

# Public Meeting

January 25, 2012

*California Natural Resources Agency*

- Introductions
- Meeting Purpose
- Working Group Updates

- Effects Analysis Discussion
- BDCP Chapters
- EIR/EIS Status
- Next Steps/Action Items

# Working Group Updates

- Governance
- Finance
- Biological Goals and Objectives
- Yolo Bypass Fishery Enhancement
- South Delta Habitat Restoration

The image is a cover page for a report. The top left corner features the BDCP logo and the text 'BAY DELTA CONSERVATION PLAN'. The background is a dark blue landscape with a body of water and tall grasses in the foreground. A vertical bar on the left side transitions from yellow at the top to red at the bottom. The title 'Effects Analysis Update' is centered in the middle of the page in a yellow font.

BDCP

BAY DELTA CONSERVATION PLAN

# Effects Analysis Update

# Effects Analysis - Purpose

- Provide necessary information for ESA and NCCPA permitting
- Provide structural foundation for analysis of alternatives
- Determine the overall effects on covered fish and wildlife and natural communities as a result of the BDCP
- Includes only analyses for biological effects

## Appendix E: Habitat Restoration

- Describes proposed restoration for covered fish species
  - Conservation Measure 4: Tidal Habitat Restoration
  - Conservation Measure 5: Floodplain Restoration
  - Conservation Measure 6: Channel Margin Habitat Restoration
  - Conservation Measure 7: Riparian Habitat Restoration

## Appendix E: Habitat Restoration

- Describes expected outcomes, including likely ecological benefits based on quantitative and qualitative analyses



## Appendix E: Analytical Tools and Methods

- Habitat suitability indices
  - Measures dynamic quality of habitat condition with respect to species/life stage requirements
- Habitat productivity analysis
  - Assesses potential food web enhancements that may result from proposed tidal habitat restoration activities
  - Examined two main sources of foodweb support: phytoplankton production and marsh-derived production
- Literature review

## Appendix C: Flow/Passage

- Describes potential mechanisms for changes in flow
- Describes related parameters of temperature, salinity, turbidity, and dissolved oxygen
- Describes flow-related changes in passage and migration
- Evaluates effects on fish that result from changes in flows and flow-related parameters by comparing the preliminary proposal to the existing biological conditions

# Appendix C: Analytical Tools and Methods

<u>MODEL</u>	<u>PURPOSE</u>
CALSIM	Uses historical flow record to estimate reservoir releases and flows for Sacramento and San Joaquin River systems and Delta under various flow conditions and water project operations.
DSM2	Uses CALSIM outputs to show various scenarios, such as
MIKE21	Predicts water surface elevation, flow, and average velocity at each computational grid cell in the Yolo Bypass
Reclamation Temperature	Uses CALSIM flow and climatic model output to predict temperature in the Trinity, Feather, American, and Stanislaus River basins and upstream reservoirs

# Appendix C: Analytical Tools and Methods

<u>MODEL</u>	<u>PURPOSE</u>
Sacramento River Water Quality Model (SRWQM)	Simulates mean daily (using 6-hour meteorology) reservoir and river temperatures at key locations on the Sacramento River based on CALSIM output
Sacramento Ecological Flows Tool	Links flow management actions to changes in the physical habitats for salmonids using daily flow and temperature output from the SRWQM
Reclamation Egg Mortality Model	Uses results of water temperature and flow modeling on the upper Sacramento River to estimate Chinook salmon egg mortality
SALMOD	Estimates juvenile Chinook salmon production in the upper Sacramento River, as a result of effects of flow and temperature on juvenile rearing habitat

# Appendix C: Analytical Tools and Methods

<u>MODEL</u>	<u>PURPOSE</u>
Delta Passage Model (DMP)	Uses coded wire tag (CWT) and acoustic tag data to estimate the proportion of Chinook salmon runs that would occur in various Delta channels and their survival during downstream migration
DRERIP	Uses results of scientific studies to establish conceptual models of the stressors and mechanisms that are thought to affect the population dynamics of various resident and migratory fish species, as well as habitat functions
Winter-Spring-X2-Longfin smelt Abundance	Used to estimate relative abundance of longfin smelt in the fall based on winter-spring X2 (as an indication of outflow)
Delta smelt abiotic habitat index	Used to calculate delta smelt abiotic habitat

