

BDCP

BAY DELTA CONSERVATION PLAN

# BDCP Update

## Delta Conservancy Board

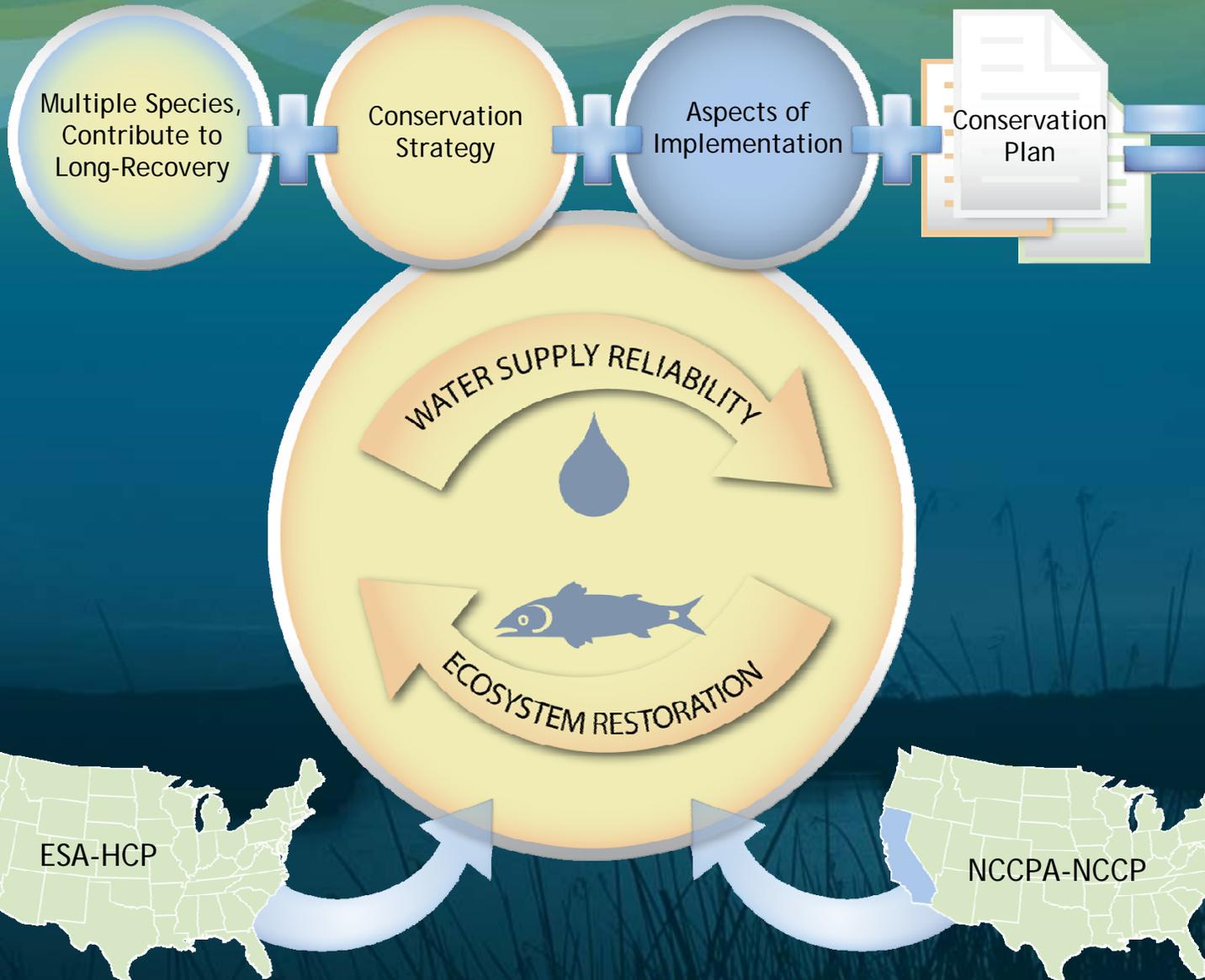
December 1, 2010

*Carl Wilcox, Department of Fish and Game*

- Overview of the BDCP
- Effects Analysis
- Adaptive Management and Governance
- Next Steps
- Environmental Review Process
- Questions

- Steering Committee Released Working Draft Plan on November 18
  - Available on the BDCP website ([www.baydeltaconservationplan.com](http://www.baydeltaconservationplan.com))
- Highlights of the BDCP – State Document
  - Status update and issues summary
  - Early December release

