describes the project's objectives, purpose and need as required by CEQA and NEPA.

NEPA Purpose

1. Consider the applications for incidental take permits for the covered species that authorize take related to the actions listed below.
 - a. The operation of existing SWP Delta facilities.
 - b. The construction and operation of facilities and/or improvements for the movement of water entering the Delta from the Sacramento Valley watershed to the existing SWP and CVP pumping plants located in the southern Delta.
 - c. The implementation of any conservation actions that have the potential to result in take of species that are or may become listed under the ESA, pursuant to the ESA at section 10(a)(1)(B) and its implementing regulations and policies.
2. Improve the ecosystem of the Delta by implementing the actions listed below.
 - a. Providing for the conservation and management of covered species through actions within the BDCP Planning Area that will contribute to the recovery of the species.
 - b. Protecting, restoring, and enhancing certain aquatic, riparian, and associated terrestrial natural communities and ecosystems.
 - c. Reducing the adverse effects on certain listed species due to diverting water.
3. Restore and protect the ability of the SWP and CVP to deliver up to full contract amounts, when hydrologic conditions result in the availability of sufficient water, consistent with the requirements of state and federal law and the terms and conditions of water delivery contracts held by SWP contractors and certain members of San Luis Delta Mendota Water Authority, and other existing applicable agreements.



Chapter 8 – Water Quality

Chapter 8 – Water Quality

- ▶ Describes potential impacts on surface water quality
- ▶ The study area includes:
 - The Plan Area
 - Upstream of the Delta region
 - SWP/CVP Export Service Areas

Chapter 8 addresses two key questions:

- ▶ Would implementation of the BDCP or its alternatives result in effects on water quality in the study area?
- ▶ Would implementation of the BDCP or its alternatives result in changes to water quality that would have impacts to beneficial uses?

See public Draft EIR/EIS Chapter 8 for the impact analysis and conclusions.

You may also be interested in:

- Public Draft EIR/EIS Appendix 8A- Water Quality Criteria and Objectives
- Public Draft EIR/EIS Appendix 8B- Summary of Data Availability Used in Environmental Setting
- Public Draft EIR/EIS Appendix 8C - Screening Analysis
- Public Draft EIR/EIS Appendix 8H- Electrical Conductivity



Chapter 6 – Surface Water

Chapter 6 – Surface Water

- ▶ Examines the effects of implementing BDCP or its alternatives on surface waters in the Delta and upstream of the Delta
- ▶ The study area includes:
 - Sacramento hydrologic region
 - The Delta
 - Suisun Marsh

Chapter 6 analysis focuses on the following types of impacts:

- ▶ Changes in reverse flow conditions in Old River and Middle River
- ▶ Effects on flood management as a result of changes in water storage and flows

See public Draft EIR/EIS Chapter 6 for the impact analysis and conclusions.



Chapter 7 – Groundwater

Chapter 7 – Groundwater

- ▶ Examines the effects of implementing BDCP or its alternatives on groundwater resources
- ▶ The study area includes:
 - The Plan Area
 - Upstream of the Delta region
 - SWP and CVP export service areas

Chapter 7 analysis focuses on the following types of impacts:

- ▶ Depletion of groundwater supplies or interference with groundwater recharge
- ▶ Degradation of groundwater quality
- ▶ Interference with agricultural drainage

See public Draft EIR/EIS Chapter 7 for the impact analysis and conclusions.
You may also be interested in:

- Public Draft EIR/EIS Appendix 7A- Groundwater Model Documentation



Chapter 5 – Water Supply

Chapter 5 – Water Supply

- ▶ Describes the effects that implementing the BDCP or its alternatives would have on water supply conditions
- ▶ The study area includes:
 - The Plan Area
 - Upstream of the Delta region
 - SWP/CVP export service areas



Chapter 5 analysis focuses on the following types of impacts:

- ▶ Change in Delta outflow
- ▶ Change in SWP and CVP reservoir storage
- ▶ Change in Delta water exports
- ▶ Change in SWP and CVP deliveries

See public Draft EIR/EIS Chapter 5 for the impact analysis and conclusions.

You may also be interested in:

- Public Draft EIR/EIS Appendix 5A-Modeling Technical Appendix
- Public Draft EIR/EIS Appendix 5B - Responses to Reduced South of Delta Water Supplies
- Public Draft EIR/EIS Appendix 5D- Water Transfer Analysis Methodology and Results



Chapter 17 – Visual Resources and Chapter 23 – Noise

Chapter 17 – Aesthetics and Visual

- ▶ Examines the effects of implementing BDCP or its alternatives on visual resources.
- ▶ Study Area includes:
 - The Plan Area

Chapter 17 analysis focuses on the following types of visual impacts:

- ▶ Visual character
- ▶ Visual quality
- ▶ Viewer response, e.g. exposure, sensitivity, distance and duration of views

See public Draft EIR/EIS Chapter 17 for the impact analysis and conclusions.

You may also be interested in:

- Public Draft EIR/EIS Appendix 17D- Permanent Impacts after Construction is Complete

Chapter 23 – Noise

- ▶ Examines the potential impacts of noise and vibration resulting from construction and operation of the water conveyance facilities and restoration actions, specifically as they relate to regional city and county noise ordinances and restrictions for sensitive receptors
- ▶ Study Area includes:
 - The Plan Area

Chapter 23 analysis focuses on the following types of noise impacts:

- ▶ Annoyance, nuisance or dissatisfaction
- ▶ Interference with activities such as speech, sleep or learning
- ▶ Physiological effects such as startling and hearing loss

See public Draft EIR/EIS Chapter 23 for the impact analysis and conclusions.

Chapter 11 – Fish and Aquatic Resources

Chapter 11 – Fish and Aquatic Resources

Considers:

- ▶ The effects of implementing BDCP or its alternatives on fish and aquatic resources
- ▶ 11 covered fish species listed as endangered, threatened, or at risk of being listed as endangered or threatened during BDCP permit term
- ▶ 9 non-covered species, either special status species or of particular ecological, recreational, or commercial importance
- ▶ Study Area includes:
 - The Plan Area
 - Upstream of the Delta

Chapter 11 analysis considered the following categories of impact mechanisms:

- ▶ Construction and maintenance of water conveyance facilities associated with BDCP and its alternatives
- ▶ Water operations of water conveyance facilities associated with BDCP and its alternatives
- ▶ Construction and implementation of restoration measures associated with BDCP and its alternatives
- ▶ Construction and maintenance of other conservation measures associated with BDCP and its alternatives

See public Draft EIR/EIS Chapter 11 – *Fish and Aquatic Resources: Summary of Effects* for a summary of the impact analysis.



Chapter 12 – Terrestrial Biological Resources

Chapter 12 – Terrestrial Biological Resources

Considers:

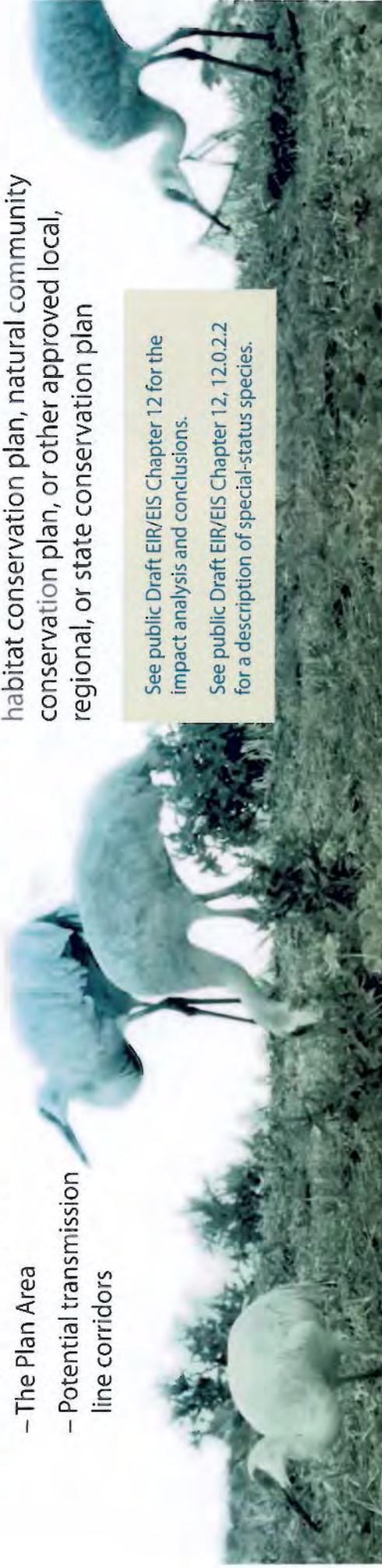
- ▶ 14 Natural Communities
- ▶ 149 special status wildlife and plant species
- ▶ Common wildlife species such as shorebirds and waterfowl
- ▶ Habitat corridors
- ▶ Wetlands and other waters
- ▶ Compatibility with local plans and policies
- ▶ Study Area includes:
 - The Plan Area
 - Potential transmission line corridors

Chapter 12 analysis focuses on the following types of impacts:

- ▶ Harm or harassment of individuals or populations of special-status species
- ▶ Removal or damage to habitat that supports special-status species
- ▶ Creation of barriers to the movement of special-status species
- ▶ Substantial conflicts with goals set in state or federally approved recovery plans for listed species
- ▶ Conflicts with provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state conservation plan

See public Draft EIR/EIS Chapter 12 for the impact analysis and conclusions.

See public Draft EIR/EIS Chapter 12, 12.0.2.2 for a description of special-status species.



Chapter 14 – Agricultural Resources

Chapter 14 – Agricultural Resources

- ▶ Describes the possible effects of implementing BDCP or its alternatives on the Delta’s agricultural region, including the temporary effects associated with construction of water conveyance facilities as well as permanent conversion of agricultural lands to nonagricultural uses in the Delta region (Cache Slough, Cosumnes/Mokelumne, Suisun Marsh, West Delta and South Delta Areas).
- ▶ Other topics related to agricultural resources are discussed in other chapters:
 - Chapter 5, Water Supply
 - Chapter 6, Surface Water
 - Chapter 7, Groundwater
 - Chapter 8, Water Quality
 - Chapter 9, Geology and Seismicity
 - Chapter 10, Soils
 - Chapter 12, Terrestrial Biological Resources
 - Chapter 16, Socioeconomics
 - Chapter 24, Hazards and Hazardous Materials
 - Chapter 25, Public Health
 - Chapter 28, Environmental Justice
 - Chapter 30, Growth Inducement

Estimated Conversion of Important Farmland to Nonagricultural Uses Associated with CM1

Alternative	Permanent Surface Impacts	Temporary and Short-Term Surface Impacts	Total	Percent of Total Important Farmland in Plan Area
Alternatives 1A and 6A	4,984	1,329	6,313	1.23%
Alternatives 1B and 6B	18,875	2,144	21,019	4.10%
Alternatives 1C and 6C	13,014	3,170	16,184	3.16%
Alternative 2Aa	4,992	1,826	6,818	1.33%
Alternative 2Ba	18,868	2,669	21,537	4.20%
Alternative 2C	13,019	3,170	16,189	3.16%
Alternative 3	4,838	953	5,791	1.13%
Alternative 4	4,975	1,315	6,290	1.23%
Alternative 5	4,770	833	5,603	1.09%
Alternatives 7 and 8	4,883	1,105	5,987	1.17%
Alternative 9	2,459	559	3,018	0.59%

See public Draft EIR/EIS Chapter 14 for the impact analysis and conclusions.

You may also be interested in:
- Public Draft EIR/EIS Appendix 14B - Delta Agricultural Stewardship Strategies

Chapter 15 – Recreation

Chapter 15 – Recreation

- ▶ Examines the effects of implementing BDCP or its alternatives on recreational experiences and facilities. Other chapters that discuss tourism and recreation are Chapter 16, *Socioeconomics*, Chapter 17, *Aesthetics and Visual Resources*, Chapter 20, *Public Services and Utilities*, and Chapter 23, *Noise*.

Chapter 15 analysis evaluated:

- ▶ Changes in upstream reservoir levels
- ▶ Access to Delta recreation sites
- ▶ Disruption of existing Delta recreation opportunities such as boating and fishing

See public Draft EIR/EIS Chapter 15 for the impact analysis and conclusions.



Chapter 16 – Socioeconomics

Chapter 16 – Socioeconomics

- ▶ Describes the socioeconomic conditions in the Delta and the potential effects of BDCP and its alternatives
- ▶ Looks at potential effects on:
 - Social and economic characteristics
 - Employment
 - Income at regional levels
 - Population and housing
 - Community character

Chapter 16 analysis considers the following categories of effects:

- ▶ Effects of construction, operation, and maintenance of conveyance facilities in the Plan Area and implementation of other conservation measures in the Plan Area
- ▶ Effects in hydrologic regions outside the Delta that could result from changes in water deliveries or transfers

See public Draft EIR/EIS Chapter 16 for the impact analysis and conclusions.

You may also be interested in:

- Public Draft EIR/EIS Appendix 16A Regional Economic Impacts of Water Conveyance Facility Construction



Other Resources Studied

The EIR/EIS analysis considers the following categories of effects:

- ▶ **Chapter 13 - Land Use**, describes existing and planned land uses in the Plan Area that could be affected by construction and operation of BDCP or its alternatives
- ▶ **Chapter 21 - Energy**, describes and evaluates the energy production and use associated with the existing SWP and CVP facilities, and the additional energy requirements needed for construction, and operation and maintenance of the BDCP and its alternatives
- ▶ **Chapter 24 - Hazards and Hazardous Materials**, addresses both naturally occurring and human-caused hazards in the Plan Area.
- ▶ **Chapter 25 - Public Health**, addresses potential impacts on human health including but not limited to drinking water quality, pathogens in recreational waters, and disease-carrying mosquitoes.



Air Quality and Greenhouse Gases, and Climate Change

Chapter 22 – Air Quality and Greenhouse Gases

- ▶ Examines the effects of implementing BDCP or its alternatives on air quality, focusing on criteria pollutants and greenhouse gas (GHG) emissions



- ▶ The study area includes three air basins: Sacramento Valley, San Joaquin Valley and the San Francisco Bay Area

The analysis focused on the following types of effects:

- Conflict with the applicable air quality plan
- Violation of any air quality standard
- Total direct emissions
- Exposure to sensitive receptors, e.g. schools or day cares
- Creation of objectionable odors

See public Draft EIR/EIS Chapter 22 for the impact analysis and conclusions.

You may also be interested in:

- Public Draft EIR/EIS Appendix 22D - DWR Climate Action Plan

Chapter 29 – Climate Change

- ▶ Addresses the question of how the BDCP and its alternatives would affect the resiliency and adaptability of the Plan Area to the effects of climate change.

- ▶ Resiliency and adaptability mean the ability of the Plan Area to remain stable or flexibly change as the effects of climate change increase, in order to continue providing water supply of suitable water quality and to support ecosystem conditions that maintain or enhance aquatic and terrestrial plant and animal species.

Chapter 29 is different from other chapters, which identify the effects of actions within BDCP or its alternatives and how to mitigate the effects of those actions. Instead, Chapter 29 looks at how the BDCP or its alternatives perform under future projected conditions due to climate change such as sea-level rise, changes to hydrology, and increased air and water temperatures.

See public Draft EIR/EIS Chapter 29 for the impact analysis and conclusions.

Transportation, and Public Services and Utilities

Chapter 19 – Transportation

- ▶ Examines the transportation systems that serve the study area and the potential effects of BDCP or its alternatives implementation on roadway, marine, rail, and air transportation facilities
- ▶ Study area includes the Plan Area and some roadway segments outside the Plan Area that could be affected by construction activities

The analysis focused on the following types of effects:

- Substantial increases in traffic, delays or alteration of current circulation patterns
- Creation of traffic hazards or deterioration of roadways
- Interference with emergency management and evacuation routes
- Disruption of marine, air traffic, or transit service during construction or operations
- Interference with bicycle routes
- Conflicts with adopted policies, plans, or programs supporting alternative transportation (such as bicycles and transit services)

See public Draft EIR/EIS Chapter 19 for the impact analysis and conclusions.



Chapter 20 – Public Services and Utilities

- ▶ Describes the potential effects of implementing BDCP or its alternatives on public services such as law enforcement, fire protection and emergency services
- ▶ Describes the effects of implementing BDCP or its alternatives on utilities such as solid waste management, water treatment and electricity
- ▶ The study area includes the Plan Area

The analysis focused on the following types of effects:

- Need for new or altered public service facilities
- Disruption of existing utility services
- Need for new or expanded water or wastewater treatment facilities
- Need for new or expanded water supply resources
- Exceedance of solid waste management capacity
- Noncompliance with applicable statutes and regulations related to solid waste

See public Draft EIR/EIS Chapter 20 for the impact analysis and conclusions.



