Appendix 32A
Public Involvement Informational Materials

32A.1 Public Involvement

32A.1.1 EIR/EIS Scoping Meetings and Comments

32A.1.1.1 2008 Scoping Meetings

32A.1.1.2 2009 Scoping Meetings

32A.1.1.3 Summary of Scoping Comments Received

32A.1.2 Public Outreach Activities

32A.1.2.1 BDCP Steering Committee and Working Groups

Working Group materials

- Biological goals and objectives.
- Yolo Bypass Fishery Enhancement Plan.
- Governance.
- South Delta Habitat.
- Financing.

32A.1.2.2 Stakeholder Briefings and Presentations

32A.1.2.3 Public Meetings

- June 2008 Delta town hall meetings
    - Materials
        - Question/answer sheet – June 23, 2008 Town Hall Meeting, Suisun City, CA
        - Question/answer sheet – June 24, 2008 Town Hall Meeting, Walnut Grove, CA
        - Question/answer sheet – June 25, 2008 Town Hall Meeting, Stockton, CA
- August and November 2008 landowner meetings regarding field studies needed to support the environmental review process.
    - Materials
        - Informational display boards – August and November 2008 town hall meetings
        - Overview brochure – Fall 2008

- 2009 webinar
  - Materials
    - Recording of BDCP Update webinar available at:

      http://baydeltaconservationplan.com/BDCPPlanningProcess/BackgroundDocuments/WebinarsAndPresentations.aspx
- 2009 public workshops to review Draft Conservation Strategy
  - Materials
    - Public Workshop Report provided to Steering Committee (October 2009)
    - Draft Conservation Strategy Brochure (September 2009)
    - Aquatic Habitat Restoration Map (September 2009)
    - Conveyance Fact Sheet (September 2009)
- 2011 public meetings
- 2012 public meetings

32A.1.2.4 Environmental Justice

32A.1.2.5 Additional and Ongoing Public Participation Opportunities

- July 2012 announcement by California Governor Jerry Brown, Secretary of the Interior Ken Salazar, and National Oceanic and Atmospheric Administration (NOAA) Assistant Administrator for Fisheries Eric Schwaab outlining changes to the proposed BDCP.
  - Materials
    - California's Water Framework Brochure (July 2012)
    - Questions and Answers (July 2012)

Fact sheets and brochures developed during the BDCP planning process and distributed to stakeholders at public meetings or project briefings.

- **BDCP Environmental Review**
  - Materials (available at: http://baydeltaconservationplan.com/EnvironmentalReviewProcess/BackgroundDocuments/BrochuresAndFactSheets.aspx)
    - Geotechnical FAQ (March 2012)
    - BDCP Alternatives Update Fact Sheet (March 2012)
    - BDCP Alternatives Update Fact Sheet (September 2011)
    - EIR/EIS Fact Sheet (June 2010)
    - FAQs – EIR/EIS (June 2010)
    - EIR/EIS Brochure (September 2009)

- **BDCP Planning Process**
  - Materials (available at: http://baydeltaconservationplan.com/BDCPPlanningProcess/BackgroundDocuments/BrochuresAndFactSheets.aspx)
    - 2011 Accomplishments (February 2012)
    - Highlights of the BDCP (December 2010)
    - Preliminary Evaluation of Conveyance Sizing (July 2010)
    - BDCP Status Update 3 (June 2010)
    - BDCP Map of Conveyance and Restoration Options (June 2010)
    - BDCP Overview and Update (March 2009)
    - Conveyance Fact Sheet (August 2008)
    - Habitat Restoration Fact Sheet (August 2008)
    - Other Stressors Fact Sheet (August 2008)

BDCP
Bay Delta Conservation Plan

July 2012

California's Water Future

There is a strong consensus that the Sacramento-San Joaquin Delta (Delta) is in jeopardy as both an ecosystem and linchpin of the major water projects serving much of California. The Delta Vision Blue Ribbon Task Force, charged in 2006 with crafting a sustainability plan for the Delta, stated five years ago, "[t]he time for action is now. The Delta is in crisis, and each day brings us closer to a major disaster."

The federal and state governments share responsibility to lead efforts to sustain this invaluable resource. In the last several decades, that has proved no simple task. A growing number of native species have declined to levels triggering legal protection, and efforts to help fish have compromised the delivery of water to farms and cities. Fights over how to divide Delta flows have spawned years of litigation. Meanwhile, the situation deteriorates. Fish populations have not rebounded, while the probability increases that an earthquake will lead to levee failure and catastrophic water supply disruption.

Six years ago, federal and state officials and other interested parties made a significant departure from a single-species approach to the Delta's troubles. They embraced a comprehensive effort to create a durable regulatory framework that would lead to fundamental and systematic changes in the Delta. They set forth co-equal goals as simple as the estuary is complex: improve both ecosystem health and water supply reliability. They called the effort the Bay Delta Conservation Plan (BDCP).

What follows is a summary of major changes to the BDCP since February 2012. Recent critical decisions that push this historic effort forward reflect hard work, collaboration, and compromise and are detailed in the joint recommendations document of July 16, 2012.

But stabilizing the Delta will involve efforts beyond the BDCP. Making smart use of water statewide will boost the likelihood that we achieve the co-equal goals of water supply reliability and a healthy Delta ecosystem. Besides progress on BDCP, the federal and state governments are outlining here an integrated approach to California's water future that includes increases in water use efficiency, water supply or storage, and improved operational efficiency – such as transfers and exchanges. These measures, while outside the BDCP, support progress toward the co-equal goals. ■

BDCP Overview

Since the February 2012 release of a preliminary BDCP proposal, months of intense collaboration have brought California closer than ever to agreement on how to stabilize Delta fisheries and water supply. The BDCP has been refined and shaped for long-term success. Now more than ever, the BDCP relies on science to meet statutory goals, strikes a fair balance among competing interests, and creates a strong structure to deal wisely with future risk and uncertainty.

Revisions continue to reflect the conviction that all Californians would benefit from healthy Delta fish and wildlife populations, and all Californians would benefit from greater reliability in the delivery of drinking and irrigation water.

Plans for a Sacramento River intake have been refined. The footprint of the facility necessary to divert water in the north Delta has shrunk, largely in response to the potential impact to Delta communities. The number of river intakes has dropped from five to three, and the capacity has been reduced from 15,000 cubic feet per second (cfs) to 9,000 cfs. The best fish-protection technology available will be used to screen the intakes. This new proposal is a 40 percent reduction from the previous proposal, and 60 percent smaller than the Peripheral Canal considered in the 1980s.

This new facility will provide more natural flow patterns in the south Delta, benefiting many species of native fish, while also safeguarding water deliveries from sea-level rise, earthquakes, and Delta levee collapse.

Before construction of a Sacramento River intake, restoration of Delta habitat critical to fish will have already begun. Federal and state BDCP participants recently committed to an unprecedented, accelerated habitat initiative that will eventually recreate thousands of acres of tidal wetlands.

critical decisions that move the BDCP forward include more robust requirements that incorporate transparency, research, monitoring, and tangible ecosystem restoration goals. These new plan elements will enable us to cope collaboratively with the uncertainty inevitable in such a comprehensive and long-lasting effort. The effects of each BDCP action – be it the operation of fish screens, creation of tidal habitat, or anything else – will be studied, monitored, weighed, and adjusted to achieve improvements in the health of native fish populations, while considering the co-equal goal of water supply reliability. The stable yet responsive regulatory framework proposed by the BDCP has been designed to accommodate new information and greater scientific understanding over time as we implement a comprehensive conservation strategy.

The water supplies of cities and farms dependent upon exports of Delta water will go hand in hand with progress toward measurable biological goals. Water project operation rules will be identified at the time a permit is issued based on the best available information. BDCP will also include a commitment to a structured, applied science effort to gain new insight about the ability of alternative water project operating rules, in combination with restored habitat and other conservation measures, to meet the biological goals. Outflow and exports may go up or down as we learn more from science.

The Delta demands a bold, balanced solution, and the BDCP is the most promising path to achieve it.

The BDCP will not guarantee a specific water supply to any water project user, but it will frame a likely range of supplies that public agencies can expect for their investment. It will also greatly reduce the risk of a catastrophic interruption of deliveries.

Although much work remains to be done, including the preparation of a complete draft plan and the completion of environmental review, recent critical decisions mark an important milestone in an historic process launched six years ago.

Details are tentative and subject to change based on environmental analysis and further public input, but recent decisions about the elements and policies of BDCP nevertheless represent a huge step forward in trying to solve problems of tremendous complexity.

In this process, no one group will get everything they want. Everyone will have to compromise for the greater good of all. The Delta demands a bold, balanced solution, and the BDCP is the most promising path to achieve it. ■

Suisun Marsh

Photo: DWR

BDCP Key Elements

The BDCP is a 50-year, ecosystem-based plan designed to restore fish and wildlife species in the Delta in a way that also provides for the protection of reliable water supplies while minimizing impacts to Delta communities and farms. The BDCP is being developed in compliance with the federal Endangered Species Act (ESA), the California Endangered Species Act, and the California Natural Community Conservation Planning Act (NCCPA). It includes:

- Biological goals and objectives for 57 species, 11 of them fish
- Up to 113,000 acres of restored and protected aquatic and terrestrial habitat
- Measures to address other ecological stressors
- A new governance structure to collaboratively implement the BDCP
- New water conveyance facilities to improve flow patterns for Delta fisheries while improving water supply reliability
- A clear process for addressing issues and conflicts as they arise
- Financing mechanisms and funding responsibilities

Biological Goals and Objectives

To ensure accountability and balance, the fish and wildlife agencies that would permit elements of the BDCP are providing technical assistance in developing and fine-tuning more than 200 biological goals and objectives that will be used to guide the project in a way that leads to a healthier ecosystem.

The targets will include specific metrics for desired outcomes, such as larger fish populations, healthier individual fish, and bigger habitat areas. The permitting agencies will use these goals and objectives in evaluating the proposed project to ensure that BDCP is designed to meet the targets. If, after implementation, the project falls short of the goals and objectives, BDCP conservation measures will be adjusted through the project's adaptive management program. In some cases, the objectives themselves might be adjusted if it is determined a change is warranted based on new information.

The BDCP now includes 214 biological goals and objectives for 57 fish and terrestrial species, their habitats, and the Delta ecosystem.

Based on June 2011 input from a panel of independent science advisors, biological goals and objectives for 11 covered fish species are being finalized for use in the analysis of the effects of the revised proposed project.

Species-Specific Biological Goals and Objectives

A comprehensive set of biological goals and objectives also have been created for the following fish species:

- White Sturgeon
- Green Sturgeon
- Winter-run Chinook Salmon
- Spring-run Chinook Salmon
- Fall- and late fall-run Chinook Salmon
- Delta Smelt
- Longfin Smelt
- Sacramento Splittail
- Steelhead
- Pacific Lamprey
- River Lamprey

Photo: DWR

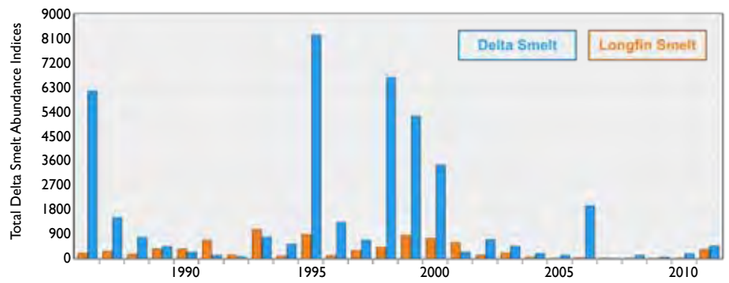
Habitat Restoration

A century of human development has destroyed much of the intertidal habitats within the Delta where fish might rest, grow, feed, and avoid predators. The BDCP would reverse this trend with an accelerated habitat restoration program. The goals include creation of 30,000 acres of aquatic habitat over the next 15 years. In all, over its 50-year term, the BDCP calls for up to 113,000 acres of habitat restoration, including 65,000 acres of tidal marsh and 5,000 acres of riparian forest and scrub. Reconnecting floodplains, developing new marshes and returning riverbanks to a more natural state should boost food supplies and cover for fish throughout the Delta.

The BDCP would accelerate habitat restoration efforts over the next 15 years by creating 30,000 acres of aquatic habitat.

This effort to increase the quality, availability, spatial diversity, and complexity of Delta habitat will be closely monitored for desired – and possibly unexpected – outcomes. It will be implemented over time using established adaptive management principles.

Smelt Abundance



The smelt is an indicator species for the Delta, a gauge by which to measure the ecological health of the region. Once one of the most plentiful fish species in the Delta, smelt populations have greatly declined over the last decade. The BDCP seeks to restore sensitive fish populations by implementing aggressive habitat restoration projects, establishing new Delta water operating criteria, and constructing new north Delta water diversion facilities.

Adaptive Management

The biological goals and objectives of the BDCP will be advanced through an Adaptive Management Program that will provide mechanisms to make adjustments to BDCP conservation measures based on new scientific information and insight gained from monitoring and targeted research.

Establishing Operating Criteria for New Conveyance Facilities

There is considerable uncertainty over the degree to which a number of environmental stressors are contributing to the Delta's decline. There is also uncertainty about how the ecosystem might respond to actions intended to counter those stressors.

The BDCP is meant to improve the estuary's health, and with those improvements comes the anticipation of more flexible water operations and improved water supply reliability. But how can one determine how much water might be available if one cannot predict how the ecosystem will respond to BDCP actions intended to improve it? The answer: a scientifically-driven process to test the ecological response to various conservation measures.

Based on a consensus that more applied science can shed light on the importance of various stressors and the effectiveness of measures to counter them, this so-called "decision tree" process will be designed to provide information to help answer several key outstanding scientific questions. These questions relate to achieving biological goals and objectives that affect how much water may be delivered from the Delta.

Depending on the results of the decision tree process, operational criteria may be adjusted, and the amount of water available for export and needed for outflows could go up or down.

Specific operational criteria subject to the decision tree process will be included in the draft BDCP.

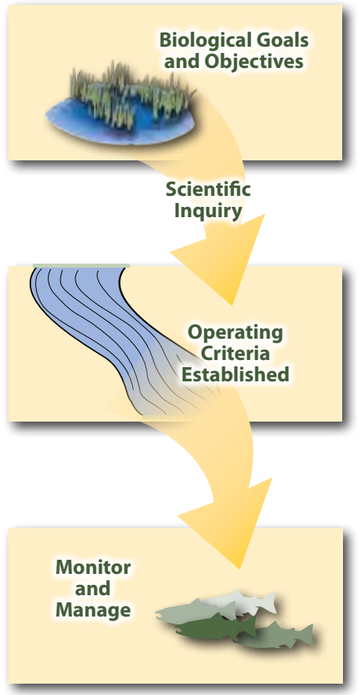
The approach will give regulators the ability to issue a permit based on the best science available when a project is permitted, while also committing to reevaluate and modify the operating criteria as new insight is gained through applied science. Specific operational criteria subject to the decision tree process will be included in the draft BDCP. Regulatory agencies will retain the authority to determine what operations criteria are necessary, along with all the other conservation measures, to meet the biological goals and objectives. Depending on the results of the decision tree process, parameters may be adjusted, and the amount of water available for export or needed for outflows could go up or down.

Some of the questions that could be examined in this way involve the effectiveness of early wetland restoration projects to increase the populations of small fish and increasing flows to drive salinity further out of the Delta during the fall of wet years.

The decision tree process will focus studies to refine the initial operating criteria and would be in effect until a new conveyance facility is built and ready for operations, perhaps 10 or 15 years from now.

Flexibility does not end at that point, however. Once the conveyance facility is operational, the adaptive management program that has always been part of the plan will continue.

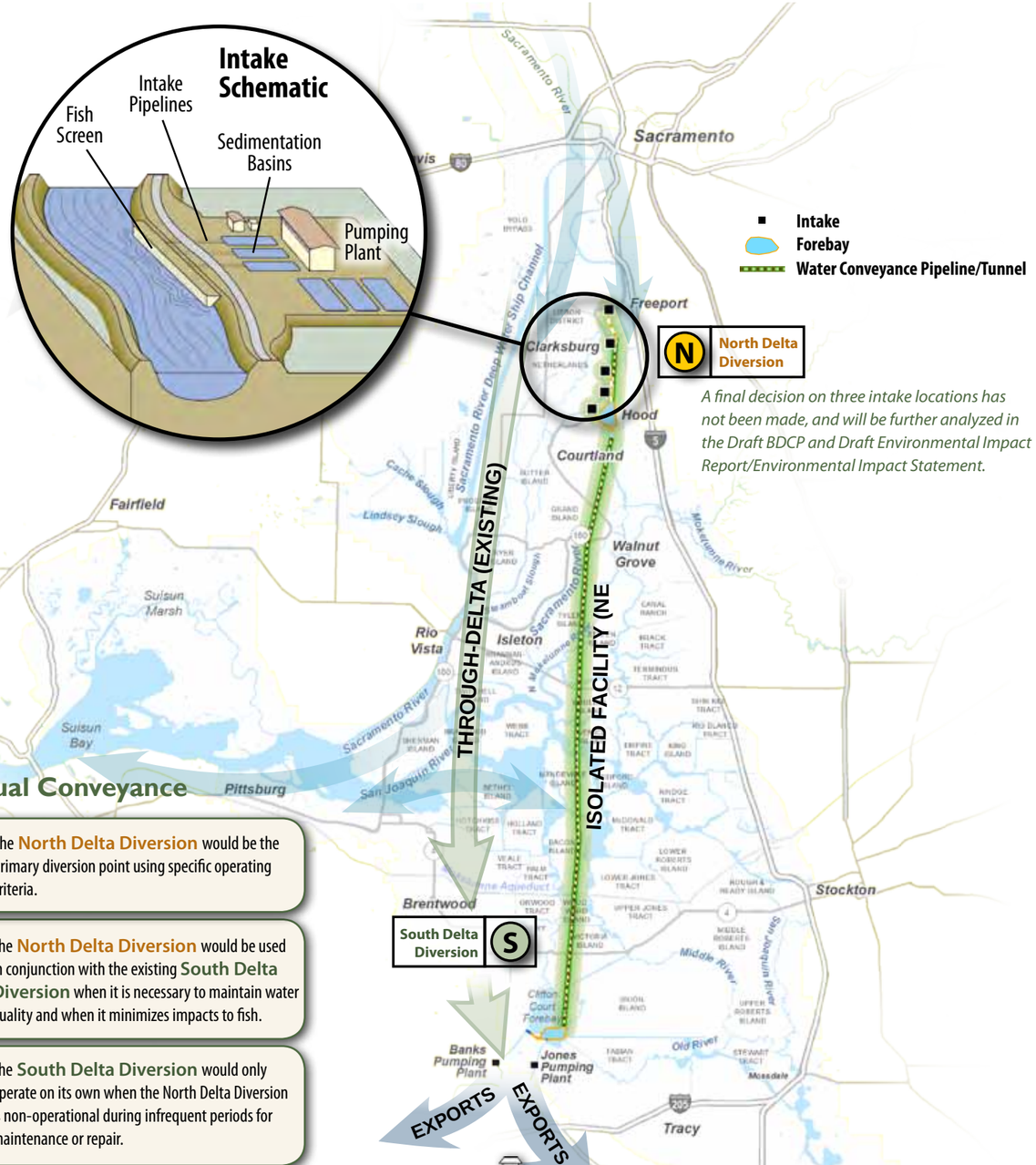
Decision Tree Approach



The decision tree will test the biological goals and objective outcomes for individual species to determine the most efficient actions to achieve the dual goals.

- Guided by ***biological goals and objectives*** for fish species
- First 15 years of plan, prior to facility operation
- Test ***scientific hypothesis*** about effectiveness of flows and habitat restoration on recovering species
- Supported by ***open, collaborative, community science process***

The BDCP approach reflects a significant departure from the species-by-species approach taken in the Delta to date. Instead, the BDCP seeks to improve the health of the ecosystem as a whole, and its reach extends beyond the elements described here. The BDCP will involve myriad actions by multiple agencies, from the restoration of thousands of acres of habitat, to control of non-native aquatic weeds, to improvement of water quality. A major part of implementation will involve gauging effectiveness through monitoring, and adjusting actions based on results.



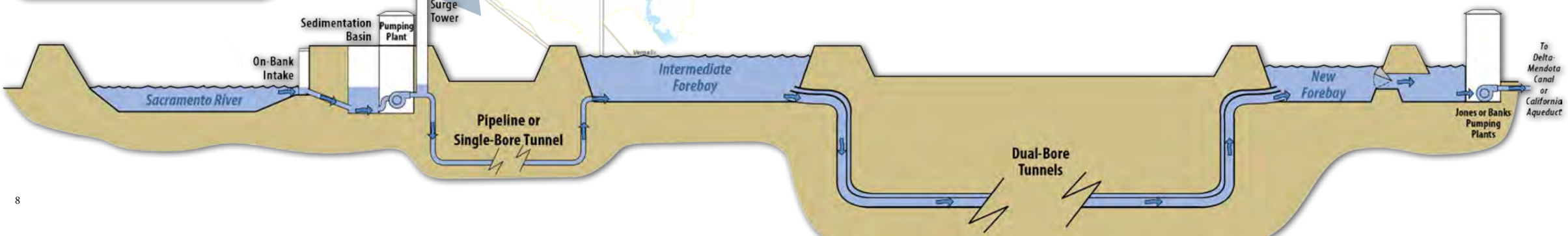
A final decision on three intake locations has not been made, and will be further analyzed in the Draft BDCP and Draft Environmental Impact Report/Environmental Impact Statement.

Dual Conveyance

(N) The **North Delta Diversion** would be the primary diversion point using specific operating criteria.

(N) (S) The **North Delta Diversion** would be used in conjunction with the existing **South Delta Diversion** when it is necessary to maintain water quality and when it minimizes impacts to fish.

(S) The **South Delta Diversion** would only operate on its own when the North Delta Diversion is non-operational during infrequent periods for maintenance or repair.



New Conveyance Facilities

The BDCP is intended to result in a permit to construct, test, and operate a new water diversion facility on the Sacramento River in the north Delta. The facility would feature:

- **Three pumping plants**, together capable of diverting up to 9,000 cfs.
- **State-of-the-art fish screens** that would protect passing fish.
- **A forebay** for temporarily storing the water pumped from the river.
- **Two tunnels** to carry the water 35 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.

The new twin tunnels would be designed to operate by gravity, which eliminates the need for an intermediate pumping plant. Harnessing gravity to move the water south has many advantages: it reduces energy consumption and greenhouse gas emissions, requires the installation of fewer transmission lines, reduces the visual impacts of the project in the Delta, and cuts long-term operation and maintenance costs.

The proposed Sacramento River intakes would be screened with state-of-the-art technology that uses low-velocity approaches and engineered mesh – features that minimize both direct and indirect effects on fish. The plan provisions governing the diversions would specify fish screen performance standards, including a high survival rate of young fish. The river location of the fish screens and their modern design promise significant improvement over the existing screens at the south Delta water project pumps, which currently rely on 44-year old technology.

No final decisions on the proposed conveyance facility can be made prior to the completion of regulatory and environmental review and public input. The elements described here have been identified for the purpose of further analysis pursuant to the California Environmental Quality Act, the National Environmental Policy Act, the ESA, the NCCPA, and other applicable statutes.

The Sacramento River intakes proposed by BDCP would be screened with state-of-the-art technology that uses low-velocity approaches and engineered mesh. The permit governing the diversions would require performance standards that reflect best management practices for large fish screens. Such standards include the survival rate of young fish that take into account both direct and indirect effects of the diversions.

Governance

With so much at stake, the BDCP must be implemented to ensure that:

- Sufficient institutional expertise, capacity, and resources are brought to bear;
- Regulated entities are accountable to regulators; and
- Decision-making processes are transparent and understandable to the public.

The revised BDCP would set up four entities to run the program:

- The Permit Oversight Group would consist of one high-ranking official at each of three regulating agencies – the Director of the California Department of Fish and Game, and the Regional Directors of the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Members of this group would have authority to periodically determine if the water operations are in compliance with the permit and, if not, to require changes, subject to an alternative dispute process.
- The Authorized Entity Group would consist of the Director of the Department of Water Resources, the Regional Director of the U.S. Bureau of Reclamation, and a representative of water agencies using water from the project. This group will have authority over program management and implementation of the plan.
- The Adaptive Management Team would consist of representatives of the agencies represented on the Permit Oversight Group and the Authorized Entity Group, along with the Interagency Ecological Program, the Delta Science Panel and up to two scientific experts affiliated with external stakeholder groups, such as environmental organizations or academia. This group will develop, manage, and oversee the monitoring and research program, the science review process, and the adaptive management program.
- The Stakeholder Council would have approximately 40 members to provide input in many program areas. Members would include representatives of state and federal water and wildlife agencies, water contractors, other state and federal agencies, state Delta-related entities, Delta counties, environmental groups, fish and hunting organizations, reclamation districts, independent scientists, and others.

Photo: DWR

Tyler and Staten Islands

Science Process

Science will play a key role in all phases of BDCP, providing information about the benefits of habitat restoration and increased flows for sensitive fish species, among other issues.

The science program will be open, transparent, and collaborative. It will provide decision makers and the public the best science possible on the Delta, and should increase confidence in the results significantly.

The information generated by the BDCP science program will be put to practical use, guiding decisions through the BDCP's extensive adaptive management program.

Areas of uncertainty or disagreement will be identified, such as the ecological role of freshwater flows during certain seasons. Through the BDCP process, it will be determined whether the area of uncertainty can be tested with timely, valid scientific research that is also logistically and economically feasible. Over time, such research should provide data that better informs future management and regulatory decisions.

Finance

The state and federal governments are committed to the "user pay" principle. The state and federal water contractors have agreed that the costs of the new water conveyance facility and associated mitigation of that facility would be paid through charges to the water users who benefit from its development and operation. Discussions are ongoing to work through the issues associated with financing any new infrastructure.

Financing for the habitat and other conservation measures in the BDCP would be provided in part by the contractors, but mostly would be paid by the state over a 40-year period. The federal government would likely make additional investments through existing programs. One source of funds could be the water bond that is currently scheduled for the November 2014 statewide ballot.

The state and federal governments are committed to the "user pay" principle.

Other bonds, or state and federal funding sources, are expected to provide the funds needed to implement the conservation measures other than the conveyance facility. Historically, federal appropriations have paid for some Delta ecosystem improvements, and these programs are expected to continue. Not all finance-related issues have been resolved, but they are presently being addressed. ■

Other Efforts to Help Meet the Delta Co-Equal Goals

Many actions that will help solve California's water problems – both in and beyond the Delta – are outside the scope and reach of the BDCP.

Described below are actions on several broad fronts that are not part of the BDCP, but could work to support its dual goals. These actions are opportunities, not mandates. They are intended to be implemented in the manner they have been historically applied – through voluntary agreements with a sharing of costs that recognizes the benefits to both the public at large and the entities involved.

Environmental review outside of the BDCP, with public input, will be necessary before binding commitments can be made to any of these elements.

The federal and state governments may implement the actions described below as part of their broader responsibilities for California water planning – separate but complementary to the BDCP.

All of these actions involve a strong federal and state commitment to using the integrated water management approach. Such an approach connects all water programs, including supply, flood control, and ecosystem protection. A more holistic approach can maximize value, promote a system's ability to cope with change, and multiply benefits such as water supply reliability, flood risk reduction, and environmental enhancement. It also helps to integrate regional water projects and build partnerships that align water planning, policies, and regulations across all levels of government and interest groups.

Key integrated water management elements that help support achievement of the co-equal goals of the BDCP include:

- Increases in water use efficiency
- Increases in water supply
- Improved operational efficiency and transfers/exchanges

Photo: DWR

Increases in Water Use Efficiency

State and federal governments will continue to invest in measures that have the potential to help increase water use efficiency or stretch existing supplies. Actions may range from public awareness campaigns to technological improvements. They include:

- **Water conservation:** The California Department of Water Resources and the U.S. Bureau of Reclamation (Reclamation) will provide technical and financial assistance to districts with the potential to save water through use of regulating reservoirs, canal lining, system automation, and modernization projects.
- **Agricultural water use efficiency:** State and federal agencies will partner with growers and irrigation districts to encourage use of drip and micro irrigation systems, irrigation scheduling, crop shifting, deficit irrigation, and other efficient water management practices. They will also provide assistance to enable implementation of the Water Conservation Act of 2009, which requires certain agricultural water suppliers to measure water delivered and charge customers based, at least in part, on volume delivered.
- **Urban water use efficiency activities:** State and federal agencies will help urban water suppliers to reduce per capita water use by 20 percent by the year 2020. Potential measures include public awareness campaigns and technological improvements that decrease water use by homeowners, businesses, manufacturers, and institutions.

Senate Bill x7-7: Water Conservation Act of 2009

Enacted in November 2009, SB x7-7 requires all water suppliers to increase water use efficiency. This legislation requires, among other things, the Department of Water Resources, in consultation with other state agencies, to develop a single standardized water use reporting form, which would be used by both urban and agricultural water agencies. For more information, visit: www.water.ca.gov/wateruseefficiency/sb7/.

Increases in Water Supply

There are many ways improve management of existing water supplies and find or create additional sources:

- **Conjunctive management and groundwater storage:** Considerable interest and opportunity for additional groundwater storage exists south of the Delta. In general, the California Legislature has held that groundwater management is a local responsibility. The state will continue to provide technical and financial assistance to local agencies.
- **Desalination:** Several integrated regional water management plans consider desalination an integral component of a water resources portfolio. Opportunities for funding desalination projects will continue through state grants.
- **Recycled municipal water:** With an increase in state or federal funding, the opportunity exists to expand water recycling south of the Delta in both the State Water Project and Central Valley Project service areas. Although recycling is expensive, it is becoming more competitive and attracts strong support.
- **Surface storage:** Storage is an important part of any water solution for California. Opportunities exist to modify existing surface storage structures (such as dam spillways or gates) in ways that increase storage capacity. Changes in operations may also enhance water storage. In cooperation with local partners, state and federal agencies continue to study enlargement of Shasta Dam, creation of north-of-Delta offstream storage, expansion of Los Vaqueros Reservoir, and new or expanded storage in the upper San Joaquin River basin. DWR and Reclamation will continue to provide guidance, technical expertise, and planning assistance to local agencies, as requested.

Improve Operational Efficiency and Transfers/Exchanges

Improving California's ability to shift water from place to place can stretch supplies. Considerable opportunity exists for voluntary water transfers and exchanges throughout the Central Valley including state, federal, and local interests. The types of water management actions that would meet the goals of this element include:

- **Conveyance:** DWR and Reclamation will continue to assess federal and state water conveyance systems and support assessment of regional and local systems, as needed. Lack of east/west conveyance limits the ability to make the most effective use of water south of the Delta. There are many proposed projects to allow water to move between the east and west that have local support but lack funding. Such projects also can benefit from state and federal support in the permitting process.
- **System Reoperation:** Reclamation and DWR will continue to evaluate coordination of State Water Project and Central Valley Project operations and identify specific measures with quantifiable efficiencies.
- **Transfers/Exchanges:** Historically private transactions, voluntary water transfers and exchanges pose a considerable opportunity to improve water supply reliability. Examples include the 25-year Exchange Contractor Transfer Program and the North/South Transfer Program currently under federal and state environmental review. State and federal agencies can facilitate voluntary transfers, finding ways to limit procedural and administrative barriers while protecting water rights and the environment.

Photo: DWR

Photo: DWR

State Water Project - Banks Pumping Plant

Achieving Co-Equal Goals

Overall, improved water management throughout the state offers an opportunity to bolster both water supply reliability and ecosystem protection in the Delta, which is the center of California's water supply network and a valuable natural resource unto itself. Although outside the BDCP, such efforts are important to support achieving the co-equal goals. ■

Ongoing Threats to the Delta

The status quo of the Delta – both the ecosystem and the water system depending on it – is not sustainable. Over the last 150 years, people have extensively modified the Delta estuary. Vast tidal wetlands have been carved into levee-ringed islands separated by waterways. Subsidence of the Delta's unusual peat soils has put some land within the levees more than 15 feet below sea level. Loss of estuarine habitat and the operation of the water project pumps in the Delta have also affected many species of wildlife. Conflict over environmental protection and Delta water exports has lasted decades and worsened in recent years. The heart of California's water system rests in the Delta, and its current configuration puts it – and the state's broader economy – at serious risk.

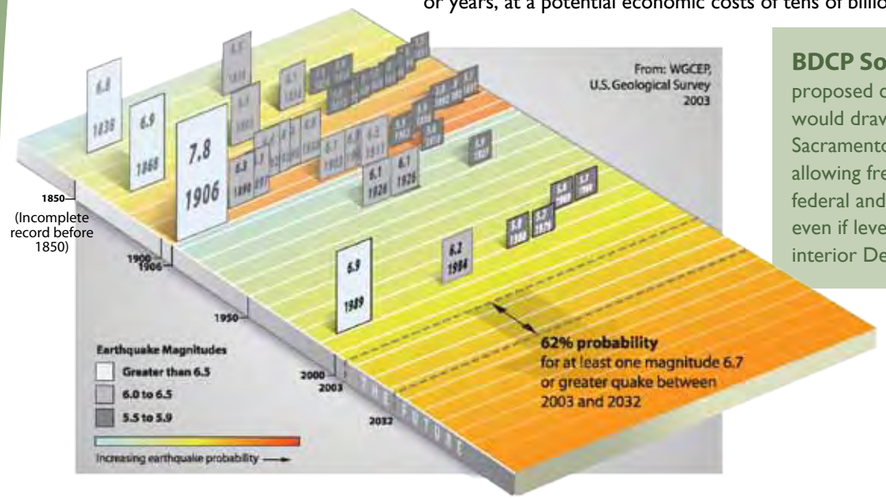
Risk of Catastrophic Failure

The levees that line hundreds of miles of waterways in the Delta protect local communities, regional infrastructure (such as gas lines), and California's economy. These levees are vulnerable to winter storms, seepage, slumping, and the natural processes that eat away at the Delta's highly-organic peat soils. Yet a major earthquake poses the single greatest danger.

A major earthquake potentially could cause levee failures and flooding on as many as 20 islands at once and jeopardize water supplies for two-thirds of the state. In the event of a major earthquake, water rushing through levee breaks would fill the bowl-like Delta islands. Saltwater from the bay would be drawn deep into the Delta, forcing federal and state water project operators to stop pumping from the south Delta to avoid saltwater contamination of water delivery systems.

Depending on the amount of water stored in the state's major reservoirs when an earthquake hits, this interruption in fresh water distribution could last months or years, at a potential economic costs of tens of billions of dollars.

Experts characterize the seismic risk in the Delta as moderate to high. The U.S. Geological Survey estimates the probability of a magnitude 6.7 quake in the San Francisco Bay area between 2003 and 2032 at 62 percent. The risk increases as time passes without a major earthquake.



Past and future earthquakes in the San Francisco Bay Area and the Delta Region

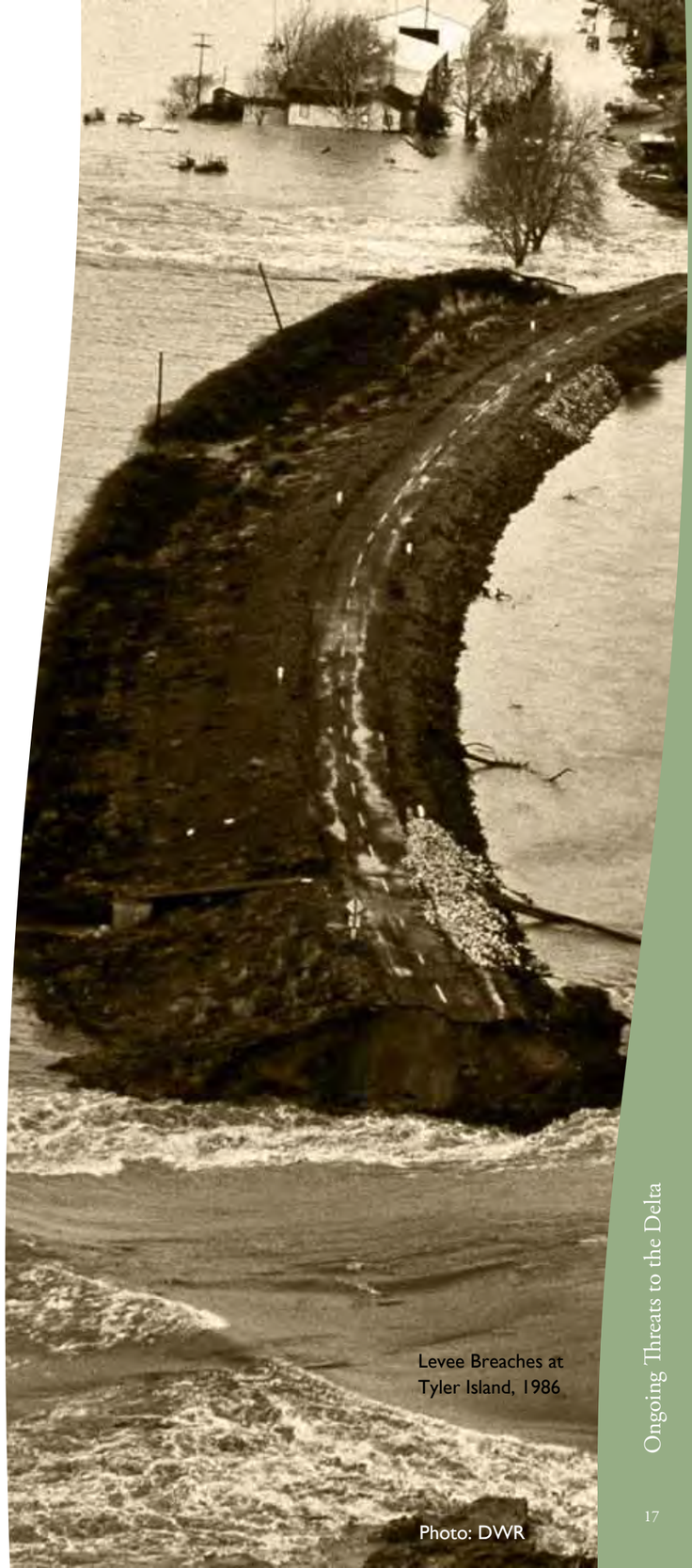
BDCP Solutions—The BDCP proposed conveyance project would draw water directly from the Sacramento River in the north Delta, allowing fresh water to reach the federal and state water project pumps even if levees collapse throughout the interior Delta.

Climate Change

Change is natural and inevitable in the Delta. The warming of the global climate system is already affecting the Delta in several ways. Over the last 100 years, sea level has risen approximately .6 feet at the Golden Gate Bridge, and as levels continue to rise – an additional increase of three feet or more by 2100 is predicted – pressure will increase against Delta levees, potentially causing instability and seepage.

Higher sea levels also increase tidal mixing and salinity levels in the Delta. Without BDCP, repelling saltwater from the federal and state water project pumps would require the release of increasing amounts of freshwater from upstream reservoirs. As warmer average temperatures push snow levels higher in the Sierra Nevada mountain range, more winter precipitation will fall as rain. More intense storm runoff and peak flood events will further stress levees. Multiple levee failures from a single flood are possible, depending upon water levels, tides, wind, and other factors.

BDCP Solutions—The BDCP preferred proposal would isolate water deliveries from increasingly stressed Delta levees, while using state-of-the-art fish screens and water project operating rules that accommodate fish spawning and migratory patterns. The proposed project would also help California cope with changing weather patterns by enabling the capture of large amounts of winter flood flow at times of minimal ecological risk. A more reliable facility for moving water through the Delta would also facilitate voluntary north-to-south transfers among water agencies, boosting the state's ability to respond to drought.



Levee Breaches at Tyler Island, 1986

Photo: DWR

Regulatory Curtailment of Water Supplies

The toll major water projects take on California's fish and wildlife has become more obvious in the half-century or so since the biggest dams, reservoirs, and Delta pumping plants were built. In recent decades, litigation and legislation have attempted to ameliorate these environmental effects, so that some of the water captured by federal and state reservoirs that once went to cities and farms now flows for environmental purposes.

However, to date, this approach to fish protection measures has focused largely on individual species. This narrow approach has failed to restore fish populations, and has left water users without a reliable supply year to year. Combined with drought, regulatory restrictions to protect fish can force farmers to idle farmland and increase unemployment in the Central Valley.

Environmental restrictions on the major pumping plants in the south Delta can also hobble California's ability to respond to natural differences in the amount of precipitation the state receives from one year to the next. Even when water is available in one part of the state, pumping restrictions may prevent it from being moved through the Delta to where it is needed most.

BDCP Solutions—The BDCP seeks to restore a greater measure of flexibility to the water system. It puts more tools to work that could help restore water supply reliability, and, as its ecosystem goals are realized, it will reduce or eliminate regulatory impacts on water supplies.

How the BDCP Addresses Delta Threats

In the most basic sense, the BDCP provides a regulatory structure designed to provide mutual improvement for both the ecosystem and water supply reliability. Project proponents agree to a range of actions to benefit the estuary's ecological health, including clearly defined rules on water diversions, in return for the long-term permits needed to build and operate a facility that changes where and how water is diverted from the Delta. A major part of implementation will involve an unprecedented effort to monitor, gauge effectiveness, and adjust accordingly. BDCP offers the greatest hope in many years that California may manage risks to its central water supply, recover a natural treasure, and deal wisely with future challenges. ■

BDCP offers the greatest hope in many years that California may manage risks to its central water supply, recover a natural treasure, and deal wisely with future challenges.

Photo: DWR

For more information visit

www.BayDeltaConservationPlan.com

or call 1-866-924-9955

Contact Karla Nemeth
at the California Natural Resources Agency at:
karla.nemeth@resources.ca.gov

JOINT ANNOUNCEMENT

Q&As

This Q&A document seeks to address a number of specific questions that have arisen relating to the proposed revisions to the Bay Delta Conservation Plan (BDCP). It is intended to complement a number of other documents recently released relating to those revisions, including: The Joint State/Federal Press Release, the Framework Brochure, The Delta – Past, Present and Future document and the State and Federal Principals Joint Recommendations regarding Key Elements of the BDCP.

What is the urgent need for the Bay Delta Conservation Plan (BDCP)?

The Sacramento-San Joaquin River Delta is both a vital ecosystem for hundreds of aquatic and terrestrial species and a critical source of California's water supply. It provides millions of Californians in the Delta, the San Francisco Bay Area, the Central Valley, and Southern California with water supplies that support businesses, homes, and nearly half of the nation's domestically grown fresh produce. It is a responsibility of the state and federal governments to lead the effort to sustain this vital resource.

The Delta of today has experienced significant change over the past 150 years that is likely to accelerate over the next several decades. Subsidence is affecting land within levees and the levees themselves. Climate change is increasing water temperatures, affecting runoff patterns, contributing to more extreme weather events, and causing rising sea levels. These impacts will put increasing strain on the Delta and will contribute to the already significant declines in native fish species. Moreover, seismic risk may represent the most significant threat to the Delta as we know it. Simply put, the status quo is unsustainable from either an environmental or an economic perspective. The BDCP and associated actions represent the best hope for the change needed to achieve the State's policy of co-equal goals and lead to a sustainable future for the Delta.

Has the project changed?

Yes, today's proposal represents elements of a new preferred alternative for consideration as part of the National Environmental Policy Act (NEPA)/California Environmental Quality Act (CEQA) process and calls for the construction of fewer intakes, reduced diversion capacity for water supply, a new collaborative science process to evaluate key operating parameters over the next decade, and accelerated habitat restoration in the Delta. The new proposal and changes to certain aspects of the BDCP are the result of our preliminary analysis of the earlier proposal.

Are the proposed changes final?

No. The proposed project remains a work in progress and some details are still in development (*e.g.* operating criteria that will be subject to the decision tree process). Once the proposed project is fully defined it will be subject to comprehensive analysis, public comment, and review under the federal Endangered Species Act (ESA), California's Natural Community Conservation Planning Act (NCCPA), and NEPA/CEQA. This includes the ongoing review of a full range of alternatives that encompass a "no action" alternative and facility sizes from 3,000 cubic feet per second (cfs) to 15,000 cfs. Final decisions on the North Delta diversion and conveyance facility will be made only at the end of the environmental and regulatory review process. Ultimately, the BDCP will need to meet applicable statutory standards requirements in order to be permitted.

Why was the number of intakes reduced from five to three?

Reducing the number of intakes goes along with reducing the size of the overall facility. We are recommending a significant change in the overall size of the new facility because we believe that a 9,000 cfs facility reflects a better sizing – taking into account all of the relevant factors – and five intakes are not needed for a smaller facility. In addition, three intakes appears at this time to be the best balance of the size and number of individual intakes to provide the needed 9,000 cfs conveyance capacity. This will reduce the size of the "footprint" of the new structures and thereby reducing the environmental effects of constructing the new intakes on the local communities. Finally, the fewer intakes are projected to be better for migrating fish.

Can the proposed new facility be upgraded to a larger size in the future?

The current proposal is for a 9,000 cfs diversion and conveyance facility, designed to minimize energy use and greenhouse gas emissions associated with its operation. In the future, if it is determined that enlarging the facility and increasing the number of intakes would better serve the co-equal goals, such an increase could be proposed. The new or modified diversion and conveyance facilities that would be required to increase capacity could only be implemented after completing entirely new permit and environmental review processes and complying with all applicable laws and regulations.

How much water will be exported via this new facility? What is the projected annual yield?

At this juncture, the amount of water that will be available for export with the project in place has not been determined because of continued uncertainty about several key operating criteria that directly affect the overall volume. These specific criteria will be the target of an intensive joint science program over the next decade (known as the "decision tree"). The decision tree – described further below -- will generate additional information that will then inform the decisions on these specific criteria prior to actual commencing of operations of the new facility. More information about the potential range of exports and outflows will be available with release of the public draft of the BDCP this fall.

How much will this new facility cost, and who will pay for it?

The final costs of the new facility must be determined through detailed engineering and environmental studies, but it will probably cost around $14 billion. The costs, including mitigation, will be paid for by the water users receiving water from the facility. Additional costs will be associated with implementing other BDCP measures.

What kind of guarantees for water deliveries are in this proposal and if there are no guarantees, then how do the contractors finance it?

Our package of recommendations does not currently address any specific guarantees of minimum water exports. Whether and how to shape these "assurances" must await further environmental and cost analyses which will be forthcoming in the reviews currently underway.

Is there a risk that billions will be spent on this plan before we find out whether it will accomplish its intended goals?

The available science, significantly improved through the last several years of the BDCP development process, clearly indicates that a new conveyance facility and habitat restoration actions will improve both the Delta ecosystem and water supply reliability. This science is the foundation for the current proposal. The core components of the BDCP are in turn consistent with the recommendations of the Delta Vision Blue Ribbon Task Force, Public Policy Institute of California, and other experts who have studied the Delta. After the BDCP permitting processes are complete and large-scale habitat restoration begins, and ultimately when operation of the new conveyance facility begins and the reversal of natural flows is reduced, the science available to date indicates implementation of BDCP will provide a major contribution to restoration of the Delta. The science and all other aspects of the proposal will be subject to rigorous additional analysis in the NEPA/CEQA process. In addition, water supply reliability will be enhanced by the new flexibility that will exist in using water at times and places less detrimental to native species. Nonetheless, there are still uncertainties in the science and in recognition of that fact the BDCP will include a strong science-based adaptive management program to maximize its effectiveness over time.

Will a thorough, peer reviewed cost-benefit analysis be done on the BDCP proposal?

The cost of BDCP will be well defined. We recognize there are differing perspectives as to the value of the benefits of the BDCP to California. We are committed to accurately assessing those benefits as appropriate. For example, we continue to believe there is significant value and economic benefits associated with a stable regulatory environment for water project operations, particularly when measured against the status quo. An analysis of these benefits will be provided consistent with this new proposal, which is an important aspect to working through the remaining financing issues. We also believe that there is significant value to reversing the declines in native fish species, some of which can be quantified, but much of which cannot be easily valued. It is not appropriate to

strictly weigh the value of protecting endangered species against the costs of protecting them.

These new intakes are very large. What happens if they do not work as planned?

Our proposal includes a set of operational performance standards governing the new fish screens that are intended to be enforceable terms of the facility permits. With careful design and testing, these standards will be achieved, and the permit terms will condition the operations so that they will be achieved.

Is phasing the construction of the intakes still an option?

These recommendations recognize the central importance to all parties of designing, building and operating the intakes in a manner that meets the performance standards to ensure that they work well for fish. Phasing the construction of these intakes remains one of many options that are available to develop a successful program to design, test, evaluate and operate these new intakes, both individually and collectively. More advanced design, testing and analyses are necessary before reaching conclusions on the issues of phasing the construction, as is further described in our recommendations themselves.

What will be the rules governing operations in the 10 year interim between the time the permit is issued and the time the new facility comes on line?

The rules governing operations of the Central Valley Project and State Water Project will be generated by the laws and regulations that currently do and will continue to apply to the projects under the ESA, the Clean Water Act, and parallel state requirements. The existing Biological Opinions (that will be revised according to a court schedule) will govern operations until they are revised or replaced. A new, integrated National Marine Fisheries Service/Fish and Wildlife Service Biological Opinion will be prepared in connection with BDCP which incorporates operations of the Central Valley Project and the State Water Project.

Is there a danger, as some have asserted, that if the new facility is built, there will be an incentive to weaken the environmental laws to allow for maximum pumping for water supply purposes?

The state and federal water projects have had the capacity to export close to 15,000 cubic feet per second of water from the South Delta for decades, but have always been operated in compliance with state and federal endangered species and water quality laws. BDCP would make compliance with those laws much more effective. Accordingly, we believe that the prospect of the environmental laws being weakened is greater without the BDCP than with it, because the BDCP will help to restore the Bay Delta ecosystem and will contribute to the recovery of all the imperiled species in the Bay Delta.

What is a decision tree, and how will it work?

It is fundamental that any new Delta conveyance facility that may ultimately be constructed will be subject to operating conditions intended to achieve the biological goals and objectives of the BDCP. The decision tree process is intended to address the ability of alternative operating criteria, in combination with other conservation measures, to meet the BDCP's biological goals and objectives and ensure water supply reliability through a structured, scientifically-driven process. This decision tree process will produce new scientific information through the testing of specific scientific hypotheses relating to the ability of certain specific alternative operating criteria to contribute to achieving the biological goals and objectives of the BDCP. This information will then be employed to refine these operating criteria based on the best information available after 10-15 years of applied science between the time of permitting and actual operation of the dual conveyance system.

The decision tree will evaluate a range of alternative criteria that may either go "up" or "down" from the operating criteria initially identified in the permit itself. In other words, the operating criteria identified 10-15 years from now may allow for lesser or greater water exports than operating criteria identified today, depending on new insights gained from the additional years of applied science. This approach allows the time necessary to take into consideration the performance of the "early implementation habitat program," adaptive management on the full suite of conservation measures, and other relevant factors in determining the actual operating criteria at the time the facility commences operations.

Why move ahead with a major construction project now when some critics say we should be doing more for levee repairs, water storage, conservation, desalination and recycling?

First, new conveyance is part of a comprehensive set of restoration actions intended to restore the Delta. Beyond that, there is no doubt that meeting the co-equal goals of Delta restoration and increased water supply reliability requires actions outside the Delta. Major programs are already under way to address concerns associated with levees, storage, desalination, water conservation, and recycling. Some are the exclusive province of local water agencies. Others are assigned by law to other agencies. But they are all important parts of California's overall water policy. And although they are not directly part of the BDCP itself, they all have an important role to play in combination with the BDCP. Today's announcement makes that point clear and highlights that the Brown and Obama Administrations are committed to evaluating mechanisms to sustain and increase investments in these key programs.

If elected representatives of the Delta would support a 3,000 cfs facility, why not build that facility, and then consider modifications/additional capacity if that facility proves insufficient to meet water supply needs while improving the ecology of the Delta?