# WHAT IS BDCP?



# COVERED SPECIES

**DELTA  
SMELT**



**LONGFIN  
SMELT**



**CHINOOK  
SALMON**

winter, spring,  
fall and late fall



**GREEN AND  
WHITE  
STURGEON**



**CENTRAL  
VALLEY  
STEELHEAD**



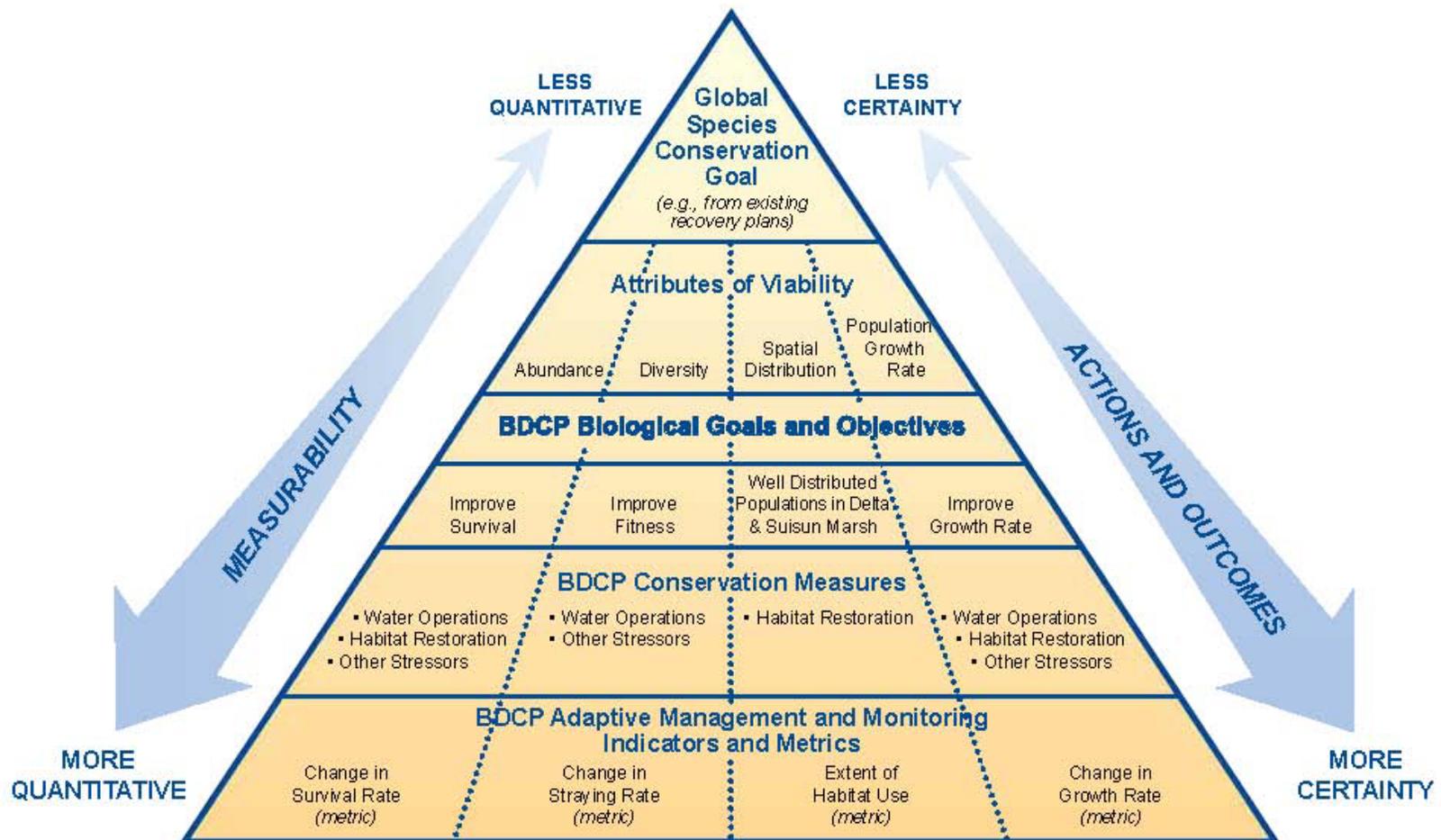
**SACRAMENTO  
SPLITTAIL**



**APPROXIMATELY  
50 TERRESTRIAL  
SPECIES**



# Biological Goals and Objectives



# DRAFT CONSERVATION STRATEGY - MAJOR ELEMENTS

## HABITAT RESTORATION

Up to 80,000 acres tidal marsh, riparian, and floodplain

Enhanced floodplain in the Yolo Bypass-temporary inundation

20-40 levee miles channel restoration

Up to 45,000 acres of terrestrial habitat in addition to the terrestrial benefits of tidal marsh & riparian restoration



## WATER FACILITIES & OPERATIONS

North Delta diversion

- Up to 5 intakes
- Up to 15,000 cfs design capacity
- Pipeline/tunnel subject of focused study in BDCP
- Establish minimum flows to ensure healthy habitat and water quality
- Minimize reverse flows
- Provide freshwater outflow
- Maintain water quality standards
- Manage operating rules for flows at Delta Cross Channel and Rio Vista