Geology and Seismicity, Soils, and Mineral Resources

Chapter 9 – Geology and Seismicity

- ▶ Describes the existing geologic and seismic conditions and associated potential geologic, seismic, and geotechnical hazards in the Plan Area

The types of effects evaluated include:

- Exposure of people or structures to potential substantial adverse effects including risk of loss, injury or death
- Areas that are unstable or could become unstable as a result of implementation of projects identified in BDCP and its alternatives, and result in on- or off-site landslides, subsidence, liquefaction, or collapse



See public Draft EIR/EIS Chapter 9 for the impact analysis and conclusions.

Chapter 10 – Soils

- ▶ Describes existing soil conditions that could be affected by implementation of the BDCP or its alternatives

The types of effects evaluated include:

- Accelerated soil erosion from water and wind
- Loss of topsoil caused by excavation, overcovering, and inundation
- Land subsidence due to biological oxidation of peat soils
- Effects of corrosive, expansive and compressible soils

See public Draft EIR/EIS Chapter 10 for the impact analysis and conclusions.

Chapter 26 – Mineral Resources

- ▶ Describes existing mineral resources that could be affected by construction, operation, and maintenance of the water conveyance facilities and restoration activities within BDCP and its alternatives

The types of effects evaluated include:

- Loss of known mineral resources of value to the region or the state
- Prevention of access to mineral resources
- Reduction of extraction potential from natural gas fields
- Reduced availability for aggregate resources and sites due to the volume used for construction



See public Draft EIR/EIS Chapter 26 for the impact analysis and conclusions.

Chapter 30 – Growth Inducement

- Addresses the **direct** and **indirect** growth inducement potential of implementing BDCP or its alternatives

Direct effects are caused by the action when the project is occurring, e.g. new jobs.

Direct growth was analyzed by comparing potential new jobs with existing labor force capacity to meet employment demand.



Indirect effects can occur at a later time but are reasonably foreseeable, e.g., land use changes, population density, or growth rate, and effects on air, water, and ecosystems.

Indirect growth was evaluated by projecting the potential of BDCP or its alternatives to stimulate housing development and increase need for public services.

- Potential for growth assessed for consistency with local land use plans
- Considered the relationship between water supply and urban population growth and whether growth would occur without increased water deliveries

Cultural and Paleontological Resources

Chapter 18 – Cultural Resources

- ▶ Assesses the potential effects of implementing BDCP or its alternatives on cultural resources, such as prehistoric and historic archaeological resources, architectural/built-environment resources, and places important to Native Americans and other ethnic groups
- ▶ The study area includes the Plan Area

The analysis focused on these effects:

- Ground-disturbing construction that would damage historic or pre-historic sites
- Direct demolition of resources such as historic-era residences or structures
- Direct excavation or alteration of traditional cultural properties
- Direct effects on individual resources, leading to adverse effects on rural historical landscapes
- Potential to alter, directly or indirectly, any of the characteristics of a property that qualifies for inclusion in the National Register of Historic Places

See public Draft EIR/EIS Chapter 18 for the impact analysis and conclusions.

Chapter 27 – Paleontological Resources

- ▶ Considers the potential effects on fossils or life history artifacts of prehistoric plants and animals
- ▶ Study area includes the Plan Area

The analysis considered if the alternatives would directly or indirectly destroy unique paleontological resources or sites.

See public Draft EIR/EIS Chapter 27 for the impact analysis and conclusions.

Chapter 28 – Environmental Justice

- ▶ Addresses the potential for implementation of BDCP or its alternatives to disproportionately affect minority and low-income populations
- ▶ Low-income and minority populations in the study area were identified using 2010 U.S. census data

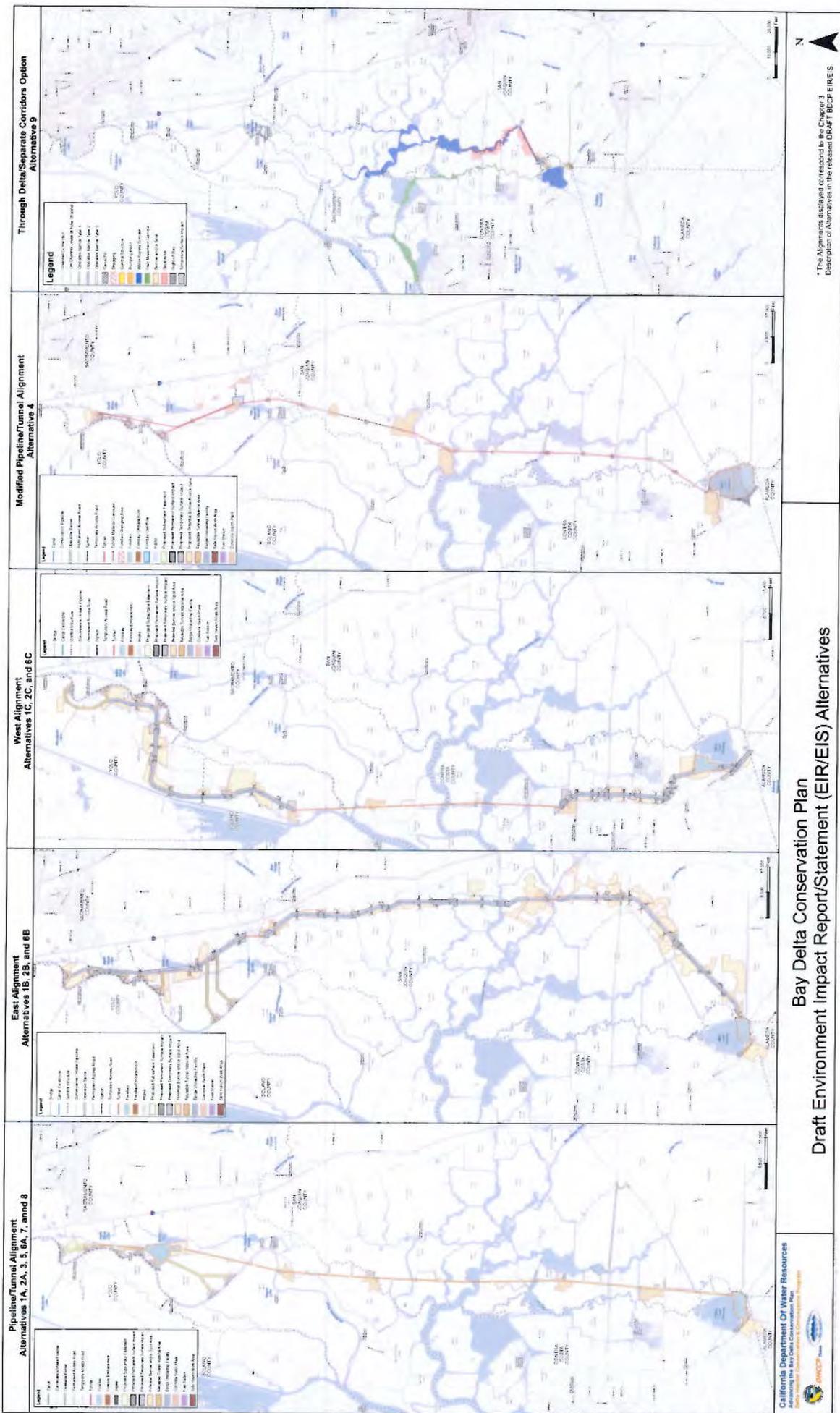
More information on which low-income and minority populations have been identified in the study area is provided in Chapter 28, 28.2.1, Identification of Environmental Justice Populations in the Study Area.

Chapter 28 analysis focused on the following types of impacts:

- ▶ Any impact on the natural or physical environment when the minority population is greater than 50% of the population or low-income individuals constitute 20% or more of the population
- ▶ Effects that appreciably exceed the adverse impacts on the general population
- ▶ Effects that would result in cumulative or multiple adverse exposures to environmental hazards appreciably exceeding the effects on the general population

See public Draft EIR/EIS Chapter 28 for the impact analysis and conclusions.

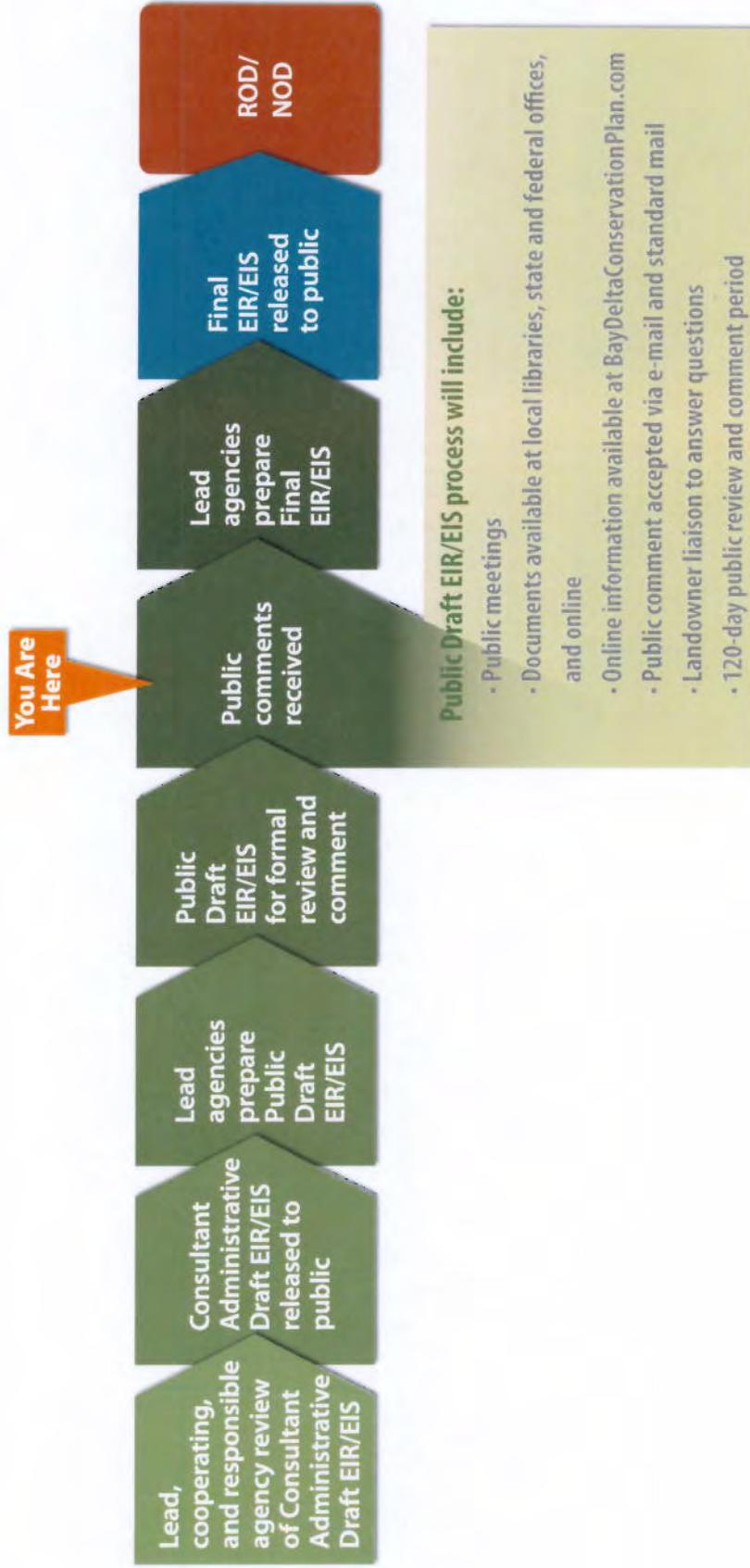




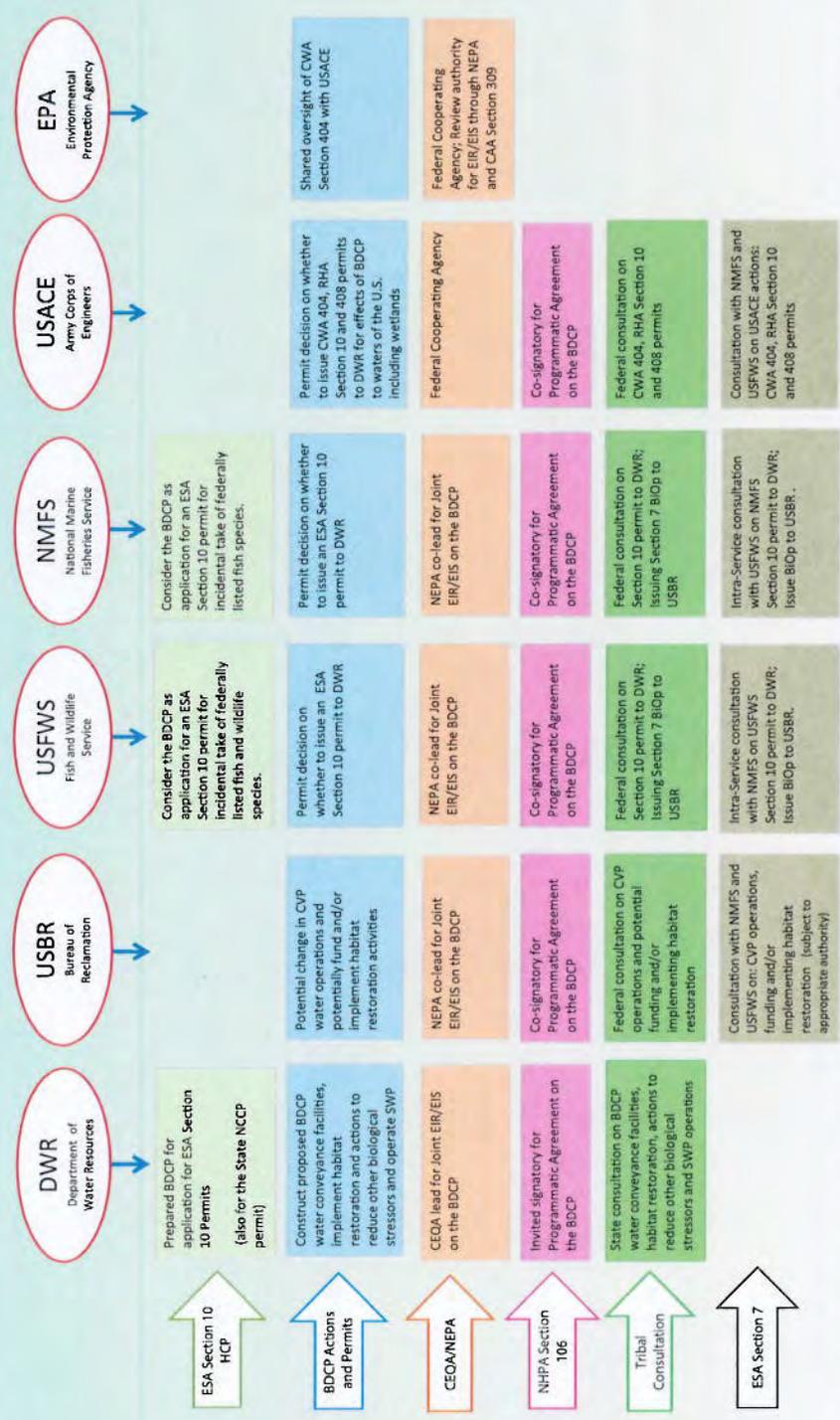
*The Alignments displayed correspond to the Chapter 3 Description of Alternatives in the released DRAFT BDCP EIR/EIS.