As a threshold matter, the draft EIR/EIS will analyze a 3,000 cfs facility so we will continue to look at its ability to meet the co-equal goals. The proposal outlined today is

larger because the science is indicating that a larger facility is needed to significantly improve conditions for fish in the South Delta. This improvement is being balanced with the need to minimize disruption in the North Delta which is why the proposed facility was downsized from 15,000 cfs to 9,000 cfs. We also need to consider seismic risk and the potential loss of pumping capability in the South Delta over time. As we've indicated, however, there is more work and analyses to do before any final decisions are made on the ultimate size of the new facility.

What is the role of the fish and wildlife agencies and the public in overseeing the actual operation of the State and Federal water project under BDCP?

Our governance proposal makes clear that the fish and wildlife agencies retain a prominent role as the Permit Oversight Group. Of course, these agencies will establish the terms of the permits. Subsequently, they have final authority to determine compliance with permit terms and to approve any changes to a conservation measure as part of the adaptive management program and to approve changes to water operations in real time.

Apart from the obvious advantages for the urban centers of the Bay Area and Southern California, and Central Valley agriculture, who benefits from BDCP?

When the independent Delta Vision Commission and the state legislature defined the co-equal goals of Delta restoration and water supply reliability, they meant to serve all of California.

- BDCP will improve water quality for our farms and cities and it will help to ensure that the public water supply is available where and when it is needed.
- It restores habitat areas that were lost many decades ago, protects endangered species, and helps to restore the course of natural stream flows in the Delta.
- It will provide billions of dollars of new investments and create tens of thousands of new jobs in the Delta counties and the Bay Area related to both facility construction and habitat restoration.
- It protects Californians from the San Francisco Bay Area to San Diego and all the millions of jobs their businesses provide from the risk of catastrophic failure of our water systems, whether from the effects of climate change, rising sea levels or a major earthquake.
- It gives California's public water managers, at the local, state and federal levels, flexibility to move water to the places where it is needed and consequently lessen the likelihood of reductions in available water supply.
- Delta communities will also benefit from BDCP. In addition to the thousands of new jobs will be created in project construction and operation, including from the habitat restoration program, funding will be provided to implement Delta-oriented projects of local importance from future state bond acts.
- And BDCP helps to guarantee that California will continue to produce an abundance of safe, affordable fruits and vegetables that have been grown to meet the State's high standards for quality.

Have all financial aspects of BDCP been resolved?

The exact mechanism of financing all aspects of BDCP, including habitat restoration, must still be determined and is a prerequisite to the Plan being permitted. One fundamental principle that will apply is that new facilities and their mitigation will be paid for by the water users. The financing issues will be a primary area of focus of discussions over the next three months.

Is additional water storage necessary to make BDCP work?

No. While additional storage is viewed by many as an important action for achieving statewide water supply reliability, it is not a necessary part of BDCP. Successful implementation of BDCP will make any new storage project more effective.

Does BDCP take climate change into account?

Yes. All BDCP planning and computer modeling assumes climate change will occur. BDCP assumes sea level rise and rising temperatures. Climate change will make preserving species and water supplies much more difficult. BDCP is designed to accommodate the climate change we know is coming.

How will the legitimate concerns and needs of the Delta counties, communities and agriculture be addressed?

A stakeholder Council with very strong representation from the Delta will interact with BDCP managers, and provide advice on how to design and operate the project. Mitigation of project impacts in the Delta will be provided. Every opportunity will be provided to the counties to interact with BDCP, and all county land use and other regulations will be given careful consideration. Funding from future state bond acts will assist the counties in implementing needed Delta-oriented water and other projects.

How does BDCP treat factors other than water operations, such as invasive species and pollutants?

BDCP recognizes that several "other stressors" in addition to water operations affect conditions in the Delta. Some of these other stressors are within the authority of BDCP agencies to address and will be included as conservation measures. For those stressors that are outside the authority of the BDCP agencies, BDCP participating agencies will work with other agencies to see that the stressors are appropriately addressed. The adaptive management component of the BDCP will monitor and assess conditions and may make changes based on improvements in other stressors.

Biological Goals and Objectives Workgroup

October 13, 2011, 1:00 – 4:00 pm

Resources Building; Room 1131

Call-in Number: (916) 651-3086

DRAFT AGENDA

1. **Welcome and Introductions** (Meral/DiGennaro) **1:00 – 1:15**

2. **Covered Fish Species Goals and Objectives** (DiGennaro) **1:15 – 1:30**
    a. Overview of process and schedule
    b. Update on technical meetings
3. **Landscape, Community, and Terrestrial Species BGOs** **1:30 - 1:45**
    a. Update on process and schedule
    b. Status report
4. **Comments on Fish Species Goals and Objectives** **1:45 – 3:15**
    a. Lamprey (Pacific and River)
    b. Sturgeon (Green and White)
    c. Sacramento splittail
    d. Delta smelt
    e. Chinook salmon and Steelhead
    f. Longfin smelt
5. **Next Steps and Action Items** (DiGennaro) **3:15 - 3:30**

6. **Public Comment** **3:30 – 4:00**

Delta Town Hall

STATE OF CALIFORNIA
resources
AGENCY

June 23, 2008 • **Suisun City**

The following is a summary of the questions asked and answers given at the Suisun City Town Hall meeting hosted by the Resources Agency on June 23, 2008

Q: What is meant by water supply reliability? Who's getting reliable water?

A: In the context of the Bay Delta Conservation Plan (BDCP), it relates to the export water community. However, we have to respect water rights throughout the state, the conservation plan is not about allocation, it's about how we move that water supply.

Q: The SWP has a contract for 4 million acre feet. How much water do you plan on moving?

A: Water agencies want to maintain reliability of our existing supplies. SWP contractors have supply needs they want back before additional regulations were imposed on the water projects. The collective opinion is to evaluate the dual conveyance system and to focus on how we can move water safely for fish and people.

Q: American Canyon is entirely dependent on the North Bay Aqueduct for its water supply. Pumps are being shut down. What is being done to address the fact that there are large municipal supplies that are needed in communities such as ours? How do we assure that we will continue to have a water supply for our city?

A: State and federal pumps have an impact on the fish. Some decisions could create habitat that is in conflict with other water supplies. The BDCP must consider this. This plan is about moving the water supplies in a way that is more fish friendly; those impacts have to be addressed in the EIR/EIS that will evaluate a broader spectrum of impacts. The North Bay Aqueduct is of high interest for restoration. The issue of where and how water is diverted becomes a part of the discussion.

Q: You're going to protect North Bay supplies. What about the agricultural production that operates in the same area and has been doing so for the last 100 years?

A: We will be working with the interests in that area in coming up with approaches to deal with those issues.

Q: I'm curious about Delta Vision's recommendations that you have a co-equal goal for sustainable management and water supply. Who decides if these things are co-equal and how will they be divided up? How will you implement co-equal values?

A: The Delta Vision Blue Ribbon Task Force recognized that you cannot get reliable water supply from the Delta until the ecosystem is "fixed", until revitalization of the ecosystem has occurred. Judge

Wanger has cut back on waters that are deliberately exported from the Delta as a consequence of Delta smelt and salmon. When the Task Force selected these as co-equal values they didn't say that these would be equally balanced at all times. They recognized that resources and any activities that take place have to take into consideration these co-equal values so they can advance together. Who's in charge of that? There are 120 different agencies with authority over something in the Delta. The draft recommends a governance structure. There is a recommendation that a council be created that is charged with implementing the co-equal values.

Q: Will this council have authority over what the counties and cities do?

A: The draft strategic plan is not intended to take away the authorities from any local government but it does recognize local government interests, regional interests and state interests. There is no intent to minimize any authorities from the five counties in the Delta or from state agencies that manage the Delta or the federal agencies. The draft recognizes the Delta Protection Commission will remain in contact with the local governments and calls for enhancement of the commission as the voice for the local governments and the stakeholders.

Q: I'm concerned with the issue of economic sustainability. The Delta is a finite resource. At what point to we say that we're drawing enough from the Delta and there are other resources that should be looked at to provide some of the water supply or to maintain economic sustainability based on the ag lands or other resources that the area supplies?

A: The BDCP is working with other agencies to decide what is sustainable and what we can do over the long term and at the same time restore fish.

Q: As we've shifted from an agriculturally based economy in the Delta, we've increased the cost of operating in the Delta. As we start converting acres from agriculture to something that is not producing something that can be sold, the economic sustainability of property taxes for instrumentalities that maintain the environment changes. The Delta Vision plan recommends 100,000 acres (about 1/5 of the agricultural land in the Delta) be converted into habitat as a way to restore fish populations. What does that mean economically for the people who live around the Delta?

A: We look at making decisions about land use relative to the idea that there is no marginal value in habitat. It changes the economic equation relative to local government in how these lands are maintained in relationship to lands that remain in some other form of land use. The idea of having an improved ecosystem is contingent upon having more of the habitat components that made up the original Delta. The idea of carbon credits and new markets and new ways of looking at economic opportunity relative to how we manage those lands may increase their long term sustainability. The Strategic Plan talks about having a National Heritage area that is a different designation than a national park. It is strictly for economic development and is locally driven and brings recognition to the area to bring in economic support. Ag tourism, eco tourism, ag friendly habitat, gateways to the Delta bring recognition to enhance recreation. From the context of the BDCP, we have a habitat working group that is identifying possibilities, talking to scientists and

figuring out various species' needs and how things might work. We need to come out and talk to local governments about what you have planned.

Q: The map on the BDCP handout shows four different state highways that go through the Delta. Who is charged with making sure that that transportation web is maintained and sustainable for the future increases in traffic that are expected to go through that area?

A: We will need to get Caltrans to answer specifically what they are thinking of doing. Delta Vision looked at transportation and from an ecosystem restoration, transportation is a constraint. It involves looking at creative solutions to deal with the sustainability of these transportation corridors. You may see a panel of transportation in the future.

Q: With Delta Vision, I know that your focus is predominantly on the state. When we hear about a worldwide food shortage, how do you justify or balance those competing demands with flooding agricultural areas that are some of the most fertile in the world? How do you say that that is something that looks at the broader spectrum of issues?

A: The question is the productivity of the land we look at. We are constrained in where we can look at the ability to restore habitat to allow us to make other lands more productive and be able to exploit those already in production but constrained by the availability of water. We're at a critical juncture relative to the future direction of things related to water that depend on the Delta. Our management plan update policies were adopted in 1995. One policy says no new wastewater treatment facilities in the primary zone of the Delta. At the time we understood the intent was to prevent urbanization. But with the transition to vineyards in the Delta want to look at ways for the mechanisms and tools to market that and have processing plants in the Delta so they don't have to travel. The Delta Protection Commission is trying to be consistent with Delta Vision. The Governor has laid out an ambitious agenda for assuring that the state can grow and more attention to the water supply. We're asking our local jurisdictions in our areas to look at water use efficiency.

Q: You stated that a reliable water supply depends on ecosystem health. There is conflicting information about what is causing the decline in the fish populations. Invasive species, salinity issues, ammonia, and pesticide use are some issues. How are these issues going to be included in the Delta Vision Project? How are you planning on getting beyond the stakeholders in conflict?

A: One of the Task Force recommendations is to focus not on species but restoring functions and processes of the ecosystem. The Task Force believes we can make improvements to the Delta, which moves us towards restoring production. We are one of the lowest carbon producing and food producing estuaries in terms of food for aquatic organisms. We have to focus on reducing contaminants and restoring water circulations.

Q: I'm involved in the mercury and fish issue. Some of the solutions here are directly in conflict and will likely increase the problem. How will you deal with that?

A: What we are experiencing today in terms of ecosystem deterioration requires us to take action. There is a strong recommendation for substantial science element in terms of monitoring learning by doing adaptive management. We have to balance the contributions of the other stressors (ag diversions, contaminants). Those are things that will be addressed as we move forward. One of the programs the commission has undertaken was when the regional board came out with the mandate to do the total maximum daily load for mercury for the Delta and having parameters established rather than have individuals from a landowner perspective, a county perspective, a wastewater treatment facility perspective, we opened it up to what we're calling the mercury TMDL collaborative. One of the big components is the recognition of balance and what happens in wetlands areas if you have defined TMDL. They are opening up workshops to continue those discussions.

Q: As the city with the oldest water rights in the entire Delta, we rely on the water source. Are you looking at the barriers between Carquinez and the Suisun Bay area? Are you looking at that actually moving which is going to change Carl's fish and game opportunities to ensure that we have a proper Delta or are we going to be introducing new species?

A: The species that have been introduced to the Delta prosper because the Delta is the way we manage it now. The submerged aquatic plant that is taking over stillwater areas in the Delta has created black bats habitat. Those are efficient predators for the native species and they change the water quality and water characteristics. This is an important indicator of how we maintain it relative to outflow patterns and how much water is enough for ecosystem purposes. We will look at Public Policy Institute of California, the historic setting for this and how the Delta functions in a more natural flow regime.

Q: The comment was made during the BDCP presentation that there will be an adaptive management component. When you mess around with the hydraulics of a federal project flood control system in the Sacramento River that's been highly successful and decommissioning federal project levees, that isn't reversible. Are you planning to implement components that are reversible first and not build a canal and modify some of the irreversible components?

A: The way we're thinking about BDCP and water supply conveyance changes is in two phases. That is a near-term where we look to optimize through Delta conveyance. BDCP is contemplating a long term fix which is a canal or the dual operation of a canal and through Delta conveyance. We're looking at the whole thing and how those operational systems work together. From a water supply perspective I can tell you from an agency that's 80% reliant on that supply there's a lot of reasons (seismic security and otherwise) that we believe a dual conveyance system has a lot of benefits and stability to water supply reliability that are worth investing in. From the habitat perspective, we're looking at floodplain habitat at the edges of the Delta which have a potential major role in addressing flood issues in these areas and improving these conditions. There is a lot of opportunity for synergistic work between flood control and flood management and habitat work. We want to make improvements and there are opportunities for lower San Joaquin River bypass which could provide flood conveyance and ecosystem habitat as well.

Q: If I want to know about flood protection in the place where I live, how do I find out about that?

A: Go to the main DWR webpage (water.ca.gov) and we have an alphabetical listing of topics. You'll find links to 200 flood pages including maps, planning activities, and flood control projects. From the main page you can go to FloodSafe, our new initiative with all the voter approved bond money and you can see the new things we're doing in the planning process.

Q: The strategic plan says 50% reduction per capita water use is a goal. What can I do to participate in this process? Will you tell people to start conserving water right way?

A: The Governor has set an objective of reducing urban water use by 20% per capita by 2020. This is the first time in the history of the state we've had a specific number and objective and we're planning to get there to reduce water use. We use 168 gallons per person per day in CA and about one-quarter of the water in the state is used by urban customers (about 10 million acre feet a year). If we reduced that water use by 2 million acre feet a year, that would be a significant improvement. As technology improves, the objective would be to not waste any water and 50% may be achievable. This will require changes in culture and how we live to reach those objectives.

Q: In terms of talking over people's heads and getting out beyond internet services, do you have translation services or other ways of getting out to people?

A: That is something we'll put on the board as something we need to think about as we move ahead.

Q: It seems there is a conflict at the state level because one agency is dictating to the cities how many housing units we have to build and in order to build those we have to supply water but we're talking about 50% reduction in water use and I don't know how those reconcile.

A: The intent is that we as a society learn to be more efficient in our water use. That can include using recycled water and doing things that stretch those supplies. I don't think reducing per capita use is intended to reduce population or lower the quality of our life. The intent is that we become better at using this resource that we have.

Delta Town Hall

STATE OF CALIFORNIA resources AGENCY

June 24, 2008 • **Walnut Grove**

The following is a summary of the questions asked and answers given at the Walnut Grove Town Hall meeting hosted by the Resources Agency on June 24, 2008

Q: Why is it so important that these processes concerning the future of the Delta move on a very fast timeline?

A: This problems of dealing with ecosystem in the Delta have been ongoing for 30 years and we've largely avoided the issues as a state. If you look at what's happened to populations of the native fish, they are in terrible shape and that's because we as a society have decided that we don't want to deal with those issues. If we don't face the challenges it's going to continue to deteriorate.

Q: Does the panel acknowledge that the enabling legislation at the state and federal level that authorized the construction of the water projects have guarantees that only water surplus to the needs of the north state would be exported south?

A: What I can tell you is what we're doing in my service area (Zone 7 Water Agency) and what my agency seeks out of the Bay Delta Conservation Plan (BDCP) is the reliability of our existing water supplies. There's no intention to bankrupt or move people out of their homes, their livelihoods, here in the Delta.

Q: I would like to know the transparency of this whole thing. I am a newcomer and I have a huge amount of suspicion of state agencies. I believe there is a hidden agenda. It's not transparent to us common people.

A: There is a lot that we need to do to be more transparent about how we plan to make decisions. We are trying to identify possibilities and trying to do that in a way that just puts things on the table. We have to have a starting point.

Q: I listened very carefully when you were talking about environmental issues and I heard you mention fish, but I didn't hear you mention the invasive species like the water hyacinths. It would seem to me there might be places for the environment to expand if you just cleaned up the mess in the Delta.

A: Certainly invasive species are part of the planning process. They've been recognized as issues because of the changes in the Delta. Some of the flooded islands are perfect places, and this goes to the science question that has come up. We've created situations that are conducive to many of these species by changing the physical conditions. So we are looking at how do we manage the Delta in a way that we can account or address the effective and/or eliminate the effective invasive species.

Q: I'm not a scientist but my understanding is that water hyacinths suck all of the oxygen out of the water. So I kind of wonder what kind of species could it provide to be there.

A: I am not saying that it's good for anything and it's a desirable species at all. We've created many situations that are optimal for these species to occur because of the way the Delta is set up. We need to look at ways to change those to look at restoring some of the natural process to the system.

Q: Maybe things similar to the 10-foot pipe they are putting in at Freeport to pump water out of the Delta. How is it that you can sit here and tell us that we should put things in the wetland when you are already pumping more water out around the Delta?

A: Since none of us here are actually involved in Freeport that's a good question we will need to talk about.

Q: California is an arid state. What the Delta needs is fresh water, and water temperatures that can be maintained to help the fish. The variation of water temperature is doing damage to the fish. If you had more dams, more reservoirs upstream to keep a continuous flow and a flush through the Delta, you wouldn't have the problem that we have right now.

A: The Delta Vision report that came out last December had 12 recommendations. One of their recommendations is we must change the way we think about using water in this state and water use efficiency must drive water policies. They didn't just say that just here for the Delta — they meant that everywhere. The task force also said there is no simple fix to the water problems we have in this state. We need water use efficiency and more storage. They also said that we need to improve the conveyance of water through the state. Now they are working on the strategic plan to implement that report and that's where you can make a difference.

Q: I read the Delta Vision Report and it said one of the problems is property rights and water rights of the residents in the Delta. What have you guys come up with in regards to our property rights in the Delta?

A: There is no recommendation in the report regarding property rights.

Q: Why? That is a huge legal problem for all of you guys. We have property rights to our property and water rights.

A: Their recommendation is not to change the existing water rights structure in this state.

Q: I am really disappointed in the Delta Protection Commission. I don't feel like you're representing the farmers and the land owners at all.

A: The Blue Ribbon Task force came out with recognition of the Delta as a place. I'm not saying that necessarily that draft represents the perspectives of everyone in this room, but I will tell you that is was through the efforts of the commission, people like Mark Wilson and Jeff Hard and others, that

brought about that in addition to the two co-equals. Recognizing the legacy towns, recognizing the importance of agriculture in the Delta and ways perhaps through different transitions, agricultural tourism, ecotourism, were brought about primarily through the efforts of the commission. We are starting at grassroots. Policies are in place under the Delta Protection Act. It's not our prerogative to change those, but it is an opportunity for us to look at those policies in our management plan. One of the examples that I will give is one of the policies: no new wastewater treatment plants in the primary zone. We recognize that there may be some farming aspects that will need new water treatment facilities even though the intent was to put that in place to preclude the development. So it's continuing to evolve.

Q: What is the Delta Vision Task Force going to do in the next four months? This is moving so fast and you didn't say anything about the farmers and the ag tourism and all the things that we're trying to do down here. It's all about the fish and the water. What have you been doing to protect us?

A: At Delta Vision, several of the members were there including people from the Delta on the stakeholder group. We have been at the table, as well as Mike McGowan.

Q: You say you are looking at a big global picture and you are looking at endangered resources and land cannot be recreated. You are going to take away in-production of agriculture, but we are in a world shortage of food and supply.

A: There are four work groups that helped provide the recommendations The first was governance and finance, the second was an ecosystem work group, the third was the water work group, and the fourth was a Delta work group, the Delta as a place. All the recommendations there are based on those four pieces.

Q: How are you going to replace the ag production that we produce for the world's supply and needs? Are we going to have to fall back and be in the position we are with our fuel needs in relying on other countries?

A: My honest answer to your question is I don't know.

Q: have a question about the farm bureau. They are a member on the steering committee of the BDCP, correct? Were they an original member or did they come on some other time?

A: They came on, but I don't know exactly when. I believe they asked to be included.

Q: I would like to know how many of the 43 Delta vision stakeholder members live in the Delta?

A: I don't have an exact number but I would say about six.

Q: What I really don't understand is this strategic plan, Delta Vision report came out, and were their outreach meetings helped by any of these stakeholders in the Delta before that plan was formulated?

A: To develop the plan itself there were at least two or three meetings in the Delta in the development of the plan and public meetings in Southern California, the Delta and in Sacramento.

Q: This meeting should have happened a year and a half ago. A lot of these issues have been going on for some time. I had to find out about this meeting on the website of the Sacramento Bee.

A: You have an absolutely valid point and this is an issue we have to work on. That is something too that the commission has been working with the other agencies. We do maintain a 300-plus interested parties mailing list to get some of the local interest to the table.

Q: Of all of the billions of dollars that we are seeing spent in this process how much of it has been directed to find a high-volume economical way to desalinate ocean water?

A: I'm probably the largest expert on desalination here. I worked as the general manager of a retail agency in Southern California in the Chino basin area. We built the first brackish water desalter in Southern California. We have built eight more and now have a plant in Orange County where they are taking 50 percent of all their wastewater and recycling it for use not just for irrigation but for drinking. So there have been extraordinary efforts to move ahead with desalination. If you look 50 years ahead, desalination is going to be a much larger part of water supply for costal communities. The Governor has already called for conservation to reduce per capita usage in urban areas of Southern California and throughout the state. We have to do all of those things.

Q: How will we know that we have communicated with you?

A: I think how we act as we move ahead is probably the best way to judge whether people have listened.

Q: Who gave the Blue Ribbon panel the charge or the postulate that the Southern California water desires were coequal to the rights of the Delta? My other question would be where is local governance in your charge here?

A: For the Blue Ribbon Task Force, the State Legislature passed a bill and the Governor issued the executive order. The charge was to figure out a plan for developing a sustainable Delta.

The Delta Protection Commission asked for a place at this table tonight. Even though we're not involved in many of these processes as the authors, we are involved as a voice for the local entities. With respect to the governance, the commission felt that the makeup of our commission — a 23 member commission with members of the Board of Supervisors from the five Delta counties, city and local representatives, state agencies, and north, south, central and west delta reclamation district water agencies — does provide a local voice. The commission is under the Delta Protection Act.

Q: What do you think happened to the value of property in this community with the way you have handled it? I would like to know how many of the people that drew the map that put 100,000 acres out of production actually walked the ground before they drew the map?

A: There's one map in the Delta Vision documents that shows where habitat could be. Most of the people, though they may not have been on a particular piece of property, are familiar with the Delta. There are significant constraints and we're not going to be doing any of this type of restoration without the participation of the folks that live here and some recognition of what's going to be acceptable and what's not. None of it happens without the engagement of the people that live in the places that we try to do the kinds of things that we're trying to do from an ecosystem perspective.

Q: Question about flood control issues: Why are levee projects taking place in the Delta because of the fear of earthquakes and Katrina when we haven't seen either.

A: I think you touched up on one of the key conflicts with vegetation issues and the U.S Army Core of Engineers. There's a need for a habitat and flood control. Some engineers don't want to deal with habitat issues. They say for a perfect levee we don't want any trees. Part of our FloodSafe program is trying to address this long term, trying to convince the Corps of Engineers in Washington D.C that there is a value for trees on levees and near levees. Let's talk about Katrina, but if you want to hear horror stories talk to the people who got flooded in 1986, 1997, 1955. We have our own horror stories here in the Delta.

Q: If this idea did come to pass, what's going to be the process for acquiring the property? Is it eminent domain? Is it going to be condemned and if so what kind of dollars are we talking? Who is going to determine fair market value?

A: There is a specific process in place. The Department of Water Resources would be responsible for pursuing any of that.

Q: Where is the new Delta Initiatives website?

A: There are two websites. One is www.water.ca.gov/deltainit. That is the Delta initiatives website. There is another website for the Delta Protection Commission. That is www.delta.ca.gov. Both link you to everything.

Q: It is quite obvious that some of the economic considerations have not really been delved into, yet you are proceeding with strategy. My experience is that if you don't have a budget to implement it, it's pretty rough sledding. I represent a group of about 60 wine grape growers and vendors in this area. One of the things that I feel strongly needs to be looked at is the economic impact of what would be destroying by doing that. How can you go ahead with a strategy in four months without doing a very thorough and economic impact report?

A: You can't. We're going to have to figure out if we need to do this restoration, where can we do it with the least impacts, and how do we make a process that works for the fish and for the Delta.

By next year, we will have a draft of the public plan for Delta Vision at the end of next year and then the final draft is at the end of 2010.

Q: A stockpile of rock and material was purchased with flood control money from Proposition 1E. Will it be available only for uses in protecting export water quality and conveyance capacity? Is that the Department's intent for the use of that rock and it won't be available for the general use in the Delta?

A: It was the Department's intent to have that rock available for flood emergencies in the Delta. We will talk about how and when these emergency resources can be made available for the reclamation districts.

Q: When you've talked about ecosystem restoration and restoring species for some reason, I get the feeling that your species and ecosystem is better than the one that we have on dry land. I might like to suggest that in Reclamation District 999 and these other areas that we've got our ecosystem under control. But yet you want to take our area that's under control and it seems to me kind of spread the chaos over another 100,000 acres?

A: We have a process for providing some criteria in ranking, and the fact that species get put on lists under the state and federal Endangered Species Act give them some relative priority over other species that are more common. We can talk about what people consider natural, but there's very little of the natural aquatic environment. And what we've left are channels that don't operate very well in the absence of supporting wetland and inner tidal habitats and flood plain habitats. We have flooded islands that turn into lakes with no tidal velocity in them. When we talk about ecosystem restoration we're looking at trying to bring back some of the historic attributes of the system that made it work the way we perceive it to be in a more desirable way.

Q: Why are they allowing the water hyacinth to take over Stone Lakes refuge? You are going to take out 100,000 acres and you are going to try and manage it when you can't even manage Stone Lake?

A: We have the resources to manage the lands that are associated with the permitting process, which is not the case with many of the lands that we acquire through bond acts. We need to look at designing restorations so that they are self-maintaining to the maximum extent. I would suggest that Stone Lakes has a lot of issues relative to its unnaturalness that complicate their ability to manage it. It's not necessarily a self-sustaining system certainly affected by the areas that surround it.

Q: Can the majority of the Delta ecosystem restoration be achieved with changes to the Yolo Bypass, particularly the weir at the head of the Yolo bypass?

A: I don't think you can achieve all the ecological restoration components by managing just the Yolo Bypass. But there is certainly work that could be done to make it work better from an ecological perspective. We have our own management objectives within the Yolo Bypass.

Q: Have you guys ever considered using the deep water channel as an alternative?

A: There's been a number of efforts to look at both the Sacramento deep water channel as well as the San Joaquin deep water channel and we'll be looking at all kinds of potential improvements. I really do believe that there is significant potential in the southern part of the Delta, lower San Joaquin River where it comes in, to have a flood control bypass that will provide good flood conveyance as well as provide habitat potential.

Q: Who's idea was it to call (the Delta towns) legacy towns?

A: That came out of the Delta Vision task force report. I don't think they meant that as a sign of disrespect at all. They are trying to call attention to the value of the towns, historic value and cultural value.

Q: Is it possible from a biological standpoint to approach this in a multi-step process with cleaning up some of the water issues having to do with the ammonia coming in from Sacramento? My second question is why can't you use some of your budget money to notify stakeholders of meetings like this by mail?

A: That is a really good idea. We were trying to push the cost on to DWR. I think were trying to look at all the aspect of habitat stressors like ammonia The Interagency Ecological Program and CALFED have highlighted the concern about ammonia. We are looking at that problem right now and ways to address it.

Q: Delta Vision strategic plan introduction refers to the Delta as the California Delta, but Water Code legal definition is Sacramento San Joaquin Delta. Was that intentional? Is the BDCP process going to comply with all of the laws that exist in the Delta Protection Act as they move forward?

A: I believe the intention to call it the California Delta was in recognition of the importance of the Delta to the state of California. I don't believe there was any disrespect or attempt to change the former name.

Q: Public documents say that the agricultural lands would not be protected by flooding as they had been in the past. Is this a goal or a side issue?

A: I do not know if the response would be the same if the Jones Track levee were to break today. The state has spent in excess of $100 million to fix a levee and from what our understanding is property values at that fair market value wouldn't come close to what we've spent to fix that levee. Part of the impetus in the investments on Jones Track was the fear on the impact of the water supply system.

Q: There's a railroad levee there. It's a dry levee and they've had failures in that part of the county before. That dry levee that the railroad track sits on actually saved a lot of land out there and the railroad does maintain that dry levee.

A: They maintain the dry levee but they should maintain the wet levees to protect the dry levee.

Q: **But that levee has saved some major flooding from happening down there.**

A: That's good but they should be paying for some protection of their own part.

Q: **Last meeting in Clarksburg we had an audio tape of the meeting and I was wondering what happened to that audio tape? Were they recorded and will this meeting's audio be available to everybody in the Delta?**

A: It is being recorded. It will either be on the DWR website or Resources Agency website.

Q: **Is that just this meeting or all the meetings, because I am concerned about where you are going.**

A: These set of meetings, there are only three. One last night in Suisun City, tonight here and tomorrow night in Stockton. The transcripts for the prior scoping meetings for BDCP are going to be part of the environmental impact report, and I don't know when that is coming out.

Q: **So the questions that we're asking now are those being written up from this audio and given to the EIR?**

A: No, they are two different things. We will listen to the audio and write down the questions and answers. These three meetings were set up to start a dialogue. That's why we called them Town Halls. We committed that we will track all of these questions, have written them down and we will respond and have written answers.

Delta Town Hall

STATE OF CALIFORNIA resources AGENCY

June 25, 2008 • Stockton

The following is a summary of the questions asked and answers given at the Stockton Town Hall meeting hosted by the Resources Agency on June 25, 2008

Q: How much fresh water must pass through the Delta to keep the ecosystem healthy and provide beneficial uses for those who live and work in the Delta?

A: We don't know but are working to get that information. It's a base question that needs to be answered.

Q: Why does DWR believe in its initial assessment of dual water conveyance that 8.5 million acre feet can be diverted from the Delta, which is 2 million acre feet more than current operations by SWP and CVP?

A: We must establish some goals in terms of water deliveries and how much freshwater the estuary needs. There are some recommendations in this first staff draft of the Delta Vision report. It doesn't say the estuary needs x amount of water, but it does say that these are the flows needed during certain times of the year. These are the kind of outflows needed. These are the kinds of habitat that has to be restored. It also says in terms of water exported that we should be looking at 1990 levels of exports as a starting point and looking for reliability.

Q: With regards to water quality, can measurements be made on water quality to sustain agriculture and the fish ecosystem? Do you have standards in this draft in terms of water quality? Does it change from what our historical water quality standards are?

A: There are no standards for water quality in the draft. However there is a letter to the Governor from the chair of the Blue Ribbon Task Force to address that question. We would take a look at the alternatives, look at what it does to current water quality and projected water quality objectives.

Q: With respect to the current availability of water, what are you using in the future to quantify what may or may not be a scenario?

A: This current draft looks at 1990 levels of export, which come to around 5.8 million acre feet. The Delta Vision report's first recommendation is that there are two coequal values. Revitalization of the Delta ecosystem is one, and the second is reliable water supply. In their report, they are looking at how we can provide reliable water for the state as a whole. One of their recommendations is regional self-sufficiency through a variety of different measures.

Q: Does anyone think that it might be criminal neglect that the second major river in CA has fish that you can't eat because of the water quality?

A: It's primarily a public health issue and those issues are regulated by the Department of Public Health. We need to see if and how restoration actions and other measures can reduce mercury levels.

Q: Does it concern you that massive water diversions kill the diluting actions of a free-flowing natural river? We didn't have all these problems even after the mines until the massive water diversions took over. A free-flowing river with tides twice daily will cleanse itself. We don't have that luxury in the San Joaquin River when 90-95% of the natural flow that comes down the mountain is diverted somewhere else. Water must be allowed to dilute any contaminants and poisons that are within it. The San Joaquin River is not allowed to do that.

A: From the department's perspective we agree with you relative to the adequacy of water supplies coming out of the San Joaquin River. It is a concern and something to address through BDCP. Flows are critical to water quality as well as the ability of fish to exist in the system and move through it.

Q: What troubles me is that all of these efforts establish the desire for reliability for export on a coequal basis for protection of fish species and the ecosystem of the Delta. Particularly for fish and game, how do you justify placing exports of water on par with protection of endangered species?

A: Relative to the department's participation in BDCP, our interest in the process is to assure that the conservation objectives are accomplished with providing a level of water supply reliability. What that level of reliability is we haven't determined. In the context of BDCP and Delta Vision, the intent is to provide conditions that contribute to the recovery and flows that are keys to those elements.

Q: Are you saying that the protection of endangered species doesn't have a higher priority over the delivery of water for export?

A: There are processes that authorize the operation of the state and federal water projects under the endangered species acts. Those don't require the conservation standard that is required under the Natural Community Conservation Planning process which is the intent of the BDCP. It sets a higher bar than the requirements of normal state and federal endangered species.

Q: So your answer is the protection of endangered species does not come first.

A: Project operations can't jeopardize the future existence of the species. It's a jeopardy standard as opposed to a conservation standard. From the perspective of the Task Force, there are two coequal goals, one was the ecosystem and one was water supply reliability. California's water policy must be driven by water use efficiency. Their objective is for each region of the state to be as self-sustaining as possible.

Q: With regard to the question of whether or not the Delta Vision process recognizes that only surplus water should be exported from the Delta and other areas of origin, where is the process on that question?

A: They have not recommended dismantling the water rights system or operating in any way that is different than the current water rights system we have in place today.

Q: If 100,000 acres are proposed to be taken out of production by 2060, what agriculture provides economically will be lost. I hope you would add more about agriculture and do you plan on doing so because it was neglected in the report?

A: To the extent that that is missing, part of my recommendation will be to include it. 100,000 acres has been identified. That is potential acreage that is based on elevation and future sea level rise. Your question about taking agriculture and other land uses into consideration will be considered.

Q: Because of the Endangered Species Act, we are inches away from losing two million acres of agriculture between Tracy and Fresno. The statement was made that the Delta is not sustainable. That is an insult. The people in the Delta were prevented from sustaining the levees through too many rules and regulations. We can't dredge the Delta anymore. You don't maintain the Delta. The Dutch have gates that prevent saltwater from coming in the Delta. Let the people in the Delta that know how to fix the Delta, fix it. Why don't you look at these things and understand what is going on in the Delta?

A: We're trying to figure out a way to get this fixed over the long term and we need your help to get there.

Q: The inflow of freshwater to the Delta has been enormously reduced. DWR did acknowledge that even with the average flows that the increase in exports from the Delta by virtue of the canal would derive from having less Delta outflow. What will moving X2 further east do to Antioch? Why have DWR and other parties been unwilling to look at the proposal that the Delta group submitted to the task force?

A: The Delta Vision Task Force is considering a letter to the Governor asking for some specific detailed analysis of some of the questions that you asked. There is opportunity now to bring your questions to the Task Force. Ask them the specific question about what happened to the report you sent them.

Q: When DWR held their initial meeting on that, it was made very clear by the panel of representatives that there was no intention to consider anything but the BDCP. The steering committee of the BDCP has no representation for the Delta. We feel that our views on the Delta are largely ignored.

A: You are right that there is no Delta representative on the BDCP Steering Committee. We are on a different timeline from Delta Vision. We have started to evaluate ideas related to conveyance and other stressors and habitat restoration to knit together a comprehensive strategy that assists in the recovery for endangered species. We've been in Suisun City and Walnut Grove making the same commitment that we will involve Delta interests to get at exactly those issues you've raised: water quality, land use impacts from proposed habitat restoration projects and other things.

Q: With regards to the BDCP, how many members are there, where are they from, and what are their associations?

A: Participants on the steering committee are from Zone 7 Water Agency in Eastern Alameda County, Westlands Water District, Metropolitan Water District of Southern California, Santa Clara Valley Water District, San Luis and Delta Mendota Water Authority. They're water agencies and environmental groups, farm bureau. Resource agencies, U.S. Fish and Wildlife Service, Department of Fish and Game participate in an ex officio capacity.

Q: Why are Delta stakeholders excluded from the BDCP?

A: There hasn't been an effort to exclude Delta stakeholders. The steering committee was formed with entities seeking regulatory coverage under the state and federal endangered species acts. They got together and decided to pursue a Habitat Conservation Plan/Natural Community Conservation Planning process. We have a membership process where anyone who is interested sends a letter with their intentions to the Secretary of Resources.

Q: There are still no Delta stakeholders on the conservation plan.

A: We do have a letter from the North Delta Water Agency but that is the only letter we have received. All of the steering committee, work group and technical team meetings are open to the public and are on the website. The Delta Protection Commission maintains a website with a sidebar with links to these efforts. We maintain a 300+ interested parties list. You can be added to that to receive notices and we post notices on our website (delta.ca.gov)

Q: Am I correct in understanding that you said that DWR does not know how much water needs to flow through the Delta to maintain a healthy environment?

A: I don't know that we have determined that in any way other than that there is a historic condition.

Q: My question is about DWR without knowing how much water it takes to maintain a healthy environment has created a situation which the Department of Fish and Game has shown to be negligent because water is going south when the salmon and steelhead come up. It's sent south for the people at the convenience of Southern California, totally not taking into account what will happen to the environment. This seems like total malfeasance of duty with little concern for the Delta and environment, the people, and the agribusiness. Now we're talking about how the Governor wants us to move on with a new canal or the new conveyance program. Do you have comments about that?

A: The points you raised are all legitimate. The operations over the last 10 or 15 years and the decline in fisheries are primary reasons that the Delta Vision was established by the Governor. He asked for an independent task force panel to address these questions. Part of their answer is in the Delta Vision report and the rest is coming up in the next four months. The other reason is why the BDCP was formed in recognition that mitigation won't do. We need to take a bigger look and larger actions than what we've been doing.

Q: From my perspective there's not enough water to do what the state wants to do for everyone to have a reliable water source. Conveyance that's being suggested only changes the impact and where it's felt. If you take water out of the top of the Delta, there's not going to be as much fresh water on the bottom of the Delta. The Delta does not have enough water running into it. There are ways to convey water through the Delta and use it when it's available on an opportunistic basis. Why isn't that the emphasis here? Move water through the Delta, export it on an opportunistic basis, but don't take it out of the Delta.

A: The reality is you have a Water Resources Control Board which governs water rights. They allocate water and have responsibility for protecting the Delta ecosystem. When you ask how much water is needed to flow through the Delta and why can't you get more water to flow through the Delta, a simple answer is because that water has been allocated through water rights to whoever is using it so that water is not available. The Delta Vision task force has recognized that the problems that exist are not just solved in the Delta. You have to move upstream to the Sacramento River watershed and the San Joaquin river watershed before you can get this fixed. The strategic plan they are developing now is to find ways to implement those principles they've made.

Q: As we go through the process of analyzing what is best for ecosystem and water supply, I'd like to know how we're going to resolve this. "I don't know" isn't an adequate answer. We need to understand those things before we make a recommendation.

A: There is a legal process in place that looks at alternatives. It's called the EIR/EIS process. The Governor has told DWR to evaluate at least four different alternatives. Dual conveyance is one of those, a peripheral canal is another, the Delta as it is today without any improvements, and a fourth is through Delta facility with significant improvements. That's how many of your questions will be addressed.

Q: In the Delta Vision process, they have renamed the Delta from the Sacramento San Joaquin River Delta to the California Delta. Could you explain why?

A: They recognize the importance of the Delta to the State of California. The Delta is that principal area where not only is it a place with historic towns, parks, and agriculture but is also of major importance to utilities, railroads, roads, and water transfer facilities. If anything were to happen to that area, we would have severe economic repercussions in this state affecting our trillion dollar economy. The Commission does have a member of the five Delta County Board of Supervisors as well as the 12 cities are represented by the regional governments. The Commission was one of the main efforts that said "what about the people living and working in the Delta?" As a result of that they formed the Delta as a Place work group.

Q: In none of this discussion have I heard about conservation. I have just come from Southern California where I see toilets flushing huge amounts of water and water running down our street. I live in a home that's about 35 years old and I'm sure every house there has regular toilets that flush gallons of water down. When are we going to start doing conservation and stop shipping water around?

A: You'd be surprised to learn the large water agencies in Southern California are much more efficient at water conservation than we are here in Northern California. The Task Force itself stated that water use efficiency which means conservation and similar measures must drive water policies. They recognize that our water supply is limited and we have to use it and manage it as efficiently as we can. That is the most direct way to increase our water supply in the state, and the most efficient way and the most economic way.

Q: I live and work in the Delta and I farm 60 acres. On those 60 acres I have placed two sons through college. I signed a contract in December for a brand new home. You need to understand my concerns when I see maps coming out and there is a bull's eye that directly drops on my 60 acres and on my brand new home that I have worked 53 years to produce. The decisions that you make impact a lot of people. In my estimation, District 999 is one of the main places you are intending upon building a fish habitat. You are placing a death sentence upon the towns of Clarksburg, Courtland, Hood, Walnut Grove, Isleton, Rio Vista because those towns are reliant upon us to feed their children and keep their schools going. You take 100,000 acres out of the Delta, those towns will dry up.

What entity up here is going to be in charge of determining who, where and how much is determined to buy out these farmers that you are going to be displacing?

A: The process for acquisition is based on a willing seller basis and fair market value appraisal. From the ecosystem restoration perspective that's the process. The process of implementing the plan, the maps that you've seen in the context of the BDCP options are very broad descriptions of what potentials are and particularly as they relate to the methods of conveyance of water through the Delta. How you convey water dictates on where you can do restoration work and enhancement for ecological value. There is a process of going through and looking at potentials and then laying in the physical constraints and/or infrastructure, property ownership, land values, those kinds of things that will guide whatever decisions are ultimately made. What you've seen in the past is that restoration goes on in places where people are willing to make their lands available for habitat restoration. That's the way CALFED and the ecosystem restoration program have proceeded, and I expect that will be the same framework for how other plans are implemented. Be aware that we're early in this process; we're looking at the potential opportunities of where you can do things because there are only certain places left in the Delta that have the right conditions to put some of the features back into the system that we're trying to put back. The maps identify potentials; they don't identify anything more than that.

Q: There are a lot of people here that feel like we've been brought into this very, very late. We have not been at the table and until you give people from the Delta that live there a say or at least the opportunity to sit at the table with you, you're not going to get much trust out of the Delta.

I'd like to draw your attention to the back page of the projects in the folders to the Franks Tract Project. This is a project that says it's an interim project to improve water quality in the fisheries. What it is is a backdoor project to get more water down to the south. Nothing has been discussed about how this island is going to be protected, how the levees are

going to be protected. There are three questions that I have. Number 1: the river was originally cut to alleviate pressure at the main arteries. The placement of this gate and the timing when the gate will be down at high tide is going to increase the pressure. Has that been taken into effect? Number 2, how can a project like Franks Tract be at this stage with no communication with the landowners about how the levees are going to be maintained, how the island is going to be protected, not only at the beginning but at the end? My final question is how does the Delta Protection Commission reconcile its stated mission with what is obviously a backdoor solution to send water south?

A: I'll respond to the first two questions and the answer is I don't know and I'm sorry for that. And all the questions here with "I don't knows" are being recorded. We have a commitment here to answer all these questions to the best of our ability at this website: delta.ca.gov. One of the things that the commission has been at the table reminding everyone is that the Delta Protection Act remains in place. You'll see in the draft strategic plan in the governance section, it is calling for a council but you will see the Commission is still recognized in its capacity for carrying out the mandates of the act and the management plan. One is the update of our management plan policies because the Commission does recognize that our plan was put into place in 1995. There are influences such as climate change and other things happening in the Delta. There will be workshops on July 16 and 21. That's an opportunity to support the commission and its management plan so that you see it's reconciled and recognized more in the Delta Vision process.

Q: I lost a lot of faith in the Delta Vision when they came out with their vision which said "We don't know if the dual facility or an isolated canal will be good for the fish or if it helps against earthquakes but it's our preferred alternative, we're going to do an EIR." I've seen enough EIRs where the whole thing is biased towards the preferred alternative so the whole goal of the EIR process is to shoot down any other alternative anybody comes up with and that's really frustrating for all the reasons other people said. Two questions: Do you believe some sort of isolated facility should be part of the solution? And if so, what would it take for you to recommend against an isolated facility?

A: I don't have influence with the independent task force. They have taken over the course of the last 14 months a lot of information from many people including their science advisors, people form the Delta, the work groups, the stakeholder groups, and they concluded that dual conveyance is a promising alternative. They're asking for an assessment of the alternatives. The Governor has asked for that. My personal opinion is that dual conveyance is probably the best alternative because it provides the most flexibility for restoration and water transfers. You're not going to stop water transfers because you're going to choke off a substantial economic driver of the state. So the question is how do we restore our ecosystem and provide reliable water supply?

Q: So what would it take for you to go against the canal?

A: At the end of the day, the EIR process is going to look at the four alternatives and will provide the answers to a lot of your questions.

Q: The panelists made a couple of comments that were supposed to make us feel better. I'm going to tell you what's wrong with that. On the ecosystem restoration question, we're supposed to feel better because it's only going to be willing sellers. You're going to create willing sellers by making our water supply too salty for our crops. The other thing is you talk about how these are public processes, we should be in there making comments. We feel under attack, there are so many things going on. If you try to follow everything and read all the materials being spewed out by these processes, it's a 40-60 hour week job, and we already have 40-60 hour a week job.

A: That is absolutely not what we intended. We intended to get you engaged in the process and create a process where you feel comfortable expressing your opinion. We don't want to drive anybody away. That's why we're here tonight, that's why we're going to keep coming back and we're going to keep having these conversations.

Q: Between rain and snow overall precipitation is 200,000 acre feet in the state every year on average. There's probably about 40-50,000 acre feet for agriculture and humans. It seems to me there's a water management problem. It's not a water shortage. So as a fifth alternative I wonder why you cannot conceive of what New York does with the Hudson River and develop a water savings account through setting up storage north of Sacramento and east of Stockton, where the solution is. And when we have our ample water supplies, it will fill these reservoirs and give places to recreate, places for ducks to breed, places to store water for southern California. I don't know why we just don't consider that.

A: Let me partially answer that. The Governor's water plan is actively considering additional storage projects as an integral part of the process. Temperance Flat is being suggested as one, there are others that are being talked about. That is very much on our radar screen, very much a part of our agenda. The prospect of doing EIR/EIS on the four alternatives has to go hand in hand with additional water storage projects.

Q: I'd like to add a further comment to what's happened with outreach and engagement for people in the community. The feeling of being under attack is 100% true and in two years that we have been making comments at all types of agency meetings we've made it clear that we felt there were mistakes being made in the Delta Vision process and landowners were not invited from within the Delta to participate in these type of activities. I will go back to the first question I asked this evening: How much fresh water does the Delta need for the estuary to remain healthy? One thing I want to add about economic benefit: we don't want to see other people harmed in other areas of the state. We want to look for real solutions but people are not remembering the Delta agriculture is a half a billion dollar a year industry.

A: We've set up this email address for any Delta related program. We've made a commitment to respond to any questions that don't get answered tonight. You'll note that we're writing those questions down.

Q: When the Vision Process and DWR get around to looking at the water quality in the Delta south of the Sacramento channel, they will find that the salinity is going to go up under the dual plan to such a degree that agriculture will be out of business. The farmers are the ones who are the primary maintainers of the non urban levees. So you put them out of business, those levees get abandoned, and pretty soon you have open water instead of the Delta channel system that we have now. What is going to be the impact on the fishery when that happens?

A: We have concerns about that relative to the kind of habitat that would be generated. That's an issue that was discussed in Delta risk management discussions relative to the ecological effects of large scale levee breaks and lots of open water habitat or even small ones. So in the recommendations we have relative to particularly subsided islands those are best managed to counteract subsidence to try to bring them back up.

Q: How about the endangered species that are not saltwater species?

A: The endangered species all have a fresh water life history component. So those are the ones that we're focused on and providing ecological conditions. This is an issue that is going to have to be considered as part of the BDCP process. So these are changes that we have to look at and accommodate and consider as we make the permit authorizations under the state and federal Endangered Species Act so those are all issues that are going to have to be addressed. In all likelihood, there will be some capacity issues relative to Carquinez. There are tidal fluxes and the tidal range will probably go down as more areas are subject to the tides.

Q: I'm looking at the BDCP and I did some math and it looks like about 48% of the people on this are my mortal enemies. I'm having a difficult time understanding how this can be and how you expect me and the people in this room to join with you in a cooperative manner.

A: The BDCP is a process that is contingent on working with people in the Delta. We're looking for ways to do that. Thank you for raising that directly.

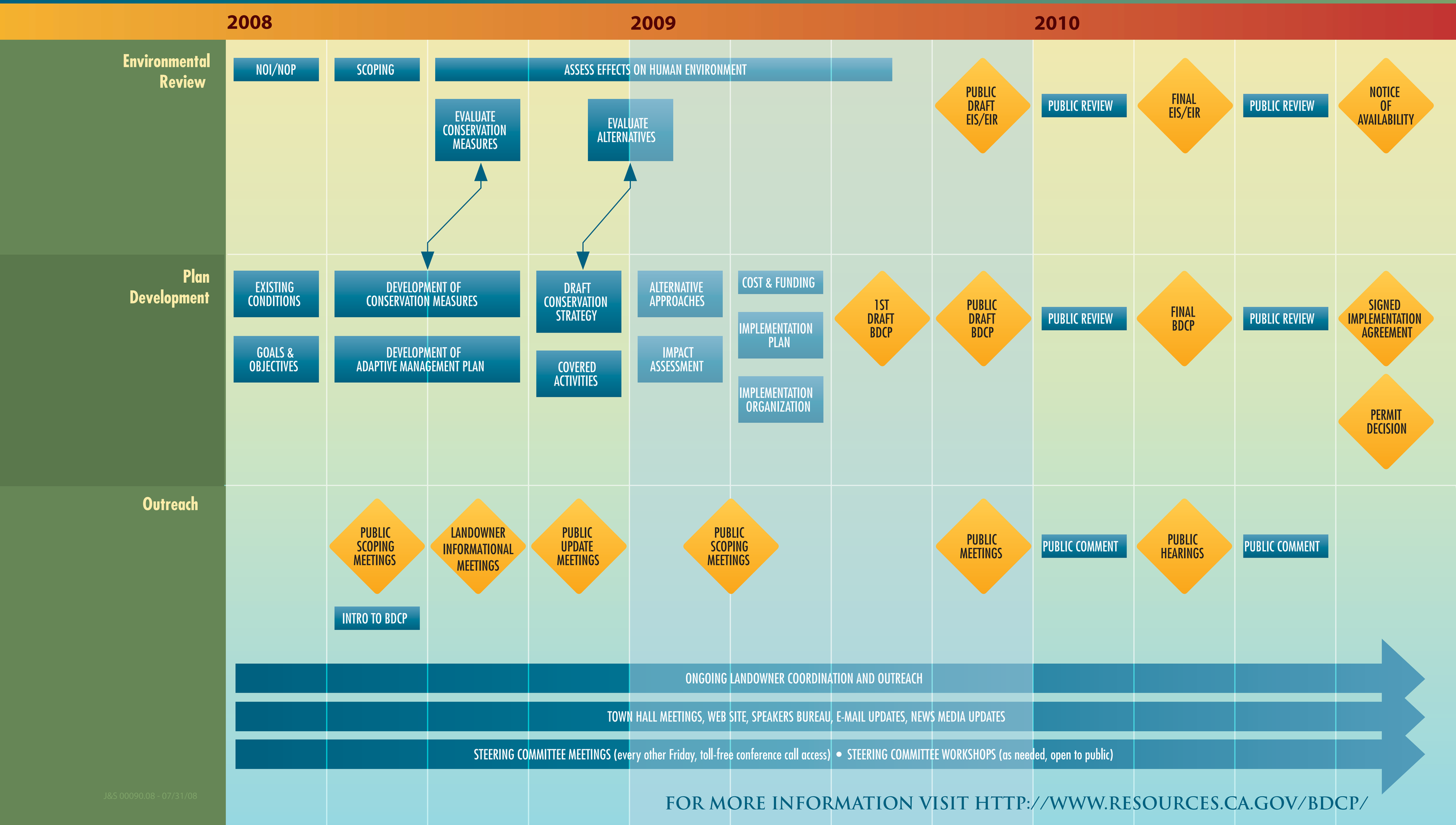
Q: How long will it take the ocean to rise one foot? What is your definition of water quality? On the San Joaquin River we have an 8.8, 9 and 9.5 pH and I don't hear anyone else talking about pH. What happens to the smelt coming down the Stanislaus River into the San Joaquin River and trying to get out the gate? Modesto irrigation district has a very scientific study. Do you have the same results or any results?