Near term water operations

## OTHER STRESSORS

Minimize methyl mercury

Control non-native aquatic plants

Reduce illegal harvest

Establish hatchery and genetic management plans

Support Delta and longfin smelt propagation programs

Reduce predators

Construct non-physical barriers to re-direct juvenile salmonids

Improve dissolved oxygen levels in the Stockton Deep Water Ship Channel

# DRAFT CONSERVATION STRATEGY - FLOWS

New North Delta diversion  
bypass flows

Outflow requirements and  
management of X2

South Delta Channel Flows

Inflow requirements

Rio Vista Flow Requirements

Delta Cross Channel gate  
operations

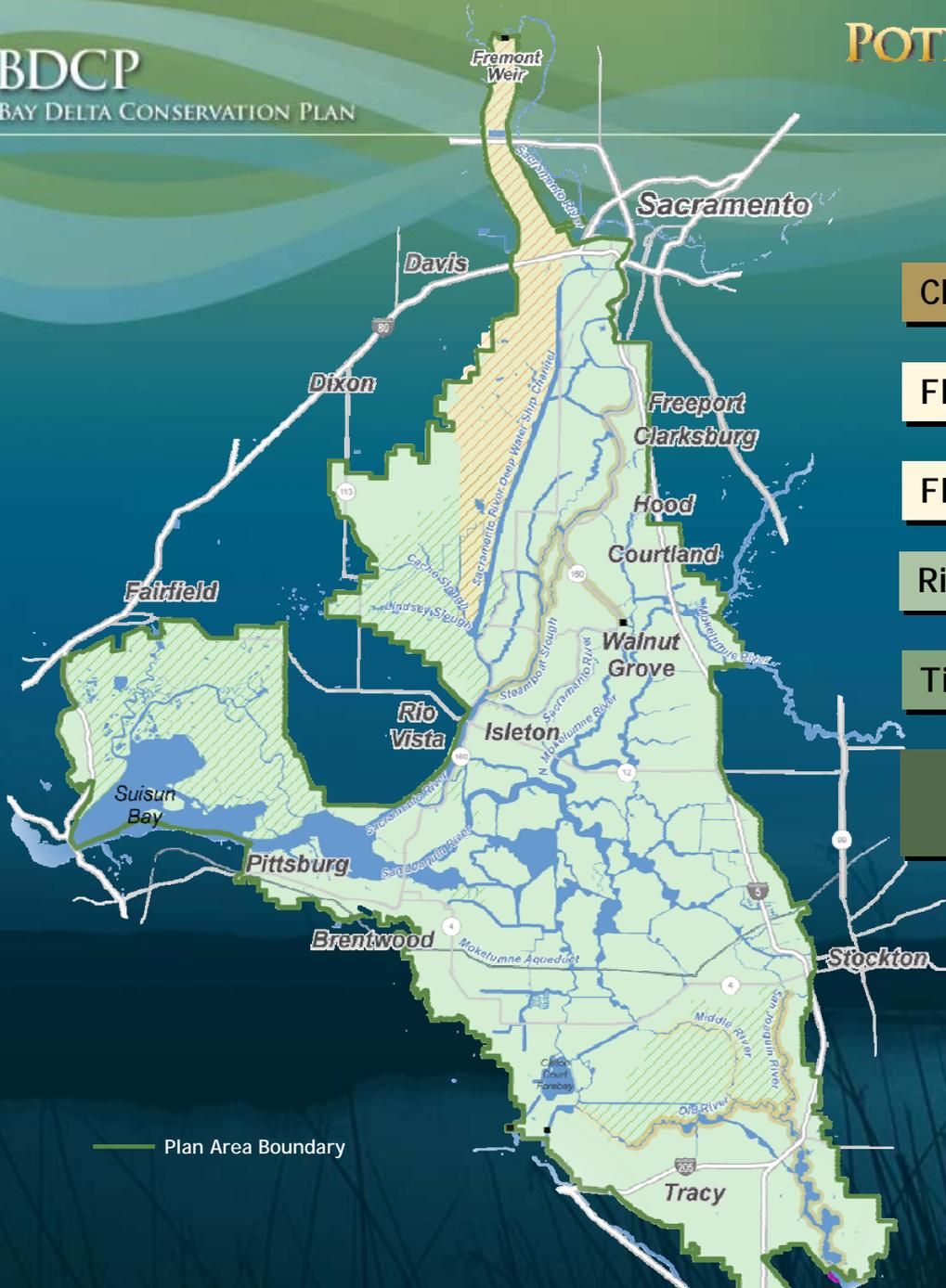
Ratio between San Joaquin River  
inflow and North Delta exports

Old and Middle River flows

Water quality standards set forth  
by the State Water Resources  
Control Board



# POTENTIAL HABITAT RESTORATION



Channel Margin – 20 to 40 levee miles

Floodplain (new) – up to 10,000 acres

Floodplain (enhanced existing)

Riparian – 5,000 acres

Tidal Marsh – up to 65,000 acres

Agriculture and Grassland Habitat Preservation - up to 45,000 acres

# TERRESTRIAL NATURAL COMMUNITIES & SPECIES

- Approximately 50 species for coverage
- 70,000 acres tidal marsh/riparian restoration for aquatic species also supports 28 terrestrial species
- Propose additional approx 45,000 acres.
- Total terrestrial restoration target approx 101,000 – 115,000 acres
- Natural Communities
  - Tidal & Aquatic Wetland (15) – 65,000 acres
  - Non-Tidal Aquatic and Wetland (4) – 400 acres
  - Riparian (13) – 5,000 acres
  - Agricultural Habitat Landscapes (10) – 16,000-33,000 acres
  - Grasslands and Associated Wetlands (eg Alkali Seasonal, Vernal Pool) (22) -16,000 acres