## Appendix F: Ecological Effects

- Evaluates the conservation measures that reduce biological stressors related to:
  - Nonnative aquatic vegetation
  - Predatory fish species
  - Illegal harvest
  - Small population size/conservation hatcheries for smelt

# Appendix F: Ecological Effects

- Examines the effects of implementation of 3 BDCP conservation measures (CMs) designed to address these four key biological stressors:
  - CM13: Nonnative Aquatic Vegetation Control
  - CM15: Invasive Predator Removal
  - CM 18: Conservation Hatcheries

## Appendix F: Analytical Tools and Methods

- Qualitative evaluation of potential outcomes (beneficial and negative) of the conservation measures
- Scientific literature; consultations with local experts; and conceptual models of key processes, habitats, and covered fish species
- Models developed previously by the CALFED Bay-Delta Program Ecosystem Restoration Program (ERP) as part of DRERIP scientific evaluation



## Appendix D: Toxins

- Describes the toxic constituents currently present in the Delta aquatic ecosystem
  - Mercury and methylmercury
  - Selenium
  - Copper
  - Ammonia/um
  - Pesticides

## Appendix D: Toxins

- Identifies and assesses changes in toxins that could result from implementation of the preliminary proposal
- Describes how changes could result in changes in exposure of covered fish species to toxins
- Analysis focuses only on changes in toxins that are directly attributable to the preliminary proposal actions that could affect covered fish species

## Appendix D: Analytical Tools and Methods

- Qualitative analyses based on conceptual models of fate and transport of the toxins evaluated
- Quantitative analyses are used to supplement qualitative selenium and mercury analyses

# BDCP Chapters Update

## Ch. 2: Existing Ecological Conditions

- Provides context through a description of historical ecological conditions in the Delta, as well as a description of existing conditions in both the physical environment and in natural communities
- *What has changed since 2010 Working Draft*
  - Minor edits throughout
  - Added references

## Ch. 4: Covered Activities

- Describes activities for which regulatory agencies will provide necessary permits as a result of the project proponents agreeing to implement the conservation plan

## Ch. 4: Covered Activities

- *What has changed since 2010 Working Draft*
  - Clarifies that near-term operations not covered
  - Adds detail on new water conveyance infrastructure construction and maintenance consistent with EIR/EIS
  - Adds decommissioning or screening of non-project diversions throughout the Delta
  - Adds continued operation of Cache Slough diversions of those remaining
  - Emergency actions no longer covered

## Ch. 6: Plan Implementation

- Identifies implementation schedule for each conservation measure
- Describes regulatory assurances under ESA and NCCPA expected to be provided
- Describes commitment of the Implementation Board to respond to foreseeable changes in circumstances that may adversely affect covered species and habitats
- Identifies circumstances for plan amendments
- Identifies circumstances under which regulatory authorizations may be suspended or revoked



## Ch. 6: Plan Implementation

- *What has changed since 2010 Working Draft*
  - Changed circumstances completely revised (some added, some eliminated)
    - Levee failure
    - Flooding
    - Failure of water operations infrastructure
    - New species listing
    - Wildfire
    - Toxic or hazardous spill
    - Nonnative invasive species
    - Climate change