A: Our Central Valley region works with the San Joaquin River organizations in their management group. There's ongoing discussion about ways to improve conditions in those tributaries. We have water quality standards set by the Regional Water Quality Control Boards and the State Water Quality Control Board based on established criteria in their basin plan. From an ecological perspective, water quality can be of varying conditions depending on salinity or other factors. With regards to sea level rise, we expect 18 inches by 2030. That's based on a series of models and those are the most conservative models we're looking at today as it relates to sea level rise.

BDCP

BAY DELTA CONSERVATION PLAN

PLAN DEVELOPMENT AND EIR/EIS PROCESS & SCHEDULE



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FOR MORE INFORMATION VISIT HTTP://WWW.RESOURCES.CA.GOV/BDCP/

BDCP
Bay Delta Conservation Plan

About the Bay Delta Conservation Plan

The intent of the Bay Delta Conservation Plan is to help restore endangered and sensitive species and their habitats in the Statutory Delta in a way that also will provide for the protection and restoration of water supplies and energy plant operations

The Bay Delta Conservation Plan will:

- Provide the basis for permits under State and Federal endangered species laws for the activities covered by the plan based on the best available science
- Provide a comprehensive habitat conservation and restoration program for the Delta
- Identify sources of funding and new methods of decision-making for ecosystem improvements
- Provide for an adaptive management and monitoring program, enabling the plan to adapt as conditions change and new information emerges
- Streamline permitting for projects covered by the plan

The Bay Delta Conservation Plan will not:

- Solve all environmental challenges in the Delta
- Address all the stressors that may affect covered species (such as ocean conditions)
- Eliminate other permitting requirements
- Affect authority of existing land use jurisdictions

BDCP
Bay Delta Conservation Plan

Challenges in the Delta

Long standing conflict over how best to use and conserve Delta resources

- **Record decline of protected and petitioned fish species**
- **The Delta has experienced a significant loss of aquatic habitat**
- **Water operations, toxics, and invasive species negatively impact habitats**
- **Delta infrastructure is at risk due to subsidence, sea level rise, levee stability, and potential seismic events.**
- **Federal court order to modify water diversions to protect threatened and endangered fish species**
- **Water supply unreliability**
- **Impacts to recreational interests (e.g. sport fishing)**
- **Potential impacts to local economy resulting from land use changes**
- **Challenges in the Delta signify a future of change; local interests will need to play an active role in evaluating the effects on Delta recreation, agriculture, water supply and quality, land use, levee stability, and the economy.**

BDCP
Bay Delta Conservation Plan

About the Bay Delta Conservation Plan

Water Conveyance Facilities

The Bay Delta Conservation Plan approach to both improve habitat and ensure water supply reliability is to identify a better way to move water through and/or around the Delta to restore a more natural estuarine environment and reduce species entrainment. This may include:

- New point(s) of water diversion (locations where water is removed from the Delta) and conveyance
- Changes to the existing facilities used by the State Water Project and Central Valley Project
- Related design, operational, and institutional arrangements

Other Stressors

Bay Delta Conservation Plan actions will be designed and evaluated to help address the following stressors on covered species:

- Exposure to contaminants
- Competition and predation from non-native species
- Entrainment at water intake pumps
- Harvest
- Reduced genetic diversity and integrity
- Effects of climate change

Habitat Restoration and Enhancement

The types of habitat restoration and enhancement actions which will initially be evaluated for inclusion in the Bay Delta Conservation Plan conservation strategy include:

- Floodplain restoration
- Intertidal marsh restoration
- Channel margin habitat restoration
- Open-water habitat restoration
- Non-native species control
- Improved water flow management (e.g. changes in timing, volume, etc.)
- Reduction of species entrainment
- Channel modifications
- Subsidence reversal where appropriate

BDCP
Bay Delta Conservation Plan

BDCP will encompass aquatic ecosystems, natural communities, and may include adjacent riparian and floodplain natural communities within the Statutory Delta

The Statutory Delta

- Includes parts of Yolo, Solano, Contra Costa, San Joaquin, and Sacramento counties
- Conservation actions outside the Statutory Delta that benefit the Delta also may be included in BDCP

Unique Inland Delta

- Sacramento and San Joaquin river confluence
- Rivers, tributaries, islands, sloughs
- Important breeding and rearing habitat for several species

The Delta Is An Important Area For:

- Fish and wildlife habitat
  - More than 750 species of plants and animals
  - More than 40 threatened and endangered species
- Water delivery
  - Drinking water for two-thirds of all Californians
  - Irrigation for more than 500,000 acres of Delta farmland and 2.5 million acres of agriculture in other parts of the state
- State economy
- Agriculture
- Recreation (including boating and sport fishing)
- Transportation
- Cultural resources
- Energy reserves (gas)

BDCP
Bay Delta Conservation Plan

Biological and Cultural Resources Investigations

Biological and environmental studies are necessary to support the future evaluation of alternatives in the Bay Delta Conservation Plan Environmental Impact Report/ Environmental Impact Statement

Surveys and Assessments

- **Cultural Resources**
- **Botanical**
- **Fisheries**
- **Recreation**
- **Hydrologic and wetlands**
  - Vernal Pools
- **Environmental Site Assessment for hazardous materials**
- **Wildlife**
  - Reptiles and Amphibians
  - Birds
  - Mammals

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Bay Delta Conservation Plan

Engineering Investigations and Surveys

Types of surveys needed

- **Engineering/Geology**
  - Including geotechnical investigation
- **Mapping surveys**
- **Utilities inventory**
- **Diagrams**
- **Photographs**

BDCP
Bay Delta Conservation Plan

Geotechnical Exploration and Land Surveys

Geotechnical Exploration and Field Surveys

- **Geotechnical information on the physical properties of soil and/or rock underlying or adjacent to a study site is used for determining the feasibility of possible options for a project**
- **Field surveys are performed to provide base map locations of the drill holes for geotechnical exploration**
- **Field surveys are also performed to provide land controls for use in the development of topographic maps**

Subsurface Exploration Methods

- **Borings**
  - Auger Drilling
    - Uses hollow stem augers
    - Auger carries cuttings to the surface and the hollow stems allow for testing and sample recovery
  - Rotary Drilling
    - Uses drilling fluid (water or water with bentonite) to carry drill cuttings to the surface
    - Testing and sampling performed through the drill rod
  - Cone penetration tests (CPT)
    - Cone at the end of a series of rods that measures tip resistance and sleeve friction.
    - Provides fast continuous profiling of the soil
- **Test pits**
  - Performed using a backhoe or excavator

BDCP
Bay Delta Conservation Plan

Purpose of the Environmental Impact Report (EIR) and Environmental Impact Statement (EIS)

- Fulfill the requirements of the:
  - California Environmental Quality Act (CEQA)
  - National Environmental Protection Act (NEPA)
- Describe proposed action
- Analyze environmental effects of the proposed action (including topics such as socioeconomic, biological and cultural impacts)
- For CEQA compliance: Describe the proposed project, identify its environmental impacts, and develop reasonable mitigation measures and alternatives to eliminate or reduce such impacts
- For NEPA compliance: Describe reasonable range of alternatives and mitigation that would avoid or minimize adverse impacts, or enhance the environment
- Support future regulatory actions or approvals
- Seek public comment on the Draft EIR/EIS

BDCP
Bay Delta Conservation Plan

Temporary Entry Permits

Why we may need to access your property

- To collect data to fill in informational gaps and evaluate potential project impacts
- To help determine the most appropriate option for conveying water through the Delta

What is a Temporary Entry Permit?

It is a written agreement between the Department of Water Resources and the landowner to allow Department employees and contractors to access the property with all necessary equipment for the purpose of gathering information and conducting surveys needed to assess project impacts on the environment and local communities

- The Temporary Entry Permit provides protection to the landowner from liability that may be incurred due to access by the Department of Water Resources or their contractors

What information will be included in the permit request?

- Dates activities will occur (survey timeframe)
- Duration of activities
- Number of site visits
- Days and hours of site visits
- Personnel and equipment involved
- Contact person

Next steps in the process

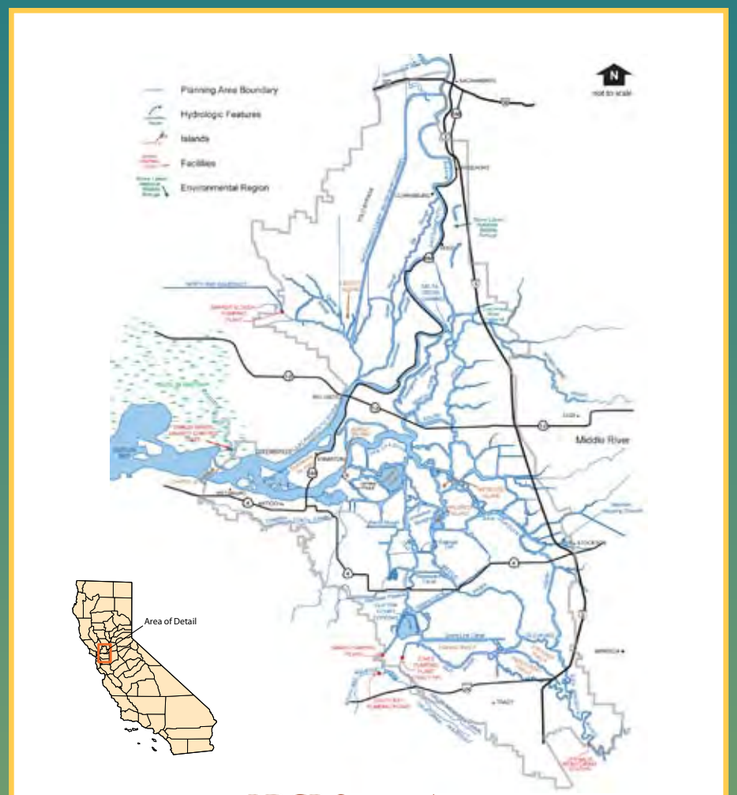
- Send selected landowners a letter with the Temporary Entry Permit attached
- Schedule individual meetings with each selected landowner to answer any questions they may have

Public Participation Is a High Priority in Developing the BDCP

The BDCP process is open and transparent. The Steering Committee has emphasized the need to obtain input from diverse public and private interests. The BDCP will meet the public participation requirements of the NCCPA, NEPA, CEQA, and ESA as well as the expectations of Environmental Justice policies. Through NEPA and CEQA, an extensive environmental analysis will be conducted, including opportunities for public review and comment. Interested parties have access to the BDCP process through a variety of venues, including the project Web site, public meetings, informational materials, and community presentations. All Steering Committee and technical workgroup meetings are open to the public.

For more information, please visit:

www.resources.ca.gov/bdcp/



BDCP Study Area

Who Is Preparing the BDCP?

The BDCP is being prepared through a voluntary collaboration of state, federal, and local water agencies, state and federal fish agencies, environmental organizations, and other interested parties. They have formed the BDCP Steering Committee, which consists of the following participants:

FEDERAL AND STATE AGENCIES

California Bay-Delta Authority
California Department of Water Resources
California Resources Agency (chair)
State Water Resources Control Board
US Department of Interior, Bureau of Reclamation

WATER AGENCIES

Contra Costa Water District
Kern County Water Agency
Metropolitan Water District of Southern California
San Luis & Delta-Mendota Water Authority
Santa Clara Valley Water District
Westlands Water District
Zone 7 Water Agency

FISH AGENCIES

CA Department of Fish and Game
US Fish and Wildlife Service
National Marine Fisheries Service

ENVIRONMENTAL ORGANIZATIONS

American Rivers
Defenders of Wildlife
Environmental Defense
Natural Heritage Institute
The Bay Institute
The Nature Conservancy

OTHER ORGANIZATIONS

California Farm Bureau
Mirant Delta

BDCP

Bay Delta Conservation Plan

A Collaborative Approach to Restore the Delta Ecosystem and Protect Water Supplies

The purpose of the Bay Delta Conservation Plan (BDCP) is to help recover endangered and sensitive species and their habitats in the Delta in a way that also will provide for sufficient and reliable water supplies.

The BDCP is being developed under the Federal Endangered Species Act (ESA) and the California Natural Community Conservation Planning Act (NCCPA) and will undergo extensive environmental analysis that will include opportunities for public review and comment.

The BDCP planning process provides opportunity for a broad range of participants to work together to develop a comprehensive conservation plan that will accommodate the needs of both people and endangered fish and wildlife species alike.

The BDCP will:

- Identify and implement conservation strategies to improve the overall ecological health of the Delta;
- Identify and implement ecologically friendly ways to move fresh water through and/or around the Delta;
- Address toxic pollutants, invasive species, and impairments to water quality; and
- Provide a framework to implement the plan over time.

WHAT THE BDCP WILL DO:

- Provide the basis for permits under federal and state endangered species laws for the activities covered by the plan;
- Streamline permitting for projects covered by the plan;
- Provide for a comprehensive habitat conservation and restoration program for the Delta;
- Provide new sources of funding and new methods of decision-making for ecosystem improvements; and
- Provide for an adaptive management and monitoring program that will guide decision-making during implementation, be grounded in the best available science, and enable the plan to adapt as conditions change.

WHAT THE BDCP WILL NOT DO:

- Address all endangered or threatened species needs in the Delta;
- Address the needs of all Covered Species outside of the Delta planning area;
- Eliminate other permitting requirements; or
- Solve all environmental challenges in the Delta.

The Importance of the Delta Cannot Be Overstated

The Sacramento–San Joaquin Delta is a vitally important ecosystem that is home to hundreds of aquatic and terrestrial species, many of which are unique to the area and several of which are threatened or endangered. Fresh water reaching the Delta is the core of California's water system, which conveys high quality water to 25 million people throughout the Bay Area, the Central Valley, and Southern California. Delta-conveyed water supports farms and ranches from the north Delta to the Mexican border that are a source of financial stability for the state and that produce roughly half of the nation's domestically grown fresh produce. In addition, the Delta is a key recreational destination and supports extensive infrastructure of statewide importance.

Why Is a Conservation Plan Needed in the Delta?

The Delta remains a center of controversy in a long-standing conflict over how best to use and conserve its resources. Several fish species have experienced the lowest population numbers in their recorded history; levees, and the Delta infrastructure they protect, are at greater risk as lands subside and sea level rises; water supplies are increasingly unreliable; a federal court last year ordered a massive reduction in water supplies—up to nearly one-third—from the state's two largest water delivery systems; and mandatory water rationing is under discussion in much of the state. The BDCP will address these issues by providing for an ecosystem-based approach that will help to restore fish and wildlife species in the Delta while providing for sufficient and reliable water supplies.

Benefits of Conservation Planning

- Conservation plans are prepared on a voluntary basis, meaning participants are motivated and dedicated
- Conservation plans provide an opportunity for interested parties and organizations to come together and try to solve problems collaboratively
- Conservation plans developed on a regional scale replace piecemeal project-by-project, species-by-species permitting with a comprehensive ecosystem-focused approach to conservation of multiple species and their habitats
- Conservation plans provide a great deal of flexibility
- Conservation plans are based on the best available science
- Conservation plans are developed through an open and public process

What Activities Will Be Covered by the BDCP?

An objective of the BDCP is to obtain long-term (50-year) permits to operate water and energy projects, both existing and new. BDCP "Covered Activities" will include activities that support water supply and power generation, such as water conveyance (pipes, canals, and pumps) and facility maintenance and improvements.

What Species Will Be Addressed by the BDCP?

"Covered Species" identified in the BDCP are those that are sensitive and whose conservation and management will be provided by the plan. Initially, the BDCP will focus on the following aquatic species but also will consider terrestrial (land-based) species in the future.

- Delta smelt
- Longfin smelt
- Winter-run Chinook salmon
- Spring-run Chinook salmon
- Fall-run and late fall–run Chinook salmon
- Central Valley steelhead
- Green sturgeon
- White sturgeon
- Sacramento splittail

Milestones Reached to Date

The BDCP Steering Committee was formed in late 2006. Members of the Steering Commitee signed a Planning Agreement shortly thereafter. Throughout 2007, the Steering Committee evaluated different conceptual approaches to the development of the BDCP, focusing primarily on water conveyance and ecosystem restoration opportunities. Ten conservation strategies were analyzed based on biological, planning, and other criteria, then narrowed to four conservation options.

In late 2007, the Steering Committee published "Points of Agreement for Continuing into the Planning Process," which outlined basic approaches for developing the elements of the BDCP. The Steering Committee agreed that the most promising approach for achieving both BDCP conservation and water supply goals would be to develop and analyze more environmentally friendly ways to move water through and/or around the Delta, and then to develop corresponding conservation strategies.

During 2008, the Steering Committee will focus on:

- Developing biological goals and objectives;
- Identifying existing ecological conditions;
- Identifying habitat restoration and conservation actions;
- Analyzing different water conveyance approaches;
- Selecting appropriate methods for scientific analysis;
- Addressing in-Delta water quality;
- Creating an organizational structure for plan implementation; and
- Developing an adaptive management and monitoring program.

The basic overall conservation strategy for the BDCP is scheduled to be available by the end of 2008, with a draft of the full plan available by the middle of 2009. A draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS) on the BDCP will be available for public review by the end of 2009. The BDCP Steering Committee anticipates that the BDCP will be approved, and a permit decision will be made, by the end of 2010.

BDCP Delta Workshop Report

The following report provides a summary of comments received at public workshops held in September 2009. Meetings were held in: Brentwood (approximate attendance 53), Stockton (approximate attendance 133), Walnut Grove (approximate attendance 87), and West Sacramento (approximate attendance 39). The purpose of the workshops was to: 1) provide an update on the BDCP; 2) describe the conservation strategy, including specific conservation measures, currently under consideration by the BDCP Steering Committee and; 3) to solicit input from the public on the conservation measures, including feedback about their rationale and feasibility, as well as ideas about additional conservation measures that could help achieve BDCP objectives.

The purpose of this document is to summarize the comments received for the BDCP Steering Committee and technical consultants. These are not verbatim comments. The summary is organized by BDCP conservation topic – physical habitat restoration, water facilities and operation, and other stressors. Additional comments about the BDCP, but not about specific conservation topics or measures, are included in a separate section following the overview.

Overview

Major themes about the BDCP as a process and the substance thereof arose in all Delta public workshops and they are inter-related. They include:

Trust in BDCP Objectives and Planning Process

Many workshop participants disagreed with the validity of the BDCP's ecosystem and water supply objectives based on what they saw as the absence of Delta community needs in the planning process and the similarity of the BDCP's draft eastern conveyance alignment to earlier conveyance proposals. Workshop participants described dissatisfaction with the timing of Delta community participation and lack of representation on the BDCP steering committee. Participants also expressed concern about the level of detailed information available about proposed water operations and total restoration acreages in light of scheduled milestones in the BDCP planning and environmental review processes. Workshop participants voiced a lack of clarity about the role that impacts on the human environment would play in determining design and location of large facilities (conveyance and intakes) and restoration areas, and the opportunities for community input.

Impacts to Delta Communities

Workshop participants expressed dismay over what they saw as an imbalance of benefits to water exporters in other parts of the state with impacts borne solely by Delta communities. They had specific concerns about what they saw as lasting and irreversible impacts to the local economy, water quality, flood protection and overall multigenerational quality of life from the construction and operation of Two-Gates, new water intakes and conveyance facilities, and habitat restoration. This includes impacts to agricultural, local business, boating, and recreational fishing communities.

Community Assurances and Governance

Delta workshop participants identified as a key issue the need for assurances to keep Delta communities whole as unintended consequences of plan implementation become known, both now and over time. They cited past practices (such as past failures to meet water quality standards, lack of consistent funding, and lack of intergovernmental coordination) in combination with the adaptive management element of the BDCP as reasons to increase the transparency and enforceability of commitments made to Delta communities during the planning process, environmental review, and over the course of the plan's implementation. Many workshop participants expressed the desire for the state to commit to a willing-seller approach to habitat restoration.

Scientific Validity

Many workshop participants questioned the validity of seismic risk in the Delta and the effects of climate change on sea-level rise and hydrology, and therefore questioned underlying BDCP planning assumptions. Delta communities also generally questioned the appropriateness of conservation actions given the degree of scientific uncertainty around their effectiveness and the scale of disruption to Delta communities.

General comments on the BDCP

1. 2-pronged approach to plan doesn't take into account important issues of Delta residents, like agricultural land – need to consider the importance Delta and its residents are to CA economy. Question whether water conveyance and habitat have equal footing in the Plan.
2. Concern over change to or loss of water rights.
3. No successful precedent of similar magnitude on similar estuary.
4. Process
    a) Public Input – How will stakeholder opposition to portions of plan be dealt with? How much input does public really have?
    b) Not enough time to review document and frame questions.
    c) Modeling work should be transparent and should not have begun prior to public input – hold public meetings to take comment and get public input on modeling.
    d) Improve communication/outreach with EJ Communities.
5. Inter-relationship of plan elements
    a) Clarify the role of isolated canal in restoring tidal marsh and how conveyance type (above or below ground) would affect the rest of the plan.
    b) Restoration could be done without canal.
    c) Improvements to water quality should be decoupled from canal.
6. Alternatives - The BDCP should consider alternative approaches and/or elements of the plan to meet its objectives:
    a) Regional self-sufficiency including recycled water, water conservation, and desalination.
    b) Delta Corridors proposal.
    c) Turn off pumps.

7. Maps
   a) Identify on map "X2" line; Explain "X2" Rio Vista trigger.
   b) No western alignment or tunnel option shown on current BDCP maps.
   c) Map should show Antioch intake and Staten Island.
8. Address role of subsidies for Ag in water attainment.
9. Consider population growth and impact to the plan.
10. ESA take assurances need to be extended to neighboring landowners or agricultural diversions.
11. Explain in more detail how adaptive management works over a 50-year process, how monitoring and scientific review will be completed and how adaptive management will be funded.
12. Identify financing and who pays for mitigation.
13. Environmental baseline for EIR/EIS. It appears that fixing the declining fishery needs to be done because projects have been inappropriately operated.
14. The role of the legislature needs to be clarified. There should be a public vote on a canal.

Comments on Conservation Topics and Specific Measures

Physical Habitat Restoration

1. HRCM 16 – 65,000 acres tidal marsh restoration
   a) This measure needs to further explain the scientific basis for the 65,000-acre target.
   b) Gross acreage needs to be disclosed, including the relationship between intertidal and subtidal restoration as well as upland sea-level rise accommodation.
   c) "Restoration" is described for the very edges of the Delta bowl, which were not necessarily tidal marsh in the past. "Creation" would be a more accurate and appropriate title.
   d) The need for contiguous parcels for conservation plan restoration efforts makes this measure infeasible on a willing-seller basis. There is too much land needed and too many parcels needed. The state should commit to willing-seller arrangements for habitat restoration.
   e) Simplify and clarify acreage targets.
   f) The BDCP should work within the confines of current Suisun Marsh Plan.
   g) This measure should discuss the water supply requirements for tidal restoration and where it would originate. Comment that agricultural land use requires less water than tidal restoration.
   h) This measure should discuss whether tidal marsh is habitat for predators.
   i) Adaptive management of tidal marsh restoration needs to be clarified, including whether acreage targets are legally binding or can be changed with adaptive management, what happens to the land on which a restoration project is not effective.
   j) Implementation of this measure needs to be better explained/clarified, including whether uplands for sea level rise accommodation be acquired in near term and banked for later, whether land acquisition will be in fee title or easements and the implications thereof for landowners.
   k) BDCP should use existing data and experiences where possible to inform decision-making (e.g. Liberty Island –has it been productive, was it too expensive for too little return? Prospect Island – what will keep fishkills from happening again?)

2. HRCM ## -- Enhance channel margin habitats along non-Project levees in the Delta (includes HRCM 15 – Non-project levees, HRCM 12 – Channel margin restoration on Steamboat and Sutter Sloughs, HRCM 13 – Channel margin restoration along San Joaquin River)
   a) This measure should clarify what a "project levee" refers to, a Corps of Engineer levee or Department of Water Resources levee, and how restoration would be managed physically (ie between setback levees) and administratively (ie within levee programs).
   b) This measure should clarify which policy regarding vegetation on levees will be followed, given the conflicts between state and federal policies. The measure should also identify whether other locations will be considered if Corps policy will not be changed.
   c) Subsidence – Does HCP include measures to restore sloughs to original depths? Address algae?
   d) All of Grand Island is surrounded by Corps of Engineer levees – Will only channel margin be used there? Work within existing channel? Not build additional levees?
   e) BDCP needs to provide more specifics on proposed channel margin restoration in the Steamboat/Sutter Sloughs area (timing, ability to stay within existing channels using existing habitat, ability to avoid removing or converting levees).

3. General comments related to habitat restoration
   a) Terrestrial Species - Mitigating for loss of terrestrial species – Where (what location) will that be feasible?
   b) Managed seasonal and permanent wetlands – include/discuss.
   c) Concern about overall agricultural loss. SJHCP wants to preserve agricultural lands vs. BDCP that wants natural restoration – impact to agricultural will be dramatic – any changes to system will lead to farming impacts. Concerned that tidal restoration will wipe out existing use – 1st site selection (agricultural) criteria will not be met.
   d) Need clarification about – and more emphasis on – near-term actions. BDCP should more seriously consider elements of Delta Corridors.
   e) Adaptive management needs to be better described in terms of what it will mean for adjacent landowners; also in terms of what will happen to the land if a measure is later judged to be inadequate.
   f) Monitoring after the fact has been an issue for other HCPs. Provide assurances that monitoring will be fully funded and a commitment that it will be fully implemented. Bond funding of habitat restoration is not stable enough guarantee proper land maintenance in perpetuity. No funding will lead to absentee landowner neglect. Local landowners need assurances that the land will be properly maintained and need a better understanding of how they will be affected and protected.
   g) Concern over changes to flood control facilities and the impact to the effectiveness of local flood protection.
   h) Better describe the rationale for conservation measures, and include better descriptions of surveys conducted and modeling completed.
   i) Consider smaller scale restoration efforts first. They would be more feasible, easier to study and adaptively manage and would be less expensive. Provide a cost-benefit analysis to see if smaller scale efforts would make more sense.

j) Consider the hidden costs for environmental clean up needed prior to restoration.
k) BDCP will limit local control – this is a serious governance issue that needs to be discussed at the local level.
l) Concern about loss/change of H2O rights.
m) Clearly describe performance criteria to show exactly what is expected in terms of restoration benefits.
n) Describe how fish will get to or benefit from restoration areas that are blocked by a canal.
o) Describe the overlap with existing CVPIA mitigation requirements.
p) Better describe approach to and data used for analysis of existing conditions. There is a concern that existing conditions haven't been studied or that the values have been discounted.
q) Need to work with the Corps and the Reclamation Districts. Identify how flood water may impact restoration areas.
r) Sites seem to correspond to CALFED ecological sites. Will BDCP investigate land other than sites identified previously by CALFED?

Water Facilities & Conveyance

1. WOCMN 8 – Operable Gates on Old River and Connection Slough – ("2-Gates")
   a) Corps needs to use its involvement in BDCP to protect navigation.
   b) Impeding passage will create a safety hazard.
   c) Meet Delta residents' needs by installing gates that are operable 24/7. Closing the gates for large blocks of time as currently proposed is unacceptable.
   d) Investigate affect of 2-Gates on water temperatures.
   e) There is a lack of integration between 2-Gates and BDCP.
   f) Study effect of a seismic event if gates were in place.
   g) Will closing the gates direct fresh water to the pumps and block fresh water from other parts of the Delta?
   h) There will be increased salmon predation (e.g. by seals) with use of locks, gates and additional pumps.

2. WOCMN 9 – Near-term Outflows
   a) Salt water intrusion is already a problem and BDCP will make the problem worse; salt water species are already moving into areas where they have never been before (e.g. up to Martinez).

3. WOCML 1 – Diversion Intakes, Conveyance Facilities, and Operations
   a) Better describe the physical aspects of new conveyance facilities (including total acreage required) and the effects related to noise, power, air quality, etc. Describe in relation to existing Freeport facility as a reference.
   b) A canal will bisect communities and impose impacts on agricultural, recreation, business, historical views, infrastructure (flood protection system, drainage, and irrigation).
   c) BDCP should figure out what the Delta and fish needs are first and then determine an export capacity. Selecting 15,000 cfs first makes it look like the BDCP is analyzing the data to

reach a pre-determined conclusion. It seems that BDCP is intending to design the project for a maximum flow rather trying to reduce flow.

d) Canal being built in floodplain- natural floodwaters that benefit species will be diverted elsewhere – how do you route the flood flows and deal with impacts? What about localized flooding?
e) Be clear about assumptions re: S.J. River flows/salmon migration
    a. Look at creating new water sources (e.g. create 6.3m AF before exporting it)
f) How will juveniles move around diversions (existing and new)?
g) A higher threshold for certainty and better science should be required for measures that are irreversible and expensive (like a canal).
h) BDCP should respond to Delta Vision's recommendation for 1996 flow levels.
i) Tunnel idea will still destroy same areas as open canal.
j) In-water drilling can be a source of seismic events.

4. <u>WOCML 2 – Freemont Weir</u>
    a) Fremont Weir – Yolo Bypass inundation – what process are you using to balance biological benefits with economic benefits when considering flooding these areas? How do you reconcile with flood control benefits of bypass? Who protects public interest to get fair deal?
    b) Missing something with inundation plan – takes long time to dry out so that agricultural practices can commence. Need better consultation with agricultural community.
    c) Focus of BDCP needs to expand to eastern side of bypass.
    d) Show map with acreage of inundation (needed for meaningful discussion). We need this info.
    e) Show conceptual design of Freemont Weir gates – difficult to envision. Also discuss proposed maintenance (needed for meaningful discussion).
    f) Don't believe that salmon go up the Yolo bypass.
    g) Existing fish ladder at Fremont Weir – proposal to replace it to operate differently than current ladder operates? Would ladder operate independent of gates?

5. <u>General comments on water facilities and operations conservation measures</u>
    a) Alternatives to consider: regional self-sufficiency through water conservation and desalination, through-Delta conveyance, turning off pumps, placing/upgrading fish screens at existing pumps.
    b) Success of BDCP depends on water plan for entire state and its relationship to other programs such as South Delta Improvements (4 gates) and storage (including in-Delta storage).
    c) Concern about water quality and effects of increased salinity, including impacts on drinking water
    d) Better define boating and recreational impacts.
    e) Water supply reliability and conservation are mutually exclusive.
    f) Consider the long-term sustainability of Delta Islands – subsidence, seismic, and settling
    g) DWR needs to do better job meeting water quality standards, and the SWRCB needs to improve enforcement.
    h) Make all modeling processes and results open for review by the public.

i) The State promised in 1960 that SWP & CVP will not impact in-Delta water uses w/prior water rights. How will this be mitigated?
j) When can cities/counties have discussions w/DWR re: regional solutions to the BDCP impacts?
k) East alignment includes (Mildred island) Middle River) barricades, which would block the only other passage out of Discovery Bay.
l) Rio Vista dependent on ground water and river water for wells. Negative impacts due to flooding.
m) Will the water be moved under existing or new water rights conditions/requirements?
n) Groundwater is tied to surface flows – impacts to groundwater resources need to be addressed.
o) Be clearer about the sequencing of activities (e.g. will the new water operations and conveyance/intakes be allowed to start before habitat restoration is in place?).
p) Describe role DMC plays in creating reverse flows and if there will be new operational criteria for DMC?
q) Describe the effects of tunneling on water tables and private wells and well water quality.

Other Stressor Conservation Measures

1. <u>OSCM1-- Ammonia</u>
   a) Is it truly an issue/problem in the Delta?
   b) One-sided viewpoint on ammonia and aquatic toxicity.
   c) Express divergent viewpoints on this measure – fair and balanced measure.

2. <u>OSCM 3 – Methyl mercury</u>
   a) Feasibility.

3. <u>OSCM4 – Ag run-off</u>
   a) Poorly thought out – legacy pesticides not addressed. Mitigations do not reflect science, realistic conditions. County Ag Commission is adequately dealing with this issue – do not need DWR involvement.
   b) Expand study area – measure should reflect a larger study area not just in-Delta “offenders”
   c) Consider mitigating pesticide run-off in river.

4. Nitrates – Are they a problem? If so how big a problem are they?
   a) There is no (draft) conservation measure for nitrates.

5. <u>OSCM5 – Storm water Runoff</u>
   a) Consider investments local jurisdictions have made to maintain water quality, etc. – provide funding to existing programs (instead of “identifying funding”).

6. <u>OSCM7 -- Dissolved Oxygen</u>
   a) Would operation of Friant help DWSC?
   b) Should expand beyond Stockton deep water ship channel and Include nitrates.

c) Difference between DO levels in Port of Stockton and Sacramento? *Compare and contrast the two – better understand and describe why there is not low DO in Sacramento.

7. OSCM10 – Reduce Risk of Future introductions of non-native aquatic organisms from recreational watercraft
   a) Establishing inspection stations for invasive species outside Delta? Should not be a BDCP issue. What else are you looking at that are outside the Delta?
   b) Vision for wash stations at launch ramps is not acceptable – needs to be at both private and public ramps. Strategy needs to be better thought out.
   c) Need rapid response to deal with invasive species – need funding source – expectation shouldn't just be to "control".
   d) Chapter needs to adequately identify and explain role of other agencies/issues (additional pests not called out in document). Look at level of coordination with other agencies and species considered as invasive.
   e) Challenge is whether funding is even available for current programs.
   f) How are you going to address the Asian clam?

8. OSCM13 – Remove non-native floating and submerged vegetation
   a) Aquatic vegetation that is desired to be removed through this process would have a negative effect on striped bass habitat.

9. OSCM 14 – Increase harvest of non-native predator fish species in hot spots
   a) Better explain what increasing harvest of non-native predatory fish means.
   b) Concern about effects on fish like striped bass.
   c) Seals are also predators for salmon.
   d) Fish were okay before the pumps were turned on. The biggest stressor is pumps, not predators.
   e) Better describe how BDCP will meet federal regulations related to some non-natives species.
   f) Increasing the harvest of non-natives will impact the fishing industry, and may not achieve objectives anyway. Too high a price to pay.
   g) If removing predator fish doesn't work, how will that be mitigated.

10. OSCM16
    a) Need more DFG wardens and they need equitable pay?

11. OSCM20 Harvest /Hatcheries
    a. Concern over hatchery for delta smelt. A hatchery is not necessary.

12. OSCM21 – Screen, move & consolidate non-project diversions
    a) Who pays for installation and ongoing maintenance of screens?
    b) Consider screening dead-end intakes such as cache slough complex.

c) Any data for amount of fish lost to agricultural diversions? Consolidation could lead to greater losses.

13. OSCM24 – Localized predator control
    a) Identify "hot spot fish kills" and inform public about these locations.
    b) Be cautious when considering channel modifications and silting effects.

14. OSCM25 – Non-physical Barriers
    a) Are physical changes in operations of Delta Cross Channel being considered? Concerned over changes in operations of gate – If changes are made, impacts to city of Stockton must be considered.
    b) Why are there no non-physical barriers to help direct Mokelumne juveniles?
    c) Identify the negative effects of bubble barriers and make public.

15. General comments on other stressor conservation measures
    a) Identify the measures that would have the most immediate effects.
    b) Managed seasonal wetlands are proven pest control practices.
    c) Identify what model can study other stressors effects.
    d) Will habitat areas be off-limits to fishing? This will displace fishermen.

Comment clarifications received as of 10/22/09:

1. Concerns about in-river drilling extend beyond seismic risk to public health risks to groundwater supplies.

What Species Will Be Addressed by the BDCP?

"*Covered Species*" identified in the BDCP include both terrestrial and aquatic endangered or sensitive species whose conservation and management will be provided by the plan. Species considered for coverage include:

- Delta smelt
- Longfin smelt
- Winter-run Chinook salmon
- Spring-run Chinook salmon
- Fall-run and late fall–run Chinook salmon
- Central Valley steelhead
- Green sturgeon
- White sturgeon
- Sacramento splittail
- River lamprey
- Pacific lamprey
- More than 40 terrestrial species

Where feasible, BDCP conservation measures will be designed to complement other existing or planned terrestrial HCP/NCCPs in the Delta to enhance benefits to natural communities and species and to support locally led conservation efforts and compatible existing land uses to the extent possible.

What's Next

Throughout the remainder of 2009 and early 2010 the BDCP participants will:

- Conduct ongoing refinements to conservation measures such as the operations of dual conveyance water facilities, habitat restoration measures for covered wildlife and plant species, and the design of a robust adaptive management program
- Continue to develop biological goals and objectives and related metrics
- Develop other aspects of the Bay Delta Conservation Plan such as:
  - Analysis of the conservation strategy's effects on water quality and biological resources
  - Cost and financing
  - Implementation structure and schedule
- Host Delta community workshops on the Draft Conservation Strategy
- Release to the public the complete Draft Bay Delta Conservation Plan for public comment

www.resources.ca.gov/bdcp/

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Who Is Participating In the BDCP?

The BDCP is being prepared through a voluntary collaboration of state, federal, and local water agencies, state and federal fish agencies, environmental organizations, and other interested parties. The BDCP Steering Committee consists of the following participants.

STATE AND FEDERAL AGENCIES

California Bay-Delta Authority
California Department of Water Resources
California Natural Resources Agency (chair)
California State Water Resources Control Board
US Bureau of Reclamation
US Army Corps of Engineers

FISH AGENCIES

California Department of Fish and Game
US Fish and Wildlife Service
US National Marine Fisheries Service

WATER AGENCIES

Kern County Water Agency
Metropolitan Water District of Southern California
San Luis & Delta-Mendota Water Authority
Santa Clara Valley Water District
Westlands Water District
Zone 7 Water Agency
Contra Costa Water District
Friant Water Authority
North Delta Water Agency

ENVIRONMENTAL ORGANIZATIONS

American Rivers
Defenders of Wildlife
Environmental Defense Fund
Natural Heritage Institute
The Bay Institute
The Nature Conservancy

OTHER ORGANIZATIONS

California Farm Bureau Federation
Mirant Delta

BDCP

Bay Delta Conservation Plan

A plan to restore the Delta's ecosystem and California's water supplies

Draft Conservation Strategy—August 2009 Update

The purpose of the Bay Delta Conservation Plan (BDCP) is to promote the recovery of endangered, threatened and sensitive species and their habitats in the Delta in a way that also will protect and restore water supplies.

The BDCP is a habitat conservation plan and natural communities conservation plan under federal and state laws, respectively. When completed, the BDCP would provide the basis for the issuance of endangered species permits for the operation of the state and federal water projects. The plan would be implemented over the next 50 years. The heart of the BDCP is a long-term conservation strategy that sets forth actions needed for a healthy Delta ecosystem.

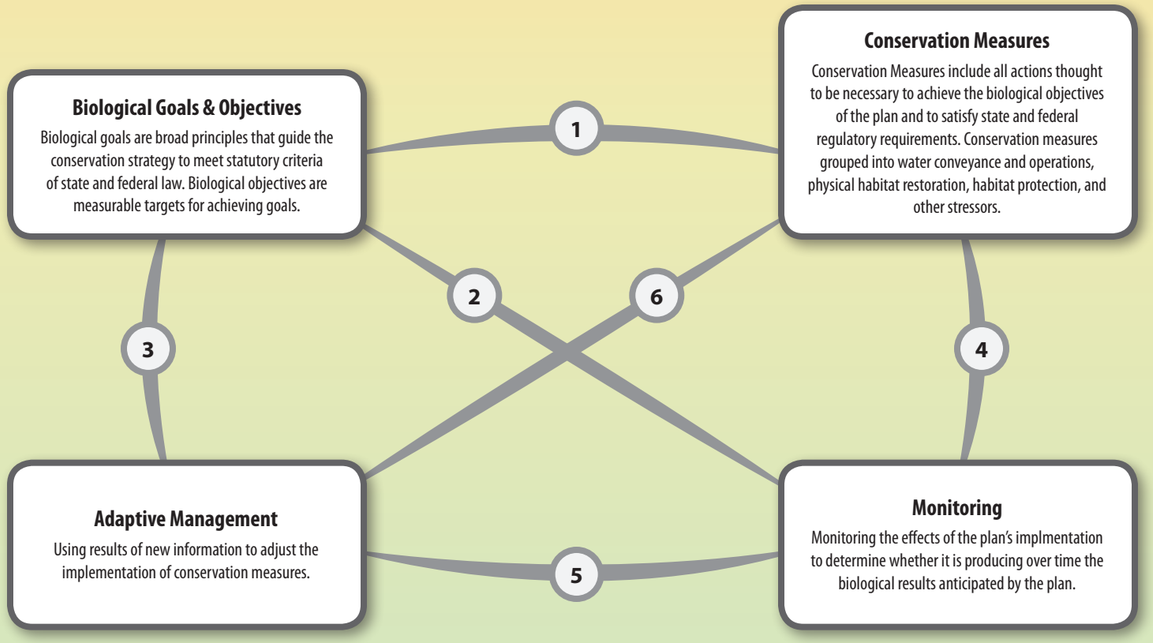
Environmental organizations, water agencies, and other organizations preparing the BDCP have made significant progress on aspects of the draft conservation strategy focused on helping the Delta and contributing to the recovery of 11 native fish species. The aquatic portion of the draft strategy describes how moving the primary point of water diversion of the state and federal projects from the southern Delta near Tracy to the Sacramento River near Clarksburg and Freeport would alter flow patterns in the estuary to promote fish recovery and provide for reliable water supplies. New water delivery facilities and new operating rules coupled with habitat restoration and efforts to reduce the negative effects of stressors like contaminants and invasive species will be undertaken together to address the threats to native fish survival and recovery.

The Importance of the Delta Cannot Be Overstated

The Sacramento–San Joaquin River Delta is home to half a million people and many historic communities. It is a key recreation destination and supports extensive infrastructure of statewide importance. Fresh water that reaches the Delta is the core of California's water system, which provides 25 million people throughout the Bay Area, the Central Valley, and southern California with a portion of their water supplies. Delta-conveyed water supports farms and ranches from the north Delta to the Mexican border. These agricultural resources are a major economic driver for the state, producing roughly half of the nation's domestically grown fresh produce. The Delta is also a vitally important ecosystem that is home to hundreds of aquatic and terrestrial species, many of which are unique to the area and several of which are threatened or endangered.

Conservation Strategy: How It Works

The current draft conservation strategy identifies biological goals and objectives to improve large-scale ecosystem conditions and the health of covered species; a comprehensive set of conservation measures developed to meet these goals and objectives; and monitoring and adaptive management programs to maximize the effectiveness of the strategy over the course of its implementation.



Relationship Between Conservation Strategy Elements	
1.	Biological goals and objectives reflect intended plan outcomes. Conservation measures are the actions taken to meet these goals and objectives.
2.	Monitoring is designed to evaluate biological effectiveness of the plan over time based on measurable biological objectives described in the biological goals and objectives.
3.	The range of adaptive management responses detailed in the plan will be shaped by the biological goals and objectives. Triggers based on biological goals and objectives will serve as warning signals that adaptive management actions may need to be taken. The adaptive management program allows for flexible, iterative, and effective implementation of the conservation strategy in meeting the biological goals and objectives, particularly in its capacity to respond to greater understanding about the Delta ecosystem as conditions change over time.
4.	The effectiveness of conservation measures will be evaluated through the monitoring program.
5.	The monitoring program supplies the data and research needed for adaptive management to occur.
6.	As more is understood about the Delta ecosystem and if conservation measures are found to be less effective than anticipated, the adaptive management program will inform what modifications to the conservation measures may be necessary.

Draft Conservation Strategy Elements

Habitat Restoration Targets	Water Delivery Rules	Other Stressors
Restore up to 80,000 acres of tidal marsh, seasonally inundated floodplain, and riparian habitat distributed throughout the Delta Enhance 11,500–21,000 acres of existing seasonal floodplain habitat in the Yolo Bypass Enhance up to 20 linear miles of channel bank restoration to create a more natural riverbank with overhanging shade, instream woody debris, and shallow benches	North Delta Diversion and Bypass Flows • Diversion facilities to support flexibility in flow management, with a design capacity of 15,000 cubic feet per second, which is similar to existing south Delta facilities • Establish minimum river flows to ensure that Sacramento River flows are always greater than export diversions and that flows support the habitat needs of covered fish and the ecological needs of the Delta as a whole South Delta Channel Flows • Minimize incidence and magnitude of reverse flow to acceptable levels during the times of year most important to fish and also reduce entrainment Outflow • Provide freshwater outflow necessary to maintain a desirable salinity regime and for fish health and survival Other Controls • Set new operating rules to (1) better manage inflows, (2) better manage the flow of water through the Delta Cross Channel and at Rio Vista, and (3) address water quality throughout the central and south Delta	Support scientific evaluation of ammonia and endocrine disruptor effects on fish species Reduce methylmercury Support existing programs and voluntary incentive-based actions to reduce agricultural pesticides and herbicides and clean urban stormwater runoff Support efforts to detect and remove invasive species such as quagga mussels and non-native submerged and floating aquatic vegetation Improve hatcheries, reduce poaching, and allow greater harvest of largemouth bass, black crappie, and striped bass in some areas of the Delta Screen, remove, relocate, consolidate, modify, and/or alter timing of non-project diversions to reduce entrainment

ROLE OF SCIENCE IN DEVELOPING THE DRAFT CONSERVATION STRATEGY

The BDCP Conservation Strategy is built upon and reflects the extensive body of scientific investigation, study, and analysis of the Delta available. The BDCP Steering Committee also undertook a rigorous process to develop new and updated information, including an evaluation of conservation options using the CALFED Bay-Delta Ecosystem Restoration Program's DRERIP evaluation process conducted by multiple teams of experts in early 2009. The BDCP Steering Committee sought and utilized independent scientific advice at several key stages of the planning process, enlisting well-recognized experts in ecological and biological sciences to produce recommendations on a range of relevant topics, including conservation planning for both aquatic and terrestrial species and developing adaptive management and monitoring programs. This independent panel will continue to convene as the plan is developed, and ongoing scientific input will be provided during plan implementation.

BENEFITS OF REGIONAL CONSERVATION PLANNING

Conservation plans:

- **Allow operations of state and federal water projects to proceed with a comprehensive ecosystem-focused approach that provides for the conservation of affected species and habitats**
- **Eliminate more costly, often less effective piecemeal project-by-project, species-by-species permitting**
- **Provide flexibility in addressing those issues that are most effective for promoting the conservation of covered species**
- **Are based on the best available science**
- **Provide reliable funding sources for ecosystem restoration**

For more information, contact Karla Nemeth at 916-651-7587.

BDCP Aquatic Habitat Restoration

The Bay Delta Conservation Plan will include a comprehensive approach for restoring key natural ecosystem functions in the Delta's highly altered environment. A central component of this plan focuses on aquatic habitat conservation, which includes seasonally inundated floodplain, riparian, channel margin, and tidal marsh restoration and enhancement in strategic locations throughout the Delta. Although specific restoration and enhancement sites may not be identified until plan implementation, the chart below and map at right note potential areas where habitat restoration could occur after additional review and environmental analysis. Please see reverse page for more information about future site selection criteria and management plans.

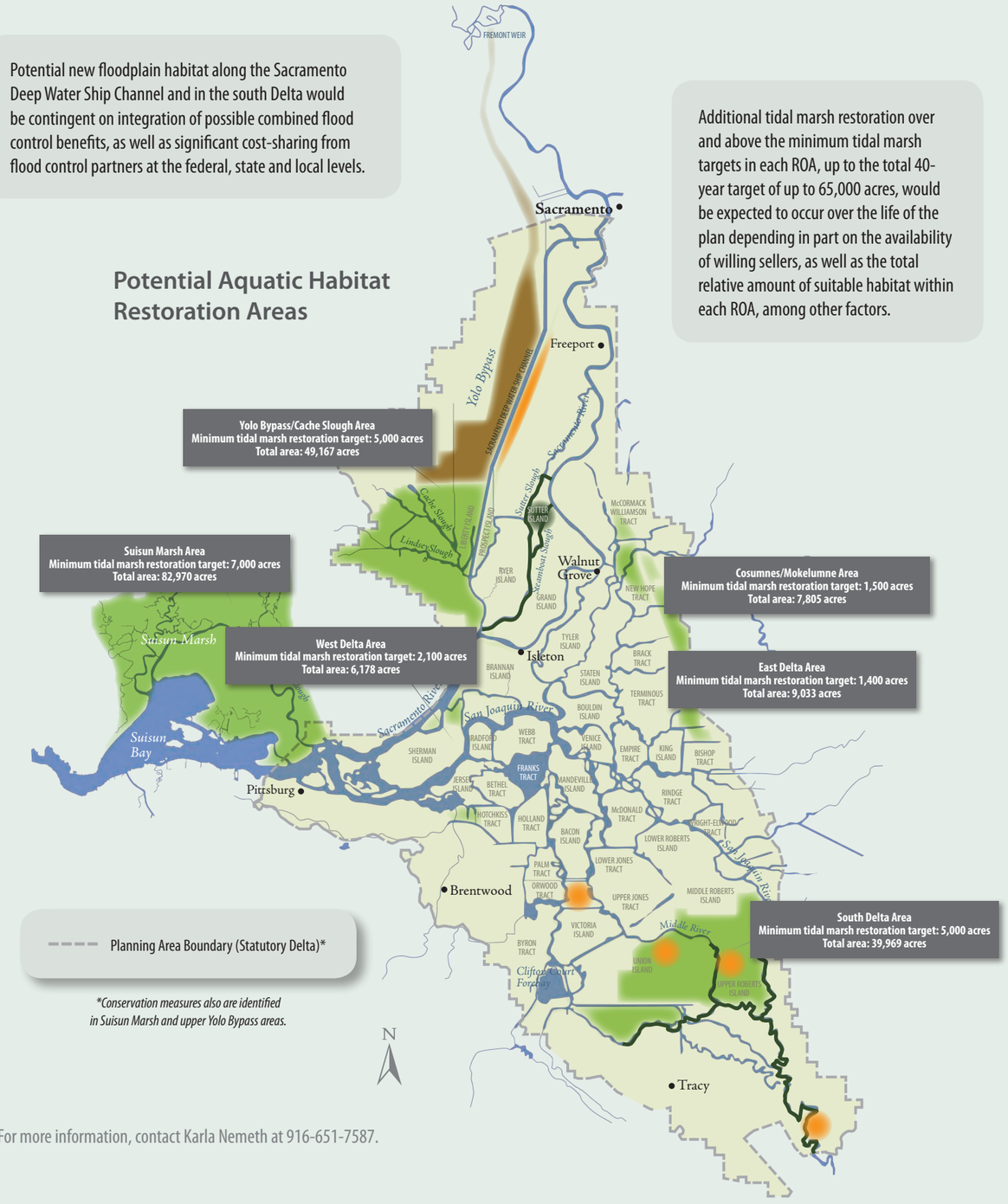
PROPOSED HABITAT RESTORATION AND ENHANCEMENT TYPES, AREAS AND ACREAGE TARGETS

Habitat Type	Phasing of Restoration Over Time			Potential Area (general location)
	By Year 10	By Year 15	By Year 40	
Channel Margin -restore/enhance shaded riverine, marsh, mudflat habitat			20 linear miles	Potentially any project levees along the San Joaquin River and other levees anywhere in the planning area that are important to salmon. In the north Delta, current interest is focused on Steamboat and Sutter sloughs.
Floodplain (new) -levee setbacks, land surface re contouring, natural meander belts		1,000 Acres	10,000 Acres	Potentially anywhere in the planning area, with current interest along the San Joaquin River downstream of Vernalis; on Fabian tract along Old River; on Union Island and Upper Roberts Island on Middle River. The plan currently identifies a narrow area along the eastern alignment of the Sacramento Deep Water Ship Channel as a potential new flood bypass for future study.
Floodplain (enhanced existing)		11,500–21,000		Increased frequency and duration of existing floodplain inundation in the Yolo Bypass targeting inundation for 30 to 45 days from December to April.
Tidal Marsh -intertidal marsh, subtidal estuarine, upland sea level rise accommodation	14,000 Acres	25,000 Acres	65,000 Acres	Minimum acreage targets set in Restoration Opportunity Areas (ROAs) as noted at right. Initial restoration would be focused on Cache Slough, Suisun, and West Delta ROAs. Over the 50-year plan horizon, restoration would be expanded within these areas, and additional restoration would be located in Cosumnes-Mokelumne, East Delta, and South Delta ROAs.
Riparian -riparian forest and scrub restoration	1,300 Acres	2,300 Acres	5,000 Acres	Potentially anywhere in the planning area, although favoring locations where other restoration is occurring as appropriate.