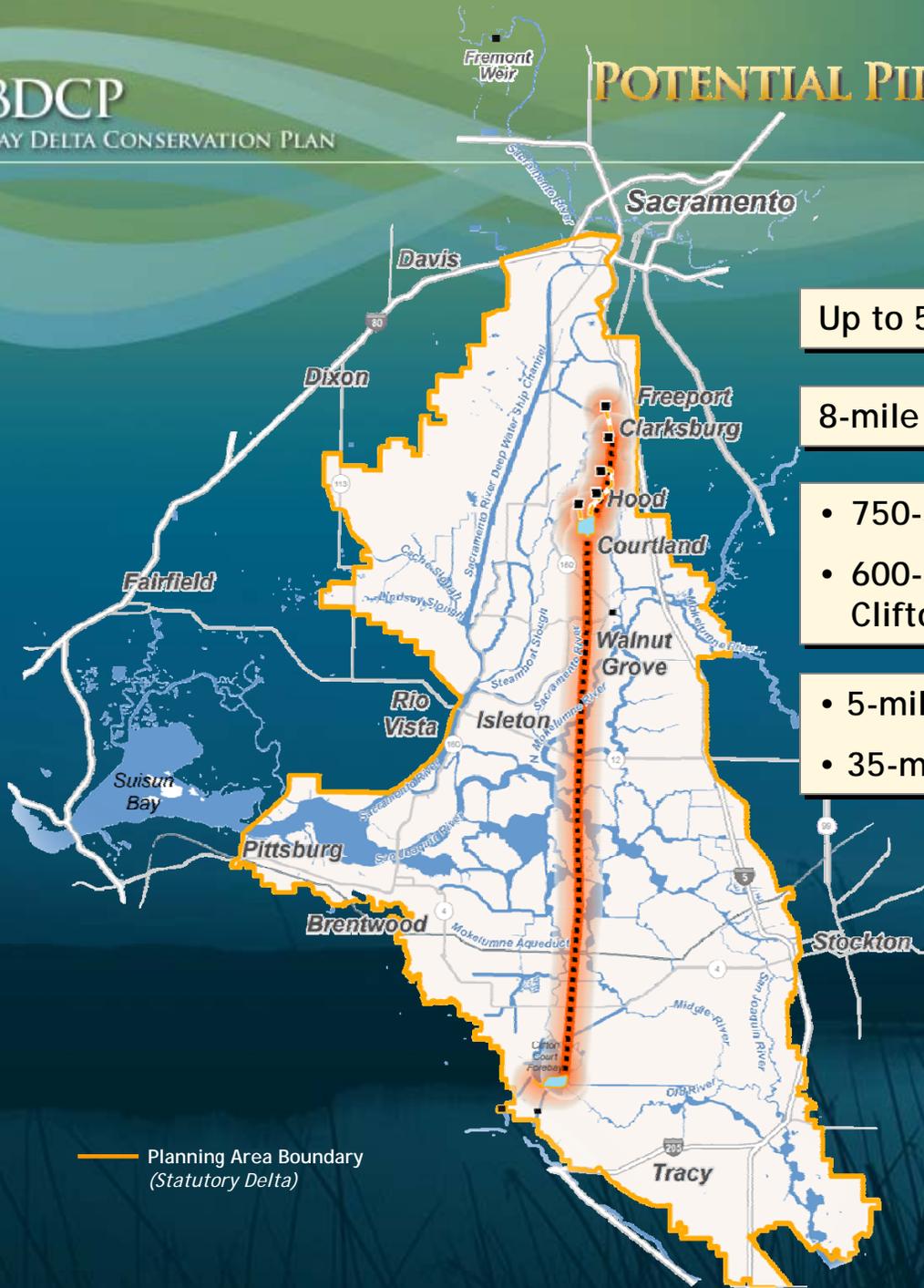
# Yolo Bypass Fishery Enhancement

Key Elements of the Measure include:

- Reduce Elevation of a Section of the Fremont Weir
- Westside Channels
- Yolo Bypass Modifications
- Operational Criteria and Adaptive Limits
- Deep Fish Passage Channel
- Fremont Weir Fish Ladder Replacement
- Experimental Sturgeon Ramps
- Stilling Basin Modification
- Sacramento Weir Improvements
- Tule Canal/Toe Drain and Lisbon Weir Improvements
- Lower Putah Creek Improvements

- Yolo Stakeholders Meeting
  - Held in October to receive input on development of the measure
  - As development of the measure continues, input will continue to be sought from the community