Bay Delta Conservation Plan
Draft Environment Impact Report/Statement (EIR/EIS) Alternatives

Next Steps

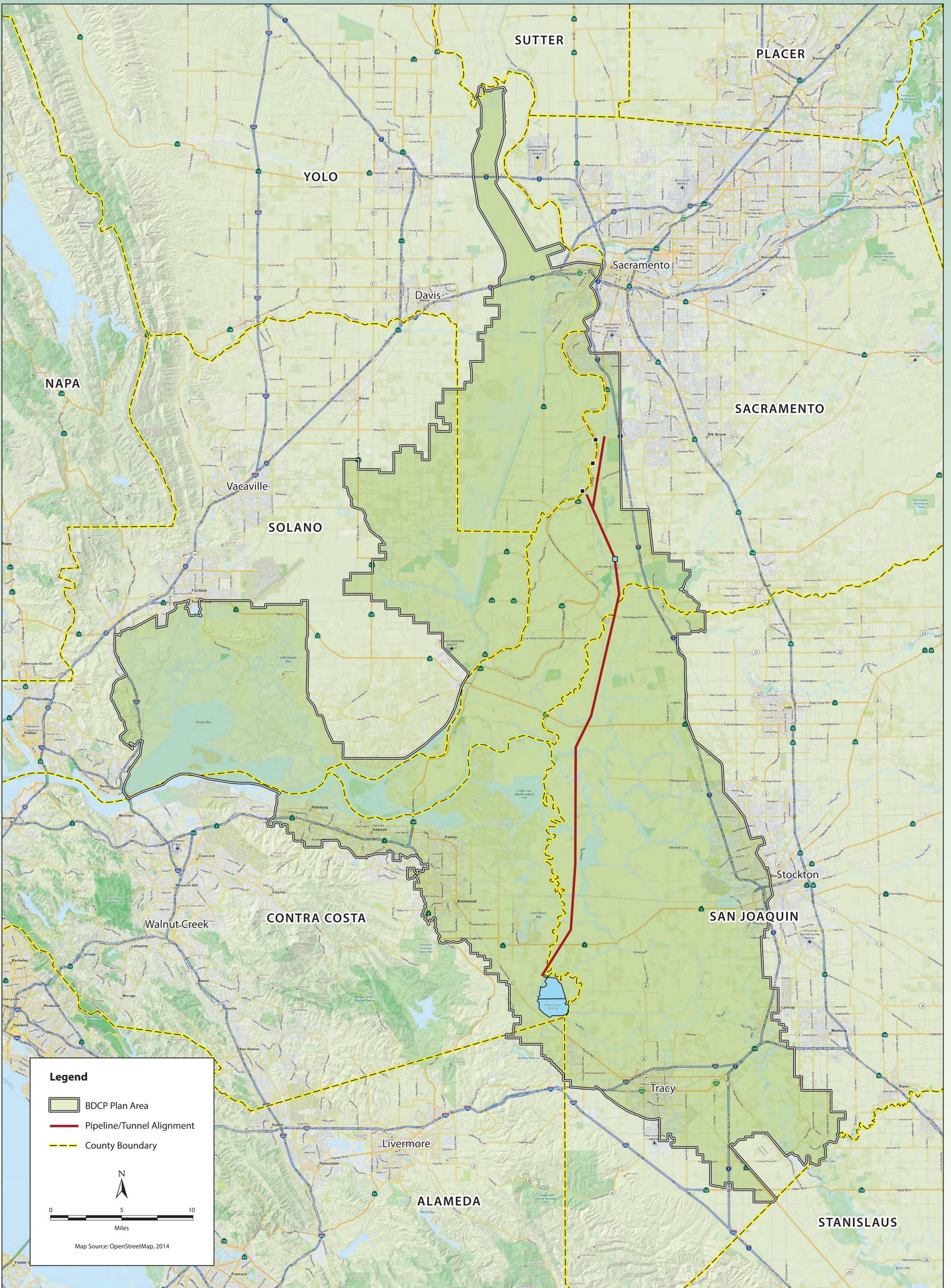


Federal and State Lead Agency Roles and Actions for the Bay Delta Conservation Plan (BDCP) and Environmental Impact Report/Environmental Impact Statement (EIR/EIS)



Activities: BICP = Biological Opinion; CWA = Clean Air Act; CVP = Central Valley Project; CEQA = California Environmental Quality Act; CWA = Clean Water Act; BSA = Biological Services Act; HCP = Habitat Conservation Plan; NEPA = National Environmental Policy Act; NCCP = National Community Conservation Plan; NHPA = National Historic Preservation Act; BSA = Bay Area; and HARA = Habitat Restoration Act; SWP = State Water Project

BDCP Plan Area

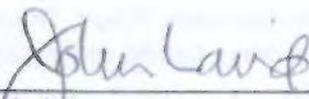


**CALIFORNIA NATURAL RESOURCES AGENCY
ADOPTION OF FINAL TRIBAL CONSULTATION POLICY**

November 20, 2012

Pursuant to Executive Order B-10-11 dated September 19, 2011, the California Natural Resources Agency hereby adopts the attached Final Tribal Consultation Policy, Exhibit A.

Date: 11/20/12



John Laird
Secretary for the California Natural Resources Agency

1416 Ninth Street, Suite 1311, Sacramento, CA 95814 Ph. 916.653.5656 Fax 916.653.8102 <http://resources.ca.gov>





California Natural Resources Agency Tribal Consultation Policy

Purpose of the Policy

The mission of the California Natural Resources Agency is to restore, protect and manage the state's natural, historical and cultural resources for current and future generations using creative approaches and solutions based on science, collaboration and respect for all the communities and interests involved. California Native American Tribes and tribal communities have sovereign authority over their members and territory and a unique relationship with California's resources. All California Tribes and tribal communities, whether federally recognized or not, have distinct cultural, spiritual, environmental, economic and public health interests and unique traditional cultural knowledge about California resources.

On September 19, 2011, Governor Edmund G. Brown, Jr. issued Executive Order B-10-11, which provides, among other things, that it is the policy of the administration that every state agency and Department subject to executive control to implement effective government-to-government consultation with California Indian Tribes.

The purpose of this policy is to ensure effective government-to-government consultation between the Natural Resources Agency, its Departments of the Natural Resources Agency and Indian tribes and tribal communities to further this mission and to provide meaningful input into the development of regulations, rules, policies, programs, projects, plans, property decisions and activities that may affect tribal communities. It is only by engaging in open, inclusive and regular communication efforts that the interests of California's Tribes and tribal communities will be recognized and understood in the larger context of complex decision-making. The goal of the policy is to engage in the timely and active process of respectfully seeking, discussing and considering the views of California Indian Tribes, Tribal communities and Tribal Consortia in an effort to resolve concerns of as many parties as possible.

Each Department in the Natural Resources Agency has a different statutory mandate and, in some cases, may have consultation, communication, collaboration or interaction requirements imposed on it by other laws or regulations. For instance, Departments may have requirements under federal law to engage in consultation with Tribal governments. This policy is not intended to replace or supplant obligations mandated by federal law. This policy defines provisions for improving Natural Resources Agency consultation, communication and collaboration with tribes to the extent that a conflict does not exist with applicable law or regulations. Department is defined as any department, board, commission, council or conservancy subject to executive control.

This policy anticipates a deliberate process that aims to create effective collaboration and informed decision making where all parties share a goal of reaching a decision together. All parties in the process should promote respect, shared responsibility and an open and free

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Tribal Policy
Page 2

exchange of information. The inclusion of tribes and tribal communities throughout the decision-making process will promote positive, achievable, durable outcomes.

This policy is intended solely for the guidance of employees of the Natural Resources Agency and its Departments and does not extend to other governmental entities, although the Natural Resources Agency encourages cooperation, education and communication on the part of all governmental entities. This policy is not intended, and should not be construed, to define the legal relationship between the Natural Resources Agency and its Departments and California tribes and tribal communities. This policy is not a regulation, and it does not create, expand, limit, waive, or interpret any legal rights or obligations.

The Secretary of the Natural Resources Agency hereby directs the Agency staff and Departments to undertake implementation of the policy as set forth below.



Implementation of the Tribal Consultation Policy

1. Outreach. The Agency and Departments must identify the Native American tribes to consult at the earliest possible time in the planning process and allow a reasonable opportunity for tribes to respond and participate. Each Department is responsible for meaningful consultation with Native American tribes that promote regular and early consultation through communication and collaboration. Each Department will identify participants in the process - including the decision-makers and staff with an appropriate level of responsibility - that can ensure that tribal concerns will be brought forward.

Each Department shall disseminate public documents, notices and information to California Indian Tribes, tribal communities and tribal consortia, minimally by contacting tribal government officials. The documents, regarding the topic for consultation, shall be made readily accessible to tribes and be provided at the earliest opportunity. Notification should include sufficient detail of the topic to be discussed to allow tribal leaders an opportunity to fully engage in a substantive dialogue. In the event the Department makes an attempt to initiate contact and does not receive a response, the Department should make reasonable and periodic efforts throughout the process to repeat the invitation.

Each Department should conduct meetings, outreach and workshops at times and locations that facilitate tribal participation as much as possible. The Departments will be open to communication opportunities initiated by Tribes and seek opportunities for collaboration by communicating regularly with tribes. Each Department should establish a mechanism to request relevant and available information, studies and data from tribes when conducting research or studies that relate to, or could impact, tribal lands or cultural resources. The Department should seek to protect any confidential information provided to the fullest extent allowed by the law, recognizing that the Departments are subject to the California Public Records Act.

2. Tribal Liaisons. Each Department should designate a tribal liaison, or liaisons, to serve as the central point of contact for Indian tribes. The role of the tribal liaison will be to ensure that Department outreach and communication efforts are undertaken in a manner consistent with this policy. Tribal liaisons should be encouraged and empowered to



Tribal Policy
Page 4

develop ongoing and regular communication with tribal representatives. Where possible and where consistent with Administration policy and guidance, tribal liaisons should use these ongoing relationships to inform tribes of issues of interest that may not necessitate consultation, such as legislative proposals that may affect tribal communities. Tribal liaisons should make an effort to provide feedback to the tribes on how information obtained from a consultation informed the Department's decision making process.

3. Tribal Liaison Committee. The Agency hereby designates the CNRA Tribal Liaison Committee consisting of Department tribal liaisons that will meet on a regular basis in the Office of the Secretary to review tribal consultation efforts and opportunities in the Departments and share information.
4. Access to Contact Information. The Agency shall work with the Native American Heritage Commission to maintain a contact list of tribal representatives from federally-recognized and non-federally recognized California Indian Tribes.
5. Training. The Agency will provide training to tribal liaisons and executive staff, managers, supervisors and employees on implementation of this policy.



Executive Department
State of California

in the office of the Secretary of State
of the State of California

SEP 19 2011

By *[Signature]*
Deputy Secretary of State

EXECUTIVE ORDER B-10-11

WHEREAS California is home to many Native American Tribes with whom the State of California has an important relationship, as set forth and affirmed in state and federal law; and

WHEREAS the State of California recognizes and reaffirms the inherent right of these Tribes to exercise sovereign authority over their members and territory; and

WHEREAS the State and the Tribes are better able to adopt and implement mutually-beneficial policies when they cooperate and engage in meaningful consultation; and

WHEREAS the State is committed to strengthening and sustaining effective government-to-government relationships between the State and the Tribes by identifying areas of mutual concern and working to develop partnerships and consensus; and

WHEREAS tribal people, as both citizens of California and their respective sovereign nations, have a shared interest in creating increased opportunities for all California citizens.

NOW, THEREFORE, I, EDMUND G. BROWN JR., Governor of the State of California, by virtue of the power vested in me by the Constitution and the statutes of the State of California, do hereby issue the following orders to become effective immediately:

IT IS ORDERED that the position of Governor's Tribal Advisor shall exist within the Office of the Governor;

IT IS FURTHER ORDERED that the Governor's Tribal Advisor shall oversee and implement effective government-to-government consultation between my Administration and Tribes on policies that affect California tribal communities, and shall:

- Serve as a direct link between the Tribes and the Governor of the State of California.
- Facilitate communication and consultations between the Tribes, the Office of the Governor, state agencies, and agency tribal liaisons.
- Review state legislation and regulations affecting Tribes and make recommendations on these proposals.

IT IS FURTHER ORDERED that the Office of the Governor shall meet regularly with the elected officials of California Indian Tribes to discuss state policies that may affect tribal communities.

IT IS FURTHER ORDERED that it is the policy of this Administration that every state agency and department subject to my executive control shall encourage communication and consultation with California Indian Tribes. Agencies and departments shall permit elected officials and other representatives of tribal governments to provide meaningful input into the development of legislation, regulations, rules, and policies on matters that may affect tribal communities.

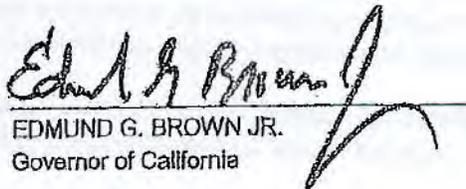
For purposes of this Order, the terms "Tribe," "California Indian Tribe", and "tribal" include all Federally Recognized Tribes and other California Native Americans.

This Executive Order is not intended to create, and does not create, any rights or benefits, whether substantive or procedural, or enforceable at law or in equity, against the State of California or its agencies, departments, entities, officers, employees, or any other person.

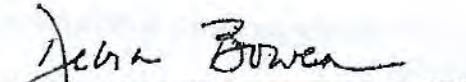
I FURTHER DIRECT that as soon as hereafter possible, this Order shall be filed with the Office of the Secretary of State and that it be given widespread publicity and notice.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 19th day of September 2011.




EDMUND G. BROWN JR.
Governor of California

ATTEST:


DEBRA BOWEN
Secretary of State

**PROTECTING CALIFORNIA NATIVE AMERICAN
SITES
DURING DROUGHT AND WILD LAND FIRE
EMERGENCIES**

**A GUIDE TO RELEVANT LAWS AND CULTURAL
RESOURCES
MANAGEMENT PRACTICES**

MAY 2014

STATE OF CALIFORNIA

Edmund G. Brown Jr.

Governor

NATIVE AMERICAN HERITAGE COMMISSION

Cynthia Gomez
Governor's Tribal Advisor
And
Executive Secretary
Native American Heritage Commission

1500 Harbor Blvd.
West Sacramento, CA 95691

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Introduction

With California facing its driest year in recorded state history, state lakes, rivers, and reservoirs are at their lowest levels in decades. As a result, Governor Brown declared a drought state of emergency on January 1, 2014. As water levels recede, long submerged Native American cultural sites and cultural items will be exposed. With California's drought emergency will come the increasing threat of wild land fires that are prevalent in California even in years of adequate seasonal rainfall. Wild land fires can severely threaten, damage or destroy Native American sacred places and sites of religious and ceremonial importance. Previous hidden sites may be exposed, making them vulnerable to vandalism.

To be prepared for these events, it is important that California's resources agencies be informed about the laws and best practices regarding the protection of Native American cultural sites and cultural resources. This guide provides information on the protection of Native American cultural resources in the face of California's unprecedented drought as well as best Native American cultural resources management practices before, during, and after a wild land fire.

This guide provides information on the statutes, regulations and executive orders that protect Native American human remains and associated grave goods, religious or ceremonial sites, sacred places, and archaeological sites so that agency staff will know what to do in the event these items are encountered.

Protecting California Native American Cultural Resources: Laws, Definitions and Procedures

The following is a partial listing of federal and state statutes, regulations and executive orders that protect California Native American cultural resources, background information on what cultural resources are and why they are important, and a discussion of procedures and penalties under California law to protect Native American human remains and cultural resources.

➤ Federal Statutes

Antiquities Act of 1906 (16 U.S.C. §431)

Archaeological Resources Protection Act of 1979 (16 U.S.C. § 470 et seq.)

National Historic Preservation Act of 1966 (16 U.S.C. §470 et seq.)

Native American Graves Protection and Repatriation Act of 1990 (25 U.S.C. § 3001 et seq.)

➤ California Statutes, Regulations and Executive Orders

California Environmental Quality Act (Pub. Resources Code §21084.1)
California Environmental Quality Act Guidelines (Cal. Code Regs. tit. 14, §§ 15064.5 and 15331)

Public Resources Code sections 5097.9, 5097.94, 5097.97, 5097.99 and 5097.991 (Native American cultural resources)

California Native American Graves Protection and Repatriation Act (Health & Saf. Code § 8010 et seq.)

Health and Safety Code section 7050.5 (Removal of Human Remains from Area Other Than a Dedicated Cemetery, Offense; Discovery of Remains)

Forest Practices Regulations (Cal. Code Regs., tit. 14, §§ 929-929.7; 949-949.7; 969-969.7; 1052; 1092.14 and 1104.1(a)(3))

Government Code sections 65092, 65351, 65352.3, and 65562.5 (Preparation, Adoption and Amendment of General Plan)

Civil Code section 815.3 (Entities Authorized to Acquire and Hold Conservation Easements)

State Historical Building Code (Health and Saf. Code § 18950 et seq.)