Potential new floodplain habitat along the Sacramento Deep Water Ship Channel and in the south Delta would be contingent on integration of possible combined flood control benefits, as well as significant cost-sharing from flood control partners at the federal, state and local levels.

Additional tidal marsh restoration over and above the minimum tidal marsh targets in each ROA, up to the total 40-year target of up to 65,000 acres, would be expected to occur over the life of the plan depending in part on the availability of willing sellers, as well as the total relative amount of suitable habitat within each ROA, among other factors.

Potential Aquatic Habitat Restoration Areas



For more information, contact Karla Nemeth at 916-651-7587.

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Future Site Selection Criteria

The following is a list of some of the site selection criteria that will be used, along with local input, to identify lands for habitat restoration and enhancement.

Feasibility

- Minimized effects on existing land uses
- Site availability
- Cost effectiveness in implementing restoration
- Potential effects on mosquito vector control

Biological Attributes

- Ability to achieve multiple biological objectives for multiple species
- Proximity to channel systems that could benefit from restoration (e.g., increased tidal flows may help reduce bi-directional flows in upstream channels, or support greater mixing in channels, both of which are beneficial for native fish)
- Capacity to contribute to more natural transitions between habitats in the Delta (seasonal wetland, riparian, grassland)
- Proximity to existing habitats so that new restoration adds to and develops habitat corridors for fish and wildlife
- Minimal effects of other stressors (such as nearby water diversions or discharges of low quality water) that could offset intended fish and wildlife benefits

Habitat Restoration Management Plans

Individual habitat management plans will guide long-term management of restoration sites and will include:

- Biological goals and objectives to be met by the restoration activity
- Site-specific monitoring requirements and approach to adaptive management
- Controls for invasive plants
- Controls for non-native predators and competitor species
- Vegetation management and infrastructure maintenance
- Public access and other allowable uses

Important Habitat Strategy Concepts

One of the primary conservation benefits of separating the water supply system from the Delta estuary is that it creates the ability to restore critical ecosystem functions—such as spawning and rearing habitat, production of food for fish, and fish migration patterns—throughout the Delta that are essential for species recovery.

Broad geographic distribution of habitat throughout the estuary is intended to improve ecological processes and function. During the first 10 years of implementation, while the Delta estuary remains the sole water supply conveyance route, habitat restoration would be focused in the north and west Delta and Suisun Marsh. After a dual conveyance system is operational, habitat restoration would be expanded to the Mokelumne and San Joaquin River areas. This approach is intended to help fish species recover by improving productivity and habitat quality and their resilience to variations in the ecosystem that could occur with climate change.

Another overarching strategy guiding the conservation plan is to restore habitat in large patches to increase the likelihood of providing the desired levels of ecological functions and to support large numbers of covered species.

Terrestrial Species

The draft conservation strategy includes biological goals and objectives for more than 40 sensitive wildlife and plant species, and also provides for the development of conservation measures to help their recovery. Design of conservation measures for these species would build upon the habitat restoration components of this plan but also would include additional habitat protection measures to complement the strategies of locally led conservation plans in areas next to and overlapping the Delta, many of which recognize and acknowledge the terrestrial habitat value of working agricultural lands in the Delta. Plant and wildlife conservation measures would be implemented in coordination with the local organizations in a way that complements local habitat conservation goals and, where feasible, would build on compatible existing land uses (as through conservation easements and wildlife-friendly agriculture).

Frequently Asked Questions

Q: How much land and what locations are identified for potential habitat restoration?

A: The draft Conservation Strategy identifies acreage targets for various habitat restoration types that would be a legal requirement of the plan. It identifies general areas where restoration could be focused, such as potential suitable tidal marsh restoration areas and floodplain enhancement in the Yolo Bypass. It also identifies areas of particular interest for further habitat restoration study, such as Steamboat and Sutter Sloughs (channel margin enhancement), and Old and Middle Rivers (restoration of seasonally inundated floodplain habitat) although these types of habitat restoration potentially could occur in numerous places throughout the statutory Delta and Suisun Marsh.

Q: How would landowners be affected by restoration activities?

A: If the BDCP is approved, its implementing entity would identify and evaluate specific lands based in part on restoration suitability and the willingness of landowners to sell their property or grant conservation easements. Once a location is identified, habitat restoration designs and long-term habitat restoration management plans will be developed. This detailed information will be subject to site-specific environmental review in addition to the environmental review currently underway on the entire BDCP so that impacts can be adequately identified and mitigated.

Q: What would happen to habitat restoration activities planned, in progress, or needing monitoring if there is not enough funding?

A: All lands acquired by the BDCP for habitat restoration would be managed in perpetuity. As required by law, the BDCP will include a cost and financing plan for all conservation measures, including habitat restoration.

Delta Dual Conveyance and Operations

A dual conveyance system, as envisioned by the BDCP, would create options that would move water through the Delta's interior or around the Delta through an isolated conveyance facility. The BDCP participants are evaluating how these water "operations" could be guided by new rules designed to be helpful for fish, but also to ensure enough of a flow of water to protect water quality and other habitat. Dual conveyance has the potential for providing the most options to meet the BDCP's planning goals, and also for addressing the threat of levee failure posed by earthquakes and the effects of climate change.

These new rules are detailed requirements designed to provide improved habitat conditions for fish, including factors such as temperature, depth, turbidity, salinity, residence time and velocity. Providing these water attributes for fish is intended to benefit each species by: improving survival, fitness, distribution, growth rate; reducing mortality; providing spawning and rearing habitat; and providing nutrients. In addition, the rules help meet other objectives, such as reducing fish "entrainment" at the existing state and federal pumps.

Currently, pumps for the state and federal water projects are located in the southern Delta. Operation of the pumps is often detrimental for fish and their habitat. The pumps are strong, and can pull fish, nutrients and other organic matter toward the southern part of the Delta, at times creating reverse (backwards or upstream) flows. Under these current conditions, water operators do not have many options for changing these water flows, except to reduce the level of pumping.

In addition to meeting water supply reliability goals, the water conveyance approach envisioned by BDCP helps fish and their habitats in these five fundamental ways:

1. **Aligning Water Operations to Mimic Natural Seasonal Flow Patterns**
   Current flow management operations seasonally store water in reservoirs for steady releases throughout the year. Flow management envisioned by the BDCP would allow for greater variability to flows seasonally when fish need it most.
2. **Reduce Physical Impact of a Southern Diversion Point (Risk of Entrainment)**
   Diverting water from the southern Delta creates greater conflicts between water operations and the needs of fish than the northern Delta. By adding a point of diversion for the State Water Project and federal Central Valley Project in the northern Delta and allowing for real-time, flexible operation of both southern and northern diversion points, fish can be better protected.
3. **Protect Fish with State-of-the-Art Fish Screens**
   New northern diversion points would be fitted with state-of-the-art fish screens to avoid and minimize the likelihood of entrainment of fish and other aquatic organisms.
4. **Improve and Better Approximate Natural Flow in the Estuary**
   Reducing the frequency, duration and rate of reverse flow—by minimizing south Delta pumping and providing for a more natural east-to-west flow pattern through dual conveyance—improves conditions for fish.
5. **Create New Habitat Areas**
   New flow patterns linked with habitat restoration areas create opportunities to re-establish important ecological processes associated with the interaction between land and water in a way that is beneficial to fish and that more closely resembles natural estuary function.

Frequently Asked Questions

1. Why is the Bay Delta Conservation Plan contemplating isolated conveyance?

Changing the design of the basic plumbing is an important part of fixing the Delta. Use of an isolated facility around the Delta would help restore the more natural east-west flow patterns that characterized the Delta estuary historically to the benefit of Delta habitats. As a major component of the BDCP conservation strategy, as well as a covered activity, improved Delta conveyance is expected to help stabilize and gradually recover legally protected species and also ease current operational constraints on essential water supplies from the Delta.

2. Will the implementation of the BDCP increase salinity in the Delta?

Preliminary analyses suggest that operating a new north Delta diversion in combination with the existing pumps in the south Delta, in addition to strategically located habitat restoration, will help maintain existing agricultural and drinking water quality in the Delta. Additional modeling of water flows and quality for fish, in-Delta use, and water export is likely to be completed as part of the draft plan. Impacts on water quality also will be assessed as part of the BDCP's environmental review and in water rights and water quality deliberations and proceedings before the State Water Resources Control Board and in other regulatory processes.

3. Why can't the pumps be turned off for good?

The state and federal water projects provide 25 million Californians with some portion of their water for homes, businesses, agriculture, and recreation. There is no way simply to turn the pumps off because there is no realistic way to replace all of the water that would be lost without severe economic damage to the state. Water purveyors across the state are implementing improvements in conservation and advancing potential innovations like desalination. A more environmentally sustainable and reliable way to move water through the Delta must be found.

4. Why can't the existing pumps be fitted with better fish screens? Wouldn't that protect the fish?

Even if better screens were used at the pumps in the southern part of the Delta, the pumping still would pull the fish toward a dead-end in the south. Nutrients and organic matter still would be pulled in as well. The detrimental water flows that disrupt natural processes and species life cycles still would occur. While fish screens might save some fish at the pumps, in the long run their habitat would still be significantly impaired.

5. If dual conveyance doesn't create any new water, why spend the money on it?

BDCP is considering dual conveyance because, from a water reliability perspective, it would protect against threats to levees posed by earthquakes and long-term sea level rise in the Delta. Dual conveyance also provides critical capacity and flexibility to change flow patterns in a way that is needed to restore basic ecological functions in the Delta such as production of food for fish, spawning and rearing habitat, and flows that support safe fish migration. Water users who rely on the State Water Project and federal Central Valley Project would pay for dual conveyance facilities.

Note: An environmental review will evaluate the environmental effects of the BDCP, including various alternatives to the BDCP.

The water operations and flow measures developed to date by the BDCP Steering Committee will be used for modeling purposes, which will provide data upon which to develop proposed water operations rules, including adaptive ranges, that will be identified in the Public Draft plan. The descriptions of the rules below represent elements of a potential framework for which the BDCP participants will conduct further study and evaluations before including them in the draft plan.

Inflow

Potential new approach to ensuring a specified freshwater inflow to the Delta using the cumulative Eight River Index—the sum of the runoff from the eight major rivers of the Sacramento and San Joaquin valleys that helps determine the duration of the fish and wildlife salinity and flow standard at Chipps Island or Port Chicago during February through June.

Potential objectives: (1) maintain hydrologic synchrony (seasonal and daily increases and decreases in river flows) between the mainstem Sacramento River and its tributaries, (2) maintain environmental cues used by fish and other aquatic species to signal spawning, migration, and other population responses and behaviors, and (3) increase the survival and growth of covered fish inhabiting the river and estuary.

Fremont Weir/Yolo Bypass

Mimic seasonal floodplain inundation by enabling more spills of water into Yolo Bypass under specified conditions, including limited duration and depth.

Objectives: (1) increasing spawning and rearing habitat for splittail and rearing habitat for salmonids, (2) providing alternate migration corridor to the mainstem Sacramento River, and (3) increasing effectiveness of habitat and food transport in Cache Slough.

North Delta Diversion Bypass Flows

Establish minimum river flows with a fraction of flows above that minimum that would be available for export depending on the season. Ensures that Sacramento River flows are always greater than export diversions and that flows support the habitat needs of covered fish and the ecological needs of the Delta as a whole.

What is new or changed: Five new intakes create a new point of diversion in the north Delta; operated in conjunction with south Delta diversions to maintain water quality and meet biological needs of all covered fish species.

Objectives: (1) maintain fish screen sweeping velocities, (2) avoid unnatural upstream transport from downstream channels, (3) support salmonid and pelagic fish transport to regions of suitable habitat, (4) minimize predation effects at the new diversion facility and downstream, and (5) maintain or improve the overall quality of rearing habitat in the north Delta.

Outflow

Combination of existing State Water Resources Control Board regulations, relaxed restrictions on Roe Island trigger, and additional restrictions on fall outflows.

What is new or changed: Patterns of outflow do not change significantly. Outflow is expected to be similar to current patterns.

Objectives: (1) Provide sufficient outflow to maintain desirable salinity regime downstream of Collinsville during the spring, and (2) explore range of approaches toward providing additional variability to Delta inflow and outflow.

Rio Vista Flows

Use State Water Board requirements plus additional minimum seasonal flows to assist migrating fish.

What is new or changed: Addition of seasonal minimum flow requirements.

Objectives: maintain flows for migrating salmonids and smelt.

Delta Cross Channel Gate Operations

Open or close the gates seasonally when fish are present.

What is new or changed: Currently the Delta Cross Channel gates are closed between February and late May for fishery protection. Operations under the BDCP that are currently being investigated include closing the Delta Cross Channel gates during ten months of the year with open gates in July and August to help ensure suitable Delta water quality.

Objectives: (1) reduce transport of outmigrating Sacramento River fish into central Delta, (2) maintain flows downstream on Sacramento River, and (3) provide sufficient Sacramento River flow into interior Delta when water quality for municipal and industrial use and agriculture may be of concern.

South Delta Channel Flows

Investigate a range of outflow options that would reduce, maintain, or increase the minimum outflows currently required under the projects' water right permits.

What is new or changed: Significantly higher flows in Old and Middle Rivers, reducing effect of reverse flows and much lower exports from the south Delta using the through-Delta system.

Objectives: (1) improve the survival of covered fish by reducing the risk of entrainment losses at the south Delta exports, (2) increase survival of juvenile salmon and steelhead by reducing delays during migration and straying off course, (3) improve downstream transport of larval and juvenile fish, and (4) improve the production of food resources within the Delta and Suisun Bay.

Isolated Conveyance

(canal or tunnel design to be determined)

Operations for Delta Water Quality and Circulation

Establish maximum limit on south Delta pumping during July through September.

What is new or changed: The south Delta export pumps would be used during the summer months to maintain circulation of water within central and south Delta channels to avoid stagnant conditions, reduce algal accumulations, and maintain suitable salinity. This operation would ensure that not all diversions occur from the north Delta during the summer. The summer exports would include opening the Delta Cross Channel gates to increase the flow of freshwater from the Sacramento River into the Delta.

Objectives: (1) maintain a minimum level of pumping from the south Delta during summer to provide limited flushing for general water quality conditions (reduce stagnation and prolonged water residence times), (2) municipal and industrial, and agricultural salinity improvements, and (3) allowing operational flexibility during other periods to operate either north or south diversions based on real-time assessments of benefits to fish and water quality.

Sacramento
Yolo Bypass
SACRAMENTO DEEP WATER SHIP CHANNEL
Sacramento River
Sutter Slough
Cache Slough
LindseySlough
Steamboat Slough
Isleton
Sacramento River
San Joaquin River
FRANKS TRACT
Old River
Middle River
Clifton Court Forebay
Planning Area Boundary
Tracy
N

Primary factor in managing Delta flows

For more information, contact Karla Nemeth at 916-651-7587.

9/2//09

BDCP
Bay Delta Conservation Plan

Frequently Asked Questions
Access to Property for Geotechnical Investigations

The California Department of Water Resources (DWR) is currently completing the recommended geotechnical field investigations for the Bay Delta Conservation Plan (BDCP). The following information is reflective of questions DWR frequently receives on these activities.

What is a geotechnical investigation?

Geotechnical investigations include cone penetration testing (CPT), drill holes, and test pits. All of these investigations are important to gather information on the types, engineering characteristics, and depth of soils impacted by the proposed BDCP.

CPT identifies soil behavior characteristics including groundwater levels, liquification potential, and shear-wave velocity. CPT work takes approximately four to six hours and consists of creating an approximately 1.4-inch-diameter hole by pushing a hydraulic probe into the ground. While the probe is pushed, it electronically measures and records resistance. At completion, the probe is withdrawn and the hole is filled with a cement bentonite mixture in accordance with state regulatory requirements.

Drill Holes provide a variety of information on composition and strength characteristics of the material present at the test site. Each hole is 6 inches in diameter, and can extend from 50 to 225 feet in depth. Drill hole work takes a maximum of 14 working days and includes site reconnaissance, restoration, and drilling. At completion, the hole is sealed with cement bentonite grout in accordance with state regulatory requirements.

Test Pits are used to take bulk samples, view the soil profile, and perform soil density tests. Each pit is approximately 3 feet wide by 12 feet long and about 12 feet deep, and takes two to four hours to complete. Each pit is dug using a backhoe. Once completed, the pit is filled using the previously excavated material.

What is the purpose of the Geotechnical investigations for the BDCP? Is the information gathered necessary to finish the BDCP?

The geotechnical investigations being conducted by DWR are necessary to support the preparation of the BDCP Environmental Impact Report/ Environmental Impact Statement (EIR/ EIS) and preliminary engineering. The information and data gathered may be necessary to support the planning and development of a water conveyance alternative, and assure that any required construction provides for the highest level of public and environmental safety.

How were geotechnical investigation sites determined?

Sites were selected with respect to the conceptual engineering alignments. The majority of the sites provide information and data for the intakes, river crossings, Intermediate Forebay, and the Byron Tract Forebay. Additional sites were chosen to gather information related to the pipeline/tunnel option.

Is the cement bentonite mixture safe for residents and the environment in general?

Yes. The cement bentonite mixture is required by state regulations, and is safely used in a variety of applications including cement slurry walls in flood control projects as well as plugging drill holes.

DWR adheres to jurisdictional guidelines to set the level of bentonite in the mixture. For example, Sacramento County requires no more than 6 percent bentonite, Contra Costa County sets the limit at 5 percent, while San Joaquin County has established a range of 3 to 5 percent bentonite to cement.

Do the CPT and Drill Holes present a flood or seepage problem for landowners near levees?

No. The current data shows that test holes plugged with cement bentonite mixture are not prone to seepage or failure.

How has DWR worked with landowners, state agencies, and local jurisdictions to conduct this work?

DWR has coordinated with landowners, the Central Valley Flood Protection Board, the U.S. Army Corps of Engineers, and other jurisdictions, such as the Reclamation Districts, to obtain Temporary Entry Permits (TEPs) and conduct field investigations.

In July 2008, DWR land agents began negotiations to obtain TEPs from landowners. The TEPs granted DWR temporary access to parcels to conduct field investigations in support of the BDCP.

Because not all landowners allowed access, DWR filed a petition with the court for permission to enter certain parcels to gather the necessary data. Since that time, there have been several court hearings associated with this issue. In February 2011, DWR was granted permission to enter parcels to conduct environmental surveys. DWR is still in the process of obtaining permission from the courts to conduct geotechnical investigations on certain parcels.

How can DWR continue to conduct field surveys while in litigation with landowners?

DWR is conducting geotechnical activities only on parcels where landowners have signed TEPs. Geotechnical work will also continue to take place on DWR owned property.

What is Eminent Domain, and why is it needed for this work?

Eminent domain is a process that facilitates the acquisition of private land for public use. Throughout the BDCP process, DWR has negotiated permission to enter with many landowners to conduct the tests described above. Although DWR prefers to work with and negotiate with willing landowners, the agency utilizes eminent domain in cases where the landowner and DWR are unable to reach an agreement.

When does DWR expect to complete drilling and surveys?

The next round of geotechnical drilling activities is scheduled to begin in May 2012 and end by October 2012. DWR anticipates completing 115 CPT holes, and 115 drill holes down to a maximum depth of 225 feet. DWR will also complete six test pits to determine soil characteristics and geotechnical field work feasibility.

What Field Surveys are left to be completed?

DWR anticipates that it will need to access private property through 2012 for environmental (wetland delineation), cultural resources, and geotechnical surveys/studies.

BDCP
Bay Delta Conservation Plan

For more information on geotechnical investigations in support of the BDCP, please contact:

Ted Thomas
at (916) 653-9712

or

California Department of Water Resources
Attn: Carolyn Dabney
1416 Ninth Street, P.O. Box 942836
Sacramento, CA 94236-0001

For more information, visit
www.baydeltaconservationplan.com

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BDCP
Bay Delta Conservation Plan
Environmental Review Process

The Bay Delta Conservation Plan *is a conservation plan for the Sacramento-San Joaquin River Delta (Delta) designed to achieve California's co-equal goals of providing for the conservation and management of aquatic and terrestrial species, and the reliability of water supply delivery conveyed through the State Water Project (SWP) and the Central Valley Project (CVP).*

Overview

The California Natural Resources Agency is developing an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Bay Delta Conservation Plan (BDCP). An environmental assessment of the BDCP is required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The public draft EIR/EIS will be available for review and comment in summer 2012.

Why is an EIR/EIS Necessary?

Although conservation plans like the BDCP are beneficial to the environment, specific actions in the plan can have environmental impacts that must be evaluated and mitigated, as prescribed by state and federal law. The environmental review will:

- **Identify** environmental impacts
- **Evaluate** reasonable alternatives that could avoid or minimize those impacts
- **Develop** mitigation (ways to reduce or avoid environmental impacts)
- **Provide** information for public review and comment
- **Disclose** to decision makers the impacts, mitigation, and public comments

Structure of the EIR/EIS

The BDCP EIR/EIS is comprised of 36 chapters. The first four chapters describe the project area, the need for the proposed action, alternatives to address the purpose and need, and the analytical approach being used. Chapters 5 through 28 focus on specific resource areas (e.g., water quality, fish and aquatic, agricultural), describing the environmental setting, analysis methods, environmental consequences, and mitigation measures/ environmental commitments for the proposed project alternatives. Chapters 29 through 36 address issues like climate change, cumulative environmental impacts, and public outreach efforts.

Alternatives Analysis

The alternatives (15 action alternatives and one no-action alternative) described below are an outgrowth of the alternatives investigated in the BDCP. The BDCP is analyzing various combinations of water conveyance configurations, capacities, operations, and habitat restoration, and their effects on biological resources and hydrology. This information supports the selection of a range of the alternatives receiving full evaluation in the EIR/EIS. In addition to the variations of conveyance configurations described in the BDCP, the alternatives in the CEQA and NEPA process include a variety of conveyance alignments and other specifications resulting from public scoping sessions conducted in 2008 and 2009 and the California Water Reform Act of 2009.

EIR/EIS Alternatives

ALTERNATIVE	ALIGNMENT OPTION†	CONVEYANCE TYPE†	INTAKES	NORTH DELTA DIVERSION CAPACITY (cfs)	OPERATIONAL SCENARIO	HABITAT RESTORATION*
No Project/ Action Alternative	N/A	Through-Delta	N/A	Current Operations	N/A	8,000 acres of restored aquatic habitat**
Alternative 1A	Pipeline/Tunnel	Dual	5	15,000 cfs	A	Up to 113,000 acres of restored and protected habitat***
Alternative 1B	East Canal	Dual	5	15,000 cfs	A	
Alternative 1C	West Canal	Dual	5	15,000 cfs	A	
Alternative 2A	Pipeline/Tunnel	Dual	5	15,000 cfs	B	
Alternative 2B	East Canal	Dual	5	15,000 cfs	B	
Alternative 2C	West Canal	Dual	5	15,000 cfs	B	
Alternative 3	Pipeline/Tunnel	Dual	2	6,000 cfs	A	
Alternative 4	Pipeline/Tunnel	Dual	3	9,000 cfs	B	
Alternative 5	Pipeline/Tunnel	Dual	1	3,000 cfs	C	Up to 25,000 acres of restored and protected habitat
Alternative 6A	Pipeline/Tunnel	Isolated	5	15,000 cfs	D	Up to 113,000 acres of restored and protected habitat***
Alternative 6B	East Canal	Dual	5	15,000 cfs (No South Delta Intakes)	D	
Alternative 6C	West Canal	Dual	5	15,000 cfs (No South Delta Intakes)	D	
Alternative 7	Pipeline/Tunnel	Dual	3	9,000 cfs	E	Up to 113,000 acres of restored and protected habitat***, additional 20 miles of Channel Margin Habitat and 10,000 acres of Seasonally Inundated Floodplain
Alternative 8§	Pipeline/Tunnel	Dual	3	9,000 cfs	F	Up to 113,000 acres of restored and protected habitat***
Alternative 9	N/A	Through-Delta	Delta Cross Channel and Georgiana Slough channel modifications	15,000 cfs	G	

Operational Scenarios

The following operational scenarios are described in detail in the *BDCP Draft EIR/EIS* (Chapter 3 – Alternatives, Section 3.3.1.2), available online at: **www.BayDeltaConservationPlan.com**.

Scenario A would include specific criteria guiding water supply parameters at a variety of locations and facilities. This includes criteria for: north Delta diversion bypass flows; south Delta channel flows; Fremont Weir/Yolo Bypass operations; Delta inflow and outflow; Delta Cross Channel gate operations; Rio Vista minimum instream flows; Delta water quality and residence time, and in-Delta agricultural, municipal, and industrial water quality requirements *(BDCP Steering Committee handout, 2/11/10 – www.BayDeltaConservationPlan.com)*.

Scenario B would incorporate criteria for the same elements as those referenced under Scenario A. This scenario would add an operable barrier at Head of Old River.

Scenario C would adopt the operational guidelines of Scenario A north of the Delta. South of the Delta, this scenario would be consistent with the existing 2008-09 Biological Opinions.

Scenario D would be modified from Scenario A to eliminate use of south Delta intakes and add criteria surrounding Fall X2.

Scenario E would be modified from Scenario A to reduce north Delta diversion bypass flow and would include other modifications to south Delta channel flow criteria, Fremont Weir operations, Rio Vista minimum instream flow criteria, and Delta inflow and outflow criteria.

Scenario F increases Delta outflow, as requested by the State Water Resources Control Board and other interest groups.

Scenario G would be similar to those described under Scenario A, but would be modified to conform to the conveyance components of the separate corridors option.

*** 113, 000 ACRES OF RESTORED AND PROTECTED HABITAT

- New Floodplain – Up to 10,000 acres
- Tidal Habitat – Up to 65,000 acres
- Channel Margin – 20 levee miles
- Riparian – Up to 5,000 acres
- Grassland – Up to 8,000 acres (protected)/ Up to 2,000 acres (restored)
- Vernal Pool Complex – Up to 300 acres (protected)/ Up to 200 acres (restored)
- Nontidal Marsh – Up to 400 acres
- Agriculture – Up to 16,620 to 32,640 acres
- Alkali Seasonal Wetland Complex – Up to 400 acres

* The BDCP planning process is currently working with various stakeholders to define more specific habitat restoration contemplated by the Plan. These individual restoration projects will be the subject of separate, site-specific environmental review processes as the Plan is approved and implemented.
** Per several federal and state requirements and Biological Opinions issued by USFWS and NMFS.
† Conveyance options may include a combination of isolated and/or pipeline/tunnel features that are lined, unlined, and located east, west, through, or under the Delta.
§ This alternative will seek to increase outflow up to 1.5 MAF annually.

Multiple-Step Screening Process

Alternatives for environmental review are evaluated in a multi-level screening process:

First and Second Screening Levels
Defining alternatives under CEQA and NEPA

Third Screening Level
Defining "potentially feasible alternatives" under CEQA and "reasonable alternatives" under NEPA

Consideration of
Sacramento-San Joaquin Delta Reform Act requirements

Consideration of criteria identified by CEQA responsible agencies and NEPA cooperating agencies raised during scoping

Stakeholder Participation

To date, hundreds of meetings have been held to provide information and gather input on the BDCP. Preliminary drafts of all EIR/EIS chapters are available for public review on the BDCP website. Monthly public meetings are held by the Natural Resources Agency to discuss BDCP and EIR/EIS progress.

To review BDCP documents, find out about future public meetings, or sign up for BDCP updates, please visit the BDCP website: ***www.BayDeltaConservationPlan.com.***

Agency Involvement

The environmental review process for the BDCP is being conducted by four state and federal agencies. The California Department of Water Resources is the state lead agency under CEQA, while the Bureau of Reclamation, U.S. Fish and Wildlife Service, and the National Marine Fisheries Service are serving as the federal co-leads under NEPA. These are lead agencies because they have the principal responsibility for carrying out or approving the project.

The EIR/EIS is also being developed in close coordination with more than a dozen federal, state, and local resource agencies participating in a cooperating or coordinating capacity. They will analyze BDCP-proposed actions and alternatives to those actions in fulfillment of multiple local, state, and federal permitting requirements.

For more information, contact Karla Nemeth by e-mail at *karla.nemeth@resources.ca.gov* or by phone at 1-866-924-9955.

BDCP
Bay Delta Conservation Plan

Overview

The Bay Delta Conservation Plan (BDCP) is a conservation plan for the Sacramento-San Joaquin River Delta (Delta), and is being developed pursuant to the federal Endangered Species Act and California Natural Communities Conservation Planning Act. The BDCP is being designed to achieve California's co-equal goals of providing for the conservation and management of aquatic and terrestrial species, including the restoration and enhancement of ecological functions in the Delta, and improving current water supplies and the reliability of delivery of water supplies conveyed through the State Water Project (SWP) and the Central Valley Project (CVP). The public draft BDCP, while still under development will include a set of actions to redesign and re-operate state and federal water projects in the Delta; restore native fish, wildlife, and plant habitat; and address other ecological stressors in the Delta such as invasive plant species, barriers to fish migration, and predation of native fish. As a conservation plan, the BDCP is subject to environmental review under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA).

Although conservation plans are intended to be helpful to the environment, they have environmental impacts that must be evaluated and mitigated, as prescribed by state and federal law. The environmental review of the BDCP will identify and thoroughly analyze the Plan's environmental impacts, describe alternatives to the BDCP, and develop mitigation measures. The alternatives described in this document are various packages of water conveyance configurations, capacities, operations and habitat restoration. These will be analyzed for their effects on biological resources and hydrology to assist the Department of Water Resources and other state and federal agencies in their decision-making. This information will also support the selection of a range of alternatives for full evaluation as required by CEQA and NEPA. In addition to the variations of conveyance configurations described in this document, alternatives in the CEQA and NEPA process will include a variety of conveyance alignments and other specifications resulting from public scoping sessions conducted in 2008 and 2009 and the California Water Reform Act of 2009. The BDCP Draft Environmental Impact Report and Draft Environmental Impact Statement is scheduled to be available in June 2012.

Goals of the BDCP

The BDCP will help improve current water supplies and the reliability of delivery of water supplies for California water users, provide for the conservation of endangered species, and restore and enhance the Delta's ecological functions. The BDCP intends to achieve these goals while maintaining the unique cultural, recreational, natural resources, and agricultural values of the Delta.

The BDCP helps achieve coequal goals by:

- **Providing a more reliable water supply for California by modifying conveyance facilities to create a more natural flow pattern and prepare for seismic and climate change scenarios**
- **Providing for an adaptive management and monitoring program to enable the plan to adapt as conditions change and new information emerges**
- **Providing a comprehensive science-based restoration program for the Delta**
- **Identifying sources of funding and science-based decision making for ecosystem improvements**
- **Providing the basis for permits under federal and state endangered species laws for activities covered by the plan**

The alternatives described in this document are various packages of water conveyance configurations, capacities, operations and habitat restoration. These will be analyzed for their effects on biological resources and hydrology to assist the Department of Water Resources and other state and federal agencies in their decision-making.

Potential Array of Alternatives for BDCP Effects Analysis Process

Alternative	Habitat Restoration*	Conveyance†	North Delta Diversion Capacity (cfs)	Potential Intakes	Water Operations
No Project Alternative (Same as No Action Alternative)	8,000 acres of restored aquatic habitat**	Through Delta	Current Operations	-	Per D-1641 as modified by Biological Opinions issued by USFWS and NMFS
Alternative 1	Up to 113,000 acres of restored and protected habitat***	Dual	15,000 cfs		Per 2/11/10 BDCP Steering Committee Handout
Alternative 1A	Up to 113,000 acres of restored and protected habitat***	Dual	15,000 cfs		Scenario 6 per Points of Agreement with Fall X2
Alternative 2	Up to 113,000 acres of restored and protected habitat***	Dual	6,000 cfs		Per 2/11/10 BDCP Steering Committee Handout
Alternative 2A	Up to 113,000 acres of restored and protected habitat***	Dual	9,000 cfs		Scenario 6 per Points of Agreement with Fall X2
Alternative 2B: - One Intake at 3,000 cfs - Two Intakes at 1,500 cfs each	Up to 25,000 acres of restored and protected habitat	Dual	3,000 cfs 3,000 cfs		North of Delta per 2/11/10 BDCP SC Handout and South of Delta per existing Biological Opinions – with Fall X2, Old and Middle River Flows, and San Joaquin E/I ratios
Alternative 3	Up to 113,000 acres of restored and protected habitat***	Isolated	15,000 cfs		Similar to 2/11/10 BDCP Steering Committee Handout – modified to eliminate South Delta Intakes plus addition of Fall X2
Alternative 4:	Up to 113,000 acres of restored and protected habitat***, additional 20 miles of Channel Margin Habitat and 10,000 acres of Seasonally Inundated Floodplain	Dual	9,000 cfs		Modified from 2/11/10 BDCP Steering Committee Handout
Alternative 4A: §	Up to 113,000 acres of restored and protected habitat***	Dual	9,000 cfs		Developing operations that could include up to 1.5 MAF Increased Delta Outflow
Alternative 5: - Separate Corridors with Screens at Delta Cross Channel and Georgiana Slough	Up to 113,000 acres of restored and protected habitat*** with changes in South Delta	Through Delta	N/A	N/A	Similar to 2/11/10 BDCP Steering Committee Handout

* *The BDCP planning process is currently working with various stakeholders to define more specifically habitat restoration contemplated by the Plan. These individual restoration projects will be the subject of separate, site specific environmental review processes as the plan is approved and implemented.*

** *Per several federal and state requirements and Biological Opinions issued by USFWS and NMFS.*

† *Conveyance options may include a combination of isolated and/or pipeline/tunnel features that are lined, unlined, and located east, west, through, or under the Delta.*

§ ***This alternative will seek to increase outflow up to 1.5 MAFA. This option will not result in: • Drawing on Sacramento Valley groundwater • Failure to deliver SJR water (exchange water rights) • Failure to deliver refuge water • Drawing down SWP/CVP storage to make it impossible or highly unlikely to meet temperature requirements***

*** 113, 000 Acres of Restored and Protected Habitat

- New Floodplain – Up to 10,000 acres
- Tidal Habitat – Up to 65,000 acres
- Channel Margin – 20 Levee miles
- Riparian – Up to 5,000 acres
- Grassland – Up to 8,000 acres (protected)/ Up to 2,000 acres (restored)
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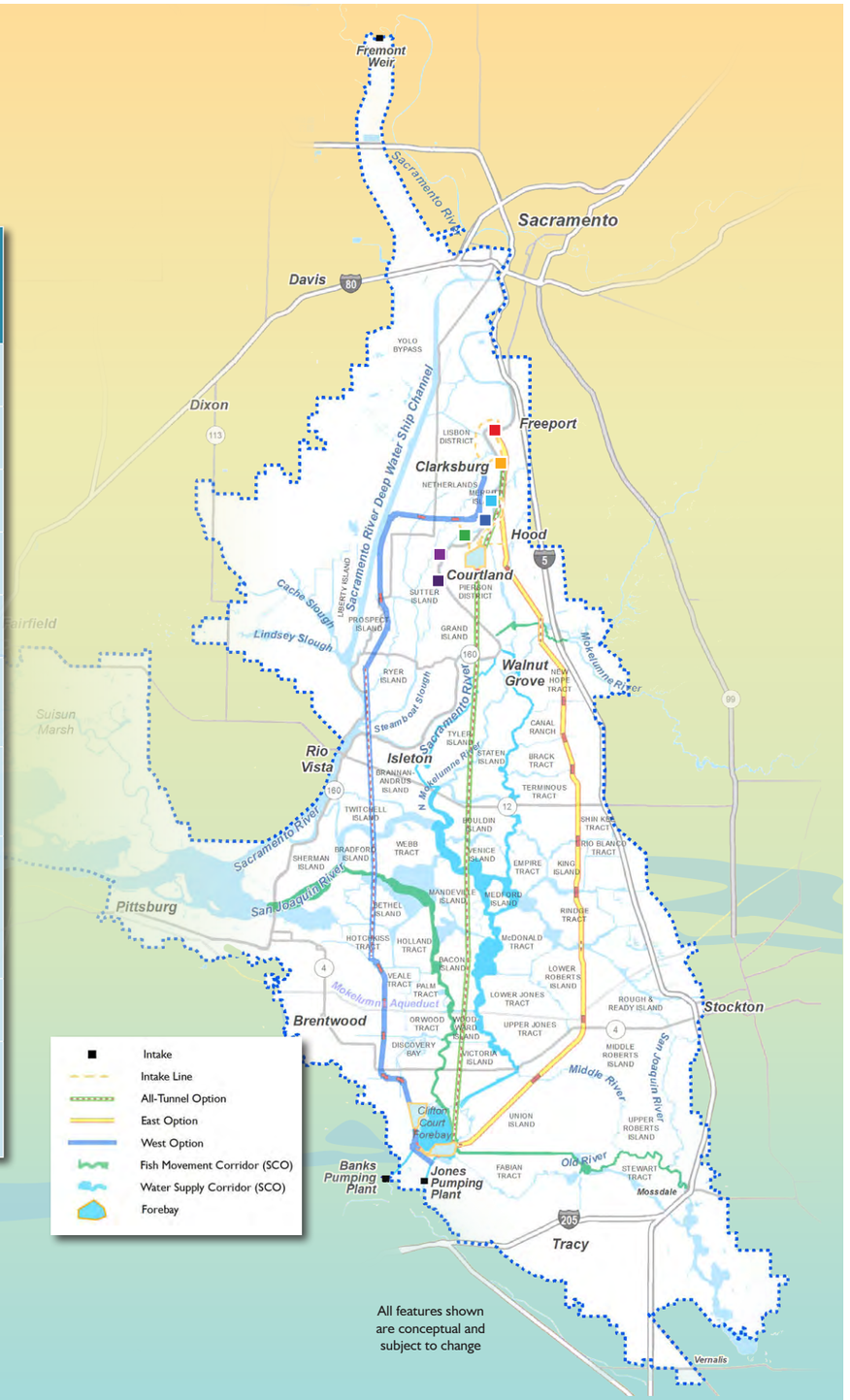
- Agriculture – Up to 16,620 to 32,640 acres
- Alkali Seasonal Wetland Complex – Up to 400 acres



What's Next?

Lead Agencies: The environmental review process for the BDCP is being conducted by four state and federal agencies. The California Department of Water Resources is the state lead agency under CEQA, while the Bureau of Reclamation, U.S. Fish and Wildlife Service, and the National Marine Fisheries Service are serving as the federal co-leads under NEPA.

The EIR/EIS is also being developed in close coordination with the California Department of Fish and Game, the California State Water Resources Control Board, the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers. These agencies will analyze BDCP proposed actions and alternatives to those actions, including alternative water conveyance options, in fulfillment of multiple state and federal permitting processes.

The lead agencies will continue to finalize the alternatives for full analysis of their effects on:

- Water Resources
- Water Quality
- Air Quality
- Climate Change
- Socioeconomic Conditions
- Land Use
- Agricultural Resources
- Cultural Resources
- Historical Resources
- Archaeological Resources
- Biological Resources
- Geology, Seismology, Minerals, and Soils
- Transportation and Navigation
- Recreation
- Noise
- Visual Resources
- Hazardous materials
- Utilities and Public Services
- Environmental Justice

Process: Once identified, alternatives for environmental review will pass through a three-level screening process:

	CEQA	NEPA
First Screening Level	Could the potential alternative concept feasibly attain most of the basic objectives of the project?	Could the potential alternative concept meet the projects purpose and need?
Second Screening Level	Would the potential alternative concept avoid or substantially lessen any of the expected significant environmental effects of the proposed project?	Would the potential alternative address one or more significant issues related to the proposed action?
Third Screening Level	Could the potential alternative concept be "potentially feasible"? Is it capable of being accomplished in a reasonable time period, taking into account economic, legal, social and technological factors?	Could the potential alternative concept be "reasonable"? Is it practical or feasible from a technical or economic standpoint?

About the BDCP

The Sacramento-San Joaquin River Delta (Delta) is a vital ecosystem, and home to hundreds of aquatic and terrestrial species, many of which are unique to the area. It is also a critical part of California's water system, providing a portion of water supplies to 25 million Californians. The BDCP is a comprehensive effort to help achieve the State mandated co-equal goals of ecosystem restoration and water supply reliability. Under development since 2006, the BDCP is guided by stakeholder input and managed by the California Natural Resources Agency and Department of Water Resources.

For more information, contact Karla Nemeth by e-mail at karla.nemeth@resources.ca.gov or by phone at (916) 651-7587.

BDCP
Bay Delta Conservation Plan
Environmental Review Process

About the BDCP Environmental Review Process

State and federal agencies are preparing a draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) for the Bay Delta Conservation Plan (BDCP) that will evaluate a range of habitat conservation and water conveyance alternatives in the Sacramento-San Joaquin Delta (Delta).

The BDCP is being prepared by state, federal, and local water agencies, state and federal fish agencies, environmental organizations, and other interested parties. These organizations have formed the BDCP Steering Committee. The BDCP will identify a set of actions to contribute to the recovery of endangered and sensitive species and their habitats in the Delta, while providing for improved water supply reliability. The BDCP EIR/EIS will evaluate the potential effects of those actions on a wide range of factors, including effects on communities, cultural resources, and the physical and biological environment.

The EIR/EIS will:

- Fulfill the requirements of the:
  - √ California Environmental Quality Act (CEQA)
  - √ National Environmental Policy Act (NEPA)
- Describe the proposed action
- 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
- For NEPA compliance: Describe the reasonable range of alternatives and mitigation that would avoid or minimize adverse impacts or enhance the environment
- Analyze the environmental effects of the proposed actions and alternatives to those actions
- Support future regulatory actions or approval
- Serve as a decision document, as well as a disclosure document.

The BDCP EIR/EIS is being developed by several state and federal agencies–the California Department of Water Resources (DWR), the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service.

Request for Temporary Land Access

Field studies have been conducted throughout the Delta region to support the preparation of a thorough and accurate EIR/EIS for the BDCP. To date, these studies have gathered environmental and engineering data where potential habitat conservation and water conveyance options may take place.

Additional TEPs are needed to study the Pipeline/Tunnel Option, as well as possible intake locations. Properties located within the planning area may be selected for further study in order to improve the accuracy of the evaluation. In these cases, DWR representatives may seek access to properties through the use of a Temporary Entry Permit (TEP). TEPs grant field crews temporary access to private property so that studies may be conducted.

If a particular parcel is chosen for further study, one or more of the following activities may be conducted: ground and aerial surveys, and geotechnical, biological, geological, archaeological, floral and faunal studies. Every effort will be made to ensure that the process goes as smoothly as possible, and that interruptions or other inconveniences are minimal to you and your property.

An initial round of TEP notices were mailed to select Delta landowners in October 2008 and November 2008. Additional TEP notices will be mailed to landowners in June 2010.

For information about the TEP process, contact Cheryl Allen at (866) 688-3227.

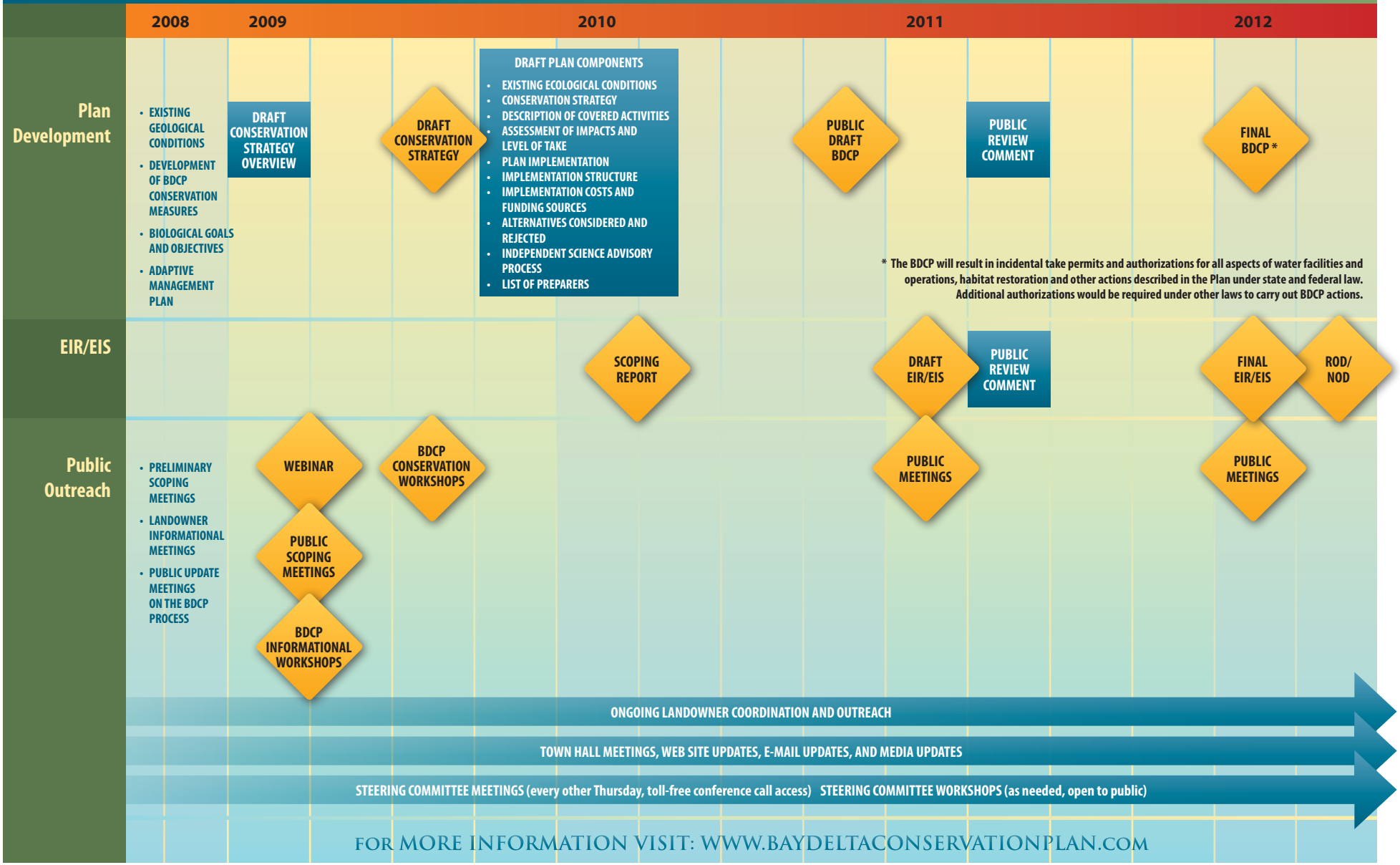
For more information about the BDCP visit
http://www.baydeltaconservationplan.com

For more information about the BDCP EIR/EIS, contact:
Rebecca Nicholas at (916) 651-2966, or
via email at rnichola@water.ca.gov

Rev 06/21/2010

BDCP
Bay Delta Conservation Plan
Plan Development Schedule

April 2010



FOR MORE INFORMATION VISIT: WWW.BAYDELTACONSERVATIONPLAN.COM

Frequently Asked Questions

About the Bay Delta Conservation Plan Environmental Review and Temporary Entry Permit Process

What is the Bay Delta Conservation Plan?

The Bay Delta Conservation Plan (BDCP) is a unique undertaking initiated and funded by public water agencies with the active participation of environmental organizations, state and federal fishery agencies, and other state and local organizations—all of whom are deeply invested in the long-term sustainability of the Sacramento-San Joaquin Delta (Delta). The goal of the BDCP participants is to formulate a plan that ultimately could be approved by regulatory agencies as a Habitat Conservation Plan under federal law and a Natural Community Conservation Plan under state law.

What is the purpose of the BDCP?

The purpose of the BDCP is to provide for the recovery of endangered and sensitive species and their habitats in the Delta in a way that will also protect and restore water supply reliability. The BDCP will:

- Identify and implement conservation strategies to improve the overall ecological health of the Delta;
- Identify and implement ecologically friendly ways to move fresh water through and/or around the Delta;
- Address other stressors, including toxic pollutants, invasive species, and impairments to water quality; and
- Provide a framework and funding to implement the plan over time.

Why does the BDCP need an EIR/EIS?

State and federal laws require the development of an Environmental Impact Report (EIR) under the California Environmental Quality Act (CEQA) and an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA) – the federal counterpart to CEQA – to evaluate environmental impacts of proposed projects. Conservation plans, although they are intended to be helpful to the environment, may have certain adverse effects that must be evaluated.

Who is preparing the BDCP EIR/EIS?

The BDCP EIR/EIS is being developed by several state and federal agencies–the California Department of Water Resources (DWR), the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service.

How might landowners be impacted by field studies?

Lead agencies will research existing information and conduct field studies throughout the Delta region to gather environmental and engineering data to support the preparation of a thorough and accurate EIR/EIS and preliminary engineering activities. Where existing information is not sufficient, individual landowners may be contacted by state representatives seeking approval to enter private parcels to gather additional information. Temporary access to private parcels will be sought through a Temporary Entry Permit (TEP).

What is a Temporary Entry Permit?

A TEP is an agreement between the State of California and an individual landowner. TEPs grant field crews temporary access to private property so that studies may be conducted.

How often will you need access to my property?

Several factors will affect how many times each property will need to be studied. It is anticipated that access to individual parcels will be needed only periodically during the timeframe outlined within the TEP. For example, some wildlife in the region may be seasonal inhabitants that require study at specific times of the year. Access may be required only during these times to address these special needs. Landowners will be notified in advance of each visit. Contact Cheryl Allen at (866) 688-3227 with specific questions related to your property.

Will I be compensated if my property is damaged during these studies?

Landowners will be reasonably compensated for damage caused by studies associated with the TEP. If for some reason a property is damaged as a result of studies associated with the TEP, DWR will work with the landowner to assess and resolve the issue.

Rev 06/23/2010

What happens if I don't sign the TEP?

Ultimately, the decision to sign the TEP is yours. After you have taken some time to review the TEP, DWR staff would like to answer your questions and discuss your concerns in a one-on-one meeting. While there is a legal process that exists to pursue access to your property should you not sign the TEP, DWR prefers to come to an agreement that is satisfactory to both parties. DWR is committed to answering your questions and working to resolve your concerns. For more information on the TEP process, contact Cheryl Allen at (866) 688-3227.