# POTENTIAL PIPELINE/TUNNEL CONVEYANCE



Up to 5 Intakes between Freeport and Courtland

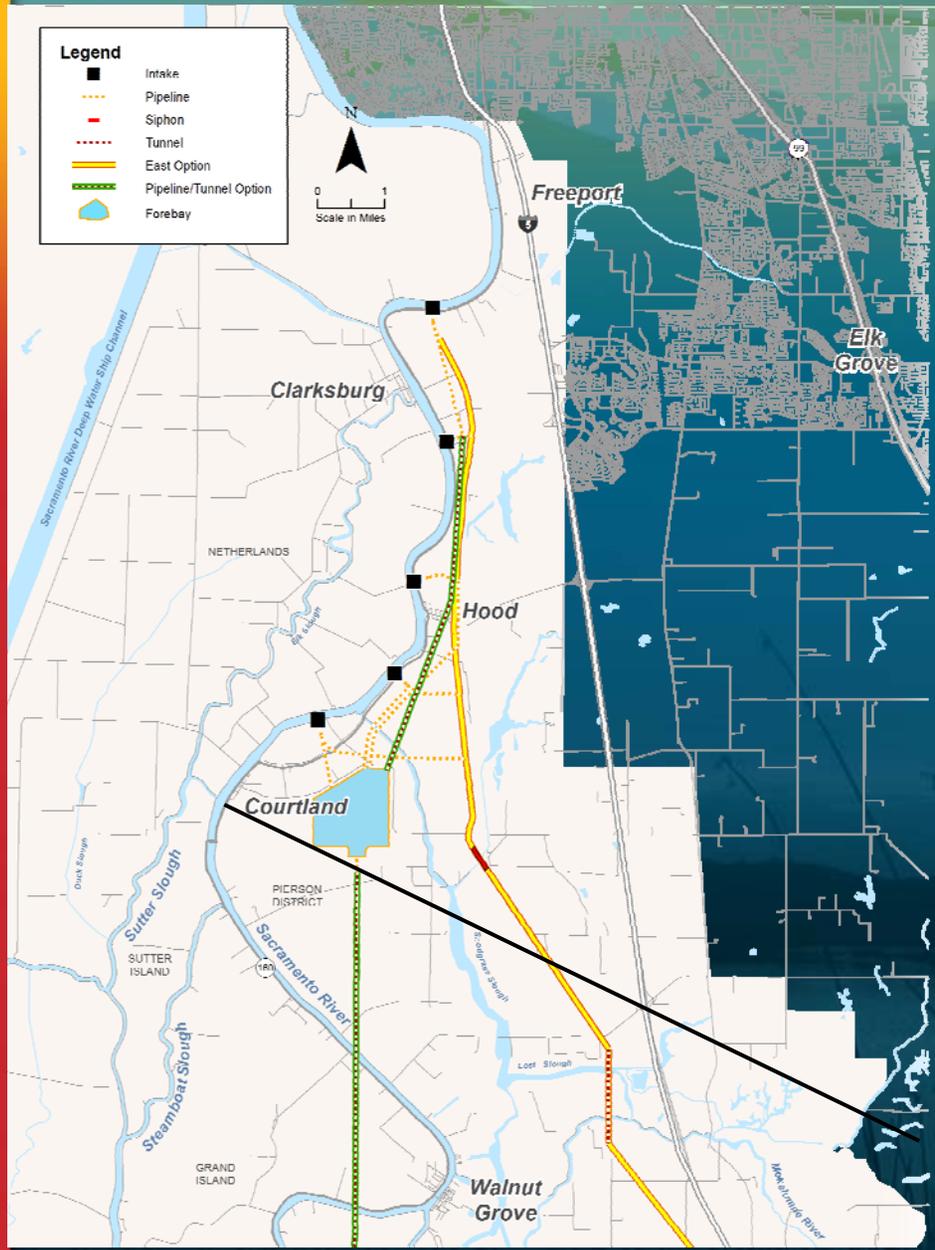
8-mile single bore 23'-33' ID Intake Tunnel

- 750-acre forebay near Courtland
- 600-acre forebay near the existing Clifton Court Forebay

- 5-mile single bore tunnel, 29' ID, ±150' deep
- 35-mile dual bore tunnel, 33' ID, ±150' deep

— Planning Area Boundary  
(Statutory Delta)

# BDCP INTAKES



## Site Selection Criteria:

- 5 on-bank intakes at 3,000 cfs capacity each
- Avoid high population density areas
- Upstream-most suitable locations for improved smelt avoidance
- Upstream-most suitable location preferred for reduced tidal influence for:
  - Improved screen sweeping velocities
  - Increased diversion operating periods
  - Improved water quality

*No intakes south of the confluence with Sutter Slough (June 2009)*

The BDCP also includes measures that seek to reduce the direct and indirect adverse effects of other stressors on the ecological functions of the Delta and covered species. Other Stressors Conservation Measures include:

- Methylmercury
- Non-Native Aquatic Vegetation Control
- Stockton Deep Water Ship Channel Dissolved Oxygen Levels
- Predator Control
- Non-Physical Fish Barriers
- Hatchery and Genetic Management Plans
- Illegal Harvest
- Conservation Hatcheries