California Executive Order W-26-92

Native American Cultural Resources Defined

- Native American cultural resources are evidence of past peoples and cultures identified by a culturally affiliated tribal representative. They can include villages, ceremonial sites, religious sites, and burial sites.
- The culturally affiliated Native American tribe defines its cultural resources. A tribe sometimes may be the only source of information regarding a cultural site.
- Other sources of information may be archaeological sites recorded in the California Historical Resources Information System (CHRIS) and the Native American Heritage Commission (NAHC) Sacred Lands Inventory.
- Examples of sites in the Sacred Lands Inventory include petroglyphs, pictographs, bedrock mortars, rock art, ceremonial places, burial grounds, and historic structures.

Why Cultural Resources Matter

- They are significant to local Native Americans and represent their tribal cultural values. A strong bond exists between present-day descendants and their sacred places and sites, no matter how small in nature or how old in years.
- They reflect the indigenous human history reaching back more than 10,000 years before the arrival of Europeans.
- They provide factual explanation and illustration of human habitation and life prior to European contact.
- They may be places of religious and ceremonial significance still in use by Native American communities.

Protecting Native American Human Remains

The following actions must be taken immediately upon the discovery of skeletal remains at any site other than a dedicated cemetery. Note that, for purposes of California law, human remains of a Native American may be in the form of an inhumation or a cremation and in any state of decomposition or skeletal completeness. Any items that are placed or buried with Native American human remains are to be treated in the same manner as the remains, but they do not by themselves constitute human remains. (Pub. Resources Code § 5097.98(d)).

- Procedures under Health and Safety Code Section 7050.5 When Human Remains are Discovered
 - Stop work immediately at the site of the discovery and/or any nearby area reasonably suspected to overlie adjacent remains. Contact the County Coroner.
 - Protect the discovery site from any additional subsurface disturbance. The Coroner will have two working days to determine if the remains are subject to his or her authority as part of a crime.
 - If the Coroner determines that the remains are that of a Native American, the Coroner must contact the NAHC within 24 hours.

➤ NAHC Procedures Under Public Resources Code Section 5097.98
When Native American Human Remains Are Discovered

- The NAHC will immediately notify the person or tribe it believes to be the most likely descendant of the deceased Native American.
- The most likely descendant has 48 hours from being granted access to the site to inspect the site and make recommendations to the landowner or the landowner's representative for the treatment or disposition, with appropriate dignity, of the Native American human remains and any associated grave goods.
- The landowner shall ensure that the immediate vicinity where the Native American human remains are located, is not damaged or disturbed by further development activity, according to generally accepted cultural or archaeological standards or practices, until the landowner has *discussed and conferred* with the most likely descendant their recommendations, taking into account the possibility of multiple human remains, if applicable.

“Discuss and confer,” means the meaningful and timely discussion and careful consideration of the views of each party, in a manner that is cognizant of all parties’ cultural values, and, where feasible, seeking agreement. Each party shall recognize the other’s needs and concerns for confidentiality of information provided to the other.

- If the landowner does not accept the most likely descendant's recommendations, either party may request mediation by the NAHC pursuant to Public Resources Code section 5097.94(k). If the mediation fails, the landowner shall reinter the human remains and any associated grave items with appropriate dignity on the property, protecting the site from any further and future subsurface disturbance as specified by the law.
- Only by mutual agreement between the landowner and the most likely descendant can Native American human remains and any associated grave goods be reinterred in a location other than the property where they were discovered.
- Third parties, e.g., archaeologists, cannot authorize the destructive or non-destructive testing of Native American human remains or associated grave goods.

- If the NAHC is unable to identify a descendant, or the most likely descendant does not make recommendations within 48 hours of being allowed access to the site, the landowner or his or her authorized representative shall reinter the remains and any associated grave items with appropriate dignity on the property in a location not subject to further and future subsurface disturbance as specified by law. The landowner shall protect the site by doing one or more of the following:
 - ✓ Record the site with the NAHC or other appropriate CHRIS Information Center.
 - ✓ Utilize an open space or conservation zoning designation or easement.
 - ✓ Record a document titled “Notice of Reinterment of Native American Remains” with the county in which the property is located. The document shall include a legal description of the property, the name of the owner of the property, and the owner’s acknowledged signature, in addition to any other information required by law. The document shall be indexed as a notice under the name of the owner.

Protecting Archaeological Sites, Ceremonial Places, and Cultural Items

If Native American cultural resources, including archaeological sites, are inadvertently discovered, the first consideration must be protecting them in place undisturbed.

While the treatment and disposition of Native American human remains and associated grave items are addressed by California codes, as noted above, other Native American cultural items, or artifacts, that may be uncovered by drought conditions are not. Culturally affiliated tribes should be consulted regarding recommendations for the treatment and disposition of any cultural items that may be discovered as the result of receding water levels or wild land fires.

The following California statutes protect Native American cultural sites, provide access to sites by Native Americans for ceremonial purposes, mitigate impacts to cultural sites on public lands, and provide penalties for the willful destruction of Native American cultural sites.

Public Resources Code Section 5097.99 (Possession of Native American Artifacts or Human Remains)

Anyone knowingly or willfully obtaining or possessing Native American artifacts or human remains taken from a grave or cairn on or after January 1, 1984, unless authorized under Public Resources Code sections 5097.94 or 5097.98, is guilty of a felony.

Public Resources Code Section 5097.94 (NAHC Power To Seek Injunctive Relief to Protect or Provide Access to Native American Sacred Sites on Public Property)

The NAHC has the power to bring an action to prevent sever and irreparable damage to, or assure appropriate access for Native Americans to, a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, pursuant to Public Resources Code section 5097.97. If the court finds that severe and irreparable damage will occur or that appropriate access will be denied, and appropriate mitigation measures are not available, it shall issue an injunction, unless it finds on clear and convincing evidence that the public interest and necessity require otherwise.

Public Resources Code Section 5097.97 (NAHC Investigation of Potential Damage to or Denial of Access to Native American Sacred Site on Public Property)

In the event that any Native American organization, tribe, group, or individual advises the NAHC that a proposed action by a public agency may cause severe or irreparable damage to a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, or may bar appropriate access by Native Americans, the NAHC shall conduct an investigation as to the effect of the proposed action. If the NAHC finds, after a public hearing, that the proposed action would result in irreparable damage to a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine on public property, the NAHC may ask the Attorney General to take appropriate legal action pursuant to subdivision (g) of Public Resources Code section 5097.94.

The Native American Historic Resources Protection Act (Public Resources Code Sections 5097.993 and 5097.994)

California law protects Native American cultural sites and cultural items from wanton destruction. Any person who unlawfully and maliciously excavates or damages a native American historic, cultural, or sacred site that is listed or eligible for listing on the California Register of Historic Places may be found guilty of a misdemeanor if the act was committed with specific intent to vandalize, deface, destroy, steal, convert, possess, collect or sell a Native American historic, cultural or sacred artifact, art object, inscription, feature or site, and may be sentenced to up to one year in jail and a fine not to exceed \$10,000. Persons convicted of these charges may also face up to \$50,000 in civil penalties.

Government Code Section 6254, Subdivision (r) (Exemption of Records of Native American Graves, Cemeteries and Sacred Places from Disclosure Under the Public Records Act)

The Public Records Act exempts from disclosure records of Native American graves, cemeteries, and sacred places and the records of Native American places, features and objects described in Public Resources Code section 5097.9 and 5097.993 maintained by, or in the possession of, the Native American Heritage Commission, another state agency, or a local agency.

Government Code Section 6254.10 (Exemption of Records Related to Archaeological Site Information Maintained by Various Resources Agencies)

The Public Records Act exempts disclosure of records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commissions, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency.

The NAHC recommends that agencies create guidelines in consultation with Native American tribes to address the protection of these records.

Cultural Resources Management Guidelines and Best Practices In the Event of Wild Land Fire

With California's drought emergency there is a threat of increased wild land fires. Wild fires can severely threaten, damage or destroy Native American sacred places, and sites of religious and ceremonial importance, as well as expose previously hidden sites, making them vulnerable to vandalism. This section is intended to provide fire suppression agencies the tools needed to collaborate with California tribes in the protection of their fragile cultural resources in the event of a wild land fire. Before and during a wild land fire, tribes and their tribal fire departments can provide California Department of Forestry and Fire Protection (CAL FIRE) and other fire suppression organizations with information and guidance to prevent and/or minimize damage to their cultural resources.

California Native American tribes, especially those that have wild land fire suppression capability, have expressed concerns that they lack the authority during a wild land fire to protect their cultural resources. This is in part due to the limitations imposed on tribes by the National Fire Program, which provides funding from the U.S. Department of the Interior to CAL FIRE for fire suppression services on California reservations and rancherias (with the exceptions of the Hoopa and Tule River reservations), giving CAL FIRE authority for fire suppression activities on California reservations and rancherias.

The information provided here resulted from discussions between tribes, Native American fire fighters, and CAL FIRE archaeologists. It is intended to provide tribes more control of the protection of their cultural resources during wild land fire operations and have tribes prioritize certain areas of their cultural territories and recommend protocols and methodologies during wild land fires to CAL FIRE and other fire suppression organizations in order to provide for the protection of Native American sacred sites.

Effects of Fire on Native American Cultural Resources

- Fire destroys wooden structures and fixtures, discolors and causes severe cracking and disintegration of stone masonry and sandstone, breaks obsidian artifacts, carbonizes or oxidizes ceramic items, chars or destroys bone and other organic material, and scorches petroglyphs and pictographs.
- In addition to fire directly damaging or destroying cultural resources, other factors can also be very damaging, such as erosion and run-off caused by the fire, destruction of plant material in the soils, falling trees, harsh fire

retardant chemicals, the movement of hoses during fire suppression activities, and especially the use of heavy equipment on the fire lines.

- Destruction of plant material that may be used for “gathering” purposes, including the removal of pollinating plant species, is also damaging to Native American cultural resources.
- Heat, intense flames and smoke all cause damage to vulnerable cultural resources.
- Looting and theft of artifacts can also occur following a fire.

Cultural Resources Management Guidelines

➤ Pre-Fire Educational Activities

- The tribe may identify tribal representatives to consult in case of a fire, including contact information, for CAL FIRE and other fire organizations to use in advance of a fire.
- Affected tribes may determine how fires will affect cultural resources and recommend tactics, suppression methodology, or operation methods to use that will best protect their cultural resources.
- Tribal representatives may present information to CAL FIRE and other fire suppression units about their resources, including cultural significance, and which areas require extra consideration during a fire.
- Tribal fire departments may provide a Fire Map/Protection Plan that identifies and prioritizes Culturally Sensitive Areas/Zones (CSA/Zs), recognizing the confidential nature of the site locations, describing the appropriate fire management protocols, which may include color-coded “flagging,” and identifying areas to avoid during a fire to preserve cultural resources.

➤ Pre-Fire Prevention and Planning Guidelines

- Pre-fire planning guidelines may be created by tribes to prioritize CSA/Zs and recommend operation protocols to CAL FIRE and other fire agencies in order to minimize wild land fire damage to cultural resources. Such protocols may include using minimally invasive fire suppression methods, identifying zones of cultural sensitivity while maintaining the confidentiality of site locations, and recommending

appropriate fire suppression measures (such as the use of alternative methods to heavy equipment) in order to protect and preserve as many cultural resources as possible.

- As part of a pre-fire cultural resources management strategy, tribes may survey their tribal territory to identify the type of fuel surrounding the area and recommend steps to reduce damage to cultural resources, including fuel reduction projects to reduce the fuel load in areas surrounding cultural resources in order to create a buffer. Methods may include mechanical thinning to remove highly flammable trees and vegetation as well as prescribed burning.
- When the above pre-fire activities occur in a known Native American cultural area, a representative designated by the culturally affiliated tribe should approve them.
- Vegetation that is a contributing element to an area's cultural importance should not be removed.
- Slash piles should be burned in an area away from cultural resource sites.

➤ During the Fire: Operational Guidelines

- Presence of Tribal Representatives During Fire Suppression Activities

A tribal representative should always be present during all fire suppression activities described here to advise on the treatment and care of cultural resources. Ideally, the tribal representative or team leader should be a member of the local fire response team and be knowledgeable about the Native American community's needs and concerns. Typically, the best policy lies with a minimalist strategy. The less activity in an area, the less likely it is that cultural resources will be damaged.

- The use of Minimum Impact Suppression Tactics (MIST) may be recommended by tribes for use by CAL FIRE and other fire suppression organizations. This is a standard used by many federal fire suppression units.
- In the CSA/Zs, tribes may recommend the use of hand tools as opposed to the use of heavy equipment; the latter can cause considerable damage to cultural resources. Other methods recommended may include

building a fire line by hand instead of using a dozer. Heavy equipment, like dozers, can easily destroy the natural environment as well as any cultural resources present and can leave trails where they did not exist before, creating a new area of exposure.

- Tribes may determine a standard color and marking strategy to identify sensitive areas during fire suppression and restoration phases. Standards for color-coding are already available to fire-fighting units.
 - ✓ Yellow and black-striped flagging is a signal for wildlife hazards like hornets or bees.
 - ✓ Use a specific color to mark safety zones and escape routes.
 - ✓ It will be important to make flagging effective depending on conditions and geographic factors, for example, greater use of flags for night time or thicker forest; flag the areas that contain priority cultural resources so that fire lines created are at optimal position and minimally invasive methods will be employed.
 - ✓ Remove unnecessary flags to avoid confusion between multiple crews when and if a fire line is rerouted.
- Positioning fire trucks in close proximity to areas of high-risk cultural resources before a fire starts is another recommended tactic.
- Where feasible, building a pond as a source of water in a predetermined area to facilitate the use of aircraft water relief has been found helpful in suppressing many wild land fires; however, crews must work with tribal representatives to ensure that cultural resources are not impacted.
- Use local rivers or lakes for water resources accessible by helicopter, with the approval of the tribe or landowner.
- Use of fire retardants/foam agents
 - ✓ Can be used on/around cultural resources, subject to tribal advice, to determine if the fire retardant is harmful to the specific type of cultural resource.

- ✓ The use of soil and water can be used in fire lines to cool down the fire and make items, like a tree stump, less likely to catch fire.
- Fire Wraps
 - ✓ Vulnerable resources may be wrapped in or surrounded by fire resistant material to create barriers between them and the fire.
- Fire Lines
 - ✓ Use fire lines to break fuel lines leading up to cultural resources.
 - ✓ Clean fire line to mineral soil to prevent the spread of fire through fuel, such as dead roots.
 - ✓ Use existing trails (like cattle trails or gravel roads) as fire lines, where possible.
 - ✓ Various types of fire lines include hand-built fire lines, natural, retardant, wet, scratch, and cat lines
- Burial of Cultural Resources
 - ✓ By burying the cultural resources at least 10 cm below the surface, the severity of fire damage can be significantly reduced.
- Post-Fire: Restoration and Cleanup Practices
 - Conduct a post-site evaluation to determine:
 - ✓ The post-fire effects on the surrounding area;
 - ✓ If cultural resources were damaged;
 - ✓ How plant species were affected.
 - Create a future plan that will better protect cultural resources and prevent post-fire impacts.

- Disguise heritage sites to protect against looting and loss of heritage site value.
 - Consult the Burned Area Rehabilitation (BAR) Guidebook on how to stabilize the affected area immediately after the fire.
 - Assess the Pre-Fire Plan's success, cooperation between parties, and appropriate use of material.
- Example of Cultural Resources Management Best Practices in the Event of Fire
- Identification of Native American Cultural Resources by CAL FIRE Archaeologists
 - ✓ After notification of a fire incident, CAL FIRE archaeologists have taken on the role of identifying Native American archaeological sites that may have been threatened during a wild land fire. These archaeologists have then operated in the field during the fire to flag sites and keep fire equipment and fire suppression activities from damaging archaeological sites. To identify threatened sites prior to a fire, CAL FIRE archaeologists have done the following:
 - Completed archaeological site records searches at the appropriate California Historical Resources Information System (CHRIS) regional archaeological records information center to identify threatened recorded archaeological sites;
 - Completed a Sacred Lands Inventory search through the NAHC, at which time an NAHC staff member has provided the CAL FIRE archaeologist with contact information for the tribe or the individual California Native American who submitted the site for listing;
 - Contacted the tribes or individuals provided by the NAHC and collaborated with them to identify the locations of threatened sites.
 - Contacted the culturally affiliated tribes and individuals on the CAL FIRE Native American contacts list to see if they may be able to provide additional information.