What happens if you find protected or endangered species on my land?

If survey staff observe endangered species on your land, that observation will be reported in the Natural Diversity Database. The location of the species is not recorded in the database by parcel number and only certain individuals have access to this information. There are different reporting requirements under state and federal permits, depending on the species/circumstances.

Can you guarantee confidentiality and provide anonymity with the information you find on my property?

Information gathered from your property will be kept in confidence. If a request is received to disclose private information, the State will protect your information from disclosure to the fullest extent permitted by existing law.

Will the findings of the studies conducted on my property be made available to me?

Upon written request the property-specific data will be provided to the landowner from whose property the information was obtained. All requests must be made in writing within 30 days of the field studies conducted.

Written requests should be submitted to the following address:

California Department of Water Resources
Attention: Cheryl Allen
1416 Ninth Street, P.O. Box 942836
Sacramento, CA 94236-0001

For more information, visit www.baydeltaconservationplan.com

BDCP
Bay Delta Conservation Plan
Environmental Review Process

Goals of the BDCP

- Identify conservation strategies to improve the overall ecological health of the Delta.
- Identify ecologically friendly ways to move fresh water through and around the Delta.
- Identify actions to address other stressors.
- Provide a framework to implement the plan over time.

Goals of the Environmental Review Process

- Analyze BDCP-proposed actions and alternatives to those actions through a formal EIR/EIS process.
- Analyze options and consider areas of concern presented by the public during the EIR/EIS process.
- Develop options for habitat restoration and water conveyance.

The environmental review process to support the Bay Delta Conservation Plan (BDCP) is being conducted by five state and federal agencies. The California Environmental Quality Act (CEQA) lead developing the Environmental Impact Report (EIR) is the Department of Water Resources (DWR). The federal National Environmental Policy Act (NEPA) leads developing the Environmental Impact Statement (EIS) are the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service. The California Department of Fish and Game is a responsible agency on the EIR.

Agencies developing the EIR/EIS will evaluate ecosystem restoration and water conveyance alternatives identified by the BDCP. The agencies will also evaluate additional alternatives identified through the environmental review process under CEQA and NEPA. In addition, DWR formed the Delta Habitat Conservation and Conveyance Program (DHCCP) to provide engineering and real estate services in support of the environmental review process.

The BDCP was formed in 2006 and is comprised of a 26-member Steering Committee including federal and state agencies, environmental organizations, fishery agencies, water agencies, and other organizations.

The goal of the BDCP is to restore habitat within the Delta in a way that reliably delivers water throughout California. The BDCP is being developed under the federal Endangered Species Act (ESA) and the California Natural Community Conservation Planning Act (NCCPA), and is undergoing extensive environmental analysis.

The Conceptual Options

The Delta supports California's water system by conveying water to 25 million people throughout the state. Proposals to convey water around the Delta are aimed at avoiding sensitive habitat while reliably delivering water.

The conceptual water conveyance options currently under consideration have been previously identified in a variety of planning documents. Potential habitat restoration opportunities are also being considered. These and other options will be evaluated through the EIR/EIS process.

Intakes*

A number of possible intake locations are being considered in the area from south Sacramento to Hood. River intakes with pumping plants transfer water to conveyance facilities on the East, West, All-Tunnel, Through-Delta, or Dual Conveyance options.

** Not all intake options are shown.*

East

- 5 intake facilities with fish screens along the Sacramento River
- 6 pump stations
- 40 miles of canal
- 4 tunnels (2 miles total in length)
- 8 siphons
- Forebay with 620 acres of water surface area

West

- 5 intake facilities with fish screens along the Sacramento River
- 6 pump stations
- 38 miles of canal
- 17-mile tunnel (3 bores, 27 feet inside diameter)
- Forebay with 620 acres of water surface area

All-Tunnel

- 5 intake facilities with fish screens along the Sacramento River
- 6 pump stations
- 36-mile tunnel (2 bores, 33 feet inside diameter)

Through-Delta

- 2 intake facilities with fish screens along the Sacramento River
- 12 miles of canal
- 66 miles of levee retrofit/ setback levees
- 9 to 11 operable barriers
- Victoria Canal modification
- New fish salvage facility
- 2 tunnels (4.5 miles total in length)

Dual Conveyance

The Dual Conveyance option will combine portions of the East, West, or All-Tunnel alignments with some components of the Through-Delta alignment.

All features shown on this map are conceptual and subject to change.

Habitat Restoration

The Delta is home to hundreds of aquatic and terrestrial species, a number of which are threatened or endangered and whose natural habitats have significantly changed over time. The BDCP is developing habitat restoration plans aimed at improving habitat quality to assist in the recovery of threatened or endangered fish and terrestrial species identified by the Plan. The EIR/EIS will evaluate potential habitat restoration options identified by the BDCP, as well as alternatives to those options, as part of the environmental review process.

Potential habitat restoration options currently under consideration include:

- Floodplain restoration aimed at inundating suitable floodplain habitat during winter and spring for fish-rearing habitat and food base production.
- Intertidal marsh restoration aimed at improving brackish and freshwater intertidal marshes.
- Channel margin habitat restoration aimed at returning suitable sites along the water side of levees to a more natural condition for increased food production, rearing habitat, improved water temperature conditions, and movement corridors for fish.
- Riparian habitat restoration aimed at establishing native vegetation near channels, rivers, and streams.
- Shallow sub-tidal habitat restoration aimed at improving shallow tidal habitats.

Aquatic species to be addressed by the BDCP and evaluated in the EIR/EIS process include:

- Delta smelt
- Longfin smelt
- Winter-run Chinook salmon
- Spring-run Chinook salmon
- Fall-run and late fall-run Chinook salmon
- Central Valley steelhead
- Green sturgeon
- White sturgeon
- Sacramento splittail
- Pacific and river lamprey

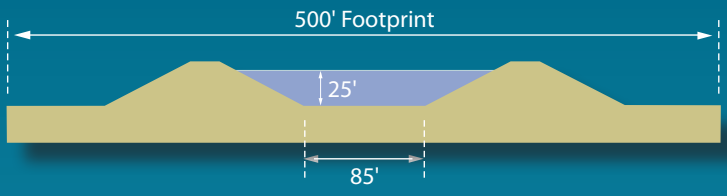
The BDCP and the EIR/EIS process will also address terrestrial or land-based species. More information on habitat restoration opportunity areas will be available by late 2009.

Water Conveyance Facility

The proposed water conveyance options are at the conceptual design stage and could include an open canal, levee retrofitting and setback levees, tunneling, or a combination of these options. The water conveyance options are proposed to match the current pumping capacity of up to 15,000 cubic feet per second. The conveyance facility will be designed to resist damage from earthquakes and flooding, while providing the capability to move water at maximum flows during wet seasons.

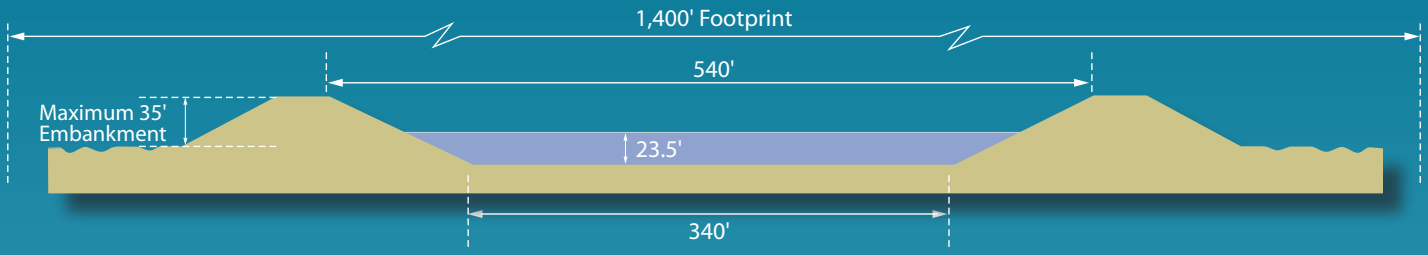
Existing California Aqueduct

For reference



Proposed Delta Water Conveyance Facility

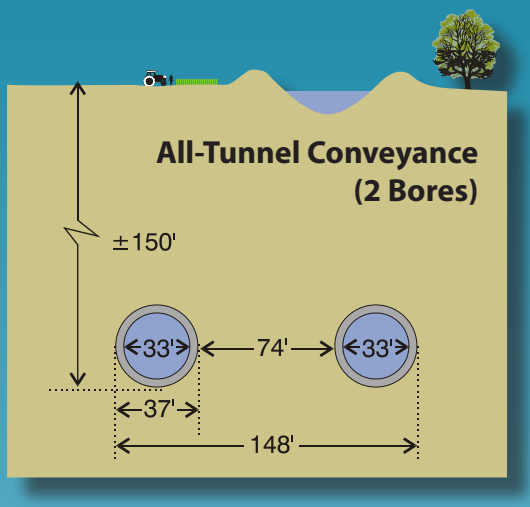
Dimensions are preliminary and subject to change



Tunnels

Tunnels may consist of as many as three separate 27-foot wide (inside diameter) tunnels constructed side-by-side up to 150 feet below ground.

Additional tunnel options are being considered, including a two-tunnel design (33 feet inside diameter) for an All-Tunnel water conveyance option.



Intake Options

Three intake options are being considered, including an on-bank cylindrical screen option, an on-bank screen option, and an in-river screen option. Additional details on the intake options will be available by late 2009.

In-River Conceptual Design

BDCP
Environmental Review Process

For additional information, contact:

Rebecca Nicholas
(916) 651-2966
rnichola@water.ca.gov

Rev 09/25/2009

2011 Accomplishments

February 2012

BDCP
Bay Delta Conservation Plan

In 2011, the California Natural Resources Agency took action to:

- Involve a broader range of stakeholders in the planning process
- Ensure a robust, science-supported process
- Identify alternatives that reflect varying conveyance sizes and features, and habitat restoration options
- Make significant refinements to habitat conservation measures
- Establish a comprehensive set of biological goals and objectives
- Make draft technical documents available to the public

Work to be completed in 2012 will help to achieve the Sacramento-San Joaquin Delta's (Delta) co-equal goals of ecological restoration and improved water supply reliability for the 25 million Californians and agricultural lands that rely on it.

> *"California must implement a science-based plan to ensure safe and adequate water supplies while addressing the severe ecological challenges facing the Delta."*
>
> John Laird, Secretary
> California Natural Resources Agency

What's at stake?

- Twenty-five million Californians in the San Francisco Bay Area, the Central Valley, and Southern California rely on water that flows through the Delta.
- This water also helps produce nearly half of the nation's domestically grown fresh produce, supporting a $27 billion agricultural industry.
- Without changes to the way the water currently flows through the Delta, serious impacts will affect the economy and environment.

Threats to the Delta include:

- Ecological collapse
- Lack of sufficient water supplies
- Impacts caused by climate change and sea level rise
- Seismic activity from nearby active faults

BDCP Fast Facts

- Established in 2006.
- Provides a 50-year conservation plan with an ecosystem-based approach.
- Seeks to restore and protect up to 133,000 acres of habitat.
- Covers 11 fish species and 52 wildlife and plant species, many of which are threatened or endangered.
- Helps to reconnect floodplains, develop new tidal marsh, return riverbanks to a more natural state, decrease toxicity, control invasive species, and align water operations to better reflect natural seasonal flow patterns.
- Represents extensive scientific investigation and analysis.
- Informed by more than 400 public, working group, and stakeholder meetings.
- Creates the largest Habitat Conservation Plan (HCP) and Natural Community Conservation Plan (NCCP) in the U.S.

2011 Accomplishments

Refinements to Habitat Conservation measures

YOLO BYPASS FISHERY ENHANCEMENT

The Yolo Bypass Fishery Enhancement Planning Team, representing local agricultural and waterfowl interest groups, landowners, Yolo County, flood protection agencies, state agencies, and water contractors, significantly advanced development of the Yolo Bypass Fishery Enhancement conservation measure. This conservation measure will help salmon and other fish species by:

- Improving the ability of fish to migrate between the Sacramento River and the Pacific Ocean
- Creating more and better spawning and rearing habitat
- Increasing food supplies and availability for fish
- Reducing exposure of fish to predators

To meet these objectives, the measure calls for improving the timing, frequency, and duration of flows through in the Yolo Bypass, adding fish ladders, making flood control structures more fish-friendly, and realigning Putah Creek, among other actions. The planning team's local knowledge provided valuable input on how to make fishery restoration compatible with agriculture, waterfowl, flood protection and other uses in the Yolo Bypass.

This document is a summary of 2011 BDCP accomplishments in habitat restoration measures, alternatives, water supply, biological goals and objectives, and scientific review. More detailed information about these elements is included in the December 2011 working draft chapters of the BDCP and Environmental Impact Report/Environmental Impact Statement (EIR/EIS) documents available online at **www.BayDeltaConservationPlan.com**.

"The Bay Delta Conservation Plan is without a doubt one of the largest and most complex science-based ecosystem restoration programs ever undertaken... We will continue to work... to ensure sound scientific justifications for any potential actions. Fish, farms, and the 25 million Californians who depend on the Delta for their water deserve nothing less."

JOHN LAIRD, SECRETARY
CALIFORNIA NATURAL RESOURCES AGENCY

SOUTH DELTA HABITAT AND FLOOD MANAGEMENT IMPROVEMENT

The South Delta Habitat Working Group, composed of local and regional government representatives, non-governmental organizations, and applicable fish and resources agencies, examined several approaches to fish migration habitat and flood management improvement corridors. The team identified specific flood control and habitat projects that have the highest potential flood benefits and most promising habitat improvement elements.

Based on these findings, potential floodplain habitat was identified as compatible with flood management objectives and in coordination with ongoing flood and ecosystem planning programs in the South Delta.

Working group participants have provided important input regarding community values, vital infrastructure locations, and historical significance of existing land uses. By early 2012, the team expects to quantify flood benefits and risk transfer (if any), and identify positive and negative ecological effects. Constraints, opportunities, data gaps, and outstanding uncertainties that can be resolved in subsequent development phases will be identified.

Range of Alternatives

During 2011, the following alternatives, and variations of these alternatives, were developed prior to the selection of a final BDCP. These alternatives differ primarily in the location, design, size, and operation of water conveyance facilities. The range of alternatives also includes varying types of habitat restoration.

Alternative	Conveyance Type	North Delta Diversion Capacity	Number of Intakes	Potential Operational Scenario‡
*Dual Conveyance	Pipeline/Tunnel, or East Canal, or West Canal	15,000 cubic feet per second (cfs)	Five	A or B
*Dual Conveyance	Pipeline/Tunnel	6,000 cfs	Two	A
*Dual Conveyance	Pipeline/Tunnel	9,000 cfs	Three	B, E, or F
*Dual Conveyance	Pipeline/Tunnel	3,000 cfs	One	C
†Isolated Conveyance	Pipeline/Tunnel, or East Canal, or West Canal	15,000 cfs	Five	D
Through-Delta/ Separate Corridors	Through-Delta Channel Modifications	15,000 cfs	Screened intakes at Delta Cross Channel and Georgiana Slough	G

* *The "dual" conveyance water delivery system would consist of the new north Delta diversion facilities and the existing State Water Project/ Central Valley Project (SWP/CVP) export facilities in the south Delta. The north Delta diversion would be the primary diversion point using specific operating criteria and would be operated in conjunction with the existing south Delta diversion when necessary.*

† *"Isolated" conveyance means that no water would be diverted from Delta channels.*

‡ *See Operational Scenarios chart on next page.*

Biological Goals and Objectives

The Biological Goals and Objectives Working Group assembled an independent science review panel to provide a roadmap for goals and objectives for fish species. In 2011, comprehensive biological goals and objectives were created for the following fish species:

- Chinook Salmon
- Delta Smelt
- Longfin Smelt
- Pacific and River Lamprey
- Sacramento Splittail
- White Sturgeon
- Green Sturgeon

The biological goals and objectives articulate the desired biological outcomes of a conservation strategy, describe how those outcomes will contribute to the long-term conservation of covered species and their habitats, and provide measures to assess progress in achieving desired outcomes.

Delta smelt

For more information visit the Biological Goals and Objectives Working Group web page at www.BayDeltaConservationPlan.com

OPERATIONAL SCENARIOS‡

The following operational scenarios are described in detail in the *BDCP Draft EIR/EIS* (Chapter 3 – Alternatives, Section 3.3.1.2), available online at **www.BayDeltaConservationPlan.com**.

Scenario A	Would include specific criteria guiding water supply parameters at a variety of locations and facilities. This includes criteria for: north Delta diversion bypass flows; south Delta channel flows; Fremont Weir/Yolo Bypass operations; Delta inflow and outflow; Delta Cross Channel gate operations; Rio Vista minimum instream flows; Delta water quality and residence time, and in-Delta agricultural, municipal, and industrial water quality requirements *(BDCP Steering Committee handout, 2/11/10 - www.BayDeltaConservationPlan.com).*
Scenario B	Would incorporate criteria for the same elements as those referenced under Scenario A. This scenario would add an operable barrier at Head of Old River.
Scenario C	Would adopt the operational guidelines of Scenario A north of the Delta. South of the Delta, Scenario C would rely upon existing Biological Opinions with flows to protect Delta smelt, Old River and Middle River flows, and San Joaquin River export and inflow ratio.
Scenario D	Would be modified from Scenario A to eliminate use of south Delta intakes and add criteria surrounding Fall X2.
Scenario E	Would be modified from Scenario A.
Scenario F	Increased Delta outflow, as requested by State Water Resources Control Board.
Scenario G	Would be similar to those described under Scenario A, but would be modified to conform to the conveyance components of the separate corridors option.

The aquatic biological goals and objectives include:

- Species-specific goals and objectives
- Scientific data, habitat restoration best management practices, and a life-history rationale supporting each goal and objective
- Overview of how the conservation strategy, if implemented, will help attain each goal and objective
- When applicable, specific numeric goals for each life stage of each species

Example of Species-Specific Biological Goals and Objectives

Delta Smelt*	
BDCP Species Goals:	Improved survival of Delta smelt within the plan area.
BDCP Delta Smelt Growth Objective:	Increase mean body length by at least 2 mm from existing conditions within 15 years of implementation.
BDCP Adult Migration Objective:	Reduce delays in adult migration in Delta to less than 1.5 days within 15 years of implementation.

* *BDCP Working Draft Covered Fish Species Goals and Objectives, October 13, 2011*

OTHER WORKING GROUP ACTIVITIES

The Governance Working Group provided input on the roles of the various participants responsible for executing and informing implementation of the BDCP.

The Finance Working Group discussed potential sources of funding for BDCP, including project water users.

The Adaptive Range Working Group discussed approaches to adaptive limits on the amount of water that could be exported from the Delta under BDCP.

Effects Analysis and Scientific Review

Because the BDCP will alter the physical and biological environment of the Delta, it includes an Effects Analysis (EA) to describe predicted effects on biological performance, particularly with regard to species' population levels. The EA is a systematic, scientific look at both potential impacts, and potential benefits, from conservation actions.

In 2011, the Delta Stewardship Council convened a seven-member independent scientific review panel to assess the scientific quality of the working draft of the Effects Analysis Conceptual Foundation and Analytical Framework, as well as the Entrainment Appendix. The panel made recommendations on:

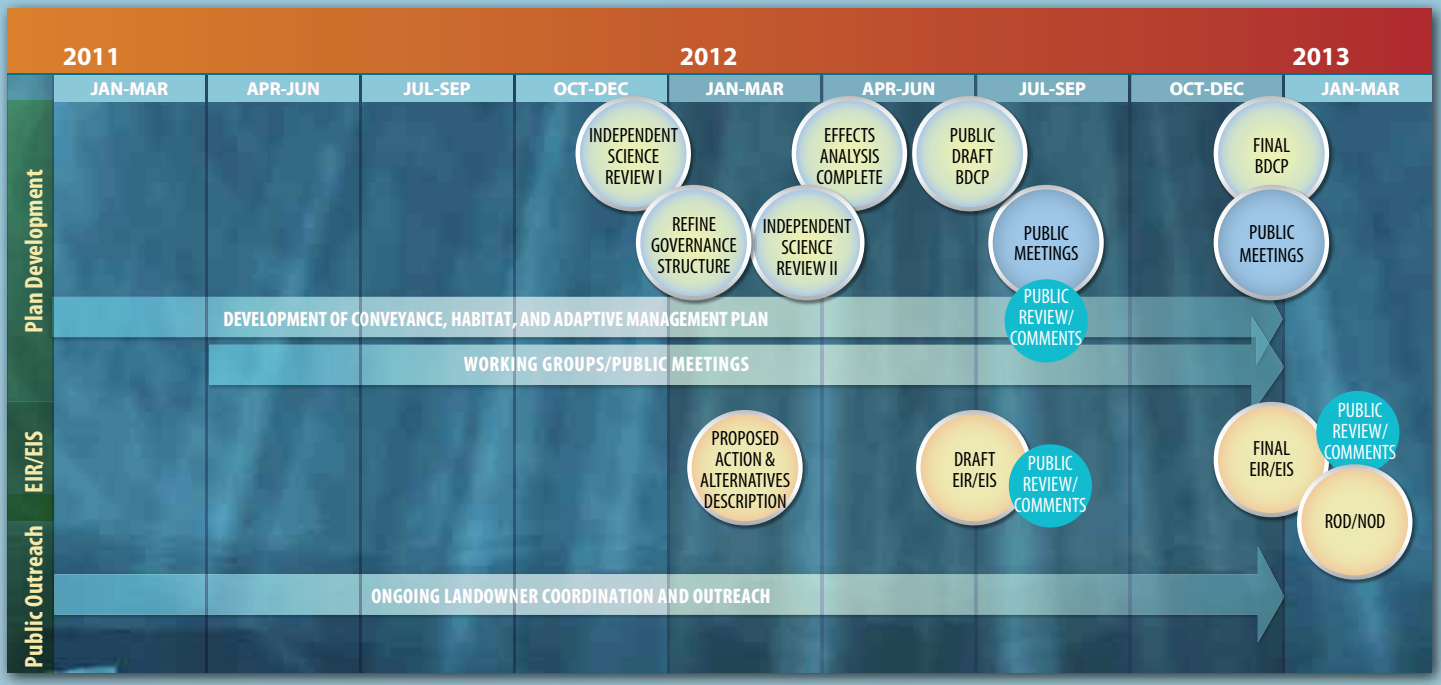
- Goals, purpose, objectives, and scope
- Completeness, structure, effectiveness of description
- Approach and analysis
- Models
- Scale and rigor of the analysis
- Interpretation and conclusions

In early 2012, the panel will reconvene to conduct a technical evaluation of the Effects Analysis. The efforts of the panel will help raise the level of certainty associated with the findings of the Effects Analysis, and help to ensure that it is of sufficient scientific quality to serve its intended purposes.

The Delta Science Panel will also conduct an in-depth review of the Draft EIR/EIS.

Next Steps for 2012

The BDCP will complete a draft plan and move towards project certification and implementation by 2013. The first quarter of 2012 will include further independent science review and completion of the Draft Effects Analysis, refinements to cost estimates and financing options, and a more defined governance and adaptive management structure. By summer, the public Draft BDCP will be finalized and made available for public review and comment. Public input received on the Draft BDCP will inform the final document, scheduled for release in late 2012.



BDCP Environmental Review

The BDCP will have environmental impacts that will be disclosed and evaluated in an EIR/EIS. The EIR/EIS is being conducted by four state and federal agencies. The California Department of Water Resources is the state lead agency under the California Environmental Quality Act (CEQA), while the Bureau of Reclamation, U.S. Fish and Wildlife Service, and the National Marine Fisheries Service are serving as the federal co-leads under the National Environmental Policy Act (NEPA). The EIR/EIS is also being developed in close coordination with the California Department of Fish and Game, the California State Water Resources Control Board, the U.S. Environmental Protection Agency and the U.S. Army Corps of Engineers.

These agencies will continue work over the coming months to complete the environmental review documents by fully identifying and thoroughly analyzing environmental impacts, describing alternatives to the BDCP, and developing mitigation measures.

Preliminary Draft EIR/EIS chapters are available online at www.BayDeltaConservationPlan.com.

For more information, visit
www.BayDeltaConservationPlan.com
or call 1-866-924-9955

Or contact Karla Nemeth
at the California Natural Resources Agency at
karla.nemeth@resources.ca.gov

BDCP

Bay Delta Conservation Plan

Highlights of the BDCP

December 2010

For nearly four years, the State of California has worked collaboratively with federal resource agencies, conservation organizations, water agencies, local agencies, and others in a groundbreaking effort to improve the Delta ecosystem and California's water supplies. This effort has resulted in the Bay Delta Conservation Plan (BDCP). Together, we have made more progress on one of California's most challenging environmental and economic sustainability issues than any time in recent history. For the first time ever, we have assembled a strategy that integrates water flows and quality, habitat restoration, and other ecological actions to help reverse the decline of the Delta's native fish, plant, and wildlife species. We have identified water conveyance facilities that can help secure water supplies for 25 million Californians against seismic risk, levee failure, and climate change. And there is more to do.

The BDCP is a complex, challenging, and ongoing effort. The California Natural Resources Agency, Department of Water Resources, and Department of Fish and Game have collaborated in the preparation of this report to provide the reader with an overview of the Plan's most central elements, approaches to some of its most challenging issues, and concerns or differing opinions from participants in the BDCP process. While we have consulted with various BDCP interests, this document does not represent any final positions. It is not intended to substitute for the years of effort by the Steering Committee and the more than 3,000 pages of material available at www.baydeltaconservationplan.com.

While the effort awaits new leadership from the State of California, it is absolutely critical that we not lose momentum in completing a draft Plan. Scientific and technical analysis is ongoing and will provide valuable insight and refinements to the contents and structure of the conservation plan. This important work must be completed prior to the issuance of a draft BDCP and draft Environmental Impact Report and Statement in 2011. In addition, as the BDCP planning process continues, it must do so with the active engagement of Delta counties on aspects of the Plan and, equally as important, other active programs to improve flood protection and support the ongoing role of agriculture and recreation in the Delta. The environmental review process will be an important forum for actions to address impacts to cultural resources, land uses, recreation, tourism, air quality, water quality, economics, and others with the goal of keeping Delta communities whole.

We remain committed to the ongoing engagement of stakeholders in the BDCP. We look forward to continued dialogue in resolving the remaining tough issues. The BDCP represents the best, most collaborative decision making effort to date on these elusive and intractable issues. Its successful completion and implementation is imperative for California's future.

Lester A. Snow
Secretary for Natural Resources
The Natural Resources Agency

Cover and this page
Photo courtesy of DWR

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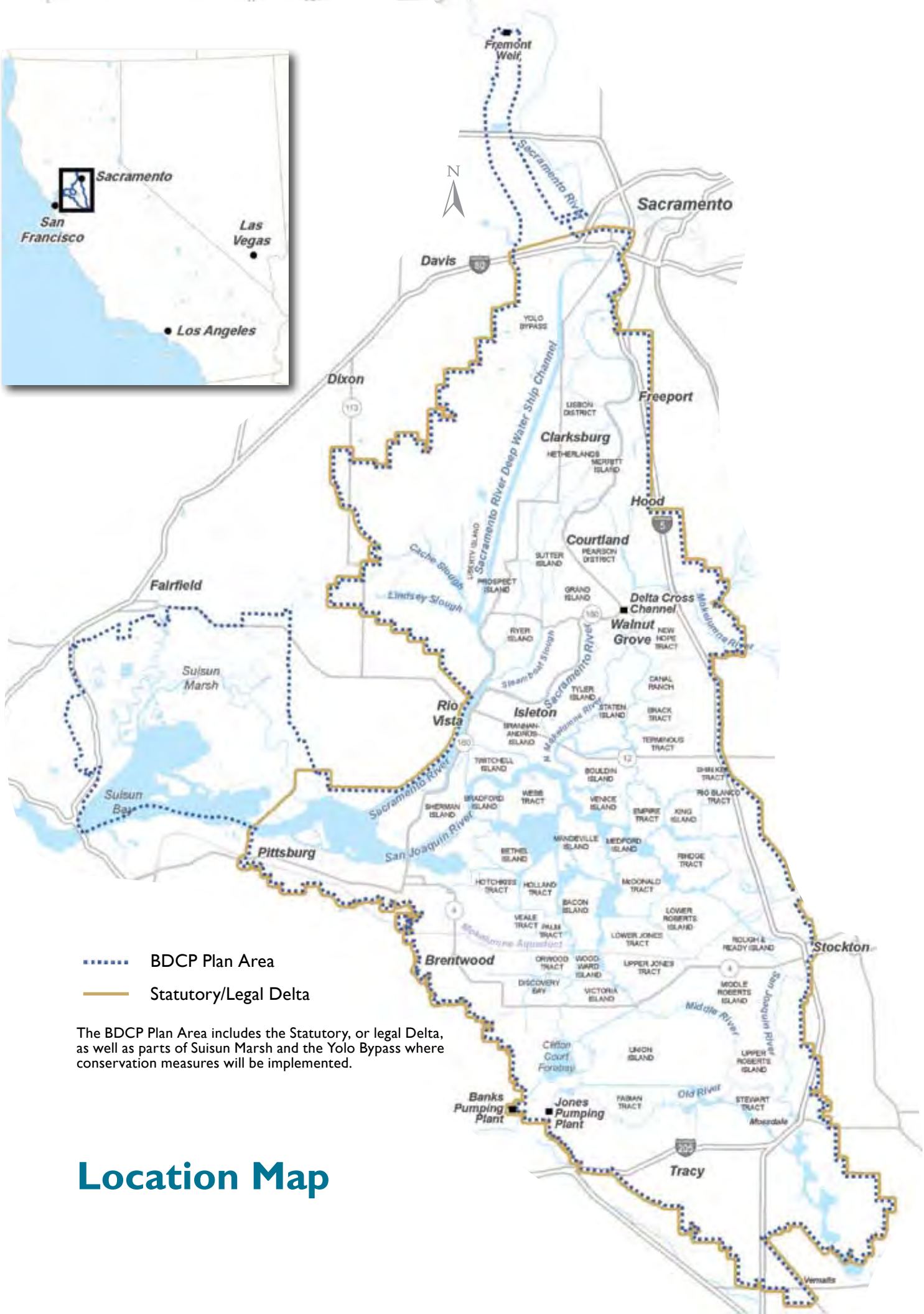
Photo courtesy of DWR



The BDCP Plan Area includes the Statutory, or legal Delta, as well as parts of Suisun Marsh and the Yolo Bypass where conservation measures will be implemented.

Location Map

Introduction

The Delta

The Sacramento-San Joaquin River Delta (Delta) is a vitally important ecosystem and home to hundreds of aquatic and terrestrial species, many of which are unique to the area. It is also a critical part of California's water conveyance system.

Freshwater originating in the Sierra Nevada flows to the Delta, providing water supplies for 25 million Californians in the San Francisco Bay Area, the Central Valley, and Southern California, and helping to produce nearly half the nation's domestically grown fresh produce. The Delta and its waterways also provide transportation corridors for ships and boats; support extensive infrastructure of statewide importance; and serve as a key recreational destination, particularly for boaters, birders, and anglers.

Once a vast marsh and floodplain dissected by meandering channels and sloughs, the Delta provided a dynamic habitat for a rich diversity of fish, wildlife, and plants. The Delta of today has been altered by a system of man-made levees, reservoirs, and dredged waterways constructed to support farming and urban development, as well as to provide flood protection on lands that historically supported marshes and floodplains. The water flow in the Delta is also affected by the movement of water for operations of the State Water Project (SWP) and Central Valley Project (CVP). Many other factors affect species health in the Delta, including toxic substances, other water quality issues (e.g., dissolved oxygen), nonnative species, hatchery management, illegal fishing, and smaller, local water diversions.

The Delta of the future will be affected by worsening land subsidence, heightened seismic risk and possible effects of climate change (both sea level rise and changes in storm timing, intensity, and frequency).

In this highly altered environment, several fish species have declined to the lowest population numbers in their recorded histories. In response, federal regulatory actions to protect threatened and endangered fish species have limited through-Delta conveyance, and have made water supplies increasingly unreliable. The proposed Bay Delta Conservation Plan (BDCP) is a 50-year plan that would address these issues with an ecosystem-based approach. This would help to restore fish and wildlife species in the Delta in a way that also would provide for the protection and restoration of water supplies while minimizing impacts to Delta communities and farms.

This *Highlights of the BDCP* document is a summary of major plan elements and outstanding issues as envisioned by the California Natural Resources Agency based on technical information completed and stakeholder input received to date.

This *Highlights of the BDCP* document is not endorsed by members of the BDCP Steering Committee. More detailed information about the status of all required plan elements is included in the November 18, 2010, Working Draft plan at **www.baydeltaconservationplan.com**

This *Highlights of the BDCP* document does not take the place of the "public review" as pursuant to Section 7.4.3 of the BDCP Planning Agreement.

Balancing Water Supplies and Ecosystem Restoration

The co-equal planning goals of the BDCP are to:

- Restore and protect the ecological health of the Delta.
- Restore and protect water supplies.

The BDCP is being developed in compliance with the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), and the California Natural Community Conservation Planning Act (NCCPA). The conservation plan will be subject to environmental review under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

The BDCP is being developed with the guidance of a Steering Committee, which is a collaboration of state, federal, and local water agencies, state and federal fish and wildlife agencies, environmental organizations, agricultural organizations, and other interested parties. These entities are assisting the California Department of Water Resources (DWR) in the development of an application for incidental take under state and federal endangered species laws.

BDCP Steering Committee

California Natural Resources Agency (chair)
California Department of Water Resources
Bureau of Reclamation
*Delta Stewardship Council
*California State Water Resources Control Board
*U.S. Army Corps of Engineers

FISH & WILDLIFE AGENCIES

California Department of Fish and Game
*U.S. Fish and Wildlife Service
*National Marine Fisheries Service

POTENTIAL REGULATED ENTITIES (PRE'S)

Kern County Water Agency
Metropolitan Water District of Southern California
Mirant Delta
San Luis & Delta-Mendota Water Authority
Santa Clara Valley Water District
Westlands Water District
Zone 7 Water Agency
Friant Water Authority

* Participating in an ex officio capacity

ENVIRONMENTAL ORGANIZATIONS

American Rivers
Defenders of Wildlife
Environmental Defense Fund
Natural Heritage Institute
The Bay Institute
The Nature Conservancy

OTHER ORGANIZATIONS

California Farm Bureau Federation
Contra Costa Water District
North Delta Water Agency

Public Process to Date

The BDCP process has been open, collaborative, and active in soliciting public participation and comment from a broad and balanced variety of public and private interests. Public outreach activities have supported these objectives. All 122 Steering Committee meetings have been open to the public with remote access via conference calling and web-supported access to materials. In total, nearly 300 public meetings, workshops, and briefings have been held in Delta communities and across the state over the past three years. All Steering Committee documents, maps, and other public information materials are available on the project website, as are all public comments that have been submitted in writing.

Delta Communities

Many of the actions contemplated by the BDCP—substantial restoration of tidal and floodplain habitat, new water delivery facilities, conservation of plant and wildlife habitats, and other actions—would bring change to the Delta over time. It is essential that local communities have a strong role in shaping this change.

First, as the BDCP planning process continues, it will continue to do so in coordination with Delta communities in maintaining flood protection, sustaining the Delta economy, and maintaining the Delta's recreational and historical treasures, among others. The overlap of these efforts provides new opportunities for state and local government partnerships that can leverage precious public resources to meet multiple needs.

Second, all the actions proposed in the BDCP are subject to environmental review for their impacts to Delta communities, and will include a separate program for mitigating those impacts. The environmental review process will be an important forum for ideas and actions to address impacts to cultural resources, land uses, recreation, tourism, air quality, water quality, economics, and others with the goal of keeping Delta communities whole.

Finally, the BDCP implementation horizon extends 50 years into the future. Many of the actions described in the Plan, habitat restoration in particular, are defined to meet broad biological goals and objectives over time but are flexible to accommodate future land use changes in the Delta. A BDCP "implementing organization," as described on page 59, would be responsible for decision-making about specific BDCP activities and is structured for open public discussion and a strong voice for local Delta communities.

Background

BDCP in Context of Other Delta Efforts

There are many threats to the sustainability of the Delta resulting from state and federal policies over the last 150 years that placed the health of the estuary second to human needs. The Delta Reform Act—landmark legislation passed in 2009—made it state policy to manage the Delta in support of the co-equal goals of water supply reliability and ecosystem restoration in a manner that acknowledges the evolving nature of the Delta as a place for people and communities. The legislation also redefined institutional oversight of various competing resource needs in the Delta. While the BDCP is a cornerstone of balancing water supply reliability with ecosystem restoration, many additional efforts are underway to address flood protection, economic sustainability, land-use planning, and other issues essential to a Delta future that is sustainable for people and the environment.

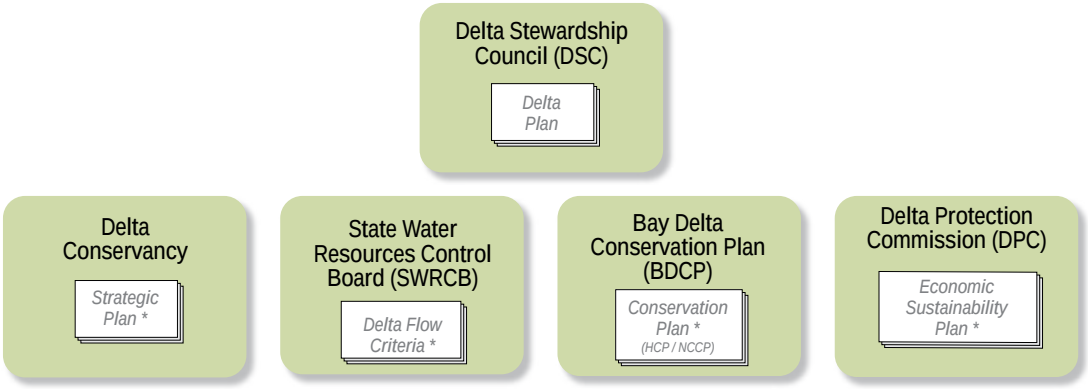
Delta Stewardship Council

The Delta Reform Act of 2009 created the Delta Stewardship Council (DSC), an independent state agency. **Its mission is to help achieve the two co-equal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta's ecosystem. These goals must be achieved in a manner that protects and enhances the unique cultural, recreational, natural resource, and agricultural values of the Delta as an evolving place.**

The DSC is required to develop a comprehensive management plan for the Delta (Delta Plan) by January 1, 2012. This long-term plan will be reviewed and possibly revised at least once every five years. State and local agencies proposing actions or projects within the Delta will need to certify for the DSC that those efforts are consistent with the Delta Plan. The planning efforts of a reorganized Delta Protection Commission, newly formed Delta Conservancy, and the BDCP, along with other conservation planning efforts, will inform the DSC as it develops and implements a Delta Plan.

The DSC and the BDCP

To be incorporated into the Delta Plan and for public funds to be available for public restoration benefits, the BDCP must be approved by the Department of Fish and Game (DFG) as a Natural Community Conservation Plan (NCCP). DFG must determine that the BDCP otherwise meets the requirements of Water Code Section 85320. If this determination is appealed to the DSC, the DSC may review whether it believes DFG's determination that the BDCP meets the requirements of Water Code Section 85320 was accurate for the purpose of deciding whether the BDCP can be included in the Delta Plan. DWR and others involved in the planning process will continue to consult with the DSC, and the Delta Independent Science Board, as the BDCP is developed.



* Document will inform the Delta Stewardship Council's Delta Plan due January 1, 2012.

State and Federal Program Coordination

In the Delta, a variety of state, local, and federal agencies are responsible for flood, water supply, and ecosystem management. Key federal agencies include the U.S. Army Corps of Engineers, U.S. Department of the Interior, Bureau of Reclamation (Reclamation), Federal Emergency Management Agency, U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration, and the United States Environmental Protection Agency.

Key state agencies include California Natural Resources Agency, Central Valley Flood Protection Board, DWR, DFG, California Emergency Management Agency, and the DSC. Key local agencies include local (cities and counties) emergency responders, reservoir operators, levee maintaining agencies, local flood districts, agricultural and urban water districts and agencies, CVP water users, and State Water Contractors. Many other agencies, non-governmental organizations, and interest groups also are stakeholders in managing public safety, water supply, and ecosystems in the Delta.

These federal, state, and local agencies are already working to support a wide variety of programs, planning efforts, and studies to improve the management of flood, water supply, and ecosystems in the Delta. Key programs include the Central Valley Flood Management Planning Program, Central Valley Integrated Flood Management Study, DSC Delta Plan, Delta Risk Management Strategy, Delta Islands and Levees Feasibility Study, Delta Levees Special Flood Control Projects, Delta Levees Maintenance Subventions Program, and CALFED Levee Stability Program.

Consistency with Sacramento-San Joaquin Delta Reform Act (Senate Bill X1)

On November 12, 2009, Governor Schwarzenegger signed into law Senate Bill 1 (SB1) that included the Sacramento-San Joaquin Delta Reform Act of 2009 (Division 35 of Water Code, Commencing from Section 85000). The Sacramento-San Joaquin Delta Reform Act prescribes that the BDCP must undergo comprehensive review and analysis of the following items:

- A reasonable range of flow criteria, rates of diversion, and other operational criteria required to satisfy the criteria for approval of a NCCP and other operational requirements and flows necessary for recovering the Delta ecosystem and restoring fisheries under a reasonable range of hydrologic conditions, which will identify the remaining water available for export and other beneficial uses
- Reasonable range of Delta conveyance alternatives, including through-Delta, dual conveyance, and isolated conveyance alternatives and capacity and design options of a lined canal, an unlined canal, and pipelines/tunnels
- The potential effects of climate change, possible sea level rise of up to 55 inches, and possible changes in total precipitation and runoff patterns on the conveyance alternatives and habitat restoration activities considered in the environmental impact report (EIR)
- The potential effects on migratory fish and aquatic resources
- The potential effects on Sacramento River and San Joaquin River flood management
- The resilience and recovery of Delta conveyance alternatives in the event of catastrophic loss caused by earthquake, flood, or other natural disaster
- The potential effects of each Delta conveyance alternative on Delta water quality

These criteria must be addressed before the BDCP can be incorporated into the Delta Plan by the DSC.

Habitat Conservation Planning

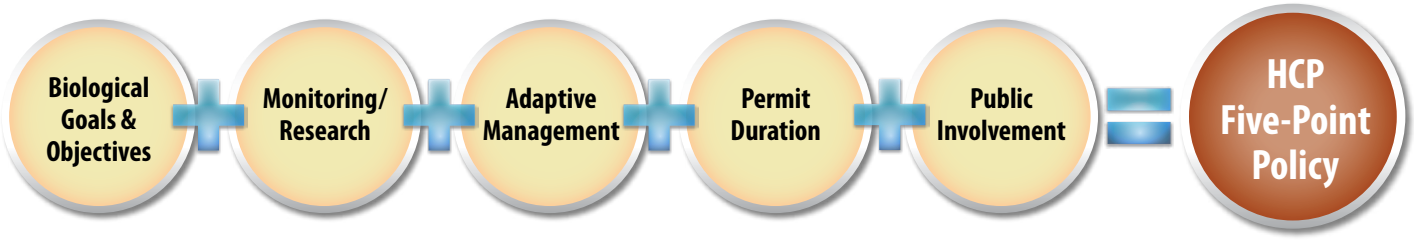
What is a Habitat Conservation Plan and a Natural Community Conservation Plan?

A Habitat Conservation Plan (HCP) and a Natural Community Conservation Plan (NCCP) are planning documents required as part of permit applications under the federal ESA and the California Natural Community Conservation Planning Act.
A joint HCP/NCCP generally describes, among other things:

- The activities to be covered by the conservation plan
- The measures that will be implemented to appropriately minimize and mitigate for the effects of the covered activities and that will provide for the conservation of covered species and their habitats
- The likely effect of implementing the actions described in the Plan on covered species and their habitats
- The funding that will be available to implement the Plan

The goal of an HCP/NCCP is to provide for the conservation of species and habitats covered by the Plan.

Habitat Conservation Plan Five-Point Policy



Biological Goals are broad principles that guide the Conservation Strategy to meet statutory criteria of state and federal law. **Biological objectives** are measurable targets for achieving goals. Conservation measures are the actions taken to meet these goals and objectives.

Monitoring/Research is designed to evaluate biological effectiveness of the plan over time to determine whether it is producing the anticipated biological results. The effectiveness of the conservation measures will be evaluated through the monitoring program.

Adaptive Management is the process of adjusting elements of the plan to meet established biological goals and objectives. The adjustments are based on knowledge gained from monitoring and newly acquired knowledge.

Permit Duration is the anticipated length of time necessary to implement all components of the conservation program and for which regulatory authorizations under NCCPA and ESA will be valid.

Public Involvement Extensive opportunities for public involvement have been, and will continue to be, provided during the planning and implementation process. The public will have the opportunity to assess, review, and critique the plans in accordance with state and federal laws.

Why is an HCP/NCCP the Best Choice for Achieving the Co-Equal Goals?

The regulatory approach under the federal ESA in the Delta regulates one stressor, namely the SWP and CVP operations, on a species by species analysis. A more holistic approach is needed to look at multiple stressors on the ecosystem, the needs of multiple species, and the natural communities that support them.

The BDCP is intended to:

- Provide for the conservation and management of covered species within the Plan Area
- Preserve, restore and enhance aquatic, riparian and associated terrestrial natural communities and ecosystems that support covered species within the Plan Area through conservation partnerships
- Allow for projects to proceed that restore and protect water supply, water quality, and ecosystem health within a stable regulatory framework
- Provide a means to implement covered activities in a manner that complies with applicable state and federal fish and wildlife protection laws that include CESA and ESA, and other environmental laws, including CEQA and NEPA
- Provide a basis for permits necessary to lawfully take covered species
- Provide a comprehensive means to coordinate and standardize mitigation and compensation requirements for covered activities within the Plan Area
- Provide a less costly, more efficient project review process which results in greater conservation values than project-by-project, species-by-species review
- Provide clear expectations and regulatory assurances regarding covered activities occurring within the Plan Area

How do the BDCP and the EIR/EIS work together in the Environmental Review?

A combined environmental impact report (EIR) and environmental impact statement (EIS) will be prepared to review the environmental effects of the proposed BDCP, and a reasonable range of alternatives, including a "no action" alternative. This evaluation will help determine the ultimate preferred alternative and final plan.

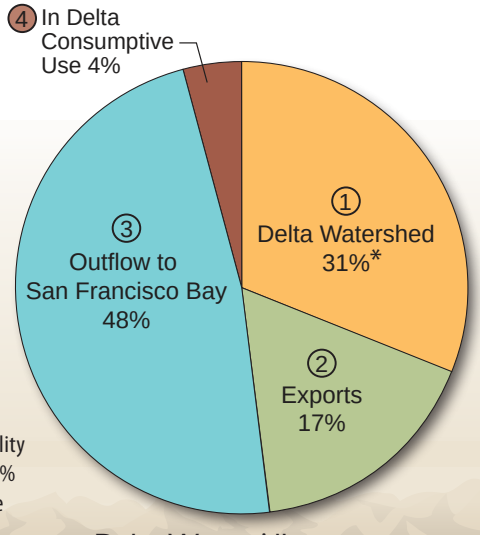
The EIR/EIS will evaluate the potential impacts of the BDCP including impacts to local communities, cultural resources, and the physical and biological environment. The lead agency for the state-required EIR is DWR. The co-lead agencies for the federally required EIS are Reclamation, National Marine Fisheries Service (NMFS), and USFWS. A draft EIR/EIS is expected in late 2011.

How Water Currently Flows Through the Delta

A conservation goal of the BDCP is to contribute to a more natural flow pattern within the Delta. Before natural conditions were altered, water from the Sacramento River and San Joaquin River watersheds flowed into the Delta and out to the Pacific Ocean through the San Francisco Bay. Today, there are significant upstream and in-Delta diversions of water that occur before flows reach the ocean, resulting in reduced flow rates and altered flow patterns.

What Delta Flows will the BDCP Address?

Water that flows through the Delta starts its journey as precipitation in the Sacramento River and San Joaquin River Basins. On average, approximately 31 percent of that water is diverted from the system before it reaches the Delta, 48 percent flows through the Delta and into San Francisco Bay, 4 percent is used within the Delta, and 17 percent is exported to the San Francisco Bay Area, Southern California, and the San Joaquin Valley through the state and federal water projects. The BDCP will address the manner in which water is exported from the Delta via the SWP and CVP. The BDCP cannot address overall Delta flows because most of the water taken out of the system is non-CVP and non-SWP water.

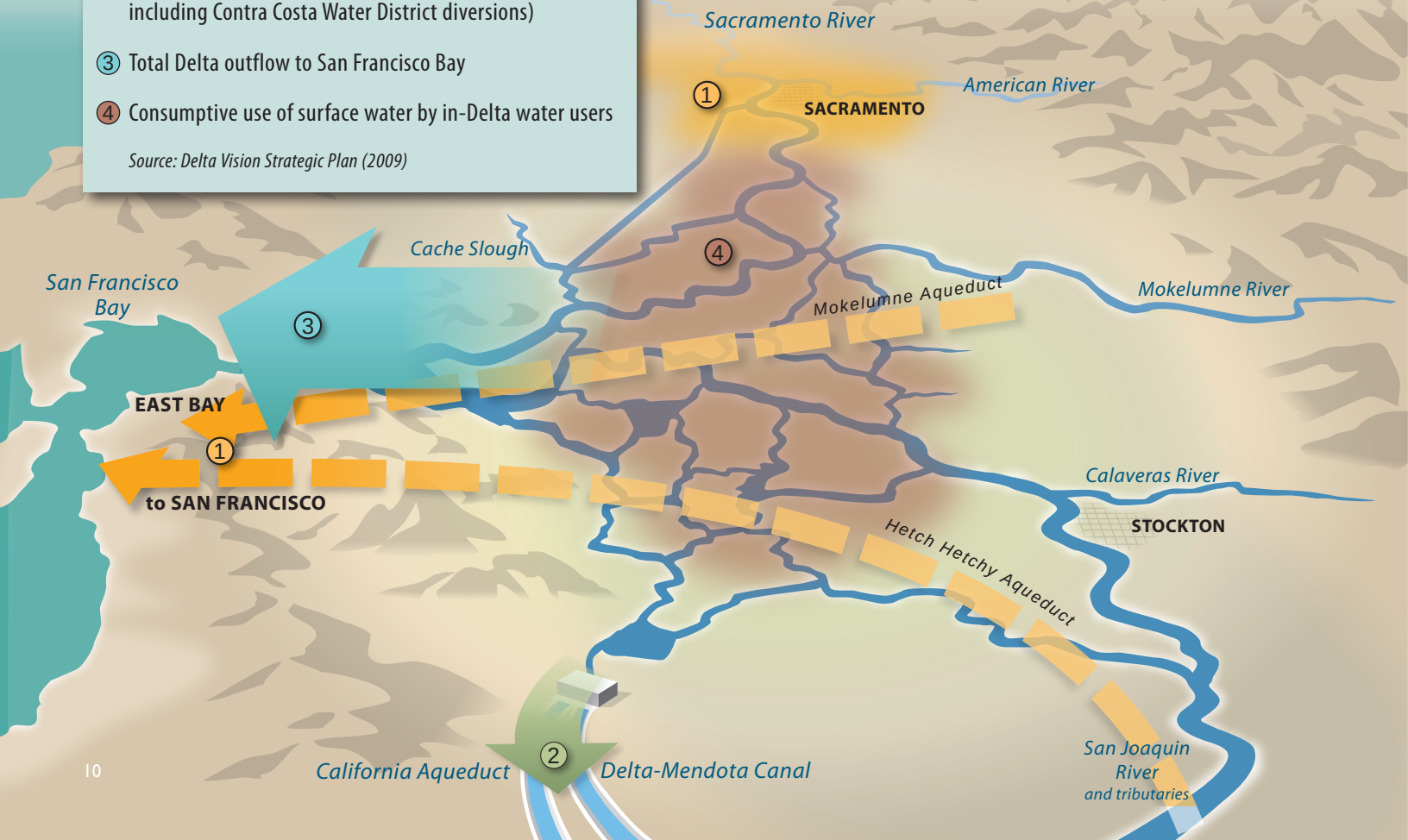


Delta Water Allocations
(average annual)

*The San Francisco Public Utilities Commission (SFPUC) and the East Bay Municipal Utility District (EBMUD) represent 1.3% of the total diversions from the Delta Watershed.