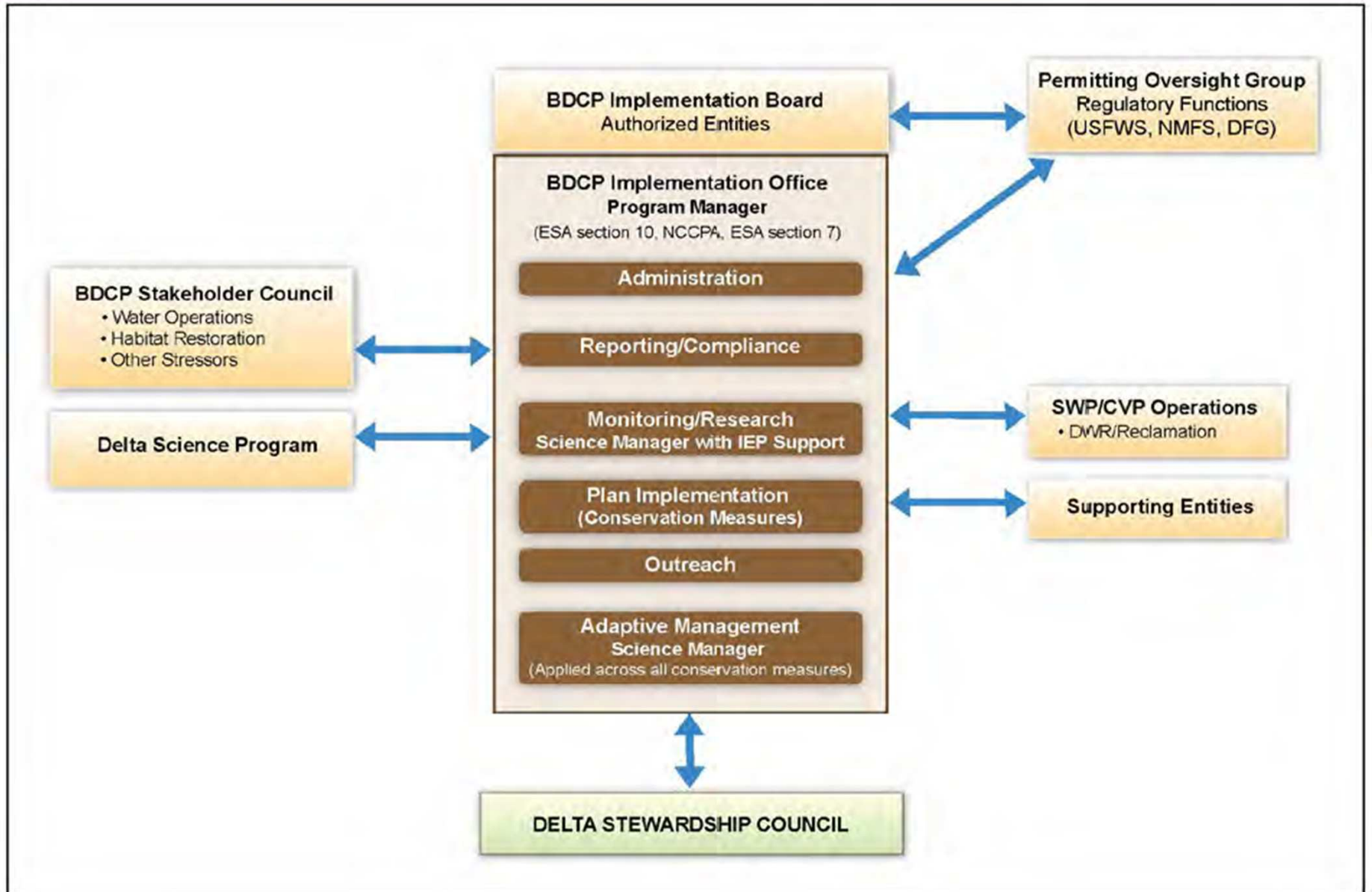
## Ch. 7: Implementation Structure

- Describes compliance monitoring and reporting procedures, requested regulatory assurances, changed circumstances and remedial measures, approach to addressing unforeseen circumstances, permit amendment procedures, and the expected implementation schedule

## Ch. 7: Implementation Structure

- *What has changed since 2010 Working Draft*
  - Clarified roles of Implementation Board, Implementation Office, and Program Manager
  - New term “Proposed Authorized Entities” = DWR, participating water contractors, Bureau
  - Clarified role of Permit Oversight Group (fish and wildlife agencies)

# Implementation Structure



# Governance Working Group

- Three meetings of the Governance Working Group to date
- Currently reviewing and revising Chapter 7
- Next meeting
  - January 26, 2012 - 1:00 PM
  - Resources Building, Room 422

# Governance Working Group - Critical Issues

- BDCP implementation
  - Roles and responsibilities
    - Operators
    - Water contractors
    - Other Stakeholder Groups
  - Stakeholder Committee
    - Make-up
    - Authority
    - Dispute Resolution Policies
- Implementing Adaptive Management Strategies