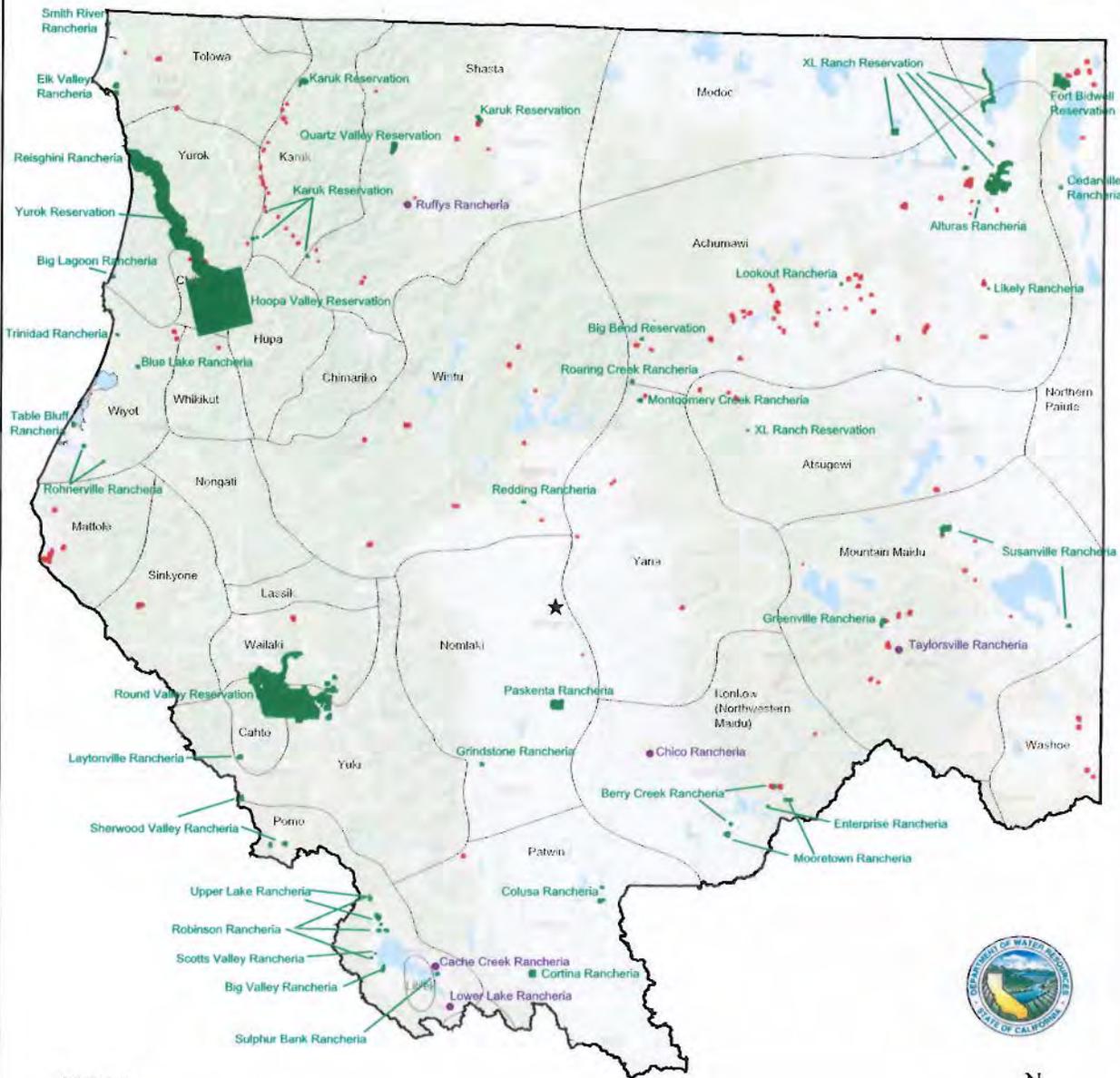
Conclusion

It will take the coordinated and concerted efforts of tribes, resources agencies, and fire suppression agencies to protect California Native American human remains and cultural resources from the effects of drought and fire. It is our intention that this guide provides the tools to accomplish such protection.

Any questions or concerns about this guide should be directed to Rob Wood at the Native American Heritage Commission, nahc@pacbell.net, (916) 373-3710.

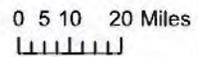
California Indian Tribal Homelands and Trust Lands Map

California Department of Water Resources
Northern Region Office



Legend

- California Tribal/Cultural Areas
- Indian land currently held in Trust by the United States Government
- Historical location of Indian land which was once held in Trust for a Terminated Tribe and/or the location of a landless Federally Recognized Tribe
- Indian land currently held in Trust by the United States Government and known as a Public Domain Allotment
- ★ DWR Northern Region Office, 2440 Main Street, Red Bluff, CA 96080, Phone: (530) 529-7300
Region Office Chief: Curtis Anderson
Website: <http://www.water.ca.gov/irwm/resources/nro.cfm>



Sources of information provided by DWR, Bureau of Indian Affairs, and ESRI.

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California Indian Tribal Homelands and Trust Lands Map

California Department of Water Resources
North Central Region Office



Sources of information provided by Bureau of Indian Affairs, DWR, and ESRI



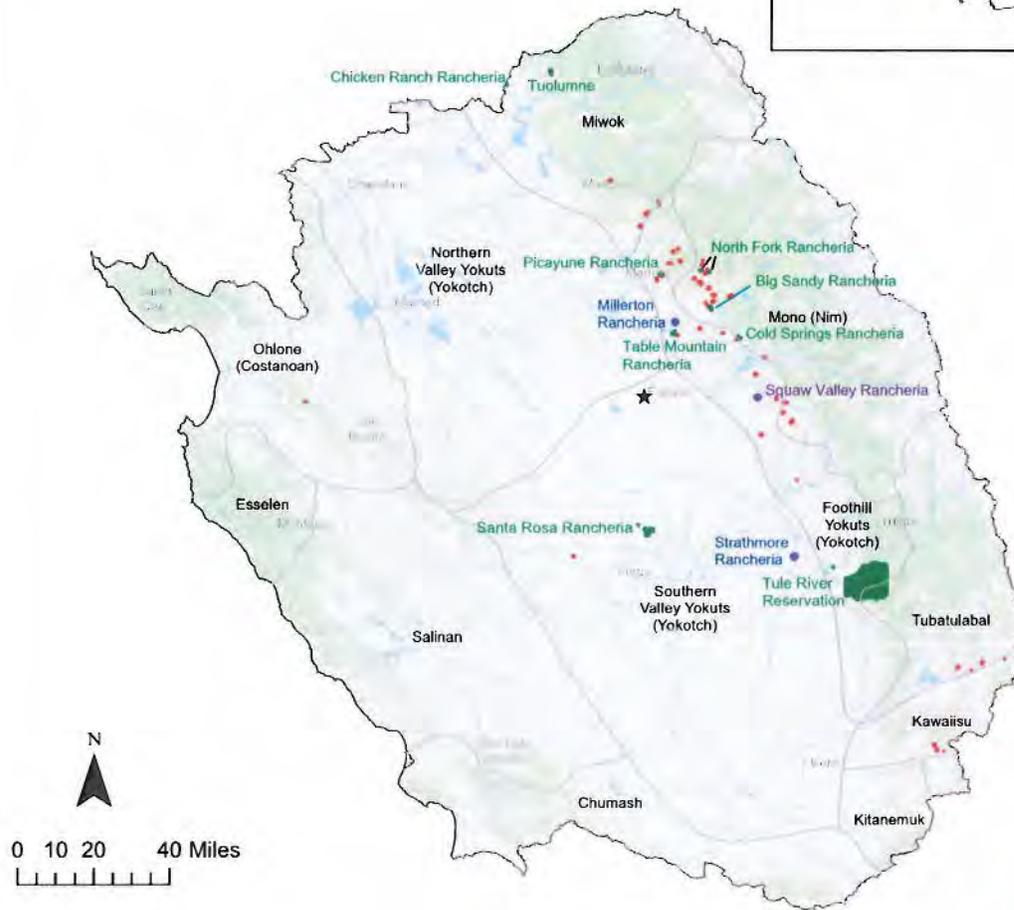
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- ★ DWR North Central Region Office, 3500 Industrial Boulevard, West Sacramento, CA 95961
Phone: (916) 376-9600, Website: <http://www.water.ca.gov/irwm/resources/ncro.cfm>

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California Indian Tribal Homelands and Trust Lands Map

California Department of Water Resources
South Central Region Office



Legend

- California Tribal/Cultural Areas
- Indian land currently held in Trust by the United States Government
- Historical location of Indian land which was once held in Trust for a Terminated Tribe and/or the location of a landless Federally Recognized Tribe
- Indian land currently held in Trust by the United States Government and known as a Public Domain Allotment
- ★ DWR South Central Region Office, 3374 East Shields Avenue, Fresno, CA 93726
Phone: (559) 230-3300
Region Office Chief: Kevin Faulkenberry
Website: <http://www.water.ca.gov/irwm/resources/scro.cfm>

Sources of information provided by Bureau of Indian Affairs, DWR, and ESRI

FloodSAFE Mega Programs

FloodSAFE California

FloodSAFE California, established in 2006, is a long-term strategic initiative to reduce the risk and consequences of flooding in California. It includes statewide programs supported by the State's general fund and bond expenditures.

FloodSAFE is an important component of the Department of Water Resources' Integrated Water Management (IWM) strategy, which is designed to achieve a sustainable, robust, and resilient flood and water management system to benefit all Californians.

FloodSAFE activities are grouped in the following areas:

Flood Management Planning

- Formulates strategies, plans, and investment priorities for implementation of flood management projects.

Floodplain Risk Management

- Works closely with local governments and federal agencies in promoting prudent management of floodplains to reduce flood risk.

Flood Risk Reduction Projects

- Works in coordination with local and federal agencies to implement new flood projects.

Flood System Operations & Maintenance

- Reduces risk through maintaining levees, hydraulic control structures, pumping plants, bridges, and channels as the responsible agency.

Flood Emergency Response

- Prepares for and responds to flood threats in close coordination with local, State and federal entities.



California Department of Water Resources

Division of Flood Management
3310 El Camino Avenue, Room 120
Sacramento, CA 95821

For more information, contact:
floodsafe@water.ca.gov

www.water.ca.gov/floodsafe/

2013 FloodSAFE Annual Report Summary

2013 FloodSAFE Annual Report Summary

About 55 accomplishments were included in the 2013 *FloodSAFE Annual Report*. They highlight projects that best represent what was completed last year and are organized by the five major FloodSAFE mega programs shown in the graphic below.



FLOOD MANAGEMENT PLANNING

Statewide Flood Management Planning

- Released *California's Flood Future: Recommendations for Managing the State's Flood Risk*.
- Created maps for every county in the state to describe exposure to flood risk.
- Catalogued the history of flooding for reference by local and regional planning agencies and land use officials.

Central Valley Flood Management Planning

- Completed Milestone 1 of the Basin-wide Feasibility Studies, which identified problems, developed objectives, and completed preliminary technical analysis.
- Provided technical support to regional agencies by sharing data, tools and analyses to inform systemwide and regional flood management planning.
- Improved alignment with federal, State, and local flood management agencies through public workshops and robust communication and engagement efforts.

- Developed comprehensive vegetation data for the Central Valley, identified opportunity areas for floodplain restoration, assessed and updated sensitive species information along floodways, and assessed fish passage solutions in the Sacramento Valley.
- Initiated a regional permitting strategy that includes a pilot habitat conservation plan for the Feather River.

FLOODPLAIN RISK MANAGEMENT

Central Valley Flood Evaluation and Delineation (CVFED)

- Developed informational floodplain maps as required by SB 1278 for Chico, Yuba City, Marysville, Woodland, Davis, Merced, Sacramento Metropolitan Area (Sacramento and West Sacramento) and the Stockton Metropolitan Area (Stockton and Lathrop).

Central Valley Flood Management Planning

- Developed *Urban Level of Flood Protection Criteria* in a manner that satisfies legislative requirements without interfering with local land use authority. The criteria are designed to provide details and flexibility, and to promote prudent floodplain management with smart growth and climate change adaptation strategies.

Flood Risk Notification

- Mailed more than 273,000 notifications and developed a second flood risk video, with interviews of local flood survivors, in cooperation with the U.S. Army Corps of Engineers.

FLOOD RISK REDUCTION PROJECTS

Folsom Joint Federal Project (JFP)

A series of significant milestones for the JFP auxiliary project were met in 2013, including:

- The control structure construction is approximately 70% complete.
- The temporary dam embankment construction for the approach channel is 50% complete.

- A half-mile long “curtain” was temporarily placed on the waterside of the construction site to protect the reservoir during construction.

American River Common Features

- Completed two of the eight remaining sites of American River Common Features project, with the remaining six sites expected to be completed by the end of 2016.

Flood Control Subventions

- Completed State cost-share reimbursement requests to release \$36 million in funding to seven local Flood Control Subventions project sponsors for 10 projects. These projects are scheduled for completion between December 2014 and December 2021.

Delta Levees System Integrity

- Completed 19 projects in 2013, with a State cost-share of about \$47 million. The 19 completed projects include a total of 48 levee miles and potential enhancement of 6,400 linear feet of shaded riverine aquatic and tidal marsh habitat.
- Implemented the Delta Levees Bulk Credit Mitigation Program, expediting permitting and project delivery for levee rehabilitation and improvement.

Urban Flood Risk Reduction

- Thirteen miles of SPFC urban levees were improved in 2013, which provided increased flood protection to 60,000 residents near Yuba City and 80,000 residents in Sacramento. Financed jointly by the Department of Water Resources (DWR) and local agencies, 12 miles were completed along the Sacramento River and 1 mile was completed along the Feather River.

Flood Corridor

- Santa Clara River Flood Protection Project: Acquired one of three targeted floodplain properties, which helps create a continuous corridor of protected floodplain for future restoration.
- River Ranch Conservation Easement Acquisition Project: Acquired a 2,962-acre agricultural easement, which precludes development and preserves the ability for the Elkhorn Basin to flood.
- Hidden Valley Ranch Project: Acquired 497-acre parcel adjacent to Dos Rios Ranch to provide transitory floodwater storage, improved river-floodplain

connectivity, and ultimately advance mitigation for the SPFC.

- Middle Creek Project: Acquired three parcels, relocated former property owners, and demolished structures in flood-prone parcels.
- Hamilton City Project: Acquired three properties for future construction of a 6.8-mile setback levee and reconnection of 1,450 acres of floodplain.
- San Joaquin River Ecosystem Restoration and Floodplain Restoration Project: Installed irrigation for 511 acres of habitat.

Local Levee Assistance

- Executed agreements with 11 agencies to fund 30 Local Levee Assistance projects.
- Completed Las Gallinas Creek Local Levee Evaluation, which is necessary to replace levee and wooden floodwall currently protecting the small community of Santa Venetia.
- Secured surveys and permits to allow the Wildcat-San Pablo Creek Project to move forward with levee repairs in 2014.

South Sacramento County Streams Project

- Completed the Morrison Creek floodwall project, including a 2,800-foot-long, 15-foot-high reinforced concrete wall, which closed the gap between two existing levees along the east side of Morrison Creek.
- With completion of floodwalls on Morrison Creek and its tributaries and the widening of Unionhouse Creek, the City and County of Sacramento have submitted a request to re-map approximately 3,500 homes out of the flood area (FEMA Zone-A99), reducing the requirement and cost of flood insurance for the community. This will become effective in May 2014.

Yuba Feather Flood Protection

- Completed preliminary designs for an additional outlet on the New Bullards Bar Dam. When completed, the outlet will enable releases in advance of a storm event, resulting in more storage capacity remaining in the reservoir to hold back the peak inflow when it arrives later. Smaller, earlier releases will also help reduce pressure on levees downstream for communities on the Yuba River during high water events.

Urban Streams Restoration

- Grants awarded in 2013 will provide nearly 14,000 feet of stream channel restoration covering 141 acres of

habitat restoration and 28 acres of land conservation while improving urban runoff and helping resolve local flooding or channel stability issues.

Fish Passage Improvement

- Improved anadromous salmonid passage and flood conveyance in the Calaveras River system by replacing Caprini Low-flow Crossing in Mormon Slough, upstream of the City of Stockton. Program provided preliminary and final design, hydraulic modeling, and construction oversight for the project.

FLOOD SYSTEM OPERATIONS AND MAINTENANCE

Small Erosion Repair Program

- Finalized manual documenting a streamlined permitting process to repair multiple erosion sites in a single construction season. The process is estimated to increase annual repairs from one or two per year to as many as fifteen per year.

Sutter Bypass Water Control Structure

- Removed and replaced Weir No. 2 to improve water management and fish passage in the Sutter Bypass.