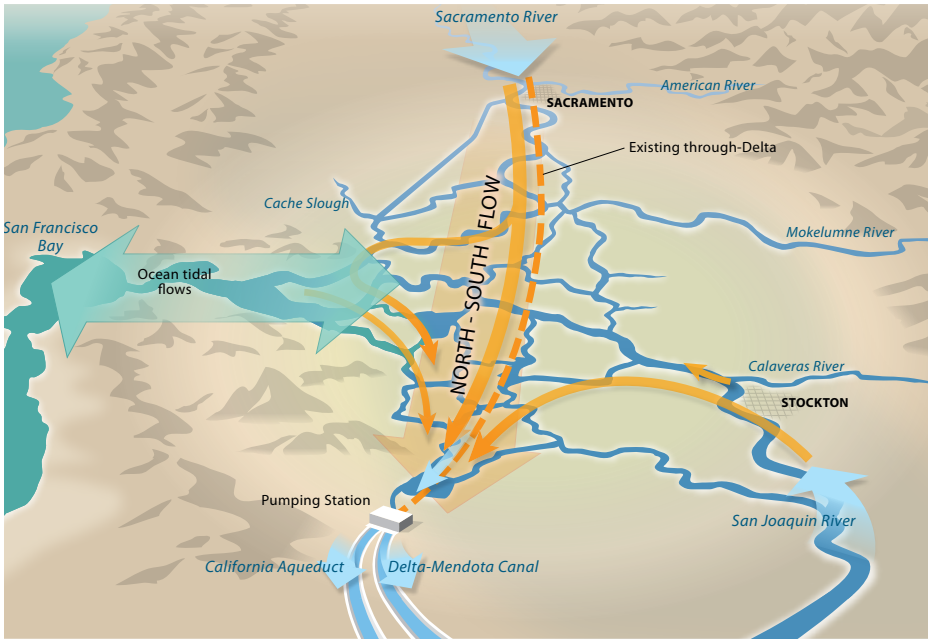
1. Delta watershed consumptive use of applied water and diversions for Friant-Kern Canal, East Bay Municipal Utility District's Mokelumne Aqueduct, and San Francisco Public Utilities Commission's Hetch Hetchy Aqueduct *
2. Combined CVP and SWP diversions from the Delta (not including Contra Costa Water District diversions)
3. Total Delta outflow to San Francisco Bay
4. Consumptive use of surface water by in-Delta water users

Source: Delta Vision Strategic Plan (2009)

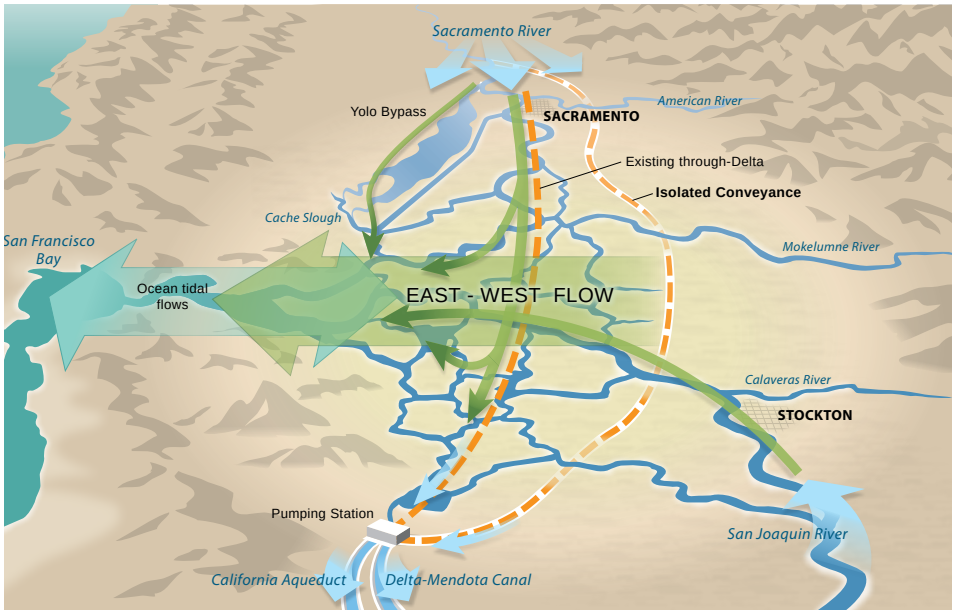


How State and Federal Water Project Supplies Flow Through the Delta

The natural conditions of the watershed and the Delta have been significantly altered over the past 150 years. Reservoirs, river diversions, downstream exports, agricultural development, and land reclamation have significantly altered how water flows through the Delta, changing quantity, quality, and flow direction. Many scientists believe that the way in which water currently flows through the Delta has caused a significant change in fish habitat, resulting in less favorable conditions for native species, including those related to temperature, volume, direction, velocity, turbidity, and residence time.



As a tidal estuary, the Delta has large volumes of water that move back and forth with the two tidal cycles that occur each day. This twice-daily ebb and flow of water is often orders of magnitude greater than the net daily water flow entering the interior channels of the Delta. The influence of SWP and CVP pumping often causes net flow reversals in Central and South Delta channels and affects fish movement, especially those life stages that are free floating or have weak swimming capability. This often results in drawing these fish toward the pumping facilities where they can be entrained. In addition, there are other stressors that can affect flow conditions.



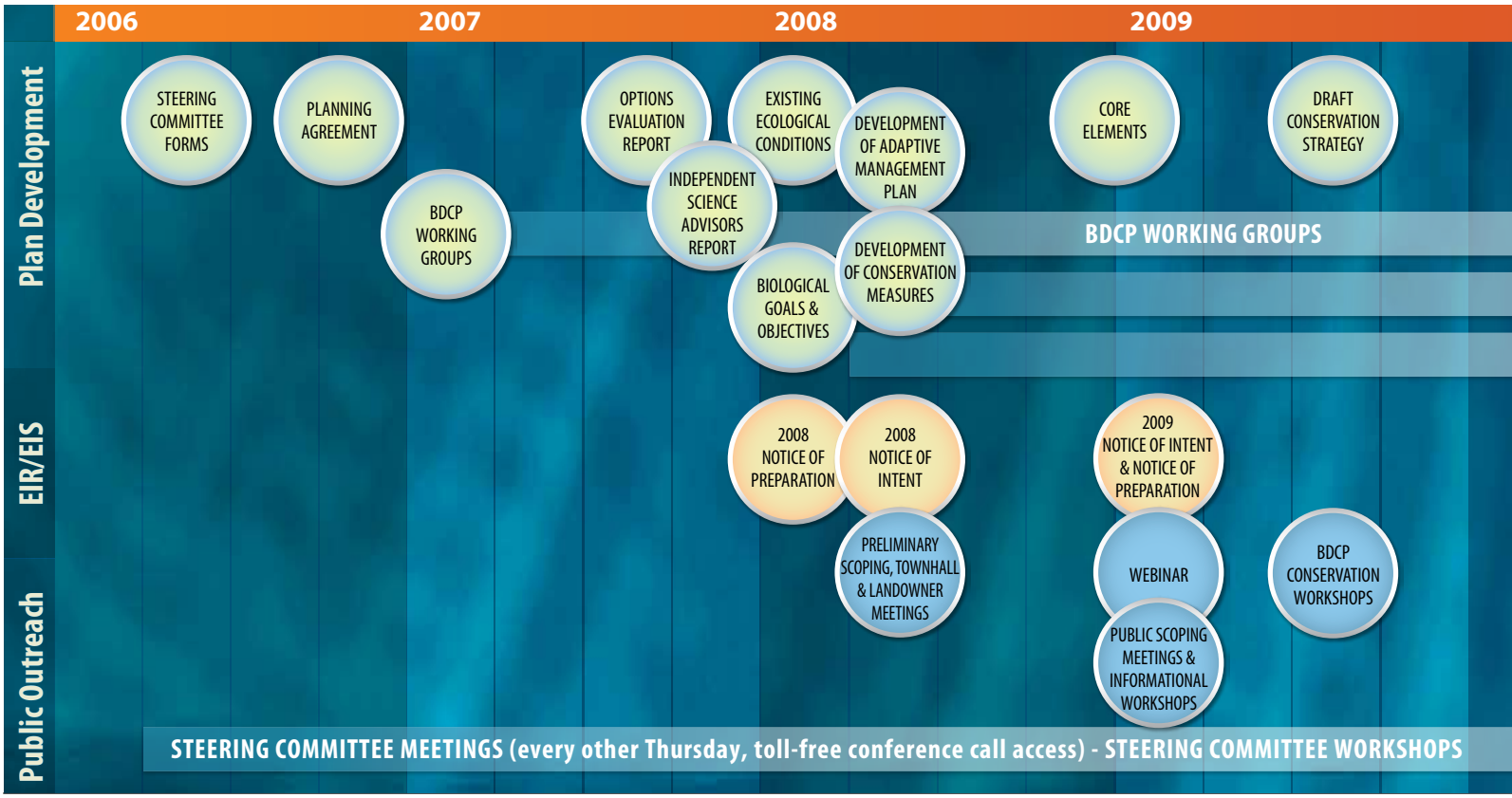
Contributing to More Natural Flow Patterns Under the BDCP

A major piece of the conservation plan would be a conveyance facility that would move water around or under, instead of through, the Delta. This facility would reduce through-Delta conveyance and thus minimize reverse flow conditions. As a result, this option would help restore the natural east-to-west flow of the Delta, reduce the entrainment of fish, and improve Delta habitat for multiple species.

Plan Development Chronology

Planning Milestones to Date

- Development of the Plan has been guided by a Steering Committee formed in 2006, comprised of a diverse group of public water agencies, environmental and conservation organizations, regulatory agencies, and other interested parties. The Steering Committee is the principal forum within which key policy and strategy issues pertaining to the BDCP are discussed and considered.
- The Steering Committee formed a number of working groups and technical teams that focused on specific technical issues and provided information and recommendations back to the Steering Committee. These working groups were formed to further develop conservation measures addressing water operations, habitat restoration, and other stressors.
- In December 2006, the Steering Committee members entered into a formal Planning Agreement which defined the goals, commitments, and expectations of the parties.
- From early 2006 through November 2010, 122 Steering Committee meetings were held. All Steering Committee meetings and working groups have been open to the public. Agendas and work products are available on the website.
- Throughout 2007, the Steering Committee met to evaluate different conceptual approaches to the development of the BDCP. At this stage, the BDCP Steering Committee considered a wide variety of potential strategy options. Ten conservation strategies were analyzed and narrowed to four conservation options, which then were evaluated in detail.
- During 2008, a series of 10 preliminary scoping meetings were held throughout the state. Public comments sought at this stage of the process were intended to support the preparation of an EIR/EIS, to obtain suggestions and information from other agencies and the public on the scope of alternatives and issues to be addressed in the EIR/EIS, and to identify important issues raised by the public related to the development and implementation of the BDCP.
- DWR also held eight landowner workshops in Delta communities on the status of the BDCP planning process, and the environmental review process associated with the Plan.



- In early 2009, a series of 12 public scoping meetings were held throughout the state.
- In summer 2009, a draft of a partial Conservation Strategy addressing aquatic resources (Chapter 3) was released. Four workshops were held to gather public input on the draft Conservation Strategy. Comments were provided to the Steering Committee as they continued to develop the Plan.
- In 2010, the Steering Committee identified an initial set of long-term water operations for the purpose of evaluation in the effects analysis; revised conservation measures based on input from Steering Committee members and the public; engaged independent scientists in the development of metrics for measuring the biological effectiveness of conservation measures; reviewed Plan implementation cost information; discussed an implementation approach; and developed the conservation strategy for terrestrial resources.

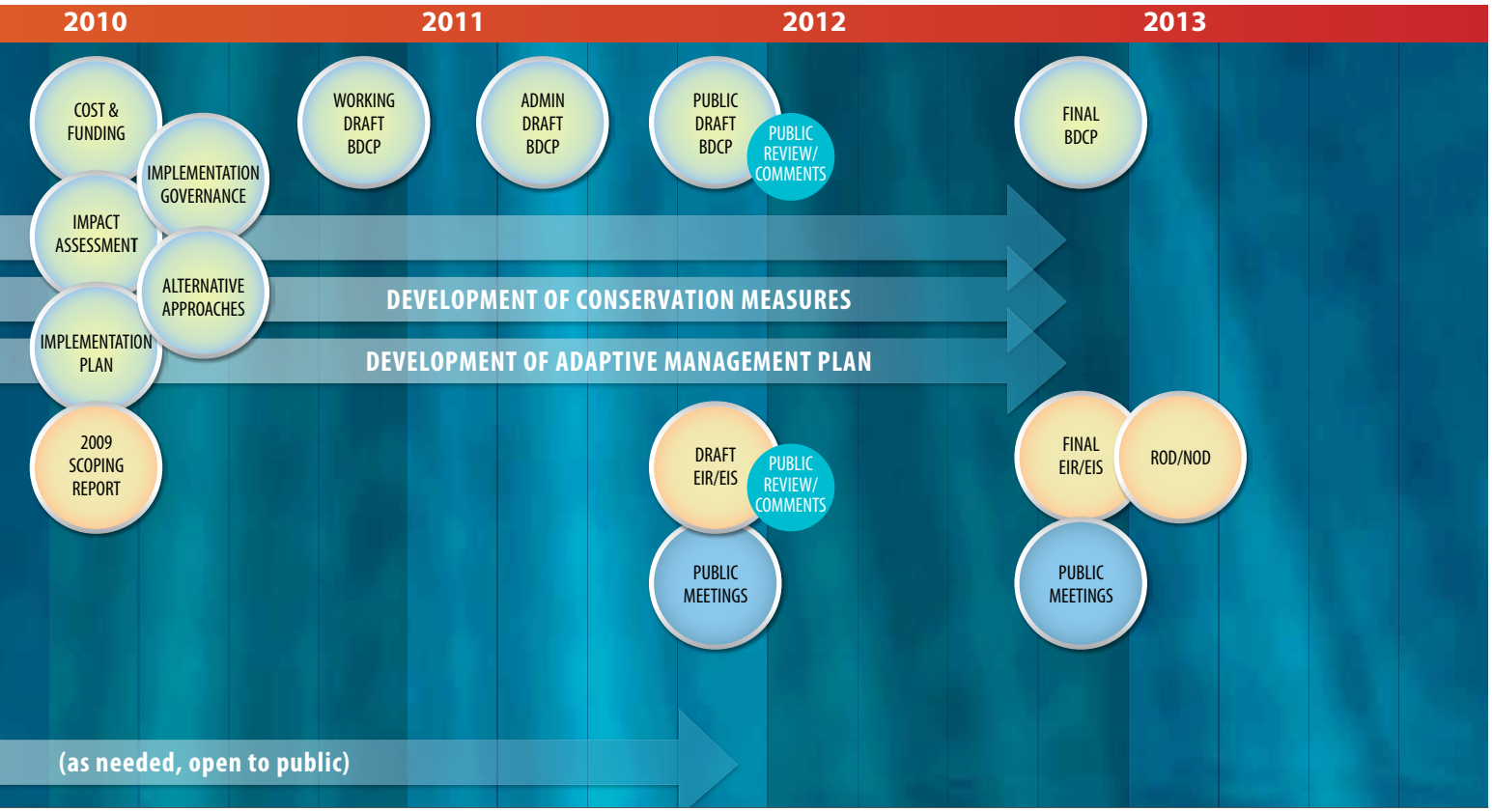
Current Status

On November 18, 2010, the Steering Committee released a Working Draft of all Plan components completed to date. This draft represents the first time the draft Plan has been compiled in one place and is intended to provide the Steering Committee and the public an opportunity to review and formulate opinions about how best to proceed with further development and revisions of the Plan in 2011. The public review draft remains in development, with the effects analysis to be completed in early 2011. Discussions will continue in order to resolve outstanding issues.

What's next to complete and approve the Plan?

A public draft BDCP is expected to be completed and available for public review in 2011. Following a public review period, a final BDCP is expected before the end of 2012. Permits, authorizations, and approvals would be provided by state and federal agencies for implementation of the BDCP Conservation Strategy when the EIR/EIS has been certified and it has been determined that the Plan meets applicable regulatory standards.

For a full list of next steps to complete the Public Review Draft BDCP, see page 70.



Science Review and Input

Conservation plans require an extensive body of scientific investigation, study, and analysis. In California, the NCCPA requires the establishment of a process for inclusion of independent science input to guide conservation plans as they are developed. To meet these obligations, the BDCP sought and engaged independent scientific advice throughout the planning process and enlisted well-recognized experts in ecological and biological sciences. The BDCP Independent Science Advisory Panels produced reports on the following topics:

- BDCP Conservation Principles – September 2007
- Non-aquatic Resources – September 2008
- Adaptive Management – December 2008
- Goals, Objectives, and Metrics– March and August 2010

Delta Regional Ecosystem Restoration Implementation Plan Evaluation

In 2009, the BDCP convened a team of 50 experts to review each of the draft conservation measures to identify their effectiveness using the Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) evaluation process.

These evaluations focused on potential ecological outcomes of specific actions in the Delta using a set of ecosystem and species' life history conceptual models developed specifically for the Delta. The effort also included a synthesis assessment of the likely ecological effects of simultaneous implementation of multiple conservation measures based on results of individual conservation measures.

The predicted magnitude and certainty of effects of actions on species of fish were identified by groups of species experts through an organized process of evaluation.

Small Working Groups

In 2010, the BDCP Steering Committee created a working group of independent scientists in four scientific review and input sessions on the refinement of biological goals and objectives for Delta fish species, as well as the development of monitoring metrics for conservation actions designed to help restore fisheries.

The next steps for independent science include involvement and advice from the Delta Science Program (DSP) and other experts with regard to the following:

- Further development of the biological goals and objectives
- Determination of metrics for assessing progress towards achievement of the goals and objectives
- Identification of monitoring elements
- Refinement of the adaptive management program

Overview of the Plan

Description of Chapters

Chapter 1 – Introduction provides background, planning goals, regulatory context, a description of the scope of the Plan including the Plan Area and covered species, overview of the planning process, and details of how the Plan is organized.

Chapter 2 – 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.

Chapter 3 – Conservation Strategy describes biological goals and objectives and the conservation measures in detail, including the methods and approach. The goals and objectives and conservation measures are organized in the chapter based on the scale at which they function, from large scale to small scale: ecosystem level, natural community level, and species level.

Chapter 4 – Covered Activities describes activities "covered" by the Plan, meaning activities for which regulatory agencies will provide necessary permits as a result of the project proponents agreeing to implement the Conservation Plan.

Chapter 5 – Assessment of Effects of the Plan and Levels of Take provides results of extensive analyses conducted to determine the effects of the Plan on ecosystem processes, natural communities and covered species. It is important to note that other environmental impacts are being evaluated in the EIR/EIS.

Chapter 6 – Plan Implementation provides descriptions of 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.

Chapter 7 – Implementation Structure describes the institutional structure and organizational arrangements that will be established to govern and implement the BDCP, and identifies the roles, functions, authorities, and responsibilities of the various entities that will participate in Plan implementation.

Chapter 8 – Implementation Costs and Funding Sources outlines implementation cost estimates over the proposed 50-year term of the Plan, including the costs related to each of its primary components.

Chapter 9 – Alternatives to Take describes alternatives BDCP considered that would either reduce the amount of "take" or increase the level of conservation of listed species. The chapter also describes in detail why each alternative was ultimately found to be impractical or otherwise insufficient.

Chapter 10 – Independent Science Advisory Process describes the role of independent scientific advice used to guide the development of the BDCP.

Chapter 11 – List of Preparers identifies the entities and individuals who participated in preparing the Plan.

Chapter 12 – References lists the information sources cited in the Plan.

Appendix A – Covered Species Accounts provide detailed descriptions of each covered species' distribution and habitat requirements as well as species habitat models developed specifically for the BDCP.

Other Appendices – Provide additional detail on various technical topics related to and supporting BDCP chapter content.

This *Highlights of the BDCP* document provides an overview of some, but not all, chapters included in the November 18, 2010, Working Draft. Key aspects of the following chapters are discussed in this document: Chapter 3-Conservation Strategy; 5-Assessment of Effects of the Plan and Levels of Take; 6-Plan Implementation; 7-Implementation Structure; and 8-Implementation Costs and Funding Sources. Please refer to the November 18, 2010, Working Draft for more detailed information.

Purpose and Approach

The BDCP approach to addressing the Delta's challenges reflects a significant departure from the species-by-species approach utilized in previous efforts to manage Delta-specific species and habitats. Instead, the BDCP seeks to improve the health of the ecological system as a whole. Each conservation measure plays a part in an interconnected web of conservation activities designed to improve the health of natural communities and, in so doing, improve the overall health of the Delta ecosystem.

For a description of the habitat features that are most important to aquatic species, see pages 20, 21, and 38.

The purpose of the Plan is regulatory in nature. In the most basic sense, the BDCP provides a regulatory vehicle for project proponents to agree to implement a suite of habitat restoration measures, other stressor reduction activities, and water operations criteria in return for regulatory agency approval of the necessary long-term permits for the various projects and water operations (covered activities) to proceed.

The BDCP attempts to balance contributions to the conservation of species in a way that is feasible given the variety of important uses in the Delta including flood protection, agriculture, and recreation, to name a few. The Plan is undergoing intensive environmental review—in the form of a state EIR and federal EIS—to evaluate the impact of the Plan on all aspects of the environment, including the human environment, and identify alternatives and potential mitigation actions.

For more information about the EIR/EIS, see page 74.

Implementation of the Plan will occur over a 50-year time frame by a number of agencies and organizations with specific roles and responsibilities as prescribed by the Plan. A major part of implementation will be monitoring conservation measures to evaluate effectiveness, and revising actions through the adaptive management decision process.

For more details about Governance and Implementation, see page 58.

For more details about the Adaptive Management decision process, see page 55.

What the BDCP Will Do:

- Provide for a more reliable water supply for California by modifying conveyance facilities to create a more natural flow pattern.
- Provide a comprehensive restoration program for the Delta
- Provide the basis for permits under federal and state endangered species laws for activities covered by the Plan based on the best available science
- Identify sources of funding and new methods of decision making for ecosystem improvements
- Provide for an adaptive management and monitoring program to enable the plan to adapt as conditions change and new information emerges
- Streamline permitting for projects covered by the Plan

What the BDCP Will Not Do:

- Solve all environmental challenges in the Delta
- Address all factors (such as ocean conditions) that may affect covered species
- Eliminate other permitting requirements

Photo courtesy of DWR

Covered Species

What Species Will Be Addressed by the BDCP?

Covered species identified in the BDCP include endangered or sensitive terrestrial and aquatic species whose conservation and management will be provided by the Plan. The draft Conservation Strategy includes biological goals and objectives for 52 sensitive wildlife and plant species and 11 fish species, and identifies conservation measures to help in their recovery.

Fish Species:

- Delta smelt
- Longfin smelt
- Winter-run Chinook salmon
- Spring-run Chinook salmon
- Fall-run and late fall–run Chinook salmon
- Central Valley steelhead
- Green sturgeon
- White sturgeon
- Sacramento splittail
- River lamprey
- Pacific lamprey

DELTA SMELT

Photo courtesy of USFWS

LONGFIN SMELT

Reclamation photo by René Reyes

CHINOOK SALMON

winter, spring, fall, and late fall

Reclamation photo by René Reyes

GREEN AND WHITE STURGEON

Reclamation photo by René Reyes

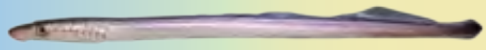
CENTRAL VALLEY STEELHEAD

Photo courtesy of USFWS

SACRAMENTO SPLITTAIL

Reclamation photo by René Reyes

RIVER LAMPREY



Reclamation photo by René Reyes

PACIFIC LAMPREY

Reclamation photo by René Reyes

Plant and Wildlife Species:

- San Joaquin kit fox
- Riparian woodrat
- Salt marsh harvest mouse
- Riparian brush rabbit
- Townsend's big-eared bat
- Suisun shrew
- Tricolored blackbird
- Suisun song sparrow
- Yellow-breasted chat
- Least Bell's vireo
- Western burrowing owl
- Western yellow-billed cuckoo
- California least tern
- Greater sandhill crane
- California black rail
- California clapper rail
- Swainson's hawk
- White-tailed kite
- Giant garter snake
- Western pond turtle
- California red-legged frog
- Western spadefoot toad
- California tiger salamander
- Lange's metalmark butterfly
- Valley elderberry longhorn beetle
- Vernal pool tadpole shrimp
- Conservancy fairy shrimp
- Longhorn fairy shrimp
- Vernal pool fairy shrimp
- Midvalley fairy shrimp
- California linderiella
- Alkali milk-vetch
- San Joaquin spearscale
- Boggs Lake hedge-hyssop
- Heckard's peppergrass
- Legenere
- Heartscale
- Brittlescale
- Slough thistle
- Suisun thistle
- Soft bird's-beak
- Delta button-celery
- Dwarf downingia
- Contra Costa wallflower
- Carquinez goldenbush
- Delta tule pea
- Suisun Marsh aster
- Mason's lilaeopsis
- Delta mudwort
- Antioch Dunes evening-primrose
- Side-flowering skullcap
- Caper-fruited tropidocarpum

WHITE-TAILED KITE

Photo courtesy of Kevin Cole

The Delta Ecosystem Approach

The Delta was once a vast marsh and floodplain dissected by meandering channels and sloughs that provided a dynamic habitat for a rich diversity of fish, wildlife, and plants. The Delta of today has been altered by a system of artificial levees, reservoirs, and dredged waterways constructed to support farming and urban development on islands, as well as to provide flood management. Changes to the Delta landscape have resulted in losses of fish spawning and rearing habitat, fish migration corridors, and food web production. These changes significantly affect the ability of threatened and endangered fish species to survive and thrive.

The BDCP aims to enhance the ecosystem processes and function, including seasonal floodplain habitat, intertidal and associated subtidal habitat, hydrologic conditions, and salinity within the Delta estuary, as well as to reduce direct losses of fish and other aquatic organisms. Because it is a permitting vehicle, the BDCP is in a unique position to implement restoration while simultaneously securing a sufficient, reliable freshwater source for human use.

The Current State of the Delta

Lack of Floodplain Habitat –
Many historical floodplains are disconnected from water channels by levees. The inability to inundate floodplains at critical periods of time leaves fish without valuable habitat for spawning and rearing.

Marginalized Channels –
Levees and riprap do not provide the types of habitat features that are beneficial to fish, such as overhanging shade, instream woody material, and shallow benches.

Lost Tidal Marsh –
Ninety-eight percent of the lands that historically provided intertidal marsh and shallow subtidal habitat have been lost due to levees and dikes built to provide flood management. This has resulted in less habitat for fish and lower production of phytoplankton, zooplankton, and organic material.

Altered Flow and Entrainment –
Water flow in the interior Delta is affected by the operation of SWP and CVP pumps. Fish can be pulled toward and into the pumps. Some fish can get disoriented and get lost or stuck in channels.

Toxic Contaminants, Nutrients and Invasive Species –
Toxic contaminants and encroaching invasive species affect water quality, fish health, and habitat conditions, as well as throw off the natural balance in the ecosystem.

How the BDCP Plans to Address the Problem

Reconnect Floodplains to improve the production of phytoplankton, zooplankton, and other organic material, as well as spawning and rearing habitat.

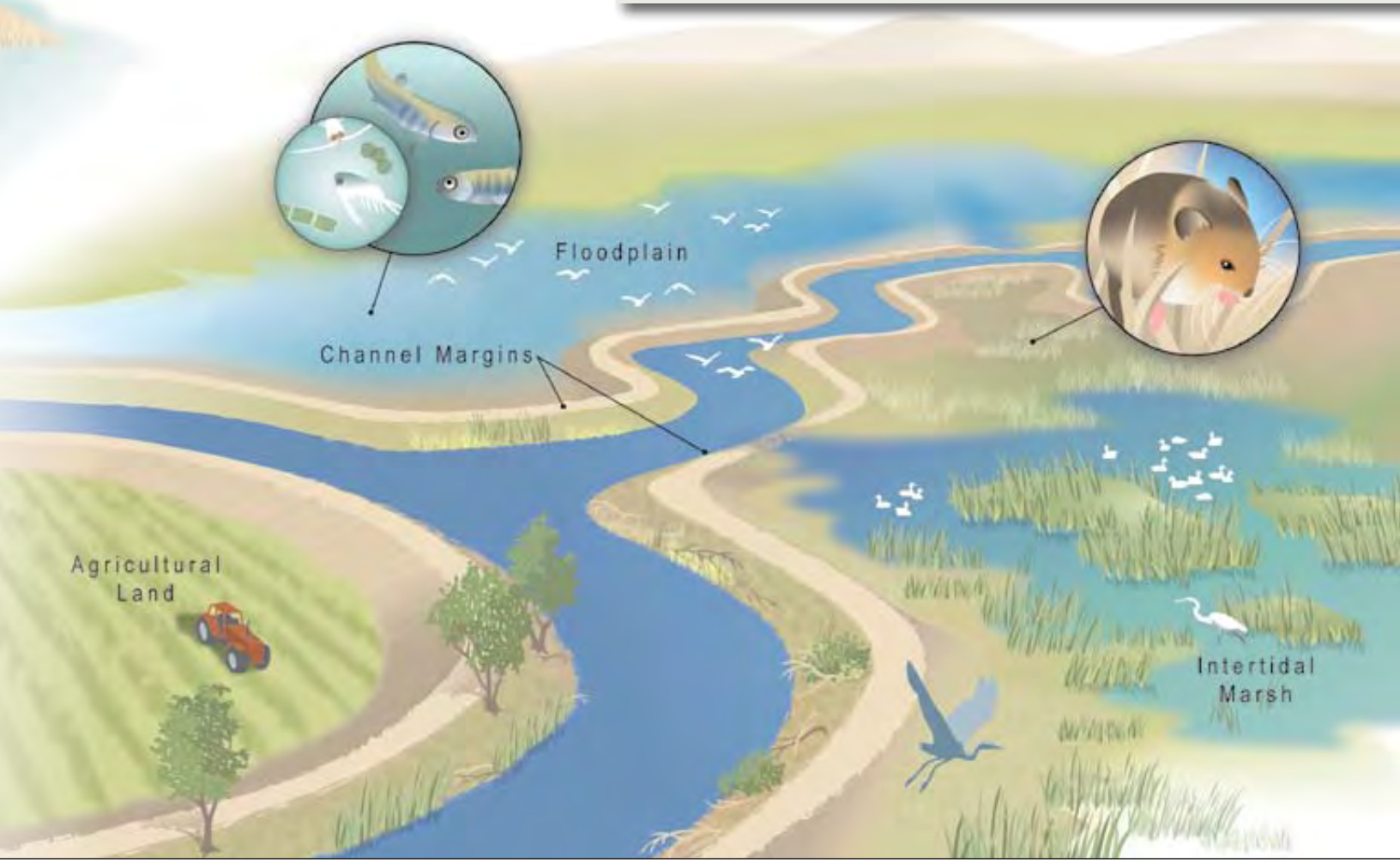
Develop New Tidal Marsh Habitat of brackish and freshwater tidal marsh and shallow subtidal habitat.

Return Riverbanks to a More Natural State through addition of logs, trees, bushes, and shallow benches to increase suitable habitat for healthy fish populations.

Decrease Toxicity of water to improve fish health and work to decrease toxic contaminant loads to improve food availability.

Control Invasive Species to protect fish from predation and help support a natural balance.

Align Water Operations to Better Reflect Natural Seasonal Flow Patterns by creating new diversions equipped with state-of-the-art fish screens, thus reducing reliance on South Delta exports. Flow management would allow for greater seasonal variability in flows when fish need it most.



Integrated Statewide & Regional Water Management

The BDCP is being developed in the context of rising risk and uncertainty for California water supplies. There is a new urgency with which we must embrace water use efficiency in the context of climate change and increased urban demand. Improved water conveyance is a strategy from past water plans, but is now presented with renewed significance given the context of a Delta ecosystem in continued decline and the threats of seismicity and sea level rise. Conveyance improvements can provide the operational flexibility to divert and move water at times and from places that are less harmful to fisheries or to reliably transport environmental water supplies to locations where or at times when it can benefit fish and water quality.

In addition to statewide improvements, local resource strategies such as conservation, water recycling, groundwater storage and conjunctive use, urban runoff management, and more can converge in the context of Integrated Regional Water Management planning. Other aspects of water management benefits of conveyance improvements are described below in the following excerpt from the California Water Plan Update of 2009:

> *Conveyance can improve water quality by moving more water when water quality conditions are better or less impacted by the movement of water, or by supplementing natural river flows and preventing excessive saltwater intrusion that can impair established beneficial uses and harm legal users of water in the Delta.*
>
> *Given the high-intensity, short duration characteristics of California's hydrology, improved conveyance capacities combined with adequate surface water or groundwater storage can enable diversions of more water during high flow, less competitive periods, and consequently reduce the pressure to divert water during low flow, highly competitive periods. This strategy could have additional benefits as an adaptation to future climate change.*
>
> *Water quality in the Delta may be enhanced through sophisticated management projects controlling source water mixing and reducing salinity intrusion from seawater.*
>
> *Enlarged and enhanced conveyance systems may increase flood control capability with higher and more controlled flow through the Delta.*
>
> *Increases in water use efficiency decrease the water demand for a given region and reduce demand for conveyance through the Delta. As a result, system-wide reliability improves by reducing the burden on the Delta and its fragile levees.*
>
> *Redundancy in the Delta conveyance system will provide increases in resiliency and may, therefore, ensure some continuation of services during extreme events such as a long-term drought or following a catastrophic seismic event in the Delta.*
>
> *A larger conveyance will allow more pumping of water at optimal times, when energy costs are lower, and decrease pumping at peak energy demand periods, when energy costs are higher. Energy costs for pumping at night, for example, are less than costs during daytime when California's energy demand peaks for industrial and air conditioning uses.*

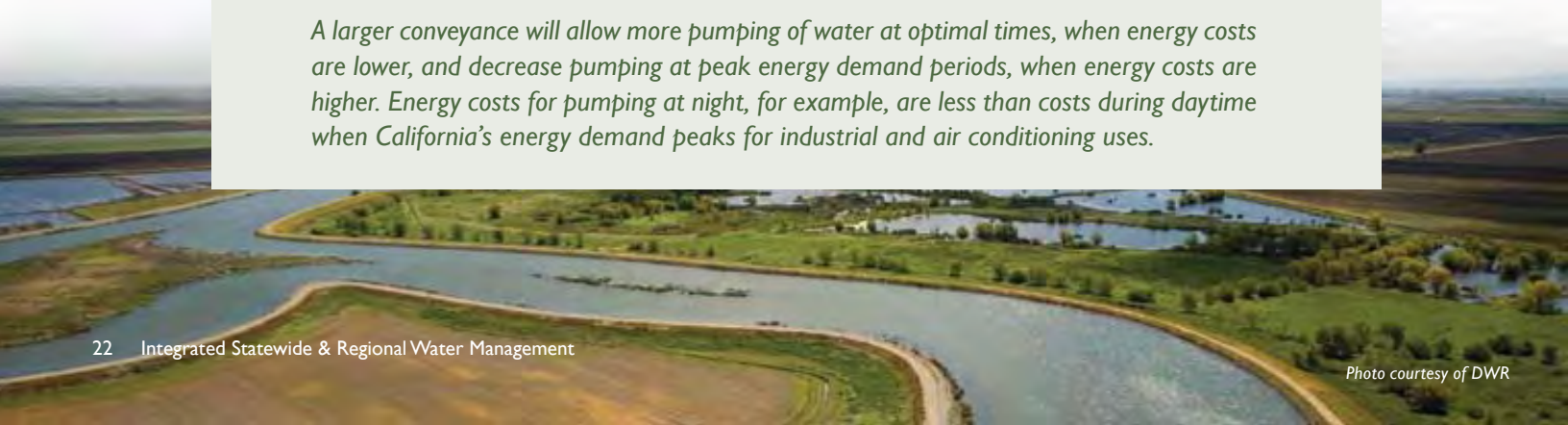


Photo courtesy of DWR

Conservation Strategy

What is a Conservation Measure?

A conservation measure is a prescribed action designed to achieve the biological goals and objectives of the Plan and to satisfy state and federal regulatory requirements.

What is a Covered Activity?

Covered activities are those that support water supply and power generation, such as water conveyance and facilities maintenance and improvements, as well as any restoration efforts that impact threatened and endangered species.

Why are Conservation Measures also Covered Activities?

Some conservation measures intended to advance the biological objectives of the Plan may also result in the incidental take of covered species. Consequently, these conservation measures are characterized as covered activities to ensure their coverage under the regulatory authorizations issued under the BDCP.

Why is Isolated Conveyance Both a Covered Activity and a Conservation Measure?

The proposed construction and operation of a new isolated conveyance system may provide substantial ecological benefits to certain aquatic species that would not be feasible with the existing through-Delta conveyance system. To articulate these benefits as part of the overall Conservation Strategy, isolated conveyance has been included as a conservation measure.

To see a list of the conservation measures, see pages 28 and 29.

Overview of the Conservation Strategy

A goal of the BDCP is to contribute to the recovery of at-risk species in the Delta. To contribute to the conservation of these species, the Plan identifies conservation and management actions—based on the best available science—to improve habitat conditions within the Delta's natural communities.

These actions, called conservation measures, make up a conservation strategy and fall into three distinct categories:

Water Flow and Conveyance

Velocity, direction, residence time, depth, timing, nutrient transport, and migration corridors, for example.

Aquatic and Terrestrial Habitat

Aquatic: Water-based habitat features from the water surface to the channel bottom (e.g., channel geometry, depth, slope, substrate type, water quality, amount and type of vegetation, and amount of tidal energy) that support aquatic ecosystem processes.

Terrestrial: Land-based habitat features that support non-aquatic species and aquatic ecosystem processes (e.g., aquatic food production).

Other Stressors Reduction

Non-physical habitat-related and non-flow-related activities intended to help species survive and thrive (e.g., reducing adverse effects of toxic substances and invasive species on covered species).

These conservation measures are designed to work together to meet the Plan's objectives and to address the large spatial scale of the Delta. The schedule on pages 60 and 61 shows the evolution of the Plan as various conservation measures are sequenced.

An important aspect of the Conservation Strategy is the use of adaptive management–informed by biological goals, objectives, and monitoring–to improve outcomes of conservation actions over time.

In addition to restoring water supplies and meeting water supply reliability goals, the water conveyance approach envisioned by BDCP contributes to the conservation of covered fish species and their habitats in these six fundamental ways:

1. Align Water Operations to Better Reflect Natural Seasonal Flow Patterns

Flow management envisioned by the BDCP would allow for greater seasonal variability in flows when covered fish species need it most.

2. Reduce Physical Impact of a Southern Diversion Point (Risk of Entrainment)

Diverting water only from the South Delta creates greater conflicts between water operations and the needs of covered fish species. By adding a point of diversion for the SWP and CVP in the North Delta and allowing for real-time, flexible operation of both South Delta and North Delta diversion points, fish can be better protected. North Delta diversion points under consideration display lower entrainment risks for delta smelt due to lower local populations of the species.

3. Protect Fish with State of the Art Fish Screens

New northern diversion points would be fitted with state-of-the-art fish screens to avoid and minimize the likelihood of entrainment of fish and other aquatic organisms.

4. Improve Natural Flow Conditions in the Estuary

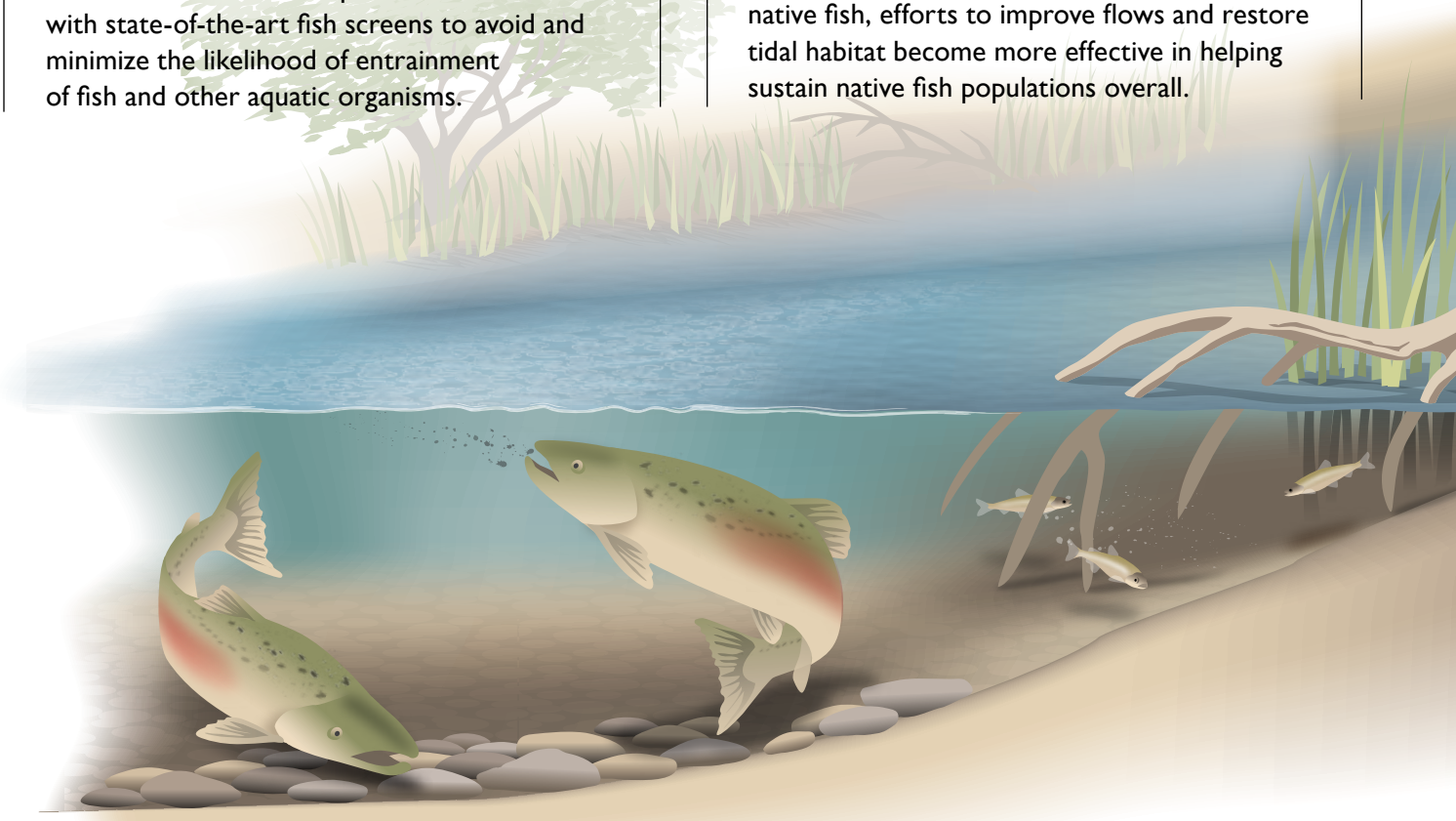
Reducing the frequency, duration and rate of reverse flow—by minimizing South Delta pumping and providing for a more natural east-to-west flow pattern through dual conveyance—improves conditions for fish.

5. Create New Habitat Areas

New flow patterns linked with habitat restoration areas create opportunities to re-establish important ecological processes associated with the interaction between land and water in a way that is beneficial to fish and that more closely resembles natural estuary function.

6. Reduce the Effects of Other Stressors on Native Fish Species

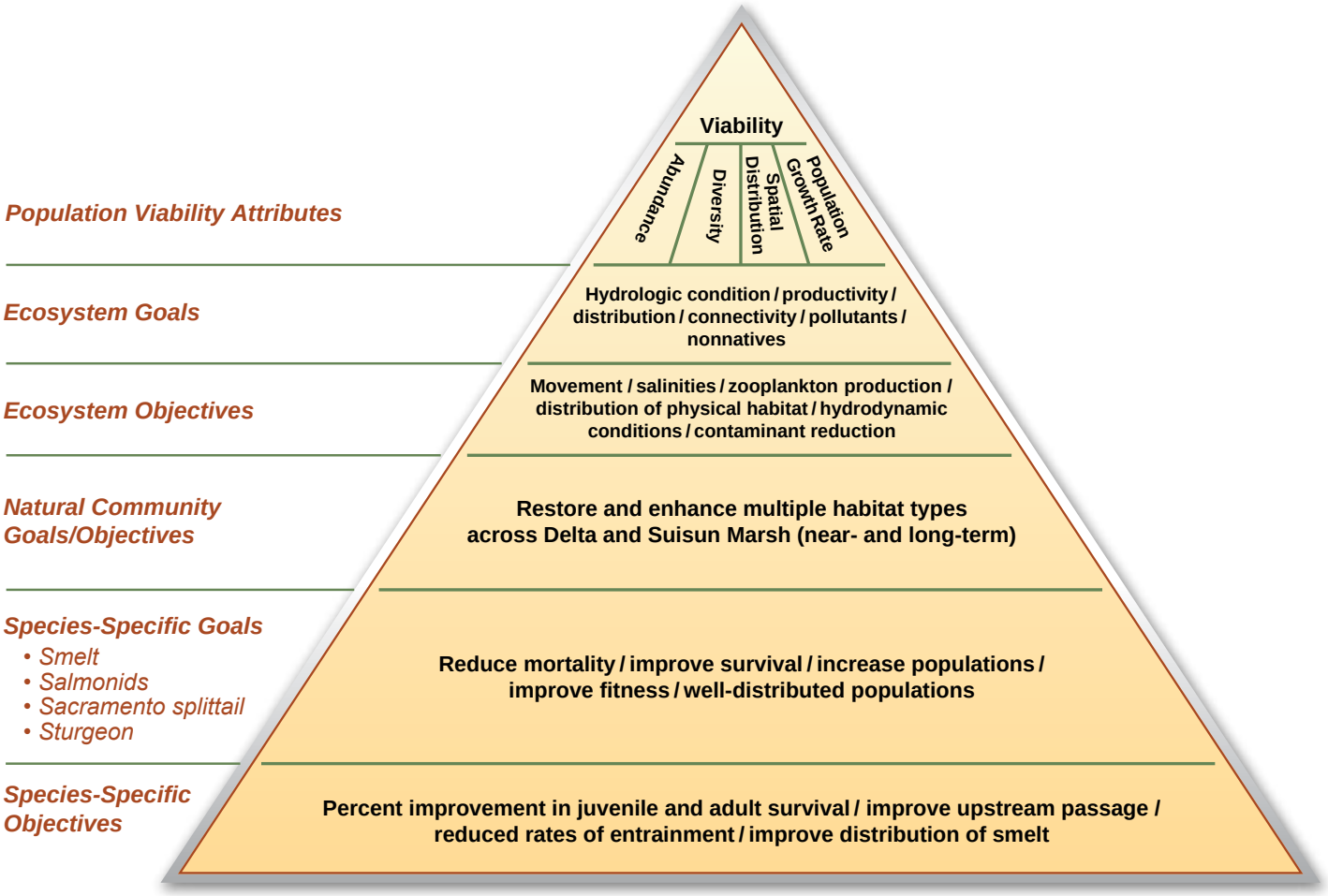
By addressing other ecological problems, such as invasive vegetation that provides habitat for nonnative predatory fish and illegal harvest of native fish, efforts to improve flows and restore tidal habitat become more effective in helping sustain native fish populations overall.



Biological Goals and Objectives

The Conservation Strategy is based on the best scientific data available and is being built on a set of core hypotheses about how to restore the ecological processes and functions necessary to achieve biological goals and objectives over time. The biological goals and objectives are intended to contribute to the goals and objectives of existing recovery plans and other regional plans. They are designed to serve three important functions in the Conservation Strategy:

1) Articulate the desired biological outcomes of the Conservation Strategy.
2) Describe how those outcomes will contribute to the long-term conservation of covered species and their habitats.
3) Provide metrics to measure progress in achieving the desired biological outcomes.



- **Ecosystem goals and objectives** focus on improvements to the hydrodynamic, chemical, and biological processes of the Delta including more natural flow patterns, increased food production, reductions in the effects of nonnative species, reduction in the adverse effects of contaminates and increases in the extent and spatial distribution, function, and connectivity of natural communities. For the covered wildlife and plant species, these goals and objectives address the desired extent, distribution, connectivity, and ecological function of ecosystems supporting their habitats and life requirements within the BDCP landscape.

- **Natural community goals and objectives** are focused on maintaining or enhancing ecological functions and values of natural communities. Achieving natural community goals and objectives serves to expand and conserve habitat of associated covered species and other native species and provides for sustaining and increasing the abundance and distribution of covered and other native species.

- **Species-specific goals and objectives** address stressors and habitat needs that are not addressed under the higher order ecosystem and natural community goals and objectives.

To ensure that biological goals, objectives and metrics are meaningful and reliable, the Natural Resources Agency supports an approach such that in some cases, the goals and objectives would be most appropriately expressed with specificity; in other cases, more generally. Similarly, for some goals and objectives, specific metrics would be developed to assist in the monitoring of progress; for others, precise measurements may not be practical or available at present. Through the BDCP monitoring program, the strategy as a whole and the individual conservation measures will be evaluated on an ongoing basis to assess their effectiveness in advancing the biological goals and objectives of the Plan. Those conservation measures that do not produce expected biological benefits may be modified or replaced through the adaptive management process. Biological objectives will be identified for each species, including metrics that will be used for monitoring purposes.

Outstanding Issues

Biological goals and objectives for covered fish species are being developed, refined, and revised by a logic chain linking them to stressors, conservation measures, expected outcomes, and monitoring metrics. This process has been the subject of independent scientific review and developed expressly for the BDCP planning process. While not intended to identify regulatory requirements, it will inform the development and implementation of the Plan. The biological goals and objectives included in the November 18, 2010, Working Draft reflect the current work in progress by the BDCP technical experts and consultants. The objectives in their current state do not represent a consensus position of the Steering Committee regarding the objectives of the BDCP.

There is disagreement among BDCP participants about the level of detail and quantification necessary for biological goals and objectives prior to BDCP authorization. The Working Draft includes a detailed outline for recommended next steps for continuing and completing the development of objectives and metrics (see page 3-141 of the Working Draft).