# BDCP EFFECTS ANALYSIS

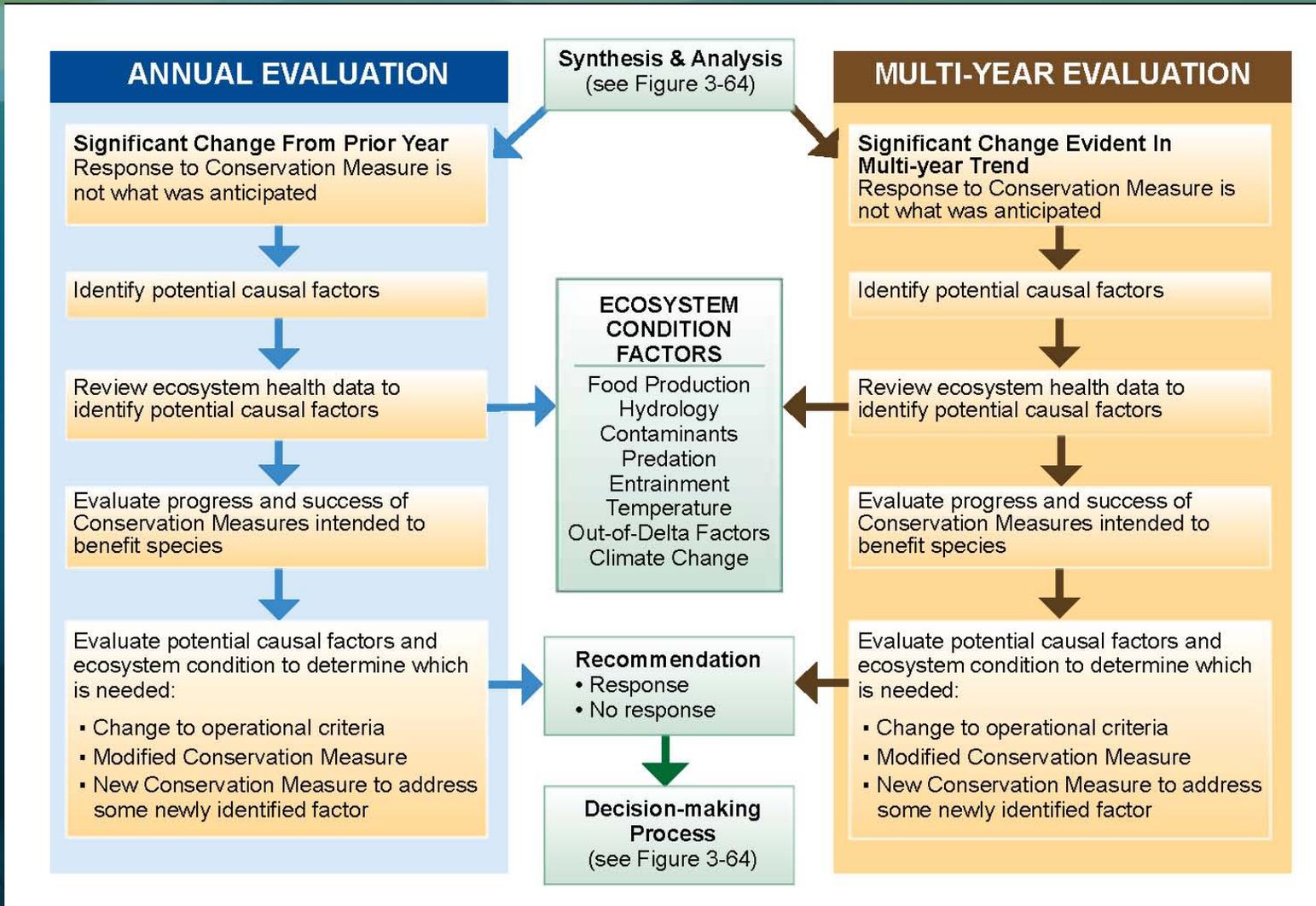
- The BDCP is conducting a full effects analysis that uses scientific modeling to predict the impacts of the conservation measures on biological resources.
- As analysis continues, several issues have been identified that may necessitate changes to the conservation strategy, including:
  - Spring-run salmon egg mortality on the Sacramento River in the fall
  - Reduced Sacramento River flows downstream of the North Delta intakes
  - Refinement of April-May south Delta operations
  - Winter-spring X2 and outflow effects on longfin smelt
  - Summer and fall X2 and Delta smelt abiotic habitat