Flood System Repair Efforts

- Finalized the Flood System Repair Project Guidelines that establish the process and criteria for repairs to rural levees on SPFC facilities to prevent problems from becoming critical, reduce repair costs, and make the operations and maintenance programs sustainable.

Cache Creek North Levee Setback Project

- Construction of the Cache Creek North Levee Setback project was completed in late 2013. With the completion of this project, the last of the 146 sites identified under the Governor's 2006 Emergency Declaration has been repaired.

Flood System Repair Project

- Developed list of critical problems and proposed rural non-routine levee repairs for 150 problem areas on SPFC levees in concurrence with the Levee Maintaining Agencies.

Flood Project Integrity

- Identified locations and characteristics of 7,500 pipes penetrating SPFC levees by reviewing historical information such as CVFPB encroachment permits,

DWR levee logs, Local Maintaining Agency's records, and USACE operation and maintenance manuals.

- Assessed more than 4,500 SPFC levee crossings based on visual evidence of deterioration of pipe, inlet or outlet structures, and identified maintenance needs. This will allow local agencies to rectify utility crossing issues that pose a threat to the integrity of the flood control system.
- Performed field surveys to verify the location and document the existing condition of the pipes and levee embankment for 1,000 miles of SPFC levees.

FLOOD EMERGENCY RESPONSE

- Conducted the Twitchell Island functional exercise to support DWR's emergency preparedness efforts during California Flood Preparedness Week.
- Participated in the Golden Guardian 2013 exercise in May, which focused on a Bay Area earthquake scenario.

Delta Flood Emergency Preparedness and Response Project

- Conducted Delta Emergency Response Project workshop to discuss how to anticipate an emergency in the Delta and review plans and protocols for such an event.
- Completed multiple improvements to State's flood emergency material storage and transfer facilities, including construction of a ramp at Rio Vista to provide easy access to the material.
- Developed the Delta Flood Emergency Facilities Improvement Project document to address California Environmental Quality Act requirements for the project.
- In 2013, DWR acquired the Stockton West Weber Avenue site to create a Delta Flood emergency transfer facility and potential Incident Command Post for use during flood emergencies. DWR closed escrow on the southern portion of the same Stockton facility and anticipates closing escrow on the northern balance of the 22.6-acre Stockton facility during the first quarter of 2014. DWR developed site plans and utility site assessments in 2013 for the Stockton West Weber site, as well as for the transfer facility in Rio Vista that is owned by the Central Valley Flood Protection Board (CVFPB).

Flood Forecast and Warning/Improving Observations

- Developed a local assistance program to help reservoir operators implement Forecast-Coordinated Operations (F-CO).

- Prepared a detailed work plan for implementation of F-CO in the Merced River Watershed.
- Installed an atmospheric river observatory at Bodega Bay Marine Laboratory. It is the first of four planned coastal observatories, with construction of the rest to be completed in 2014.
- Developed a web-based dashboard with input from the F-CO program participants to help reservoir operators visualize and discuss potential coordinated releases and their effects downstream during major floods.
- Developed unique hydraulic models for 10 urban areas in the Sacramento-San Joaquin Valley that are protected by SPFC levees.
- Populated the Library of Models with more than 100 hydrologic and hydraulic engineering models to preserve the FloodSAFE investment in model development. The models are used in planning and study efforts.

Local Flood Emergency Response Grants

- Awarded \$5 million for 14 projects across the state to improve flood emergency response capability by updating emergency plans and other critical emergency prediction information. Solicited for and received six applications for further Flood Emergency Response projects in the Delta focused on flood emergency plan updates.

FloodSAFE Financing

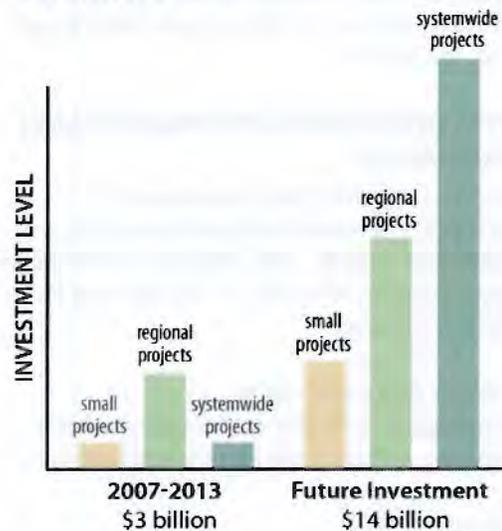
Propositions 1E and 84 provided much-needed funding to improve flood management and reduce flood risk throughout the state. Funding from these bond laws, combined with additional Proposition 13 and General Funds have been instrumental in initiating major programs to reduce flood risk in our communities.

The next phase of FloodSAFE implementation will emphasize investing in:

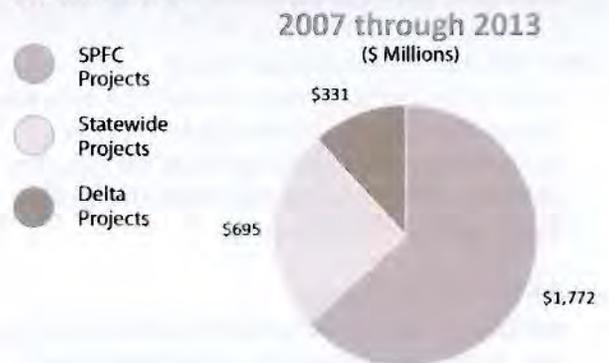
- State Systemwide Investment Approach (SSIA) to improve flood system resiliency
- Expansion of the flood management system, enabling the system to carry larger floods
- Incorporation of important fish and wildlife habitat

- Management of larger runoff resulting from future climate change
- Reduction of flood risk in areas with highest flood risk and associated losses

State Systemwide Investment Approach STRATEGY



FloodSAFE Investment BY LOCATION



The Division of Environmental Services

WATER QUALITY • COMPLIANCE & EVALUATION • PLANNING • RESTORATION • INVASIVE SPECIES

Dean Messer, Chief

Provides complex scientific and environmental analyses, monitoring, and documentation to support management of California's water resources while protecting, restoring, and enhancing natural and human environments.



Drought

This water year is tracking to be the third driest on record. It follows two previous years of below-normal and dry conditions. As the state's rainy season nears its end, much of California has received only about half of normal precipitation for the season.

The drought could result in impacts to the municipal water supplies, wells, agriculture (plants and livestock) and firefighting capabilities for several months.*

DWR and the U.S. Bureau of Reclamation are working in close coordination with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and California Department of Fish and Wildlife to capture and store storm runoff to the extent possible within regulations designed to protect water quality and protected species of fish and Wildlife.

*DWR and other State agencies are currently assessing drought impacts as we manage drought operations in realtime, for 2014 and planning for 2015 - the degree of impacts has yet to be determined - and will be done so through reporting and data collection, among other methods.



January 18, 2013



January 18, 2014





Integrated Regional Water Management Grant Program

Providing financial assistance to meet the long term water needs of the state including safe drinking water and protection of water quality and the environment.

Proposition 84 IRWM Grant Program

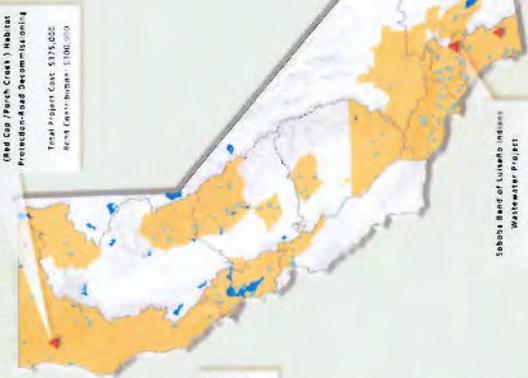
Proposition 84 authorized \$1 billion for IRWM activities, of which \$900 million was allocated to 11 Funding Areas and \$100 million for Interregional actions.

- ✓ IRWM Planning Grant Program – A total \$30 million made awarded to 40 Regional Water Management Groups to develop, improve, and enhance their IRWM Plans.
- ✓ IRWM Implementation Grant Program – A total of \$908.5 million made available to fund multiple benefit projects and programs that are consistent with and implement IRWM plans. As of 2014, \$358.3 million has been awarded to 31 IRWM regions to support implementation of over 350 projects with total project costs in excess of \$1.8 billion.

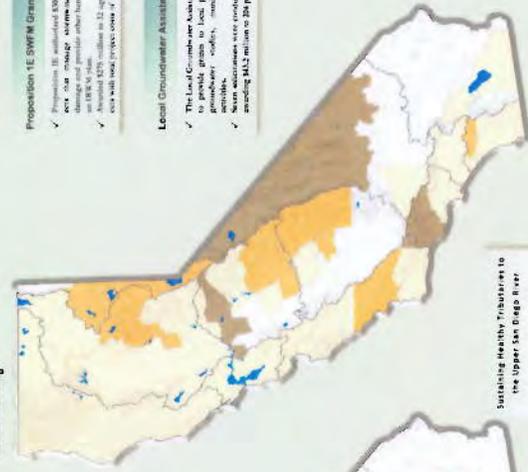
IRWM Implementation R1



IRWM Implementation R2



IRWM Planning



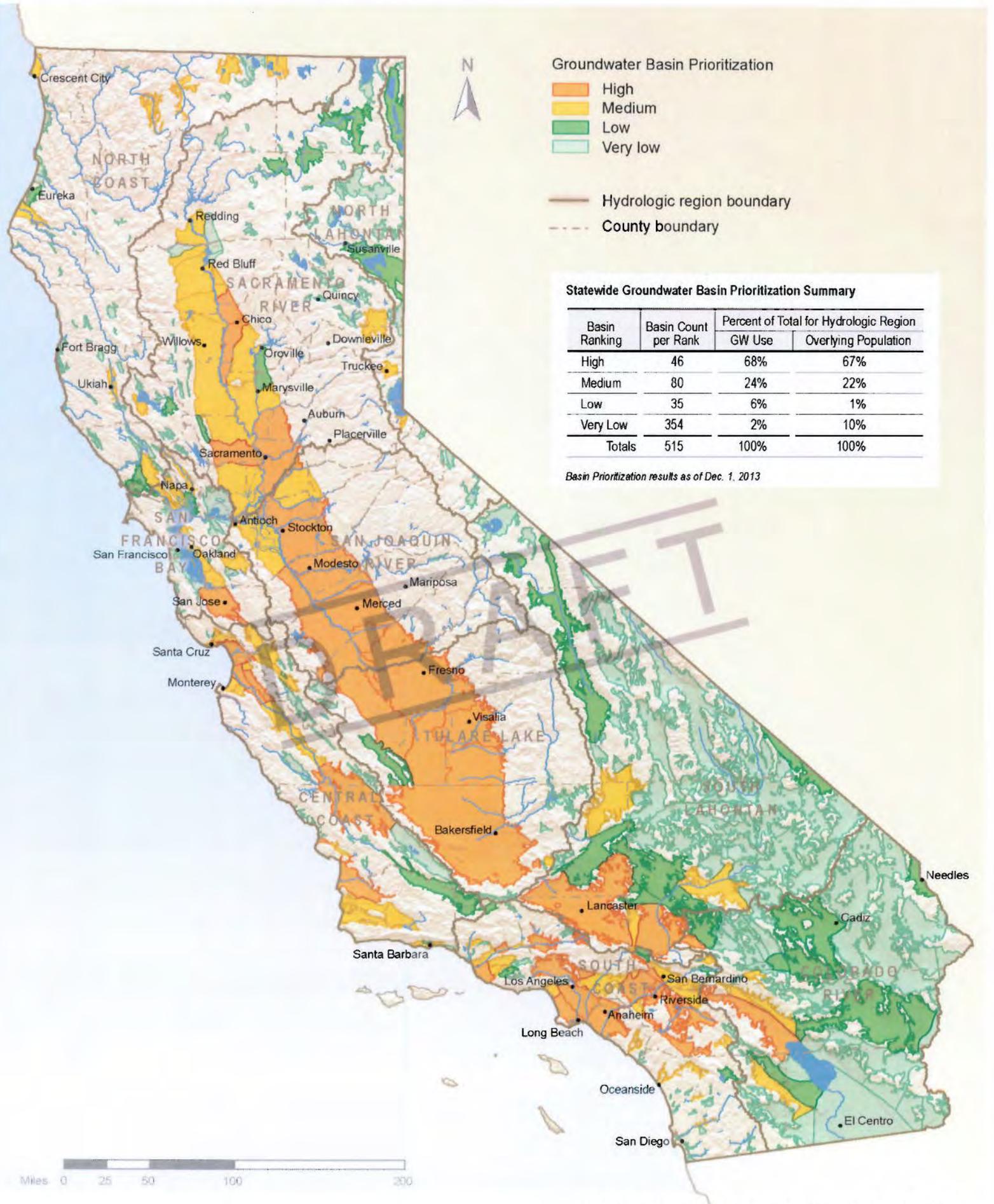
Prior Grant Programs

- Proposition 50 IRWM Grant Program**
Proposition 50 authorized \$40 million for IRWM activities. The Proposition 50 funding grant program was first administered by the San Diego Water Resources Control Board (SDWRCB), and then the San Joaquin Water Resources Control Board (SJWRCB). A total of \$12.3 million in IRWM Planning is targeted over 200 individual projects with a total project costs in excess of \$2.5 million.
✓ IRWM - Funding Grant - Woodland, Mariposa, Stanislaus, and Yuba Counties - DWR awarded \$2.5 million to 20 IRWM and IRWM planning projects and the SJWRCB awarded \$2.3 million for 5 IRWM plans.
- Proposition 1E IRWM Grant Program**
✓ Proposition 1E authorized \$60 million for grants for projects that are "eligible for funding under Proposition 1E" and are greater than other benefits and are consistent with the IRWM plan.
✓ Awarded \$25 million to 12 agencies to implement 27 projects with total project costs of approximately \$34 million.
- Local Groundwater Assistance Grant Program**
✓ The Local Groundwater Assistance Act of 2000 was created to provide financial assistance to local water agencies, groundwater users, groundwater owners, and irrigators.
✓ The program was authorized by Proposition 200 and 2014, awarding \$42.5 million to 20 projects.

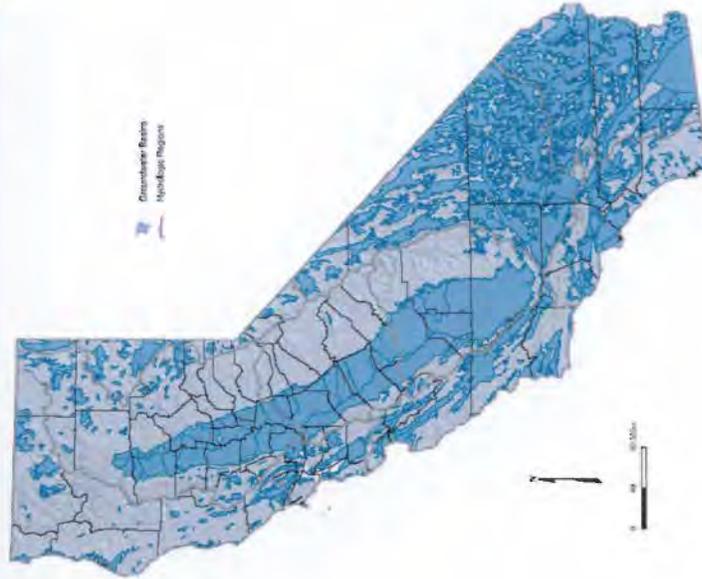
LEGEND: Awarded Grants

- Prop 84 Funding Area Regions
- Round 1
- Round 2
- Funded in Round 3 and 2
- Funded Non-Tribal Projects
- Funded Tribal Projects

California Groundwater Basins Prioritization



California's Groundwater Basins



How Will the Groundwater Elevation Data Be Used?

The data will be compiled in a statewide database that is available to the public. Local, state, federal, and all interested parties can use the data to evaluate and monitor groundwater conditions in California's groundwater basins and subbasins. The goal of CASGEM is to determine seasonal and long-term trends in groundwater levels within the basins.

Contact Us About CASGEM

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tross@water.ca.gov

Timeline

Preparing to Implement CASGEM:

Summer 2010. Public Workshops

Fall 2010.

- Develop, solicit public comments, and finalize program guidelines
- Develop online monitoring entity notification and data submittal system
- Local agencies work together to identify prospective monitoring entity for their basin/subbasin

Late Fall 2010.