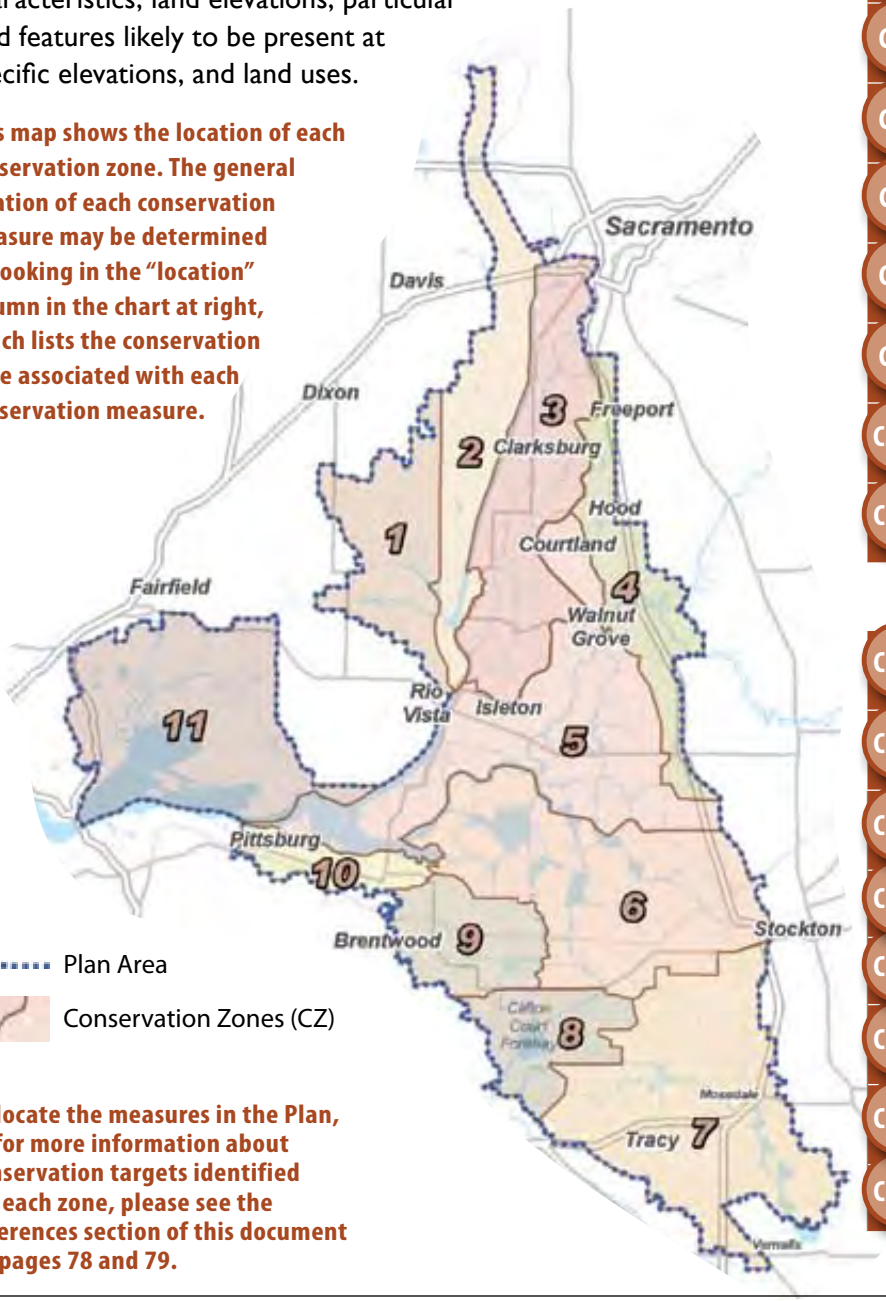
Conservation Measures

The Conservation Strategy includes 19 conservation measures (CM), listed in the chart at right. While they are organized in the Plan by ecosystem level, natural community level, and species level, as described on page 27, they are organized in this document by type: water flow/conveyance, habitat, and other stressors.

Conservation Zones

Conservation zones are geographic areas defined by the biological needs of the species covered under the Plan. They were identified based on landscape characteristics, land elevations, particular land features likely to be present at specific elevations, and land uses.

This map shows the location of each conservation zone. The general location of each conservation measure may be determined by looking in the "location" column in the chart at right, which lists the conservation zone associated with each conservation measure.



To locate the measures in the Plan, or for more information about conservation targets identified for each zone, please see the references section of this document on pages 78 and 79.

Measure	Title
Water Flow	
CM1	Water Facilities and Operation
Habitat	
CM2	Yolo Bypass Fishery Enhancement
CM3	Natural Communities Protection
CM4	Tidal Habitat Restoration
CM5	Seasonally Inundated Floodplain Restoration
CM6	Channel Margin Habitat Enhancement
CM7	Riparian Habitat Restoration
CM8	Grassland Communities Restoration
CM9	Vernal Pool Complex Restoration
CM10	Nontidal Marsh Restoration
CM11	Natural Communities Enhancement and Management
Other Stressors	
CM12	Methylmercury Management
CM13	Nonnative Aquatic Vegetation Control
CM14	Stockton Deep Water Ship Channel Dissolved Oxygen Levels
CM15	Predator Control
CM16	Non-Physical Fish Barriers
CM17	Hatchery and Genetic Management Plans
CM18	Illegal Harvest Reduction
CM19	Conservation Hatcheries

Location (Conservation Zone)	Level	Notes	Page
Plan Area-wide	Ecosystem	Includes pipeline/tunnel alignment facilities (15,000 cubic feet per second [cfs], 5 intakes, etc.) and water operations criteria	31
CZ 2	Ecosystem	Seasonal modification of the Yolo Bypass to improve the timing, frequency and duration of inundation to improve fish habitat.	41
CZ 1 through 9, and 11	Ecosystem	Up to 8,000 acres of grassland; up to 400 acres of alkali seasonal wetland complex; up to 300 acres of vernal pool complex, 16,620 to 32,640 acres of agricultural lands	44
CZ 1, 2, 4 through 7, and 11	Natural Community	Up to 65,000 acres – Minimum distribution: **CZ 1 and 2** - 5,000 acres; **CZ 4** - 1,500 acres; **CZ 5** - 2,100 acres; **CZ 7** - 5,000 acres; **CZ 11** - 7,000 acres	45
Plan Area-wide	Natural Community	Up to 10,000 acres	47
CZ 3 and 7	Natural Community	Up to 20 levee miles	48
CZ 1 through 9 and/or 11	Natural Community	Up to 5,000 acres – primarily in association with CMs 4, 5, and 6	49
CZ 1, 8, and/or 11	Natural Community	Up to 2,000 acres	50
CZ 1, 8, and/or 11	Natural Community	Up to 200 acres	50
CZ 2 and 4	Natural Community	Up to 400 acres that supports giant garter snake habitat	51
Plan Area-wide	Natural Community	Applies to all BDCP-protected and restored habitats under CMs 3-10	51
CZ 1, 2, 4 through 7, and 11	Species	Minimize the risk for methylation of mercury in habitats restored under CMs 4-6	52
CZ 1, 2, 4 through 7, and 11	Species	Control the establishment of nonnative aquatic vegetation in restored tidal habitats	52
CZ 6	Species	Maintain dissolved oxygen concentrations above levels that impair covered fish species between Turner Cut and Stockton.	52
Plan Area-wide	Species	Reduce the abundance of predatory fish in high predator density locations	53
CZ 5, 6, 7, and 8	Species	Placement of non-physical fish barriers at strategic locations throughout the Delta	53
Plan Area-wide	Species	Nimbus Hatchery, Feather River Hatchery, Mokelumne River Hatchery, Merced River Hatchery, Coleman National Fish Hatchery, and Livingston Stone National Fish Hatchery	53
Plan Area-wide	Species	Increase enforcement of fishing regulations in Bay-Delta waterways to reduce illegal harvest of Chinook salmon, Central Valley steelhead, green sturgeon and white sturgeon	53
Plan Area-wide	Species	Expand and establish conservation hatcheries for delta smelt and longfin smelt	53

CM = Conservation Measure CZ = Conservation Zone

Water Flow and Conveyance

CM1 Water Facilities and Operation

A cornerstone of the BDCP strategy is the widely shared conclusion that the existing water conveyance system is not conducive to long-term restoration goals. CM1 consists of a "dual conveyance" water delivery system made up of new (N) North Delta Diversion facilities and an isolated conveyance system to carry water to the existing SWP and CVP facilities in the (S) South Delta. This dual system allows for far greater flexibility in balancing the needs of the estuary with reliable water supplies.

CM1 will also define operational criteria for the existing through-Delta conveyance system until a new dual conveyance water delivery system would be constructed and operable. These operations, also called near-term water operations, would be included as part of the permitted BDCP. The new permit terms would replace the existing biological opinions issued by the USFWS and the national Marine Fisheries Service (NMFS) in 2008 and 2009, respectively, that govern current Delta operations of the state and federal water projects. To date, the planning process has not engaged in detailed discussions about near-term operations to the same level as the long-term dual conveyance system; therefore, near-term operations were not included in the November 18, 2010, Working Draft.

Challenges to near-term water operations:

- Lack of flexibility afforded by long-term dual conveyance
- Lack of agreement on operating criteria necessary to protect covered fish species
- Criteria in existing biological opinions have been challenged in federal court

Dual conveyance operating criteria will describe when, where and how much water could be diverted based on natural hydrological conditions and where covered fish species are in the system. These criteria take into account such factors as water quality, tributary inflow, in-Delta flows, and Delta outflows and will help guide operations of structures such as the Delta Cross Channel and the Suisun Marsh Salinity Control Gates. These criteria will help determine how much water can be sustainably delivered by the system.

Dual Conveyance

(N) The North Delta Diversion would be the primary diversion point using specific operating criteria.

(N) (S) The North Delta Diversion would be used in conjunction with the existing South Delta Diversion when it is necessary to maintain water quality and when it minimizes impacts to fish.

(S) The South Delta Diversion would only operate on its own when the North Delta Diversion is non-operational during infrequent periods for maintenance or repair.

The map at right describes the biological objectives of various dual conveyance elements that have the most effect on fisheries and water operations.

CM2 Yolo Bypass*

Objectives: (1) Modify Fremont and Sacramento Weirs to improve fish passage and to increase the frequency and duration of Yolo Bypass inundation, (2) increase spawning and rearing habitat for splittail, juvenile and adult salmon, and sturgeon (3) provide alternate migration corridor to the mainstem Sacramento River, and (4) increase availability and quality of food and habitat in Cache Slough.
(Yolo Bypass operations are covered under Conservation Measure 2).

Operate the Montezuma Slough Salinity Control Gate during the long-term implementation period for environmental benefits.

Objectives: Reduce delays in outmigration of juvenile salmonids and sturgeon by allowing more water and fish to flow past Chipps Island, and improve access of splittail, salmonids, and sturgeon to existing and future restored intertidal marsh habitats in Suisun Marsh.

Rio Vista Flows

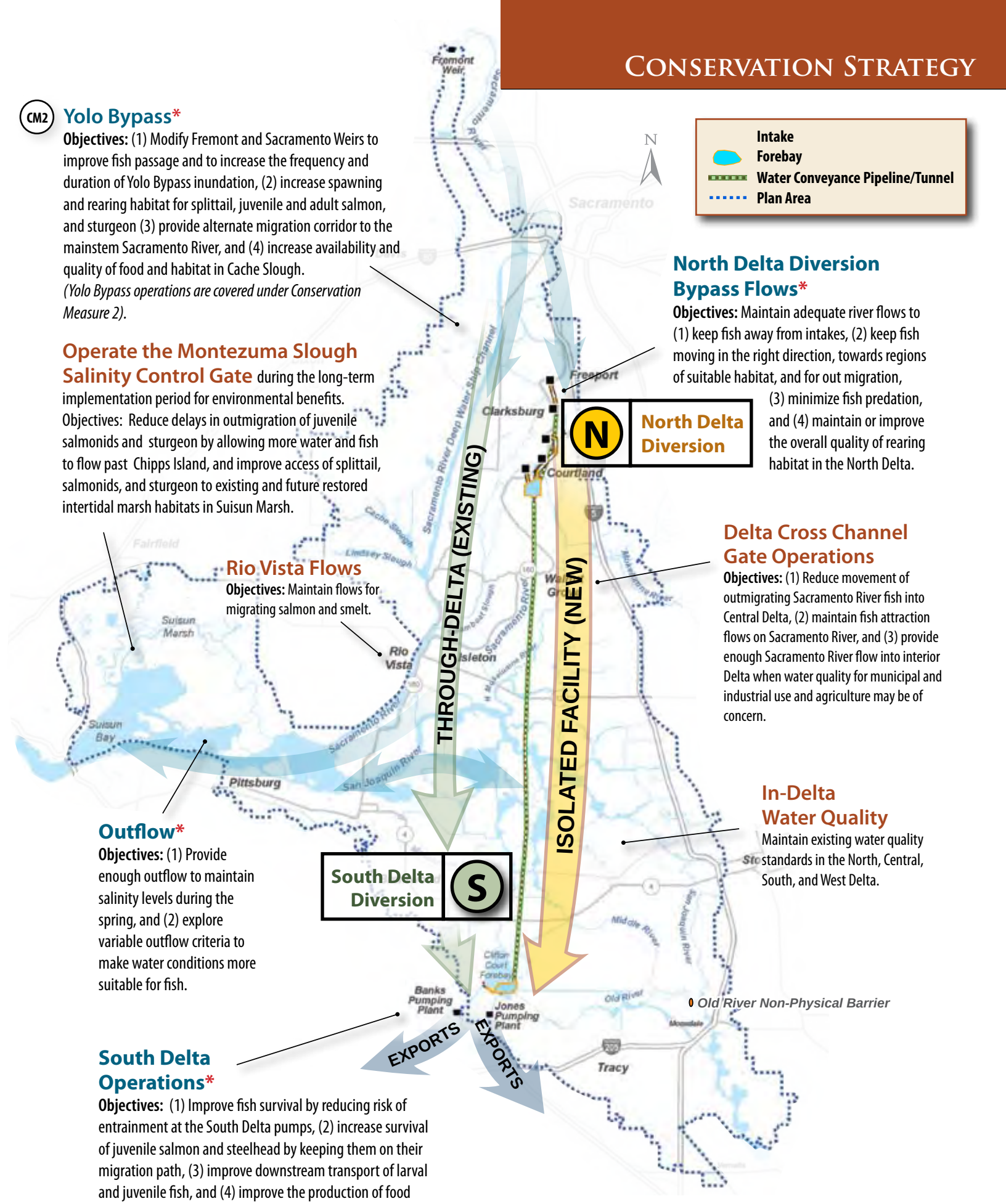
Objectives: Maintain flows for migrating salmon and smelt.

Outflow*

Objectives: (1) Provide enough outflow to maintain salinity levels during the spring, and (2) explore variable outflow criteria to make water conditions more suitable for fish.

South Delta Operations*

Objectives: (1) Improve fish survival by reducing risk of entrainment at the South Delta pumps, (2) increase survival of juvenile salmon and steelhead by keeping them on their migration path, (3) improve downstream transport of larval and juvenile fish, and (4) improve the production of food resources within the Delta and Suisun Bay.



North Delta Diversion Bypass Flows*

Objectives: Maintain adequate river flows to (1) keep fish away from intakes, (2) keep fish moving in the right direction, towards regions of suitable habitat, and for out migration, (3) minimize fish predation, and (4) maintain or improve the overall quality of rearing habitat in the North Delta.

Delta Cross Channel Gate Operations

Objectives: (1) Reduce movement of outmigrating Sacramento River fish into Central Delta, (2) maintain fish attraction flows on Sacramento River, and (3) provide enough Sacramento River flow into interior Delta when water quality for municipal and industrial use and agriculture may be of concern.

In-Delta Water Quality

Maintain existing water quality standards in the North, Central, South, and West Delta.

*** Primary Delta Flow Management Factor**

CM1 Water Facilities and Operation (Cont'd)

Water Operations Criteria

In January 2010, the Steering Committee developed a set of potential dual conveyance operating criteria for detailed analysis of its effects on biological resources; namely individual fish and wildlife species, the natural communities of these species, and the Delta ecosystem as a whole.

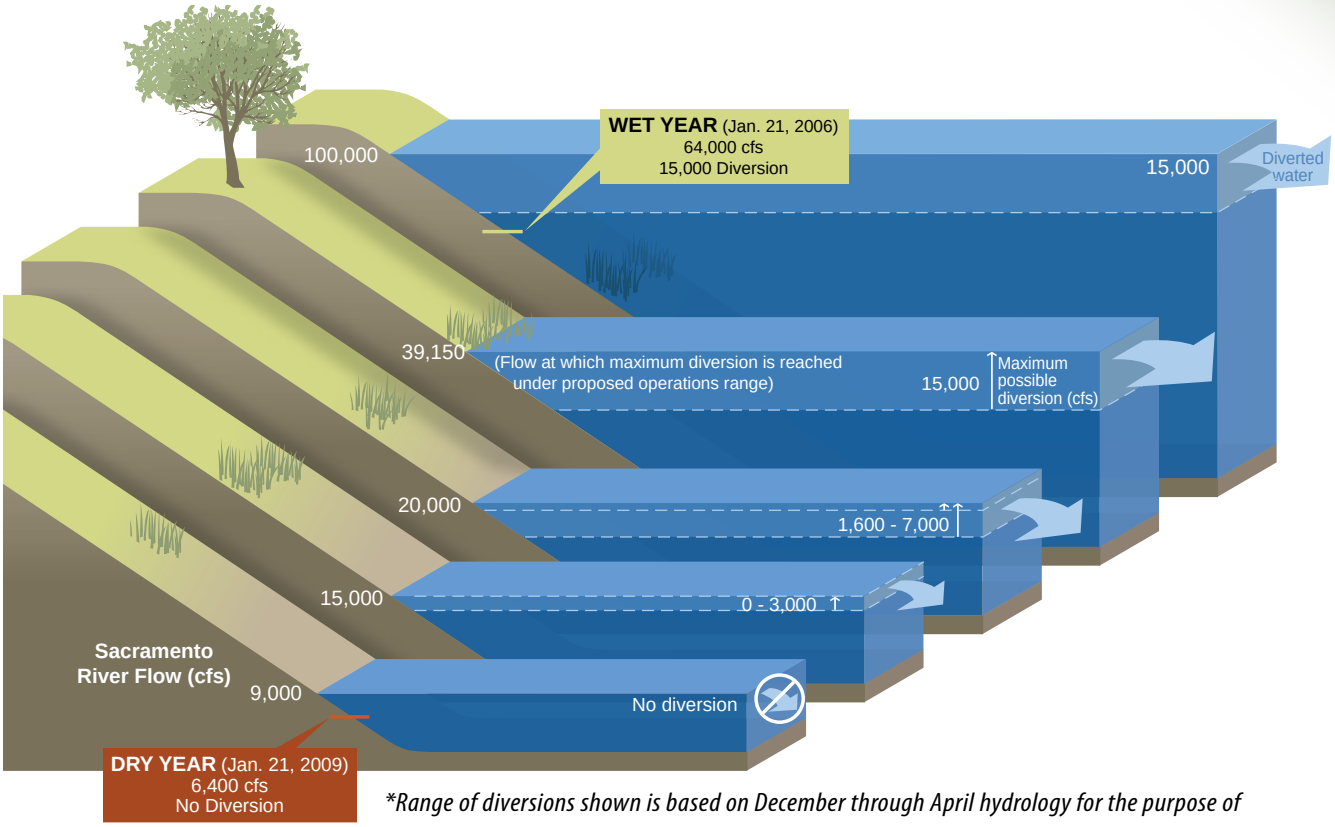
These criteria included:

- Rules for preferentially operating new North Delta diversions and existing South Delta diversions
- Bypass requirements for the North Delta diversions
- Delta outflow rules
- Rules for operating the Delta Cross Channel
- Rio Vista flow rules
- Requirements to meet in-delta water quality for agricultural, municipal, and industrial water quality
- Operation of the Montezuma Slough salinity control gate

North Delta Diversion Operations Criteria

(December through April)

Water supplies exported from new North Delta diversions will be subject to specific year-round operational criteria. However, the most sensitive time of year for Delta fisheries is during December through April. Operations during this time period would vary depending on the hydrologic year type and include a minimum Sacramento River flow before water supplies could be diverted. Once minimum flows are established, a set percentage of flows could be diverted. Ranges of potential diversions are depicted in the graphic below for illustration purposes only.



**Range of diversions shown is based on December through April hydrology for the purpose of demonstrating operational rules. For the full draft proposed long-term BDCP Water Operations Range of Criteria for effect analysis, see the November 18, 2010, Working Draft, Chapter 3 (Table 3-13).*

The Steering Committee has identified other water operations criteria that would be more or less restrictive of exports and that could provide different approaches for fishery protections and water supply. In developing these criteria, the BDCP considered the requirements of existing biological opinions and water right decisions, plus the information used by both the State Water Resources Control Board and DFG in the development of flow criteria reports released in 2010, including: improved Old and Middle River (OMR) flows in the winter, spring and fall; protection of San Joaquin River outflow in the winter, spring and fall; provision of flows from the Sacramento River past Chipps Island in the winter and spring; provision of increased fall Sacramento River outflow (fall X2); and expanded flow through the Yolo Bypass.[1] Some BDCP participants believe additional consideration of these reports is needed. A detailed table of the BDCP long-term water operations criteria, including an "analytical range" of criteria identified by the Steering Committee for analysis and sensitivity testing for their effects on fisheries and water supply can be found in the November 18, 2010, Working Draft Plan on page 3-312.

State and federal fish and wildlife agencies believe that possible ways to address the issues, identified at right, include some of the criteria previously identified for analysis, such as incorporating a fall X2 requirement, positive OMR flows in the spring and fall, and a permanent operable gate at the head of Old River.

Preliminary reviews of these concepts indicate potential annual average water supply reductions of 300,000 acre-feet to 500,000 acre-feet from the initial operating criteria evaluated to date. Ongoing refinement could further modify these projections. Some BDCP participants have identified ways in which these issues may be addressed through expansion of existing proposed habitat restoration and other stressor reduction conservation measures that would not require modifications to initial operations criteria.

Additional review and refinement of all these approaches will lead to the description of a proposed Conservation Strategy, including initial long-term operating criteria for further evaluation in the effects analysis.

[1] *While these reports look specifically at potential flow benefits for biological resources, they do not address the balancing of multiple beneficial uses of water (such as agricultural and municipal uses) as required in the water rights process.*

Outstanding Issues and Analyses

Water operations criteria may be modified based on the results of the BDCP effects analysis now underway, and/or the evaluation of alternatives under CEQA/NEPA. Based on preliminary results from the effects analysis to date, state and federal fish and wildlife agencies and other BDCP participants have identified several issues that may necessitate changes to the initial long-term operating criteria, including:

- Reduced flows and elevated water temperatures in some water year types on the Sacramento River during the fall
- Reduced Sacramento River flows downstream of the North Delta intakes
- Refinement of April through May South Delta operations
- Winter and spring X2 and outflow effects on longfin smelt
- Summer and fall X2 and outflow effects on delta smelt

These issues will be further examined and the criteria refined in a way that enhances fishery protections while maintaining sensitivity to water supplies. As the effects analysis continues, additional issues may also arise.

The fall X2 criteria and the limitations on southern Delta exports by the SWP and CVP, as a function of San Joaquin River inflow, are contained in the existing biological opinions by the USFWS and NMFS, respectively. There is substantial disagreement over the biological merits of these two criteria. Both criteria have been challenged in federal court.

CM1 Water Facilities and Operation (Cont'd)

Water Supplies Resulting from Potential Operations Criteria Undergoing Analysis

Dual conveyance operational criteria would produce variable annual water supplies measured in million acre-feet (MAF), depending on water year types and hydrological conditions. The table below describes estimated water supplies that would result from continued operations of the existing system under current biological opinion restrictions compared to potential operations based on initial operating criteria proposed for analysis, and subsequent tentative findings of ongoing analysis. Comparisons are based on climate change conditions estimated in 2025 to reflect the potential timing when new facilities could be constructed and operable. This estimate reflects the latest information available and is subject to further change. Ultimately, the effects analysis process will inform an operational starting point. It will also provide information that will be used to define an adaptive management range of operational criteria with defined sideboards that would provide for responses within the boundaries established in the Plan, to positive or negative changes in the ecosystem. This range is not described in the table below.

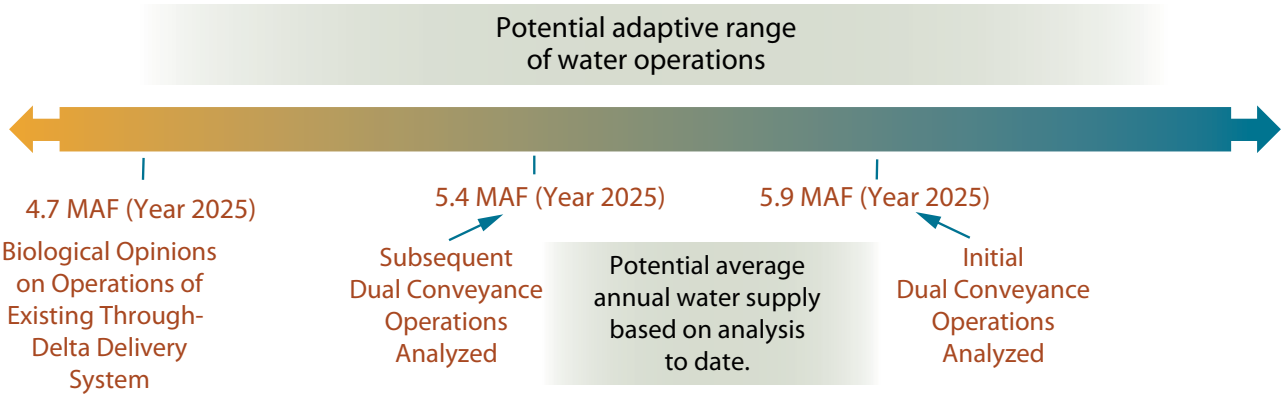
Work to be Done

- Ongoing technical and scientific analysis to inform the determination of permitted water operations
- Triggers that would require changes in water operations within the permitted adaptive range

Year Type	2025		
	Through-Delta Criteria Existing BiOp Restrictions (MAF)	Dual Conveyance Criteria (MAF)	
		Initial Operations Under Analysis	Additional Operations Under Analysis*
Average of All Year Types	4.7	5.9	5.4
Wet	5.9	7.4	6.7
Above Normal	5.0	6.9	6.1
Below Normal	4.8	6.0	5.5
Dry	4.1	4.9	4.2
Critically Dry	2.9	3.1	2.7

BiOp = Biological Opinion
MAF = million acre-feet

**The change in water supplies in this column is primarily due to the inclusion of fall X2 and OMR adjusted criteria.*



For more information on the performance of different facility sizes against other important criteria, view the conveyance sizing fact sheet on the BDCP website.

Facility Type and Sizing

The BDCP is evaluating both surface and tunnel conveyance options for the dual conveyance strategy. The BDCP has evaluated design capacities of 3,000, 6,000, 9,000, 12,000 and 15,000 cfs relative to a variety of factors: flows in the Central Delta, in-Delta and export water quality, cost, water supply, and future conditions.

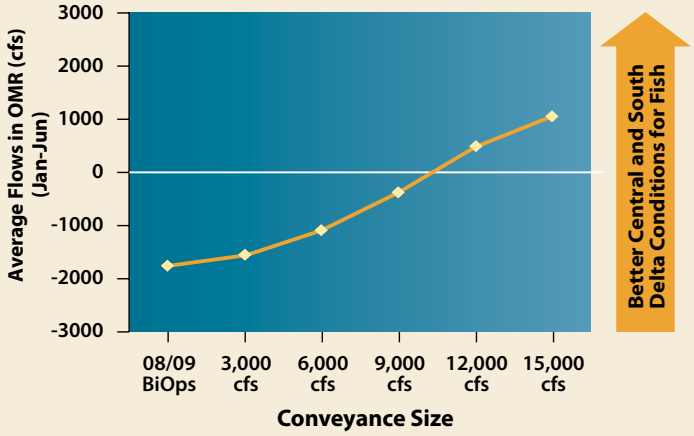
The figures below depict the performance of different facility sizes against two primary aspects of the Plan's co-equal goals:

1) Improvements to flow patterns for Delta fisheries in the South and Central Delta; and
2) Durability of facilities in providing water supplies in a future of changing Delta conditions.

The Natural Resources Agency has identified a tunnel as the likely conveyance facility for several reasons, including addressing Delta community concerns about the physical disruption of surface conveyance and the smaller footprint of a tunnel. A range of water conveyance alternatives will also be evaluated through the environmental review process under CEQA and NEPA . The environmental review studies will evaluate the impacts that the conveyance facilities will have on the human and biological environment. The public will have an opportunity to comment on the water conveyance alternatives presented in the draft EIR/EIS.

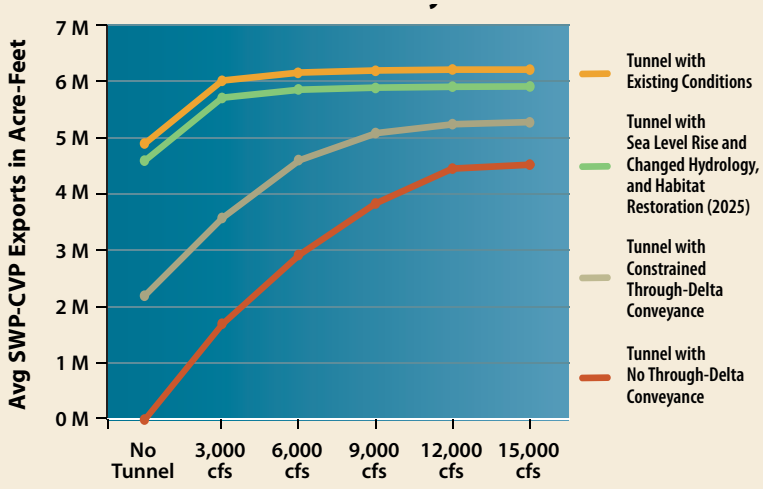
Flows in Central Delta

- The existing pumping facilities in the South Delta can create reverse flow conditions in the region that can conflict with fish rearing and migration patterns. A key benefit of moving the location of diversions and conveyance to the North Delta is the ability to restore more natural flow patterns in the Central and South Delta while providing more reliable water supplies.
- Reverse flow conditions improve incrementally with each increase in conveyance size.



Potential Future Water Supplies

- Conveyance sizes ranging between 3,000 and 15,000 cfs provide similar water supplies under existing conditions.
- Smaller conveyance sizes are not effective at providing water supplies in a future with more restricted through-Delta conveyance and can only provide similar supplies under status quo conditions and a continuation of reverse flow patterns in the southern Delta.
- Conveyance between 9,000 and 15,000 cfs provide greater water supplies than smaller sizes in a future where through-Delta conveyance is more constrained.
- Larger conveyance sizes better alleviate the water supply risk of a changing Delta.

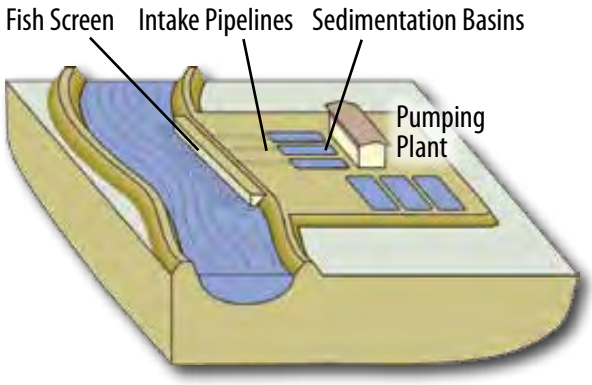


CM1 Water Facilities and Operation (Cont'd)

Pipeline/Tunnel Conveyance Facility

The Natural Resources Agency anticipates that a conveyance capacity ranging in size from 12,000 to 15,000 cfs would best accommodate the dual objectives of improving water supply and reliability and improving the ecological health of the Delta. A facility of this size will allow for delivery of water supplies in the face of potential seismic events, impacts associated with climate change and address potential future pumping restrictions in the South Delta. A facility in this range also allows for the greatest amount of flexibility in reducing system stressors including the current reverse flow phenomenon in the Delta, and provides the ability to move water when it is least harmful to Delta fisheries. The final size of the tunnel will depend on future analysis of costs versus benefits and further assessment of environmental effects. Further, the conditions on operations of new conveyance must recognize that the overall objectives of the BDCP process are aimed at restoring the ecological health of the Delta ecosystem and restoring water supply and reliability.

Intake Facilities



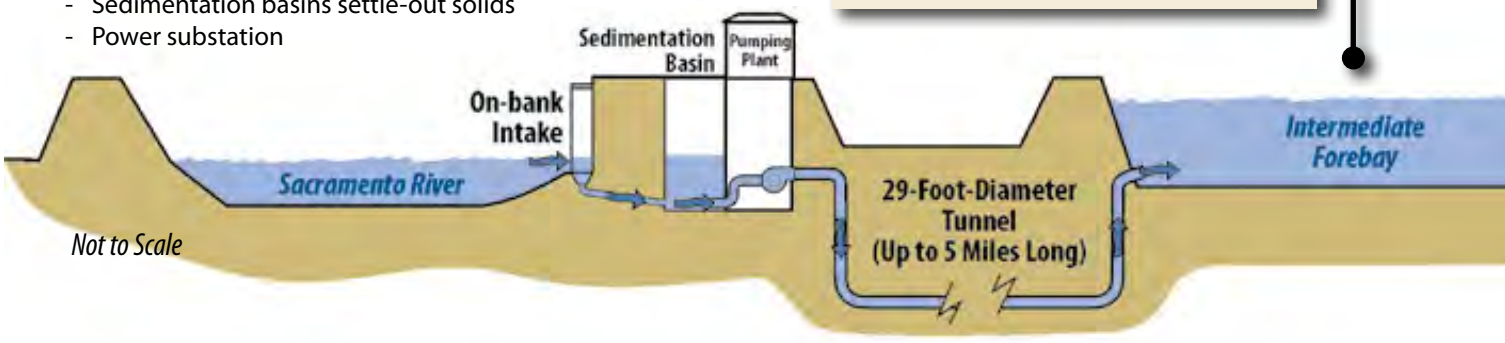
- **On-bank technology**
  - Initial engineering suggests that an on-bank intake design is preferred with regards to predation and engineering feasibility
- **5 Intakes from Freeport to Courtland**
  - 90-acre footprint
  - Up to 1,700-foot-long fish screen structures
  - 6 pumps in each pumping plant
  - Sedimentation basins settle-out solids
  - Power substation

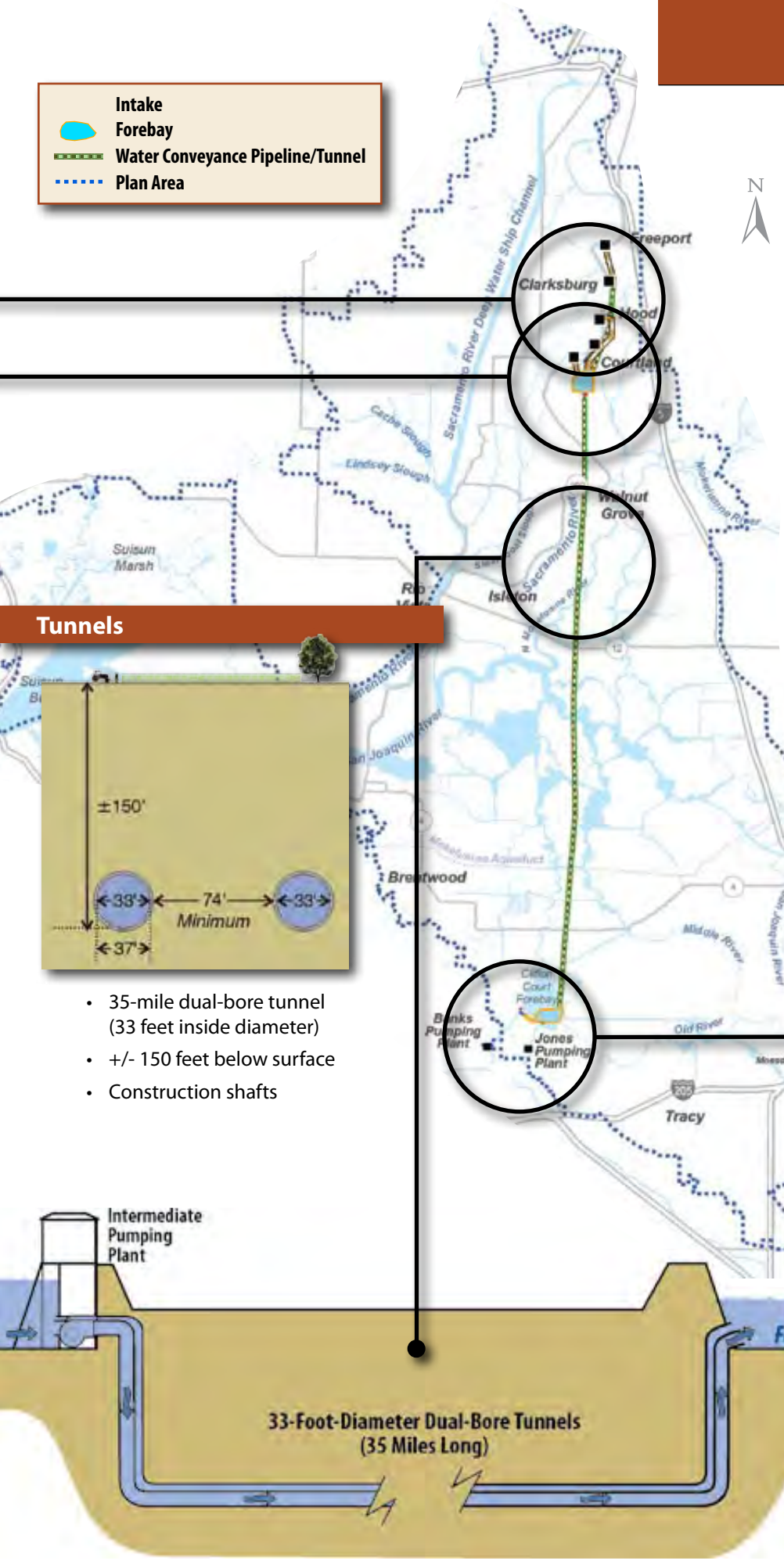
Intermediate Forebay

- Water surface area: Approximately 750 acres
- Intermediate pump station with 16 pumps
- Embankment height: Approximately 32 feet above sea level
- Active storage volume: Approximately 5,200 acre-feet.

Why do we need an Intermediate Forebay?

- Improved overall operational flexibility
- A hydraulic break between the intake pumping plants and main tunnel.
- Balance diversions from the river with efficient conveyance of flows at the Intermediate Pumping Plant.
- Energy Savings – By making use of water storage capacity, the Intermediate Pumping Plant can operate partially off-peak at lower energy rates.





Tunnels

- 35-mile dual-bore tunnel (33 feet inside diameter)
- +/- 150 feet below surface
- Construction shafts

New Forebay

- Located south of, and adjacent to, the existing Clifton Court Forebay
- Water surface area: Approximately 600 acres
- Active storage volume: Approximately 4,300 acre-feet

Outstanding Issues and Analyses

- NMFS has suggested a phased construction approach for the intake structures, with associated performance standards, such as screening criteria, predation control, and juvenile salmon survival.
- Description and evaluation of alternative approaches to construct five 3,000-cfs diversion facilities.
- Some BDCP participants believe that larger facility sizes will invite future pressure to maximize water supplies at the expense of the environment, despite permits that determine how it will be operated. Others believe that smaller facilities would be more economical.

Habitat Restoration and Protection

Extensive land use changes over the last 150 years within the Delta have substantially reduced the quality and availability of wetland and aquatic habitat suitable for various life stages of the BDCP-covered fish. The BDCP Conservation Strategy would result in a major increase in the quality, availability, spatial diversity, and complexity of wetland and aquatic habitat within the Plan Area. The plan also identifies actions to protect natural communities important to plant and wildlife species, including preservation of habitats, protection of habitat corridors and linkages, and specific preserve management practices.

- Up to **113,000 acres** of restored and protected habitat (aquatic and terrestrial)
- **10** habitat conservation measures
- **14** different types of habitat

The map at right describes the types of habitat restoration activities included in the plan along with the associated conservation targets and the conservation zones where each action may be located.

Photo courtesy of DWR

Habitat Targets

New Floodplain - ***Up to 10,000 Acres***
Restore seasonally inundated floodplain by acquiring lands and taking action such as removing riprap, setting back levees, and grading restored floodplain surfaces.

Existing Floodplain
Seasonal modification of the Yolo Bypass to improve the timing, frequency, and duration of inundation.

Tidal Habitat – ***Up to 65,000 Acres***
Restore freshwater and brackish (saltier) tidal habitat through levee breaches.
- **Tidal Perennial Aquatic/ Tidal Brackish Emergent Wetland**
- **Tidal Perennial Aquatic/ Tidal Fresh Emergent Wetland**

Channel Margin – ***20 Levee Miles***
Modification of riverbank geometry to create improved fish and wildlife habitat. Actions include planting vegetation and woody material, as well as removal of existing riprap.

Riparian – ***Up to 5,000 Acres***
Restore areas where land and water meet through tidal and floodplain action by establishing riparian vegetation.

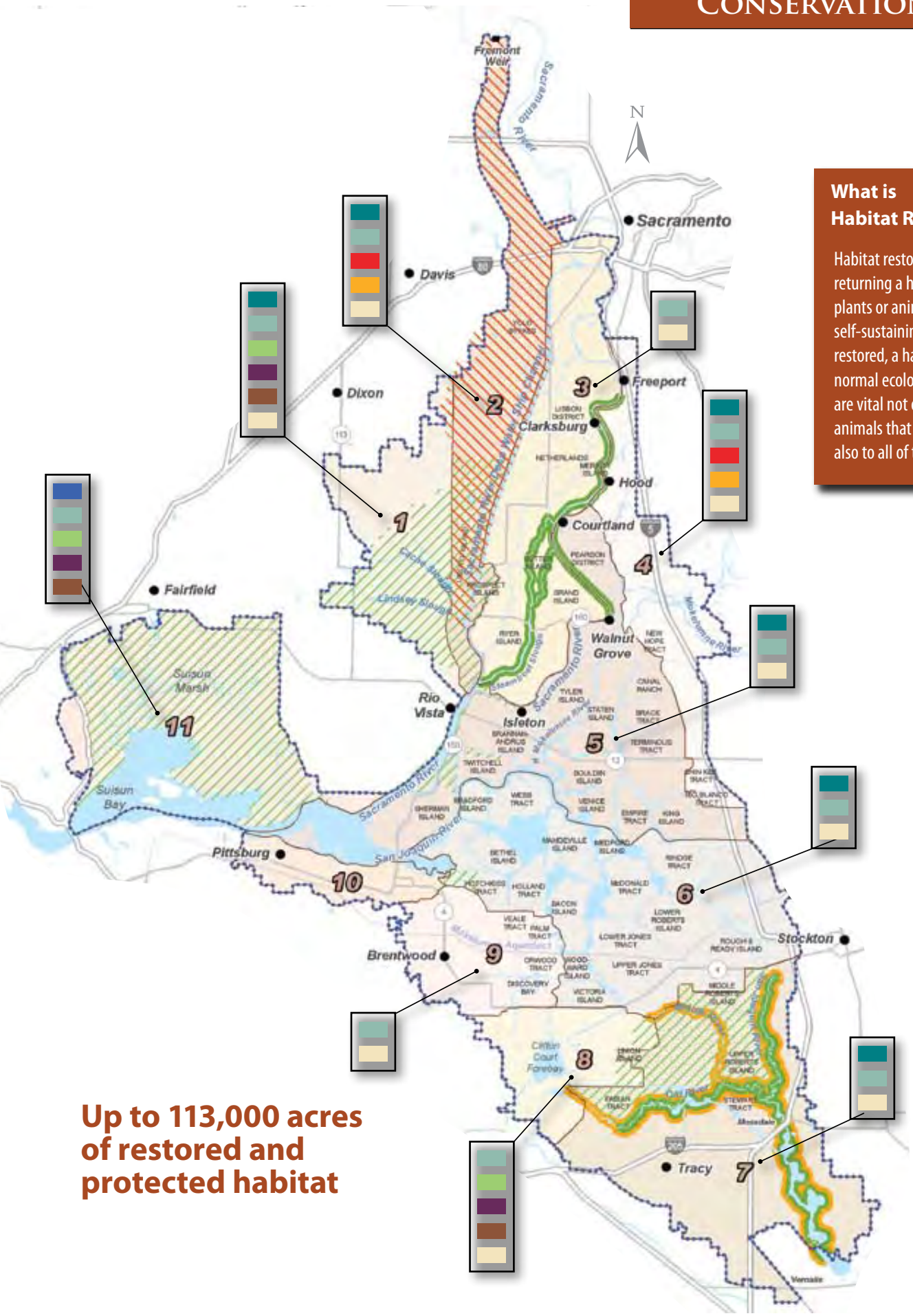
Grassland – ***Up to 8,000 Acres (Protected)/ Up to 2,000 Acres (Restored)***
Restore areas where vegetation was historically dominated by native grasses.

Vernal Pool Complex – ***Up to 300 Acres (Protected)/ Up to 200 Acres (Restored)***
Restore vernal pools (seasonal pools of water), also called vernal ponds. Usually devoid of fish, vernal pools allow the safe development of amphibian and invertebrate species.

Nontidal Marsh – ***Up to 400 Acres***
Restore marsh lands not exposed to tidal influence.
- **Nontidal Perennial Aquatic**
- **Nontidal Perennial Freshwater Emergent Wetland**

Agriculture – ***Up to 16,620 to 32,640 Acres***
Management of agricultural lands for optimal covered species habitat uses.

Alkali Seasonal Wetland Complex – ***Up to 400 Acres***
Protect and enhance remaining seasonal wetlands with alkali soils in conjunction with adjoining grassland and vernal pool habitats.



What is Habitat Restoration?

Habitat restoration is the process of returning a habitat (the place where plants or animals live) to a healthy, self-sustaining condition. Once restored, a habitat will resume its normal ecological functions. Habitats are vital not only to the plants and animals that depend on them, but also to all of the Delta.

Up to 113,000 acres of restored and protected habitat

Acquisition of Lands for Habitat Restoration and Protection

The general strategy for habitat restoration and preservation activities under the BDCP would be to (1) focus on opportunities at existing public lands, (2) work with other organizations managing lands dedicated to habitat restoration and conservation purposes, and (3) acquire easements or fee title as necessary to achieve program objectives.

How Will Lands for Habitat Restoration and Protection Be Identified?

The following is a partial list of site selection criteria that would be used, along with local input, to identify lands for habitat restoration, protection, and enhancement.

Feasibility

- Minimal effects on existing land uses
- Site availability
- Cost-effectiveness in implementing restoration
- Potential effects on mosquito vector control
- Payments-in-lieu of taxes to affected Delta counties must be secured

Biological Attributes

- Ability to achieve multiple biological objectives for multiple species
- Proximity to channel systems that could benefit from restoration (e.g., increased tidal habitat restoration may help reduce bi-directional flows in upstream channels, or support greater mixing in channels, both of which are beneficial for native fish)
- Capacity to contribute to more natural transitions between habitats in the Delta (seasonal wetland, riparian, grassland)
- Proximity to existing habitats so that new restoration adds to and develops habitat corridors for fish and wildlife
- Minimal effects of other stressors (such as nearby water diversions or discharges of low-quality water) that could offset intended fish and wildlife benefits

CM2 Yolo Bypass Fishery Enhancement

The historical floodplain in the Central Valley has been significantly modified over the last two centuries. The resulting loss of fish spawning and rearing habitat, fish migration corridors, and food web production have significantly affected the ability of threatened and endangered fish species to survive and thrive.

The Yolo Bypass, which currently experiences some flooding in 70 percent of years, still possesses many favorable characteristics of historical floodplain habitat.

Through this conservation measure, the BDCP proposes to plan and implement actions to enhance fish habitat by modifying Yolo Bypass hydrology to improve the timing, frequency, and duration of inundation to:

- Create more and better spawning and rearing habitat
- Improve upstream and downstream fish passage
- Increase food web production and availability
- Reduce fish stranding and illegal fish harvest
- Reduce exposure of fish to predators

There are important issues to address in developing and implementing fishery enhancement in the Yolo Bypass, including:

- Flood control
- Agriculture
- Terrestrial habitat resources
- Mosquito and vector control
- Recreational and educational activities

Photo courtesy of DWR

CM2 Yolo Bypass Fishery Enhancement (Cont'd)

Key Elements of the Measure*:

Moving Water into the Bypass

1-1 **Reduce Elevation of a Section of the Fremont Weir** – To increase the frequency and duration of seasonal inundation of floodplain habitat in the Yolo Bypass, construct a gated channel through the 1.8 mile-long Fremont Weir. The channel would be excavated to an elevation of 17.5 feet to connect with the existing low flow channel of the Bypass. The gates would control flows into the Bypass when the existing weir is not overtopping. Fremont Weir would continue to overtop when Sacramento River stage rises above its crest, and at flood flows water would enter the bypass at the same rate it currently would. The gates would be designed and operated to provide for upstream and downstream passage of salmon, steelhead, sturgeon, and lamprey between the Yolo Bypass and the Sacramento River.

1-2 **Westside Channels** – As part of the fishery enhancement planning process, evaluate the effectiveness of introducing and routing additional flows along the west side of the Bypass. Flow from the Colusa Basin Drain or the Sacramento could be introduced through Knights Landing Ridge Cut, or at western Fremont Weir. This concept has the potential to improve water distribution for agriculture and wetland management as well as the potential to provide fish benefits.

How and When Water Moves and Where it Goes

2-1 **Potential Yolo Bypass Modifications** – To optimize fishery benefits in the bypass and limit impacts to land uses, make additional localized modifications. Add or remove berms, levees, and water control structure and rework agricultural delivery channels and water control structures to improve distribution and hydrodynamic characteristics (e.g., residence times, flow ramping, and recession) of water moving through the Yolo Bypass. Modifications may also improve access to some lands or otherwise provide land users additional operating flexibility.

2-2 **Operational Criteria and Adaptive Limits** – Develop and operate criteria and adaptive limits to optimize benefits for covered fish while minimizing negative effects to existing uses. Criteria and adaptive limits would govern how water and fish passage facilities would be operated to manage the location, timing, frequency, and duration of inundation in the Yolo Bypass for 30 to 45 days during the period December 1 to March 31, and occasionally to May 15. Flows would be managed between 3,000 to 6,000 cfs. Once implemented, monitoring and evaluating the effectiveness of the range of operations would guide any recommended operational changes within the adaptive limits.

Fish Passage

3-1 **Deep Fish Passage Channel** – To enhance adult fish passage, a small section of the Fremont Weir would be removed and the soil excavated to a depth greater than the proposed notch to allow fish passage over a wider season. A gate would be operated to control flows.

3-2 **Fremont Weir Fish Ladder Replacement** – Replace the existing Denil design fish ladder with new experimental fish passage facilities designed for the effective passage of adult sturgeon, salmon, and steelhead from the Yolo Bypass past Fremont Weir and into the Sacramento River when the river is sufficiently high.

3-3 **Experimental Sturgeon Ramps** – Construct ramps at the Fremont Weir to encourage adult sturgeon and lamprey passage from the Yolo Bypass over the Fremont Weir and into the Sacramento River when there is enough depth of flow over the weir (approximately 3 feet).

3-4 **Stilling Basin Modification** – Modify the existing Fremont Weir stilling basin to ensure that the basin drains sufficiently toward the new facilities. Effective drainage of the stilling basing would prevent stranding of juvenile and adult fish as the floodplain drains.