## Ch. 9: Alternatives to Take

- Describes alternatives to the BDCP that would reduce the amount of "take" of covered fish and wildlife species
- *What has changed since 2010 Working Draft*
  - Regulatory basis
  - Proposed methods and framework for analysis
  - Proposed alternatives to take

## Independent Science Integration

- Describes the role of independent scientific advice used to guide the development of the BDCP
- *What has changed since 2010 Working Draft*
  - Updated milestones for science review:
    - National Research Council Reports
    - Independent Science Advisors for Fish Goals and Objectives
    - Delta Science Panel review of Effects Analysis (one completed, one to come)



- Chapters being updated based on comments from agencies and public
- Remaining and revised chapters released February 27
  - Chapter 3: Conservation Strategy
  - Chapter 5: Effects Analysis
  - Chapter 8: Cost and Funding

## Preliminary Draft Documents Available

- Preliminary Draft documents are available
- Subject to change
- Does not take the place of formal “public review”
- Only formal public comments submitted during the official 90-day comment period on the Draft BDCP will be responded to, in writing, as part of the Final BDCP
- Draft BDCP and Draft EIR/EIS will be released together

# BDCP Documents Available

Document	Date Available
<ul style="list-style-type: none"><li>• Chapter 2 - Existing Ecological Conditions</li><li>• Chapter 4 - Covered Activities</li><li>• Chapter 6 - Plan Implementation</li><li>• Chapter 7 - Implementation Structures</li><li>• Chapter 9 - Alternatives to Take</li><li>• Chapter 10 - Integration of Independent Science into BDCP</li></ul>	December 8, 2011
Effects Analysis - Technical Appendices (Conceptual Foundation, Analytical Framework, Entrainment, Fish Population Analysis)	December 12, 2011
Effects Analysis - Technical Appendix (Flow)	December 14, 2011
Effects Analysis - Technical Appendix (Ecological Effects)	December 16, 2011
Effects Analysis - Technical Appendix (Toxins)	January 6, 2012
Chapter 1 - Introduction	January 11, 2012

# BDCP Documents Still to Come

## Documents

## Date Available

Effects Analysis - Technical Appendix (Habitat Restoration)

January 13, 2012

Chapter 3 - Conservation Strategy

February 27, 2012

Chapter 5 - Effects Analysis

Chapter 8 - Implementation Costs and Funding Sources

Effects Analysis - Technical Appendix (Construction Effects  
on Covered Fish)

February 27, 2012

Public Draft BDCP HCP/NCCP

June 29, 2012

# Bay Delta Conservation Plan Environmental Impact Report/Statement Update

**Public Meeting**  
January 25, 2012

# Presentation Outline

- Overview
- Alternatives
- BDCP EIR/EIS status
- Next Steps

- 2010 Developed preliminary range of alternatives
- 2011 Evaluated and developed additional alternative concepts
- 2011 Prepared preliminary draft analysis for various resource areas
- 2012 Continue to develop evaluation

## Alternative Concepts Include Three Components

- Restoration Components
- Measures to Reduce Other Stressors Components
- Conveyance Components
  - Isolated Conveyance
  - Dual Conveyance
  - Through Delta Conveyance



# Current Range of Alternatives

Alternative	Alignment/ Conveyance	Intakes	ND Diversions	Operation	Restoration
1A	Tunnel/dual	5	15,000 cfs	BDCP SC	BDCP SC
1B, 1C	East canal/dual West canal/dual	5	15,000 cfs	BDCP SC	BDCP SC
2A	Tunnel/dual	5	15,000 cfs	Scenario 6 w/ Fall X2	BDCP SC
2B, 2C	East canal/dual West canal/dual	5	15,000 cfs	Scenario 6 w/ Fall X2	BDCP SC
3	Tunnel/dual	2	6,000 cfs	BDCP SC	BDCP SC
4	Tunnel/dual	3	9,000 cfs	Scenario 6 w/ Fall X2	BDCP SC
5	Tunnel/dual	1	3,000 cfs	ND BDCP SC SD existing Bos	BDCP SC 25,000 ac Tidal Marsh
6A	Tunnel/isolated	5	15,000 cfs	BDCP SC w/ Fall X2 No SD intakes	BDCP SC
6B, 6C	East canal/isolated West canal/isolated	5	15,000 cfs No SD intakes	BDCP SC w/ Fall X2	BDCP SC
7	Tunnel/dual	3	9,000 cfs	BDCP SC, modified	BDCP SC, modified
8	Tunnel/dual	3	9,000 cfs	≤ 1.5 MAF IDO	BDCP SC
9	Through Delta	DCC and Georgiana Slough channel modification	15,000 cfs	BDCP SC	BDCP SC