- Online system ready for submission of monitoring entity notifications
- Prospective monitoring entities submit notifications to DWR

January 1, 2011. Notifications due to DWR

Spring and Summer 2011. Designated monitoring entities submit monitoring network plan to DWR

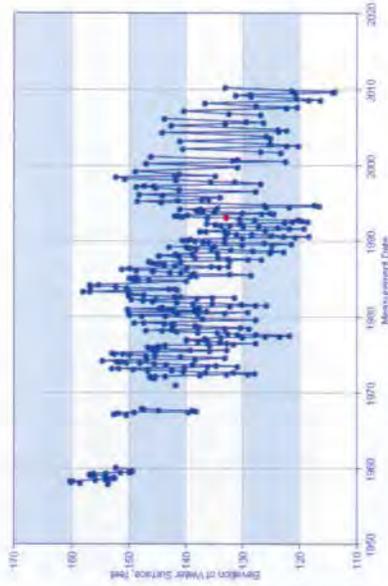
January 1, 2012.

- Monitoring entities begin submitting groundwater level data
- DWR submits first CASGEM status report to Governor and Legislature

California Statewide Groundwater Elevation Monitoring Program

CASGEM Program

What Is CASGEM?



On or before January 1, 2012, local groundwater Monitoring Entities will regularly and systematically monitor groundwater elevations in California's alluvial basins and subbasins in order to determine seasonal and long-term trends, and this information will be made readily and widely available to the public



Department of Water Resources (DWR)
California Natural Resources Agency
State of California

What Is CASGEM?

What Is the CASGEM Program?

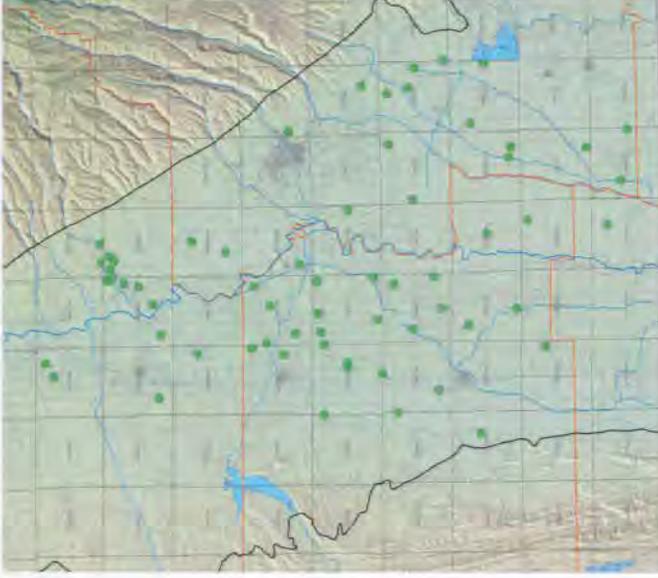
CASGEM (pronounced *KASJem*) is short for California Statewide Groundwater Elevation Monitoring.

The program was created by SBx7 6, Groundwater Monitoring, a part of the 2009 Comprehensive Water Package. By passing the bill, the Legislature established for the first time a statewide program to collect groundwater elevations, facilitate collaboration between local monitoring entities and the Department of Water Resources, and to report this information to the public.

Why Is Groundwater Important?

In California, groundwater accounts for about 30 percent of the total water supply. During dry years, it is at least 40 percent of the supply. With a projected population of 46 million by the year 2020, California's reliance upon groundwater will increase significantly.

In order to protect and sustain the state's precious groundwater supply, proper management of this limited resource is imperative. Monitoring groundwater elevations in the state's 515 alluvial groundwater basins and subbasins is a fundamental component of successful groundwater management.



Observation well locations, Northern Sacramento Valley

Are Groundwater Elevations Now Monitored in California?

The Department of Water Resources' four region offices monitor groundwater elevations and report the data on DWR's Water Data Library (www.water.ca.gov/waterdata/library); however, those data are limited in some areas. Other agencies also collect groundwater elevation data, but are not required to make that data available to DWR for public use.

Implementation of the CASGEM Program will establish a statewide monitoring network for all of California's groundwater basins, and will allow that data to be used to plan for future water supply demands.

How Does CASGEM Work?

A local agency that has jurisdiction over groundwater management in an area, as defined in the law, notifies the Department of Water Resources by January 1, 2011, that it wishes to be the designated Monitoring Entity for all or part of a groundwater basin. The Monitoring Entity defines and submits a groundwater monitoring plan to DWR that can be used to determine seasonal and long-term groundwater elevation trends in the monitoring area.

The Monitoring Entity can measure groundwater elevations or compile data from other agencies to fulfill the monitoring plan. The Monitoring Entity is also responsible for submitting that data to DWR.

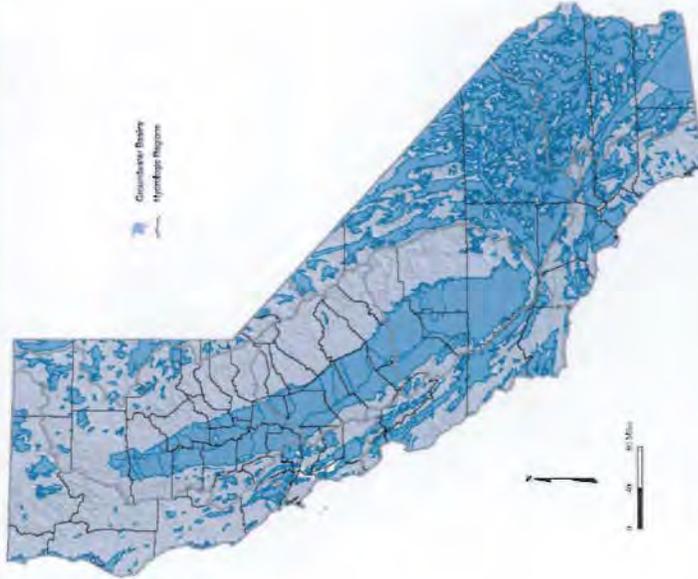
DWR will continue its current monitoring program, provided funding is available.

Is My Participation Required?

No. However, if no prospective Monitoring Entity comes forward, then DWR will assume the monitoring in the basin. Nonparticipating agencies risk losing eligibility for state water grants.

CASGEM Program guidelines will be available in fall 2010. The document will include full details on reporting requirements and measurement procedures.

California's Groundwater Basins



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California Statewide Groundwater Elevation Monitoring Program

CASGEM Program

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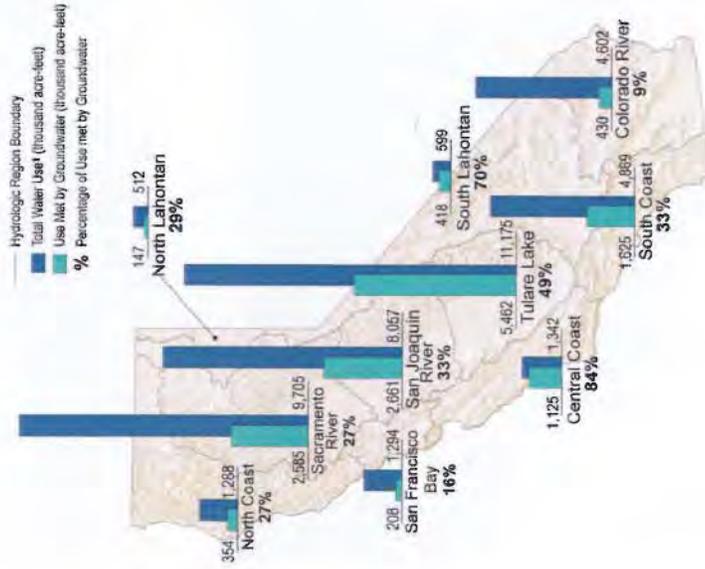


Department of Water Resources (DWR)
California Natural Resources Agency
State of California

Why Is CASGEM Important for Management of California's Groundwater?

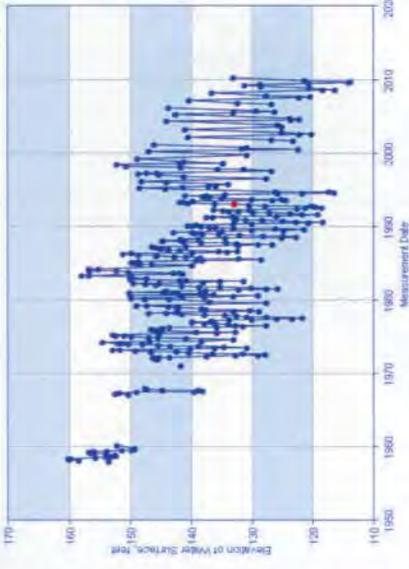
Why Is Groundwater Important To California's Water Supply?

Groundwater accounts for about 30 percent of California's total water supply. In dry years, this increases to over 40 percent. Some coastal basins, cities, and rural areas are entirely dependent upon groundwater for their water supply. With a projected population of 46 million by the year 2020, California will need to rely on groundwater even more.



Blue bars are total water used

Green bars are the percentage of total water used that was groundwater



Hydrographs depict groundwater elevations in a well or wells over the measurement period.



Groundwater elevation contour maps depict groundwater elevations and flow directions.

What Will CASGEM Data Tell Us About Groundwater Conditions?

Groundwater elevation measurements can be used in many ways to evaluate groundwater conditions within a basin. Two of the most common ways are to use the data to create hydrographs and groundwater elevation contour maps.

- Legend:**
- DWR Events
 - State Events
 - Nat'l/Int'l Events

Factoid:

If you were born in or after April 1995, you have never lived through a month that was colder than the global average

1980s

'87 - DWR Hydrologist Maury Roos presents *Possible Changes in California Streamflow Runoff* Pottermo report at Pacific Climate Workshop

'88 - DWR Deputy Director Potter testifies at Legislative hearing on global warming effects on CA water resources

'88 - AB 4420 - 1st Climate Change (CC) legislation in CA

CO₂: 348.93 PPM
1997 was the last year when the annual CO₂ level was less than 350 PPM



2000 - 2005

'03 - CWP includes qualitative discussion on the potential effects of CC on CA's water

'00 - SB 1771 creates the CA Climate Action Registry

'03 - EO 5-3-05 sets CA GHG emission reduction targets

'00 - USGCRP publishes 1st National Assessment Report

'01 IPCC releases 3rd Assessment Report

CO₂: 381.83 PPM
2006 CO₂ atmospheric concentration continues to rise at the highest rate in history

2006

DWR releases report analyzing effect of CC on CA water supply

AB 32 requires CA's GHG emissions be reduced to 1990 levels by 2020

Climate Action Team forms - DWR participating agency

State releases 1st CC Assessment

2007

DWR's 1st submission to CA Climate Registry - awarded Climate Action Leader status

DWR produces "Science On a Sphere" for State Fair and wins communications award

SB 97 requires DPR to develop CEQA Guidelines for CC

US Supreme Court rules CO₂ is a pollutant

IPCC releases 4th Assessment Report



2008

DWR releases CC adaptation strategy for water - *Managing on Uncertain Future*

DWR forms 1st CCTAG

EO 5-13-08 authorizes SLR studies



2009

CWP includes analysis of CC in projections of future demand

DWR Sustainability Policy

DWR CEQA CC Committees (CA) forms

DWR produces mini-documentary "A Climate of Change" now official!

DWR Climate Change Program

SB 1 - RWQM plan to include CC adaptation & mitigation

CA Climate Adaptation Strategy released by CNRA

State releases 2nd CC Assessment

2010

CA releases staff guidance on CEQA CC & GHG emissions analysis

Prop 84/Prop 1E Grant Guidelines add CC Standard

DWR Environmental Stewardship Policy and Sustainability Targets adopted

CO-CAT releases Interim SLR Guidance for State Agencies

2012

DWR Climate Action Plan Phase 1 SGEIP adopted

DWR contracts w/ Lodi Energy Center for high efficiency power

DWR forms 2nd CCTAG

NRC SLR Report released

State releases 3rd Assessment



2013

DWR stops receiving power from Reed-Gardner Power Plant (plant = 37.57% of total annual CO₂ emissions)

CO-CAT finalizes SLR Guidance

US Climate Action Plan issued



2011

DWR Climate News Ismithed

Climate Change Handbook for Water Planning released

1st DWR Climate Literacy class held

The Past, Present, and Future of the DWR Climate Program

Lauma Jurkevics (SRO), Michelle Selmon (SCRO), Erin Chappell (NCRO), Peter Coombe (NRO), and Andrew Schwarz (DSIWM)

CO₂: 404 PPM
In 2013, atmospheric concentrations of CO₂ surpassed 400 PPM - climate scientists believe we must get to low 450 PPM or risk more than 2 °C warming



Future Program Initiatives

CWP update 2013 to include analysis of CC projections of both future demand & supply, plus content on adaptation, mitigation, & water-energy nexus

Completion of treeing study

Tribal Coordination and TEK Initiatives for Climate Change

Climate Action Plan: Phase 2 - CC Framework

Climate Action Plan: Phase 3 - Vulnerability Assessment & Adaptation Plan

Climate Resiliency Policy

Outreach and Climate Education

Bolster our citizen science climate monitoring networks

Coming Soon: IPCC 5th Assessment Report

1990s

'91 - DWR releases study showing decline in spring and summer runoff since the early 1990s

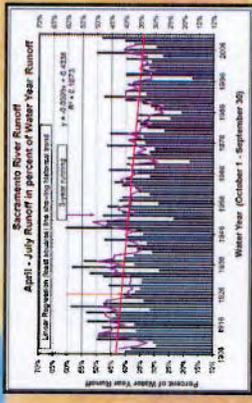
'93 - CWP Identifies CC as a potential threat to CA's water resources

'97 Twitchell Island Wetland Research Facility established

'90 - IPCC releases 1st Assessment Report

'95 IPCC releases 2nd Assessment Report

'96 Kyoto Conference





California Landscape Conservation Cooperative Tribal Engagement Information Sheet

Mission and Goal



CA LCC Mission

- The CA LCC is a management-science partnership created to inform and promote *integrated science, natural resource management, and conservation* to address impacts of climate change and other stressors within and across ecosystems.

5-Year Goal

- Our goal is to create a growing community of resource managers, scientists, conservation practitioners, Tribal representatives, and others that are successfully collaborating to advance and implement actions that promote resilient and adaptable ecosystems across the landscape in the face of environmental change.

The CA LCC is seeking increased Tribal involvement, particularly from Tribal scientists and others interested in opportunities to integrate Traditional Ecological Knowledge (TEK) and Western science

Examples of Tribal Involvement with Other LCC's

Tribal Community Vulnerability

Assessment with the Western Alaska LCC

A network of *local native environmental observers* document coastal areas of particular vulnerability to storms. This information is being used to improve resiliency of these native peoples' landscapes to climate change.

North Pacific LCC Tribal Collaboration Projects

- Karuk Tribe: *Expanding Use of Tribal Ecological Knowledge and Management in Off-Reservation Lands in the Face of Climate Change*
- Yurok Tribe: *Utilizing Yurok Traditional Ecological Knowledge to Inform Climate Change Priorities*

Visit us at: www.CaliforniaLCC.org

Contact Information:

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Debra Schlafmann, CA LCC Coordinator, Debra_Schlafmann@fws.gov / 916-278-9414

April 2014

Governance and Products



Governance

- CA LCC Steering Committee is composed of Tribal, federal, state, and non-governmental organization representatives.
- CA LCC Staff conducts meetings and executes the decisions of the Steering Committee.

CA LCC "Affiliates"

- Represent a majority of interested partners, agencies and organizations in the CA LCC region.
- Utilize the products and tools developed by the CA LCC and promote coordination and consolidation of information and collaboration among partner organizations.

Tribal & TEK Subcommittee

- The Tribal & TEK subcommittee meets regularly to gather input from Tribes and others interested in TEK and landscape-level resource management and conservation to inform CA LCC staff and Steering Committee members; Contact the CA LCC to join the subcommittee.

Products produced by the CA LCC

- Risk and vulnerability assessments for species and habitat
- Inventory and monitoring methods and protocols
- Population and habitat assessments
- Conservation plans and designs
- Decision support tools



Outline of the CA LCC region

CA LCC Newsletter - <http://californialcc.org/newsletter>

- Sign up to receive information about conferences, tools, webinars, grants and more!

Visit us at: www.CaliforniaLCC.org

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April 2014



The California Landscape Conservation Cooperative (CA LCC) and the California Department of Water Resources (DWR) will be hosting a workshop in fall 2014 in Sacramento on Traditional Ecological Knowledge (TEK). The target audience will be CA LCC Steering Committee members and partner agencies and non-governmental organizations, since there is often a lack of understanding within those groups about Tribes and TEK. The purpose will be to inform them about the value of TEK for natural resource management and the sensitive nature of the information.