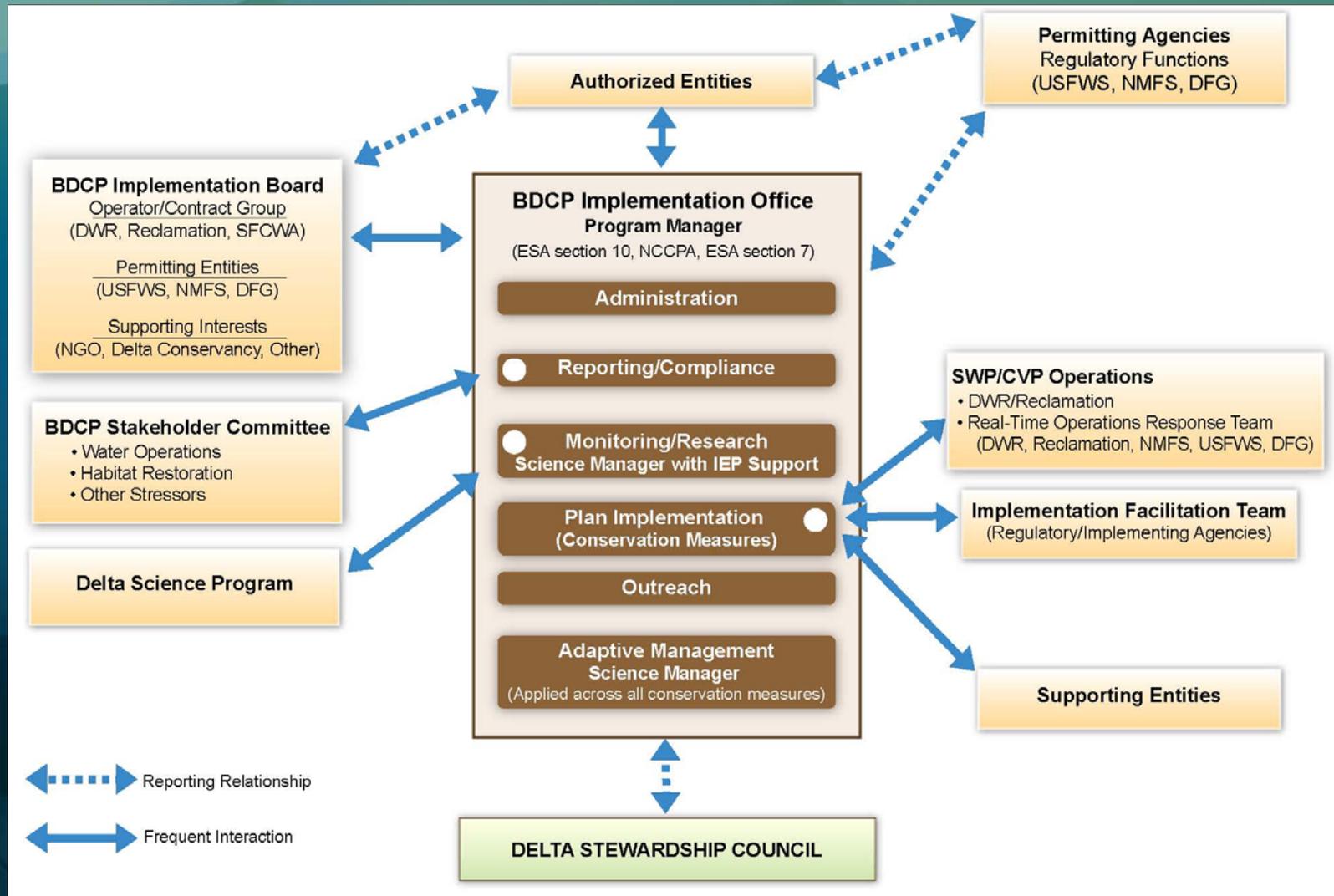
# Adaptive Management, Monitoring and Metrics

The Adaptive Management Program will provide a mechanism to make adjustments to conservation strategies based on new scientific information. The program will:

- Identify questions that need to be answered to improve our knowledge base and inform ongoing plan implementation
- Use improved knowledge to identify changes in or alternative approaches to plan implementation
- Adjust the monitoring and research program to evaluate new approaches and address emerging questions
- Incorporate feedback loops that link implementation monitoring and targeted research to a decision making process

# Adaptive Management, Monitoring and Metrics





- Additional work being completed on:
  - Chapter 5 - Effects Analysis
  - Chapter 3 - Refinement of Conservation Action
  - Chapter 8 - Refinements to cost estimates
  - Chapter 9 - Alternatives to Take
  - Chapter 6 - Regulatory Assurances
- Public Review Draft expected in fall 2011
  - Public Review and Comment