# Environmental Review Process

The EIR/EIS evaluates the effects of the conservation plan on both the natural (biological) and the human environment. This will include addressing impacts to:

- **Water Supply**
- **Surface Water**
- **Groundwater**
- **Water Quality**
- **Geology and Seismicity**
- **Soils**
- **Fish and Aquatic Resources**
- **Terrestrial Biological Resources**
- **Land Use**
- **Agriculture**
- **Recreation**
- **Socioeconomics**
- **Visual Resources**
- **Cultural and Historic Resources**
- **Transportation**
- **Public Services and Utilities**
- **Energy**
- **Air Quality and Greenhouse Gas Emissions**
- **Noise**
- **Hazards and Hazardous Materials**
- **Public Health**
- **Mineral Resources**
- **Paleontological Resources**
- **Environmental Justice**
- **Climate Change**
- **Growth Inducement**

## Milestone

## Date

- Lead Agency meetings Weekly
- Batch A Chapters to Lead Agencies  
1-4, 13, 15, 19, 30 November 11, 2011
- Batch B-1 Chapters to Lead Agencies  
9, 10, 14, 17, 18, 22, 27, 29 December 7, 2011
- Batch A Chapters posted to BDCP Website December 8, 2011
- Batch B-1 Chapters posted BDCP Website December 8, 2011
- Batch B-2 Chapters Released to Lead Agencies  
and posted to BDCP Website  
20, 21, 23, 24, 26 December 14, 2011

Batch C Chapters Released to Lead Agencies and posted to BDCP Website February 27, 2012 (Chapters 5, 6, 7, 8, 11, 12, 16, 25, 28, 31, 32, 33, 34, 35, 36, 37)

## CEQA Agency Review Process for Administrative DEIR/S

February 27: Batch A and B transmitted for comment to Responsible and Trustee Agencies

May 9, 2012: Batch C transmitted for comment to Responsible and Trustee Agencies

## NEPA Agency Review Process for Administrative DEIR/S

February 27: Batch A and B transmitted for comment to Cooperating Agencies

May 9, 2012: Batch C transmitted for comment to Cooperating Agencies

## Batch A Chapters

- 1 - Introduction
- 2 - Project Objectives and P&N
- 3 - Alternatives Description
- 4 - Approach to Environmental Analysis
- 13 - Land Use
- 15 - Recreation
- 19 - Transportation
- 30 - Growth Inducement

## Batch B1 Chapters

- 9 - Geology & Seismicity
- 10 - Soils
- 14 - Agriculture Resources
- 17 - Visual Resources
- 18 - Cultural and Historic Resources
- 22 - Air Quality and GHG
- 27 - Paleontological Resources
- 29 - Climate Change

## Batch B2 Chapters

- 20 - Public Services & Utilities
- 21 - Energy Resources
- 23 - Noise
- 24 - Hazards and Hazardous  
Materials
- 26 - Mineral Resources

## Batch C Chapters

- 5 - Water Supply
- 6 - Surface Water
- 7 - Groundwater
- 8 - Water Quality
- 11 - Fish and Aquatic Resources
- 12 - Terrestrial Biological Resources
- 16 - Socioeconomics
- 25 - Public Health
- 28 - Environmental Justice
- 31 - CEQA Effects
- 32 - Other CEQA/NEPA Required Sections
- 33 - Public Involvement
- 34 - List of Preparers
- 35 - References
- 36 - Acronyms and Abbreviations
- 37 - Glossary

- Review of significant discussion items
- Action Items for further consideration
- Next Meeting
  - February 29, 2012
  - Pagoda Building