The workshop will be taught primarily by Tribal instructors. Tribes are welcome to attend, although the CA LCC will hold workshops in the future geared more for a Tribal audience and assisting Tribes with climate adaptation. However, we would appreciate your input on how to have a successful TEK workshop for agency staff in 2014.

Thank you for answering the following questions.

1. What topics or aspects of TEK should be on the agenda?
2. Do you have suggestions for Tribal instructors who are good communicators about TEK?
3. What should the goal(s) of the workshop be?
4. If you are comfortable sharing the information, please tell us your name and Tribal affiliation or organization.

2013 California
Tribal Water April 24th & 25th

Summit

California Indigenous Rights, Uses and Management of Water and Land

Leveraging the strengths and resources of Tribal, State and Federal agencies through collaboration

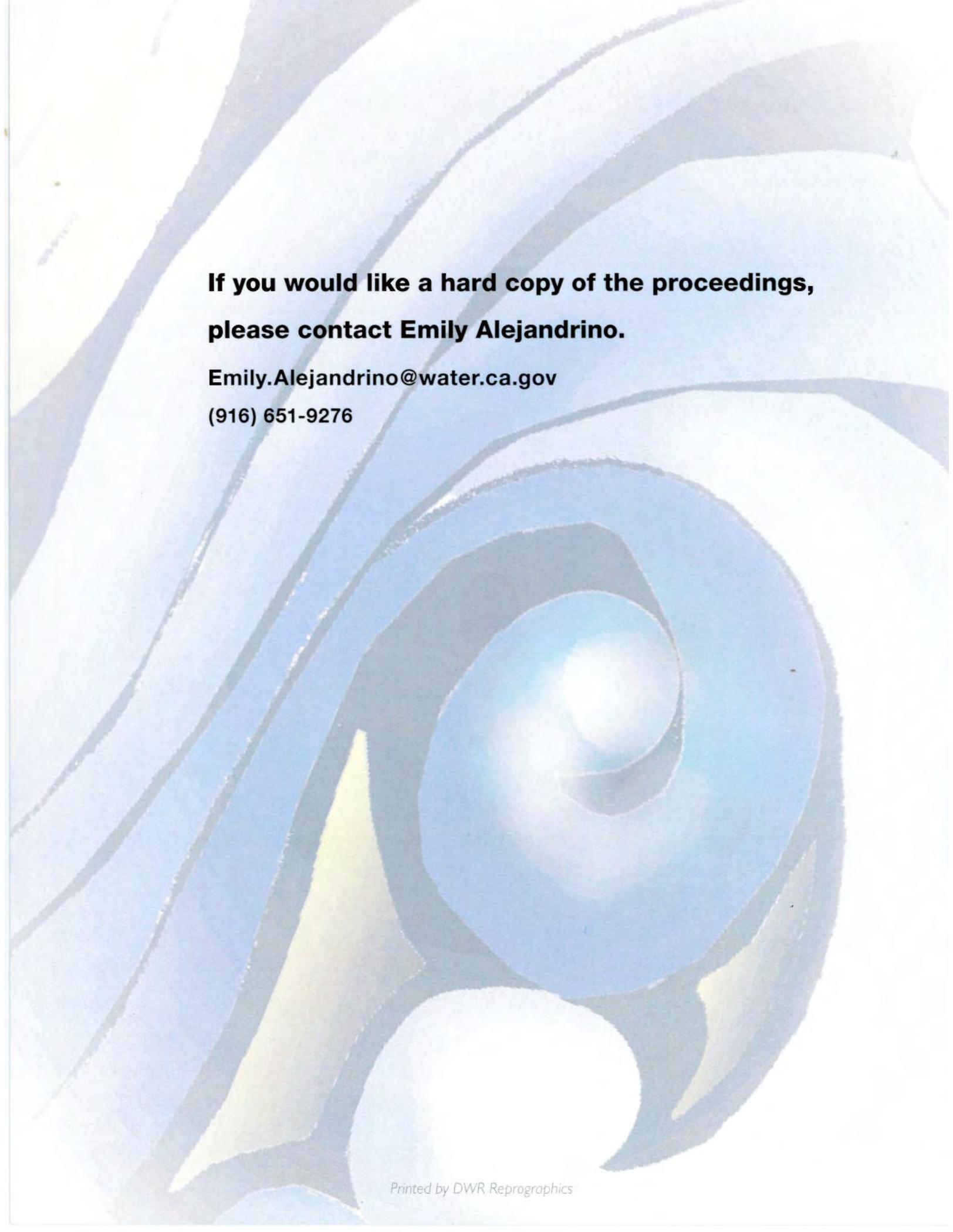


We All Drink from the Same Water

Mike Rodriguez 2009

PROCEEDINGS

WWW.WATERPLAN.WATER.CA.GOV/TRIBAL/TWS/2013

The background of the page is an abstract, artistic composition. It features large, overlapping, organic shapes in various shades of blue, from light sky blue to deep navy. Interspersed among these blue forms are bright yellow and white areas, creating a sense of depth and movement. The overall effect is reminiscent of a close-up of a seashell or a microscopic view of a mineral structure.

**If you would like a hard copy of the proceedings,
please contact Emily Alejandrino.**

Emily.Alejandrino@water.ca.gov

(916) 651-9276

Potential Climate Change Vulnerabilities and Adaptation Strategies for Tribal Communities
California Department of Water Resource - Climate Change Program

Potential Climate Change Vulnerabilities

	Drivers								
	Higher Temperatures	Earlier Snowmelt	More rain, less snow	More extreme flood events	Longer, more frequent droughts	Sea Level Rise/ Ocean Acidification	More Erosion	More frequent & intense wildfires	Cumulative Impacts
Subsistence Activities									Dietary changes; loss of local food resources; change in hunting/ gathering practices; loss of income and culture
Traditional Practices	Shift or loss of traditional fish, plant and animal species	Barriers to fish species migration/ movement; shift or loss of traditional fish, plant, and animal species	Greater stress on cold-water species from warmer runoff; shift or loss of traditional fish, plant, and animal species	Reduced water quality for traditional aquatic species; habitat disturbance/loss	Reduced productivity/ greater stress on traditional fish, plant, and animal species	Loss of coastal/tidal wetland habitats and species; ocean and estuarine food web changes; loss of shellfish	Reduced water quality for traditional aquatic species; stream channel changes; habitat disturbance/loss	Reduced water quality for traditional aquatic species; increased sedimentation in streams; habitat and species disturbance/ loss	Loss of culture & traditional medicinal plants and materials for jewelry, sculptures, ceremonial pieces, basketry, nets, and lodgings.
Sacred Sites and Practices	Shift or loss of traditional fish, plant and animal species	Reduced streamflows in summer/fall	Reduced streamflows in summer/fall	Damage to sacred sites; temporary inaccessibility to sacred sites; exposure of sacred artifacts and remains	Reduction in streamflows; reduced productivity/ greater stress on traditional fish, plant, and animal species	Inundation of/ damage to sacred sites; loss of access to sacred sites; shift or loss of traditional coastal species	Damage to sacred sites; loss of access to sacred sites; exposure of cultural resources	Damage to sacred sites; species disturbance/loss	Loss of traditional materials for ceremonies; loss or exposure of sacred sites, artifacts, & remains; changes in traditional timing of spiritual practices
Water Supply	Changes in runoff timing reducing seasonal availability; higher water demands	Reduced reliability; less groundwater recharge; decrease in summer/ fall runoff	Changes in runoff timing reducing seasonal availability; less groundwater recharge; reduced reliability	Damage to conveyance infrastructure; increased treatment; service interruptions	Reduced availability and reliability of surface water; less groundwater recharge; increased treatment; increased potential for overdrafting groundwater	Damage to coastal conveyance infrastructure; reduced supplies; increased treatment; degradation of coastal aquifers	Damage to conveyance infrastructure; increased treatment	Damage to conveyance infrastructure; increased treatment; service interruptions; sedimentation	Reduction in water availability; reduced quality or increased contamination of local surface and groundwater supplies; increase in water-related illnesses; potential conflicts over water rights; higher human water demands reduce water needed to support ecosystems/ species
Water Quality	Increase in water-borne illnesses; taste and odor issues; decrease in dissolved oxygen increase in algal blooms; impacts to aquatic species	Seasonal changes in quality due to decreased summer/fall runoff	Seasonal changes in quality (such as reduced dissolved oxygen) due to decreased summer/fall runoff	Wastewater spills; contaminated stormwater runoff; turbidity	Increase in water-borne illnesses; taste and odor issues; higher contaminant loading; increase in algal blooms; decrease in dissolved oxygen; impacts to aquatic species	Increased by-products from treating brackish water; inundation of wastewater treatment facilities or discharge impacts; salinity intrusion into aquifers	Damage to conveyance and wastewater infrastructure; increased turbidity	Damage to infrastructure, increased turbidity/ sedimentation	Reduction in water availability; reduced quality or increased contamination of local surface and groundwater supplies; increase in water-related illnesses; potential conflicts over water rights; higher human water demands reduce water needed to support ecosystems/ species
Health	Increased mortality rates (especially for children and elderly); poor air quality; allergens increase; illnesses ¹ exacerbated; increased health care costs	Reduced water supply reliability and quality	Change in prevalence & spread of disease; reduced water supply reliability and quality	Change in prevalence & spread of diseases; mortality; displacement ²	Change in prevalence & spread of diseases; mortality; reduced water supply reliability; increased malnutrition; increased health care costs	Displacement; illness due to poor water quality; reduced coastal water supply reliability	Displacement; poor water quality; mudslides	Poor air and water quality; displacement; illnesses exacerbated, esp. respiratory illnesses; mortality; mudslides	Overall reduction in community health; increase in chronic and infectious diseases; increased health care costs; impacts associated with displacement

¹Illnesses - includes chronic, infectious, and vector borne diseases

²Displacement - encompasses associated health consequences, including mortality, due to economic disruption, loss of personal income, and disruption of social networks

Potential Climate Change Vulnerabilities and Adaptation Strategies for Tribal Communities
California Department of Water Resource - Climate Change Program

Potential Climate Change Adaptation Strategies

		Drivers							
	Cumulative Impacts	Higher Temperatures	Earlier Snowmelt	More rain, less snow	More extreme flood events	Longer, more frequent droughts	Sea Level Rise/ Ocean Acidification	More Erosion	Longer wildfire season/ More frequent & intense wildfires
Subsistence Activities	Dietary/harvest changes; loss of local food resources; change in hunting/ gathering practices and crop yields; loss of income; changes in fire mgmt (fewer burning windows)	Restore habitat to provide thermal refugia (i.e. riparian corridors); manage ecosystems to promote native species; promote traditional practices to restore traditional landscapes; promote policies that ensure tribal rights for subsistence practices	Restore habitat to remove barriers to fish migration; restore meadows restoration and implement forestry practices that help retain water in upper watersheds	Restore habitat to provide thermal refugia for cold water species; manage ecosystems to promote native species; promote traditional practices to restore traditional landscapes; promote policies that ensure tribal rights for subsistence practices	Restore and enhance existing floodplain and wetland habitat; restore and manage watersheds to reduce erosion	Restore and manage habitat to promote native species; implement land use practices that promote water retention on-site; remove or minimize invasive species	Restore wetlands; manage sediment to maintain/ enhance wetland elevations; restore subtidal habitat to attenuate storm surge; promote traditional practices to restore traditional landscapes; protect upland habitat and transition zones to allow for wetland migration	Restore and enhance riparian corridors; promote ranch land and forest management practices that reduce erosion	Reduce forest density where needed via mechanical or hand thinning and/or prescribed burning; restore soil mantle; construct and maintain fuel breaks; restore meadows to help retain water; remove or minimize invasive species
Traditional Practices	Loss of culture & traditional medicinal plants and materials for jewelry, sculptures, ceremonial pieces, basketry, nets, and lodgings; change in harvest	Restore and manage ecosystems to promote traditional materials/ native species; promote traditional practices to restore traditional landscapes	Restore forests and implement practices that help retain water in upper watersheds; promote traditional practices to restore traditional landscapes	Restore and manage ecosystems to promote traditional materials/ native species; promote traditional practices to restore traditional landscapes	Restore habitat to buffer sacred sites; build infrastructure (i.e., levees, sea walls) to protect sacred sites	Restore and manage habitat to promote native species; implement land use practices that promote water retention & reduce forest fuels; remove or minimize invasive species	Restore habitat to buffer sacred sites; build infrastructure to protect sacred sites; promote traditional practices to restore traditional landscapes	Restore habitat to buffer sacred sites; build infrastructure to protect sacred sites	Manage fuel loads to reduce fire severity; create fire breaks to protect sacred sites; remove or minimize invasive species; restore habitat
Sacred Sites and Practices	Loss of traditional materials for ceremonies; loss of sacred sites; changes in traditional timing of spiritual practices, restrictions on ceremonial use of fire	Restore and manage ecosystems to promote traditional materials/ native species; promote traditional practices to restore traditional landscapes	Restore forests and implement practices that help retain water in upper watersheds; promote traditional practices to restore traditional landscapes	Restore and manage ecosystems to promote traditional materials/ native species; promote traditional practices to restore traditional landscapes	Restore habitat to buffer sacred sites; build infrastructure (i.e., levees, sea walls) to protect sacred sites	Restore and manage habitat to promote native species; implement land use practices that promote water retention & reduce forest fuels; remove or minimize invasive species	Restore habitat to buffer sacred sites; build infrastructure to protect sacred sites; promote traditional practices to restore traditional landscapes	Restore habitat to buffer sacred sites; build infrastructure to protect sacred sites	Manage fuel loads to reduce fire severity; create fire breaks to protect sacred sites; remove or minimize invasive species; restore habitat
Water Supply	Reduction in water availability; reduced quality or increased contamination of local surface and/or groundwater supplies; increase in water-related illnesses; potential conflicts over water rights; reduction in water needed to support ecosystems/ species due to higher human demand; loss of ag. income	Increase storage capacity; improve conjunctive mgmt; conserve water; restore habitat	Increase storage capacity; facilitate groundwater recharge basins; conserve water and energy; restore habitat in upper watersheds	Increase storage capacity; facilitate groundwater recharge basins; conserve water and energy; restore habitat in upper watersheds	Reinforce or relocate vulnerable conveyance infrastructure; improve treatment capacity	Increase storage capacity; improve conjunctive management; conserve water and energy; promote reduction of forest fuels	Reinforce or relocate vulnerable conveyance infrastructure; improve treatment capacity; diversify supply portfolio; consider desalination	Protect vulnerable conveyance infrastructure with habitat buffers; improve treatment capacity	Create fire breaks to protect infrastructure; improve treatment capacity; manage fuel and restore habitat to reduce risk
Water Quality	Reduction in water availability; reduced quality or increased contamination of local surface and/or groundwater supplies; increase in water-related illnesses; potential conflicts over water rights; reduction in water needed to support ecosystems/ species due to higher human demand; loss of ag. income	Improve treatment capacity; promote use of wetlands in wastewater treatment	Habitat restoration that help retain water in upper watershed to support summer/fall baseflows	Habitat restoration to support summer/fall baseflows; groundwater recharge/ conjunctive use	Improve wastewater systems to avoid spills; use green infrastructure to filter stormwater runoff	Improve treatment capacity; promote use of wetlands in wastewater treatment	Reinforce or relocate of wastewater facilities; brackish water desalination; wetland restoration	Protect vulnerable conveyance and wastewater infrastructure; improve treatment capacity	Fire breaks to protect infrastructure; improve treatment capacity; fuel mgmt and habitat restoration to reduce risk
Health	Overall reduction in community health; increase in chronic and infectious diseases; increased health care costs; impacts associated with displacement ¹	Establish community cooling centers; develop renewable energy sources; provide education and outreach on heat-related illnesses	Improve water supply reliability and water quality (see strategies above)	Provide education and outreach on disease prevention; improve water supply reliability and water quality (see strategies above)	Provide education and outreach on disease prevention; establish emergency shelters; establish funding for recovery assistance	Education and outreach on disease prevention; establish emergency water supplies; establish funding for assistance programs	Improve infrastructure to protect communities; improve water supply reliability and water quality (see strategies above)	Establish emergency shelters and water supplies; establish funding for recovery assistance	Establish emergency shelters and water supplies; establish funding for recovery assistance

¹Displacement - encompasses associated health consequences, including mortality, due to economic disruption, loss of personal income, and disruption of social networks