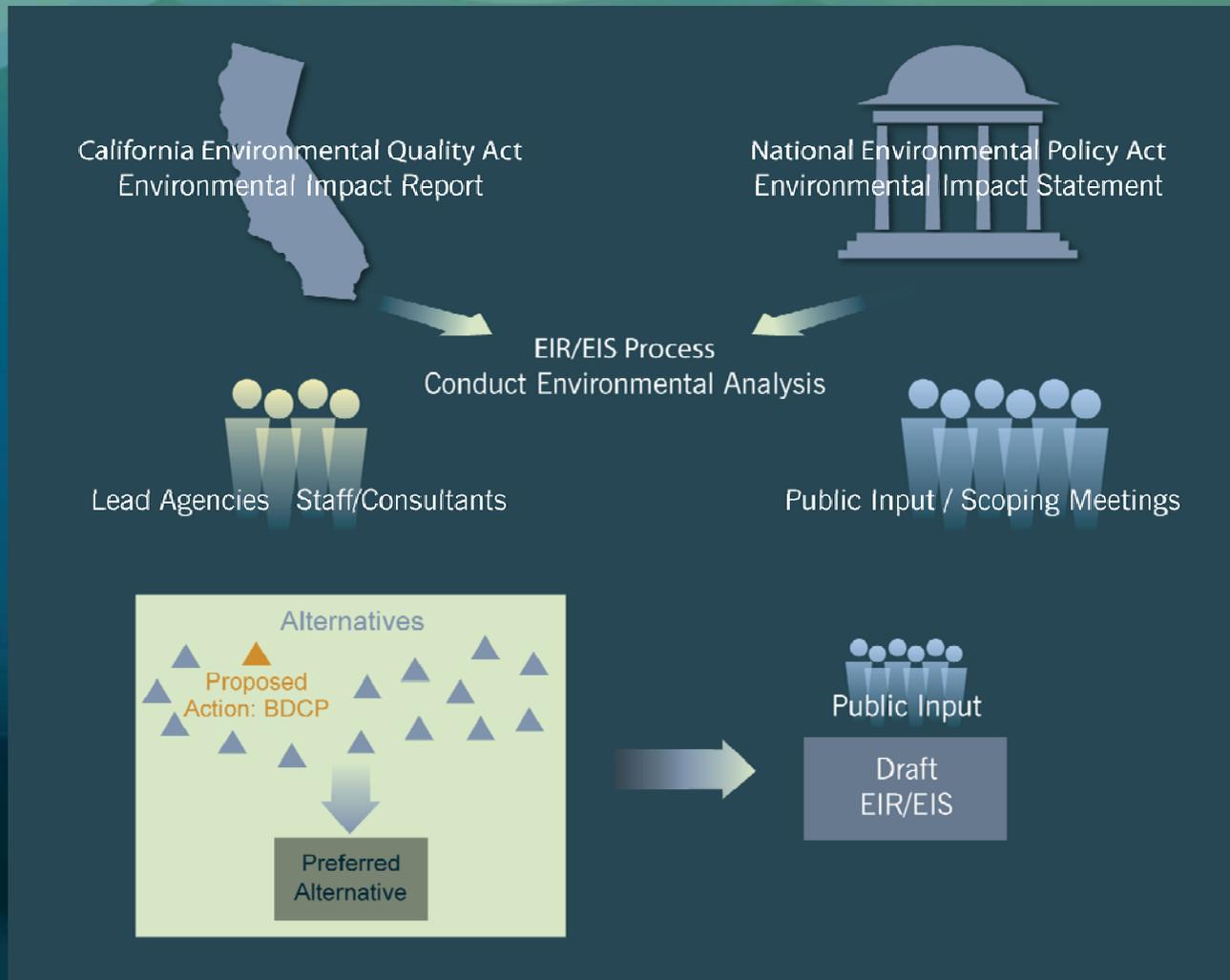
# ENVIRONMENTAL REVIEW PROCESS

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

- Cultural Resources
- Archaeological Resources
- Recreation
- Tourism
- Air Quality
- Water Quality
- Ground Water
- Climate Change
- Economics
- Hazardous materials
- Utilities
- Local Communities
- Environmental Justice
- And more...

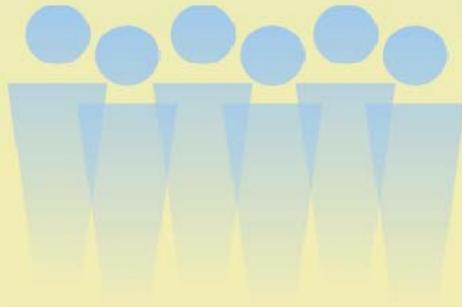
# ENVIRONMENTAL REVIEW PROCESS

## Proposed Action: Bay Delta Conservation Plan

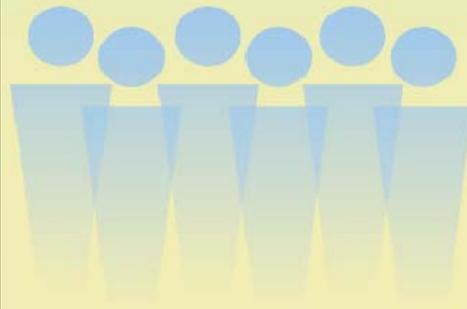


## How Can You Get Involved?

Attend a  
BDCP Steering  
Committee  
Meeting

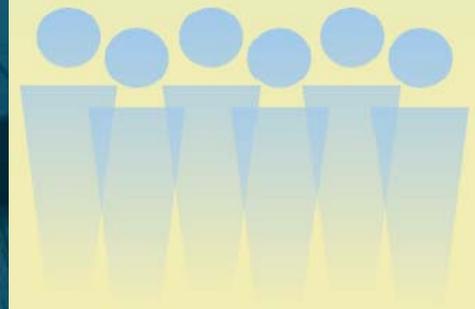


Comment on the  
Public Draft BDCP  
and/or the Public  
Draft EIR/EIS



Engage with the Delta  
Stewardship Council

[www.deltacouncil.ca.gov](http://www.deltacouncil.ca.gov)



BDCP

BAY DELTA CONSERVATION PLAN

*Questions?*

[www.baydeltaconservationplan.com](http://www.baydeltaconservationplan.com)