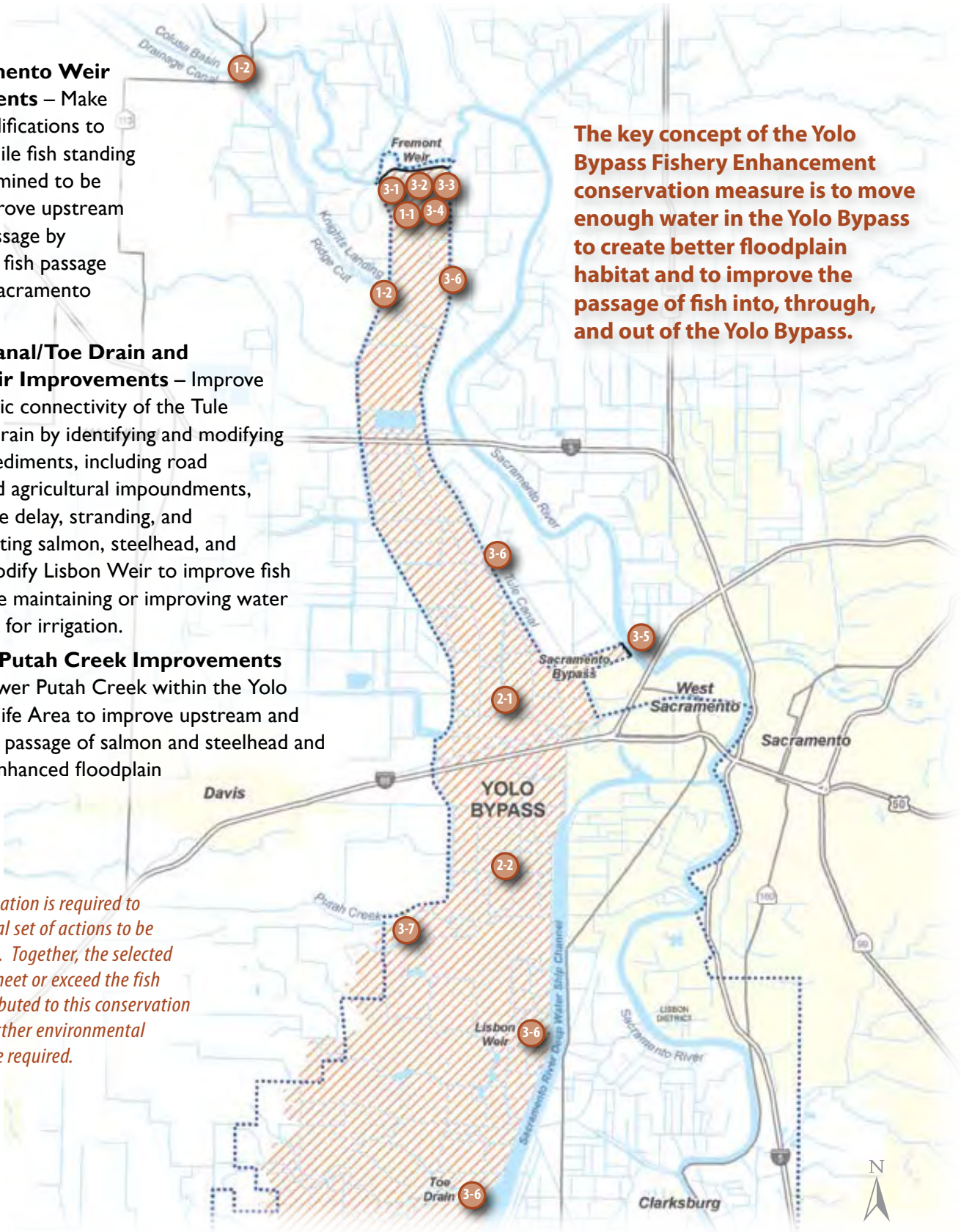
3-5 Sacramento Weir Improvements – Make physical modifications to reduce juvenile fish standing and, if determined to be needed, improve upstream adult fish passage by constructing fish passage facilities at Sacramento Weir.

3-6 Tule Canal/Toe Drain and Lisbon Weir Improvements – Improve the hydrologic connectivity of the Tule Canal/Toe Drain by identifying and modifying passage impediments, including road crossings and agricultural impoundments, to reduce the delay, stranding, and loss of migrating salmon, steelhead, and sturgeon. Modify Lisbon Weir to improve fish passage while maintaining or improving water management for irrigation.

3-7 Lower Putah Creek Improvements – Realign Lower Putah Creek within the Yolo Bypass Wildlife Area to improve upstream and downstream passage of salmon and steelhead and to provide enhanced floodplain habitat.

**Further evaluation is required to select the final set of actions to be implemented. Together, the selected actions will meet or exceed the fish benefits attributed to this conservation measure. Further environmental review will be required.*

The key concept of the Yolo Bypass Fishery Enhancement conservation measure is to move enough water in the Yolo Bypass to create better floodplain habitat and to improve the passage of fish into, through, and out of the Yolo Bypass.



CM3 Natural Communities Protection

Photo courtesy of DWR

This conservation measure provides the overarching mechanism to meet the goals for each natural community group and acreage targets as described in other conservation measures, including guidance for the acquisition of lands and establishment of a preserve system in the Plan Area. This preserve system would be built over the BDCP implementation period to:

- Protect and enhance areas of existing natural communities and covered species habitat
- Protect and maintain occurrences of selected plant species with very limited distributions
- Provide sites suitable for restoration of natural communities and covered species habitat
- Provide habitat connectivity among the various BDCP conservation land units in the preserve system

Coordination with Regional Conservation Planning

Where regional conservation plans overlap with or adjoin the Plan Area, the BDCP would collaborate and coordinate with the sponsors of those regional conservation plans on the acquisition and management of habitat lands to be preserved and/or restored within areas common to both plans. Where mutually beneficial, the BDCP would encourage joint acquisitions of land with local government plan sponsors to realize economies-of-scale and to secure large, contiguous blocks of habitat. The BDCP would explore opportunities to fund early conservation actions (i.e., habitat acquisition and/or restoration) that may benefit both the BDCP and other regional conservation plans.

CM4 Tidal Habitat Restoration

Photo courtesy of DWR

Restore up to 65,000 acres of freshwater and brackish tidal habitat, including:

- Shallow subtidal aquatic habitat
- Tidal mudflat habitat
- Tidal marsh plain habitat
- Adjoining transitional upland habitat

The tidal habitat restoration targets would be achieved on the following schedule:

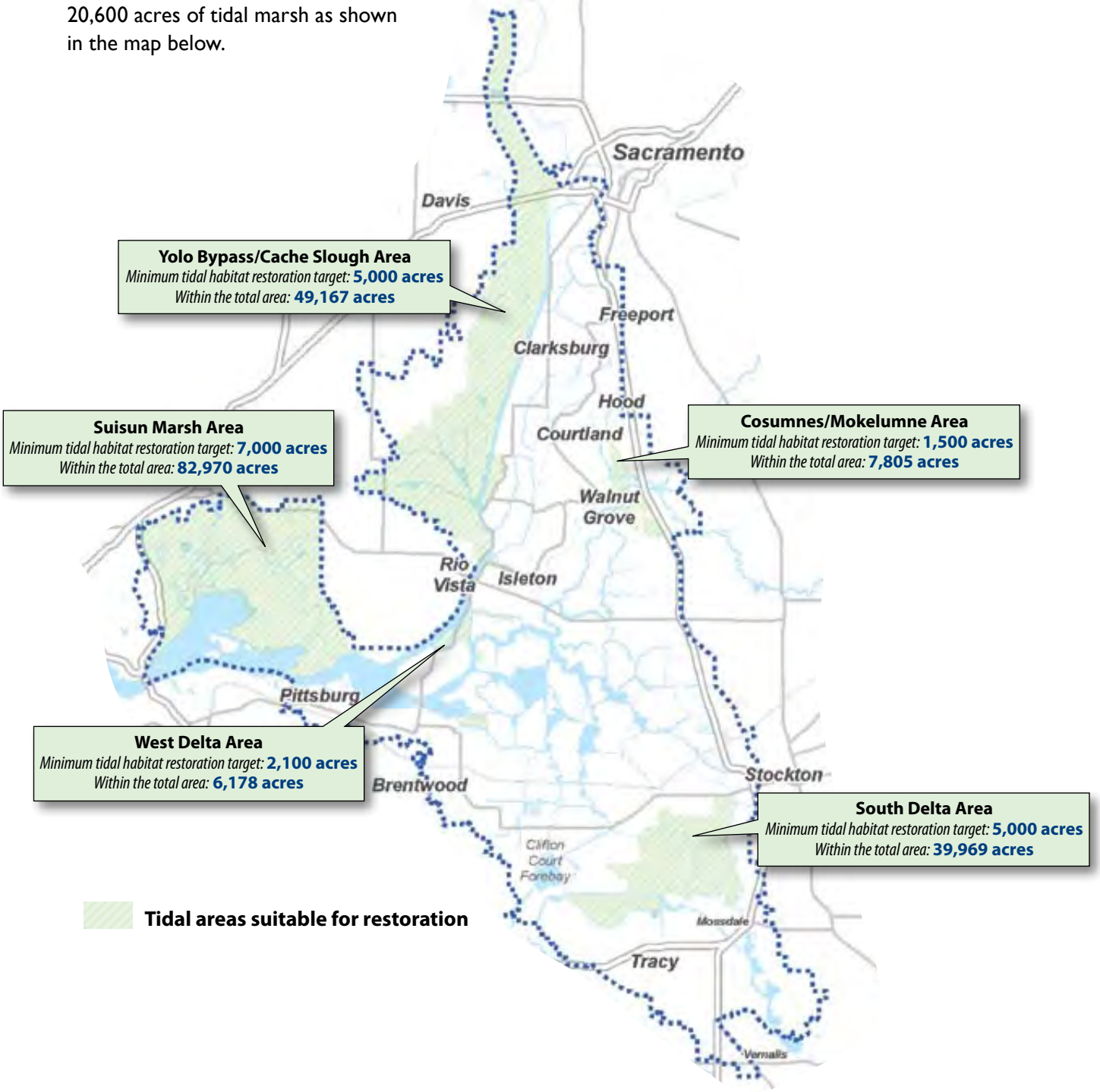
- Up to 14,000 acres developed within the first 10 years of Plan implementation
- Up to 25,000 acres (cumulative) developed by year 15 of Plan implementation
- Up to 65,000 acres (cumulative) developed by year 40 of Plan implementation

A variety of actions are anticipated to restore tidal habitat, depending on site-specific conditions, some of which include:

- Acquiring lands, in fee-title or through conservation easements
- Breaching and lowering levees and dikes
- Reconnecting disconnected remnant sloughs to Suisun Bay
- Constructing new or enhancing existing levees and dikes
- Restoring natural remnant meandering tidal channels
- Excavating channels
- Modifying ditches, cuts, and levees
- Restoring tributary stream functions

CM4 Tidal Habitat Restoration (Cont'd)

Of the total 65,000 acres, the Plan designates 20,600 acres to be distributed in specific areas. The remaining 44,400 acres would be distributed at the discretion of the BDCP Implementation Office based on land availability, biological value, and practicability. The Plan calls for distributing 20,600 acres of tidal marsh as shown in the map below.



CM5 Seasonally Inundated Floodplain Restoration

Photo courtesy of DWR

Restore up to 10,000 acres of seasonally inundated floodplain, on the following schedule:

- Up to 1,000 acres restored by year 15 of Plan implementation
- Up to 10,000 acres (cumulative) by year 40 of Plan implementation

The most promising opportunities will be based on benefits to covered fish species, practicability considerations, and compatibility with potential flood control projects. Actions to restore seasonally inundated floodplain habitats, as appropriate to site-specific conditions, include, but are not limited to:

- Acquiring lands, in fee-title or through conservation easements
- Setting back levees
- Removing existing riprap
- Grading restored floodplain surfaces
- Lowering restored floodplain elevation
- Allowing riparian vegetation to naturally establish on the floodplain
- Engaging in farming practices and crop types that provide high benefits for covered fish species

CM6 Channel Margin Habitat Enhancement

Enhance up to 20 levee miles of channel margin habitat by improving channel geometry and restoring riparian, marsh, and mudflat habitats along levees.

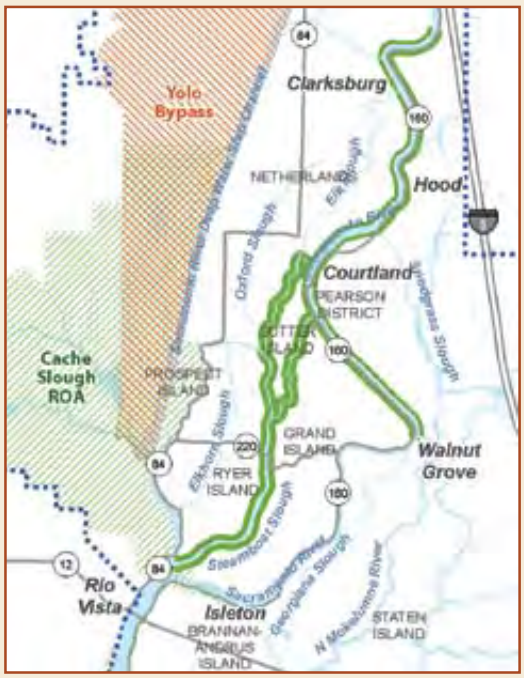

Photo courtesy of DWR

Actions to enhance channel margin habitats may include the following, depending on site conditions:

- Modifying levees or constructing setback levees to create low benches
- Planting riparian and emergent vegetation on created benches
- Installing large woody material (i.e., tree trunks and stumps)
- Removing riprap from channel margins

The channel margin habitat enhancement activities would be accomplished on the following schedule to reach a total of 20 enhanced miles:

- Up to 5 miles by year 10 of Plan implementation
- Up to 5 additional miles by year 20 of Plan implementation
- Up to 5 additional miles by year 25 of Plan implementation
- Up to 5 additional miles by year 30 of Plan implementation



Channel margin enhancement actions will be located along channels serving as primary rearing and outmigration habitat for juvenile salmonids.

- Up to 5 miles would be located along the Sacramento River
- Up to 5 miles would be located along the San Joaquin River
- The remaining 10 miles will be distributed among Steamboat and Sutter Sloughs, and the North and South Forks of the Mokelumne River.

CM7 Riparian Habitat Restoration

Restore up to 5,000 acres of riparian forest and scrub, in association with the restoration of seasonally inundated floodplain, tidal, and channel margin habitat, on the following schedule:

- Up to 400 acres (cumulative) by year 15 of Plan implementation
- Up to 5,000 acres (cumulative) by year 40 of Plan implementation

Photo courtesy of John Gerlach

Actions to restore riparian forest and scrub, as appropriate to site-specific conditions, including, but not limited to:

- Acquiring lands in fee-title or through conservation easements
- Discontinuation of farming within setback levees
- Planting of native riparian vegetation
- Irrigation and other maintenance of plantings
- Control of nonnative plants

Photo courtesy of John Gerlach

CM8 Grassland Communities Restoration

Restore up to 2,000 acres of grassland within Conservation Zones 1, 8, and/or 11. Design and locate restored grassland habitat to:

- Support habitat for associated covered species
- Improve connectivity among existing patches of grassland and other natural habitats
- Improve native wildlife habitat functions of transitional uplands adjacent to BDCP restored tidal habitats

The most strategically important areas are connections between Conservation Zones 1 and 11 in the Jepson Prairie area and connecting Conservation Zone 8 to other high-quality grassland habitat to the west and southwest of the Plan Area.

Photo courtesy of John Gerlach

CM9 Vernal Pool Complex Restoration

Photo courtesy of DWR

Restore up to 200 acres of vernal pool complex habitat within Conservation Zones 1, 8, and/or 11. Include a matrix of grassland or alkali seasonal wetland complex in which vernal pools, swales, and saturated alkaline soil areas are adjacent or interspersed. Design considerations for vernal pool complex habitat will include:

- Vernal Pool Complex Vegetation: Vegetate with hand-collected seed from appropriate areas within the same conservation zone as the planned restoration action. Monitor for invasive nonnative plants.
- Vernal Pool Complex Invertebrates: Introduce invertebrate species into vernal pools.
- Hydrological Conditions: Base designs on historical and/or existing patterns of vernal pools and swales present on the restoration site.

CM10 Restore Nontidal Marsh

Restore up to 400 acres of nontidal freshwater marsh within Conservation Zones 2 and 4. Restored habitat would be distributed in patches of at least 25 acres and associated with occupied giant garter snake habitat within the proposed 1,000-acre giant garter snake preserves. CM10 will also support other native wildlife functions including waterfowl foraging, resting, and brood habitat and shorebird foraging and roosting habitat.

Actions to restore nontidal freshwater marsh, as appropriate to site-specific conditions, include, but are not limited to:

- Acquiring lands, in fee-title or through conservation easements
- Securing sufficient annual water to sustain habitat function
- Allowing for the natural establishment of marsh vegetation
- Preparing site for planting of native marsh vegetation, and maintenance of plantings
- Controlling invasive nonnative plants

Photo courtesy of DWR

CM11 Natural Communities Enhancement and Management

Prepare and implement management plans for protected natural communities and covered species habitats found within those communities. The content of these plans would include, but would not be limited to:

- Biological goals and objectives to be achieved with the preservation and management of the parcels
- Base ecological conditions
- Vegetation management actions
- Fire management plan
- Infrastructure, hazards, and easements
- Existing land uses and management practices
- Applicable permit terms and conditions
- Terms and conditions of conservation easements when applicable
- Management actions and schedules
- Monitoring requirements and schedules
- Established data and report preservation, indexing, and repository protocols
- Established data acquisition and analysis protocols
- Adaptive management approach

Photo courtesy of John Gerlach

Other Stressor Reduction

Conservation Measures Promoting Species Recovery by Focusing on Other Stressors

An important third component of the BDCP Conservation Strategy consists of measures that seek to reduce the direct and indirect adverse effects of other stressors on the ecological functions of the Delta, covered species, and natural communities. A number of factors have been identified that adversely affect covered fish species through their impact on the species themselves, prey resources, or habitat conditions. Implementation of conservation measures addressing these other stressors is expected to reduce their adverse effects upon or improve productivity for covered species. The eight conservation measures that focus on actions to reduce other stressors are as follows:

CM12 Methylmercury Management

Minimize the potential for some of the BDCP habitat restoration actions to increase the bioaccumulation of methylmercury in covered and other native species. High concentrations of methylmercury in the Delta cause adverse effects to BDCP covered fish and wildlife species and humans. Tidal marsh sediments may have elevated methylmercury production relative to sediments in unvegetated open-water areas. Tidal marsh restoration may elevate the production of methylmercury in the Delta, mercury already being present from all the historical mining in the region.

CM13 Nonnative Aquatic Vegetation Control

Control the growth of Brazilian waterweed (*Egeria Densa*), water hyacinth (*Eichhornia crassipes*), and other nonnative submerged and floating aquatic vegetation. Apply existing methods used by the California Department of Boating and Waterways *Egeria Densa* and Water Hyacinth Control Programs. Examples include applying herbicides as specifically as possible to these species, conducting mechanical removal, and/or using other methods of removal as dictated by site-specific conditions. Application of herbicides will be timed to eliminate or minimize potential negative effects on covered species. Submerged and floating aquatic vegetation provides habitat for nonnative predatory fish and also reduces local flow rates which lowers turbidity. Higher turbidity is good for covered fish, such as the delta smelt, in that it provides more places for them to hide, makes it harder for nonnative predators to hunt them, and also improves their own foraging ability.

CM14 Stockton Deep Water Ship Channel Dissolved Oxygen Levels

Maintain dissolved oxygen concentrations above levels that impair covered fish species between Turner Cut and Stockton. As needed, modify the existing aeration facility and add aerators and associated infrastructure, dependent on the ongoing demonstration project being conducted by DWR. The BDCP would share in funding the long-term operation and maintenance costs associated with the aeration system.

The 7.5-mile low dissolved oxygen area of the Stockton Deep Water Ship Channel creates a barrier for upstream migration of adult fall-run Chinook salmon and Central Valley steelhead. Low dissolved oxygen levels can also cause physiological stress on and mortality of fish.

CM15 Predator Control

Reduce local effects of predators on covered fish species by conducting focused predator control in high predator density locations. Locations of high-density "hot spots" in which focused predator control would occur include:

- Old structures in or hanging over Delta waterways, such as pier pilings or other man-made structures
- Abandoned boats
- New intake structures related to North Delta diversions described in the Plan
- The deep hole just downstream of the Head of Old River in the San Joaquin River
- Specific locations in Georgiana Slough, and Sutter and Steamboat Sloughs, as identified by fishery agencies
- Release sites of salvaged fish from CVP/SWP facilities

Use a variety of methods to control predator populations in hot spots, including:

- Removal of predator hiding spots, targeted removal of predators, and/or other focused methods as dictated by site-specific conditions and intended outcome/goal. Preference for which hot spots to address will be given to areas of high overlap with covered fish species, such as major migratory routes or spawning and rearing habitats.

CM16 Non-Physical Fish Barriers

Improve the survival of outmigrating juvenile salmonids by using non-physical barriers to redirect fish away from channels in which survival is lower. Non-physical barrier placement locations would include the Head of Old River, the Delta Cross Channel, Georgiana Slough, and could possibly include Turner Cut, Columbia Cut, the Delta-Mendota Canal intake, and Clifton Court Forebay.

CM17 Hatchery and Genetic Management Plans

Minimize the potential for genetic and ecological impacts of hatchery-reared salmonids on wild salmonid stocks. This conservation measure will be carried out by supporting the accelerated development and implementation of Hatchery and Genetic Management Plans for all state-operated Chinook salmon and steelhead hatcheries in the Central Valley.

CM18 Illegal Harvest Reduction

Reduce illegal harvest of Chinook salmon, Central Valley steelhead, green sturgeon, and white sturgeon in the Delta, bays, and upstream waterways. Provide funding to the DFG to hire and equip 17 additional game wardens and 5 supervisory and administrative staff.

CM19 Conservation Hatcheries

Establish new and expand existing conservation propagation programs for delta and longfin smelt, including:

1. Development of a USFWS delta and longfin smelt conservation hatchery to house a delta smelt refugial population and provide a source of delta and longfin smelt for supplementation of reintroduction.
2. Expand the refugial population of delta smelt and establishment of a refugial population of longfin smelt at the University of California, Davis Fish Conservation and Culture Laboratory to serve as a population safeguard in case of a catastrophic event.

Potential Other Stressor Measures

The BDCP Conservation Strategy includes a number of conservation measures that address environmental stressors not related to water operations or physical habitat restoration, preservation, or management. Such measures, which are referred to as "other stressor" conservation measures, have the potential to improve the quality of the Delta's ecological conditions to the benefit of covered fish species (see CM12-CM19).

There are additional actions that address other stressors, referred to as "important related actions" (IRAs) that potentially could become conservation measures. Because of the potential for these actions to benefit ecological conditions in the Delta, the BDCP establishes the requirement that the BDCP Program Manager take the steps necessary, through the adaptive management process, to determine whether the actions listed below ultimately should be adopted as new conservation measures.

The following are potential conservation measures to address other stressors:

- Ammonia Load Reduction
- Endocrine Disrupting Compounds Load Reduction
- Agricultural Pesticides and Herbicides Runoff Reduction
- Stormwater and Urban Runoff Toxic Contaminants Reduction
- Nonnative Aquatic Organisms Introduction Risk Reduction
- Nonnative Species Introduction Detection and Response Improvement
- Nonnative Predatory Fish Harvest Increase
- Mark-Selective Fishery Implementation
- Non-Project Diversions Entrainment Reduction

As the BDCP Conservation Strategy is refined over the next several months, these potential conservation measures will be further evaluated to determine whether they should be included as conservation measures in the initial BDCP or remain as potential actions that may be adopted as future conservation measures.

Adaptive Management, Monitoring, and Metrics

The purpose of the BDCP Adaptive Management Program is to advance the biological goals and objectives of the Plan within established parameters and permit conditions by providing a mechanism to make adjustments to conservation measures based on new scientific information and insight gained from monitoring, targeted research, and other sources. The program is intended to address current gaps in knowledge (i.e., uncertainty) regarding Delta ecological processes and species biology, provide flexibility in implementation of the Conservation Strategy, and ensure that the BDCP becomes increasingly more effective and responsive to changing ecological conditions in the Delta.

The program will:

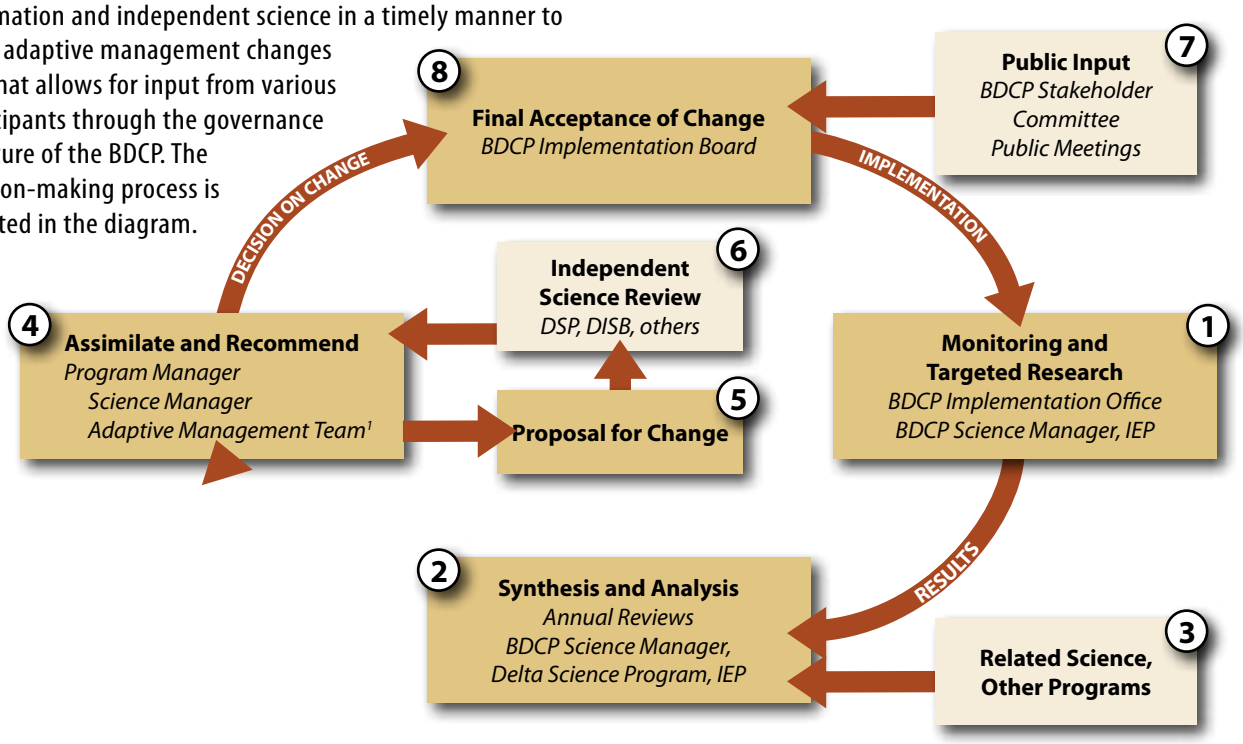
- Identify questions that need to be answered to improve our knowledge base and inform ongoing Plan implementation
- Use improved knowledge to identify alternative approaches to Plan implementation and determine which approaches to implement
- Adjust the monitoring and research program to produce information to evaluate the efficacy of new and existing approaches and address emerging questions resulting from changing environmental conditions that may affect Plan implementation
- Incorporate feedback loops that link implementation monitoring and targeted research to a decision-making process that allows for timely and responsive changes in implementation to achieve the goals and objectives of the Plan.

Adaptive Management Decision-Making Appeals Process

The Natural Resources Agency proposes that for changes to permitted water operations criteria as a result of the adaptive management process, the Directors of DWR, DFG, Reclamation, USFWS, and NMFS would jointly agree on final decisions. In the event that agreement cannot be reached, unresolved issues would be elevated to the Secretaries of Commerce and Interior and the Governor for joint resolution.

BDCP Adaptive Management – Decision-Making Process

Decision-Making – process that effectively uses new information and independent science in a timely manner to make adaptive management changes and that allows for input from various participants through the governance structure of the BDCP. The decision-making process is depicted in the diagram.



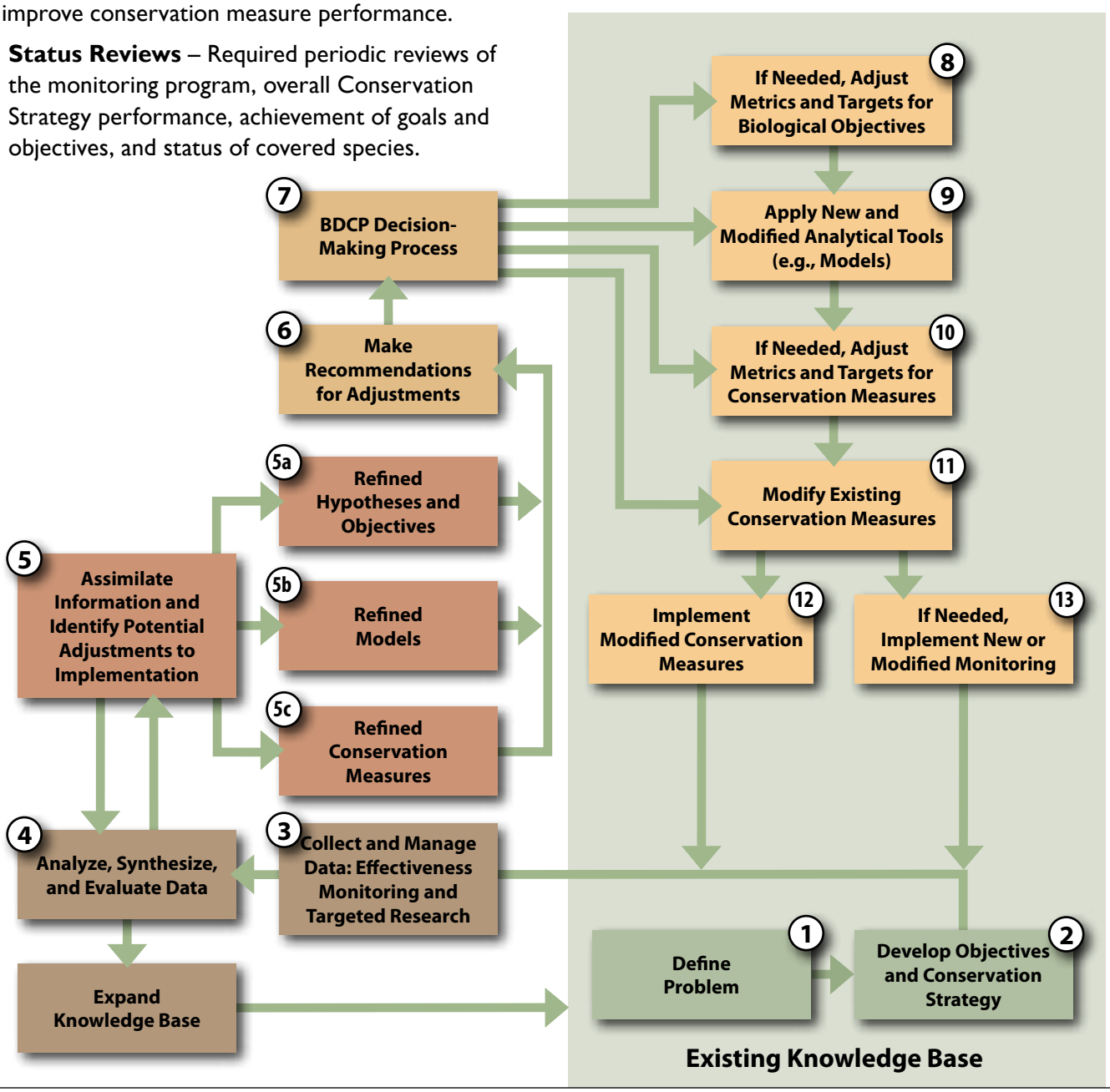
[1] *BDCP Science Manager, IEP Lead Scientist, and Scientists from IEP Agencies, SFCWA, and Stakeholder Groups*

IEP = Interagency Ecological Program
SFCWA = State and Federal Contractors Water Agency
DSP = Delta Science Program
DISB = Delta Independent Science Board

The following elements are included in the BDCP Adaptive Management Program:

- **Process Framework** – The process by which the BDCP adaptive management program will be implemented, including gathering data through monitoring and research, analyzing data, assimilating new knowledge, and making adjustments to the strategy.
- **Adaptive Ranges** – Specifically established upper and lower limits that govern the scope of changes that can be made to conservation measures, including water operations criteria, pursuant to the adaptive management program. These ranges would be reflected in the BDCP and its associated regulatory authorizations.
- **Targeted Research** – Experiments and pilot studies specifically designed to test uncertainties and the hypotheses underlying conservation measures, and to rapidly gain knowledge that could improve conservation measure performance.
- **Status Reviews** – Required periodic reviews of the monitoring program, overall Conservation Strategy performance, achievement of goals and objectives, and status of covered species.

Adaptive Management Process Framework



Implementation

Governance

The California Natural Resources Agency envisions the implementation of the BDCP as a collaboration with defined roles and responsibilities, as well as a clear process for addressing issues and conflicts as they arise.

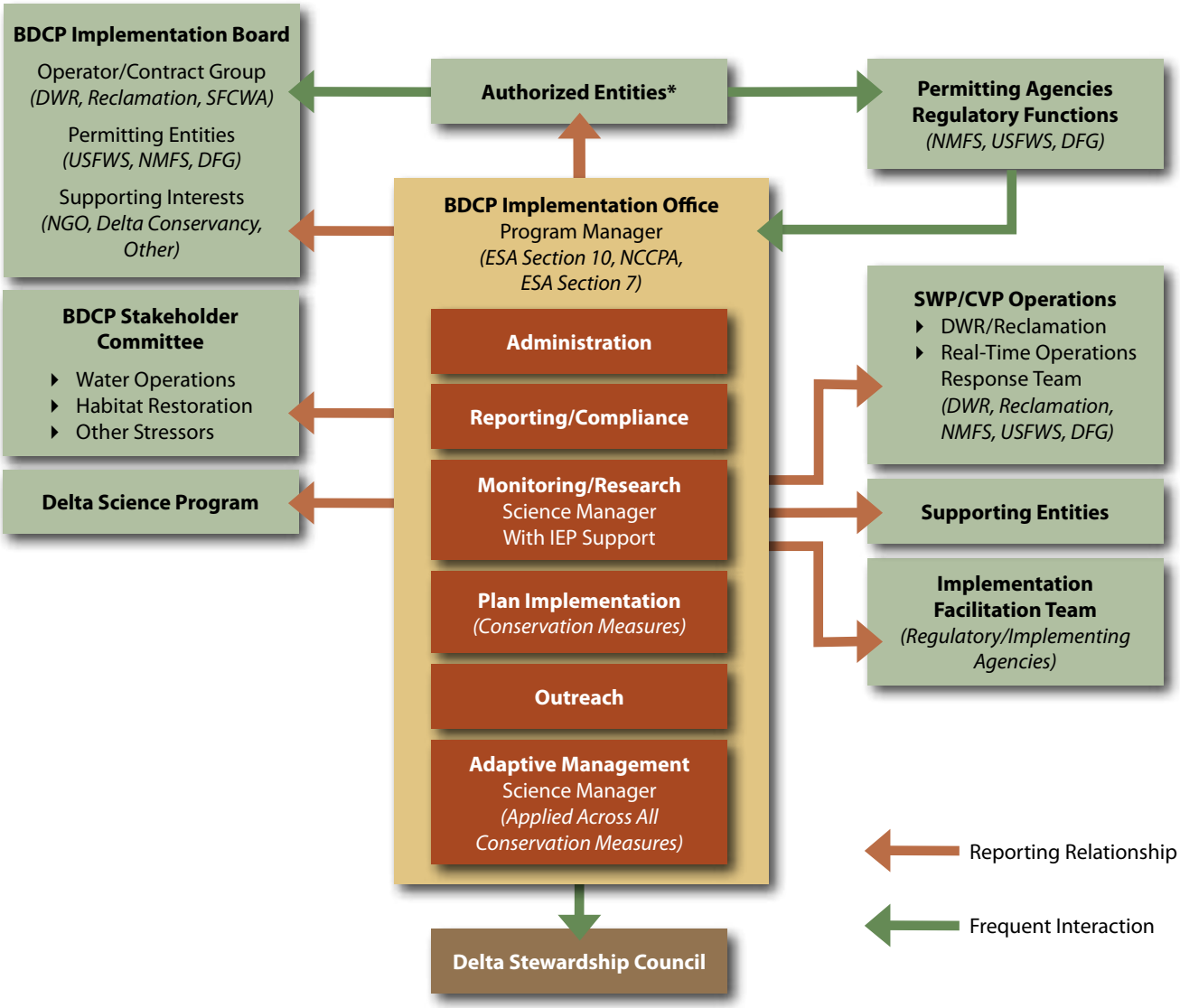
The primary responsibility for Plan implementation would lie with the BDCP Implementation Office, led by a BDCP Program Manager. This office would manage day-to-day implementation, including administration, reporting and compliance, implementation of conservation measures, monitoring and research, public outreach, and adaptive management.

Oversight of Plan implementation would be conducted by the BDCP Implementation Board, comprised of permitting agencies, permittees, and supporting organizations including non-governmental organizations and the Delta Conservancy, among others.

A BDCP Stakeholder Committee, with a larger membership than the Implementation Board, would be established to receive information and briefings on Plan implementation, and to provide input on implementation issues.

The Program Manager would be responsible for preparing a number of planning and reporting documents throughout the course of Plan implementation to provide stakeholders and the public with a means to assess the progress and performance of the BDCP. On an annual basis, the BDCP Implementation Office would prepare a work plan and budget. Additionally, a five-year comprehensive review and five-year implementation plan would be prepared at each five-year milestone.

BDCP-Proposed Governance Structure



DWR will be a permittee. The California Natural Resources Agency supports listing the state and federal water contractors as permittees. However, their status as permittees would not provide them with new authority over water project operational decisions or result in the delegation of authority from any state agency.

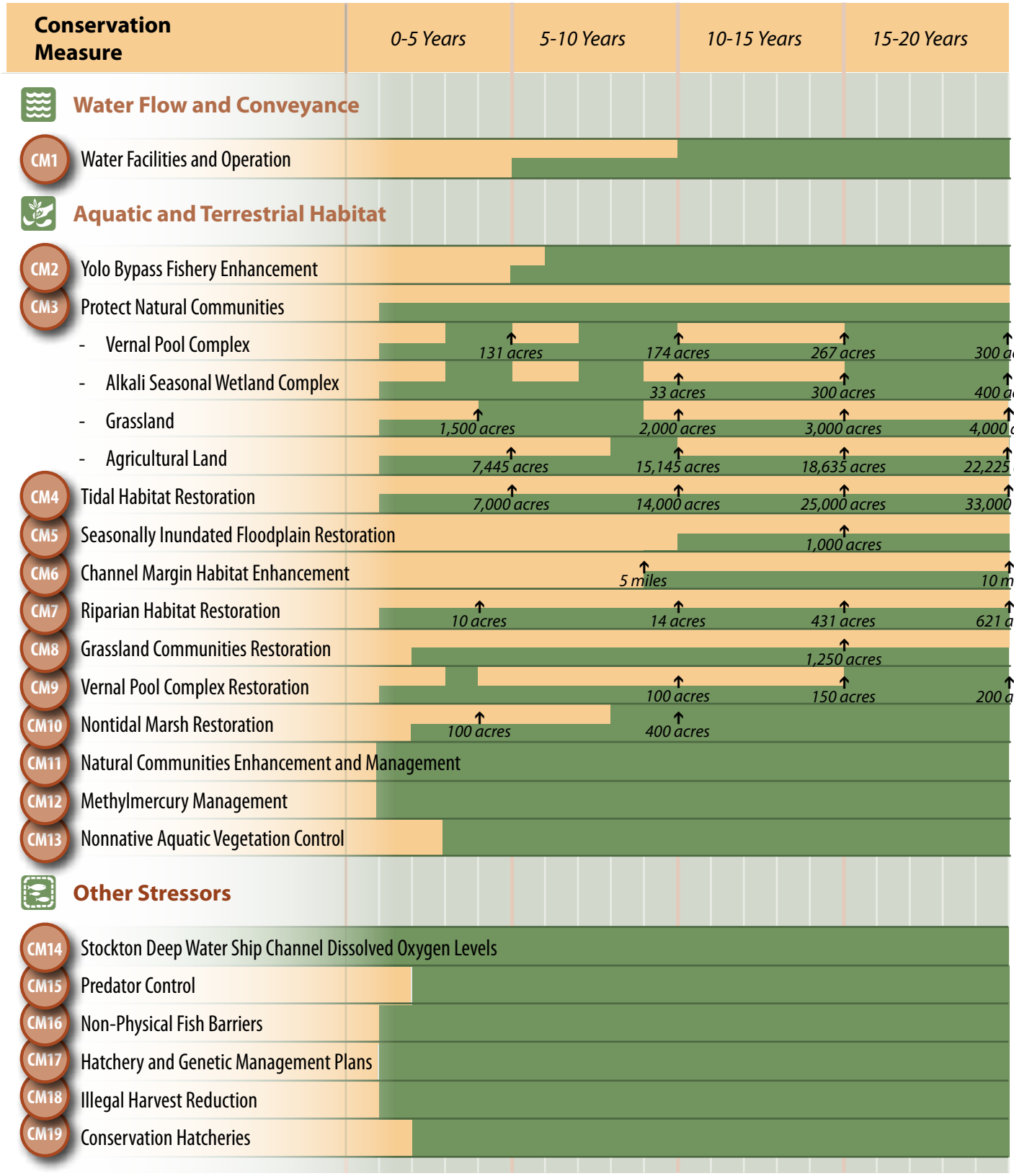
*The BDCP provides the basis for the issuance of regulatory authorizations under the federal ESA and the NCCPA for the incidental take of listed fish and wildlife species that result from Delta water operations and other covered activities. The entities that receive incidental take authorizations for activities covered under the BDCP are referred to collectively as the "authorized entities." Incidental take authorizations will be sought by federal and non-federal entities under the following authorities:

- Non-federal entities will seek regulatory coverage pursuant to ESA section 10(a)(1)(B), NCCPA section 2835, and potentially CESA section 2081 or 2080.1 (if applicable), and
- Federal agencies will seek regulatory coverage under ESA section 7(a)(2) for federally-listed species.

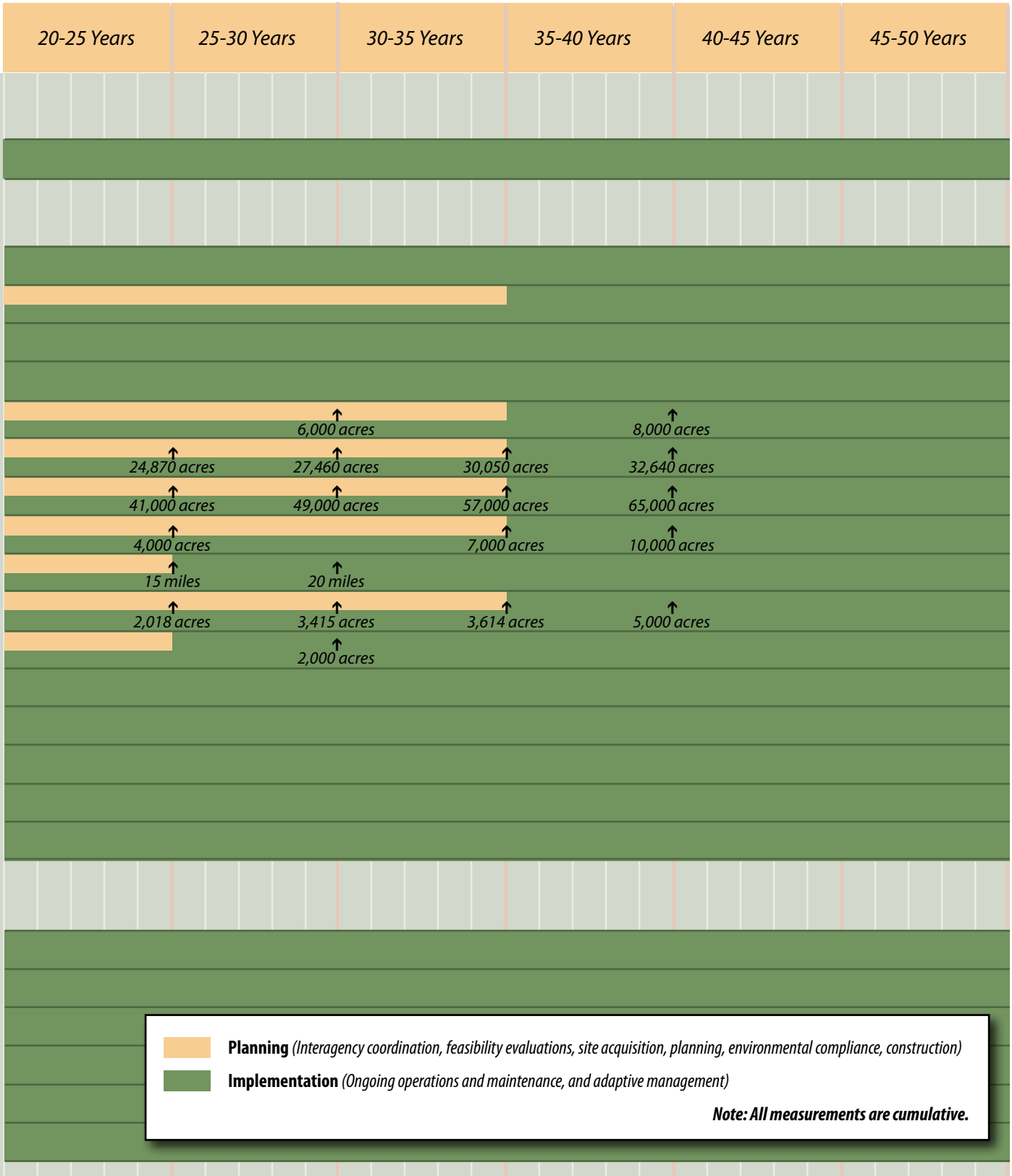
Schedule

Implementation Over Time

The following chart shows the proposed sequencing of the implementation of individual conservation measures throughout the 50-year permit duration. There is a significant amount of habitat restoration that would be implemented early in



the plan. As is generally required in conservation plans, the implementation schedule has been developed to ensure that conservation measures are implemented roughly proportional in time and extent to impacts on habitats and covered species.



Cost

How Much Will It Cost to Implement the BDCP?

A draft estimate of probable costs for the implementation of all BDCP conservation measures is described in detail as part of Chapter 8 (Implementation Costs & Funding Sources) in the November 18, 2010, Working Draft. The estimating process produced a low and high estimate of cost that when averaged, results in a mid-point estimate of cost. The mid-point estimate for the pipeline/tunnel conveyance option (based upon conceptual-level engineering) is approximately $12.7 billion. The mid-point average cost to implement ecosystem restoration and to address the effects of "other stressors reductions" is approximately $3.6 billion. In addition, annual cost to operate the proposed conveyance facilities is approximately $83.0 million per year. The annual cost to manage the implementation of restoration and other stressor reduction actions is estimated at $46.0 million per year over the Plan's 50-year implementation period.

Capital Cost:
(To Implement BDCP Projects Over 50 Years)

$16.3 Billion

Funding Responsibilities

The apportionment of costs between urban and agricultural water users from the San Francisco Bay Area, the Central Valley and Southern California, all of whom will benefit from improved water supply reliability from the state and federal water project pumps, is still under discussion. Water users would pay for and finance the construction and maintenance of any new and/or improved water conveyance facilities and associated habitat restoration (see Table A). Some portion of the habitat restoration and other actions, such as water quality improvement and invasive species removal, may be paid for and financed by other sources such as state and federal agencies (see Table B) subject to funding availability. It is common practice for public funds to be used for conservation plans. Economic impacts of the BDCP and the costs of alternative conveyance and/or habitat restoration options in the Delta will be analyzed as part of the environmental review process.

Table A:

Costs to be Paid for by State and Federal Water Contractors

Restoration Activity	*Initial (Capital)*
Conveyance Facilities	$12.7 B
Habitat Restoration/Changed Circumstances	$0.3 B
Total	**$13.0 B**

Table B:

Remaining Costs (Other State and Federal Sources)

Restoration Activity	*Initial (Capital)*
Conveyance Facilities	-
Other Stressors	$0.1 B
Habitat Restoration/Changed Circumstances	$3.2 B
Total	**$3.3 B**

Issues to Be Determined

At this time, the BDCP cost and funding sources are still preliminary and will remain a topic of ongoing discussions. Finalizing cost and funding is dependent upon the design and construction of individual actions, as well as the need for additional information on conservation measures not yet finalized. In addition, cost and funding are dependent upon the amount of funds to be committed by the various entities, beyond the funding provided by state and federal water contractors, involved in Plan development. Lastly, it is expected that public and other sources of funding and financing will contribute to the cost of implementing some elements of the Plan, the specifics of which are still to be determined.

How Does the 2012 Water Bond Fit In?

The 2012 water bond represents an overarching, statewide approach to solving many of California's water challenges. It would not authorize the construction of a water conveyance system in the Delta, nor provide funding for environmental mitigation of new Delta conveyance water facilities. The bond could include funding for a portion of the BDCP habitat restoration efforts that would contribute to the recovery of Delta fish and wildlife over time.

Introduction

Expected Outcomes

Effects on Biological Resources

The Effects Analysis

A critical element of the Plan, the Effects Analysis, assesses the impacts of the proposed project on species covered by the Plan, and determines how these species would benefit from conservation actions. The effects analysis is built on and will reflect the extensive body of scientific investigation, study, and analysis of the Delta compiled over several decades.

More than 60 species, 14 natural communities, and a broad range of ecological stressors are analyzed in the BDCP effects analysis. The effects analysis considers the effects of the Plan on each species over the whole of its life span, not just during individual life stages.

The effects analysis uses a broad range of analytical tools including hydrologic and hydrodynamic models; temperature models; biological models for different life stages of covered fish species; statistical relationships between physical conditions and covered fish species; conceptual models for ecological conditions and individual fish species; and habitat models for fish, wildlife, and plants.

Once complete, the results of the effects analysis will provide information with which to:

- Revise conservation measures as the planning process continues
- Address scientific uncertainty through adaptive management and monitoring
- Aid compliance with NCCPA, ESA, CESA, CEQA, and NEPA

Status of the Effects Analysis

The effects analysis is a work in progress and is expected to be completed in 2011. The Effects Analysis chapter in the November 18, 2010, Working Draft is a summary of an initial draft and had not been read or reviewed by the Steering Committee prior to inclusion in that document. It is anticipated that an ongoing iteration process will take place in coming months that will help in:

- Describing the final Conservation Strategy and the initial long-term operating criteria
- Developing an adaptive range for the operational criteria
- Addressing and resolving technical comments about the methods used in the effects analysis
- Considering whether the results can support a conservation strategy that meets the biological goals and objectives of the BDCP

Water Supply Reliability

BDCP Regulatory Assurances Guiding Principles

The implementing regulations of the ESA and the statutory provisions of the NCCPA each specifically provide for regulatory and economic assurances to parties that are covered by approved conservation plans. Specifically, these assurances are intended to add durability and reliability to the agreements reflected in conservation plans, affording a degree of certainty to permittees regarding their overall financial and resource commitments. The mechanisms established through these regulatory provisions enable risk to be allocated and shared among regulated parties, state and federal governments, and society in general.

To accomplish the Plan's goals, BDCP Authorized Entities would commit to implementing a broad range of actions involving substantial alterations to water conveyance infrastructure and water management regimes in combination with extensive restoration of habitat and measures to reduce the impacts of various biological stressors. These actions are the subject of ongoing technical analysis and potential revision, which would inform a detailed description of regulatory assurances in Chapter 6 – Plan Implementation of the Public Review Draft BDCP.

To ensure that the regulatory assurances provided to the BDCP Authorized Entities are meaningful and reliable, the Natural Resources Agency believes the regulatory assurances should be consistent with and advance the following principles:

- Regulatory assurances provided under the federal " No Surprises" rule and the NCCPA will apply to permits issued to Authorized Entities pursuant to Section 10 of the ESA and Section 2835 of the NCCPA, respectively.
- The nature, degree, and duration of the regulatory assurances afforded under the BDCP should be uniform and consistent regardless of the mechanism used to provide regulatory coverage. The permittees will receive the highest level of assurances available to the extent allowed by law.
- Fish and wildlife agencies would work closely with third parties to identify actions that could impact a species covered by the BDCP and would attempt to bring those actions into compliance with state and federal endangered species regulatory requirements. In addition, fish and wildlife agencies agree to encourage other regulatory agencies to exercise authority to further reduce the impacts of various stressors on species.

BDCP Regulatory Assurances Guiding Principles (Cont'd)

- In the event that the status of a BDCP covered species unexpectedly declines due to an unforeseen circumstance, and the state and federal fish and wildlife agencies are unable to successfully remedy the decline, the agencies will engage in a process with the Authorized Entities to protect the ongoing viability of the BDCP authorizations if it appears that the continued existence of the species may be in jeopardy in the near future. Such a "last resort" process will be established in the BDCP and its Implementing Agreement, and will include the specific obligations of the parties that would be triggered by such an event. Any of the actions of last resort would be voluntary.
- The parties would use the last resort process to identify additional actions to prevent jeopardy to the covered species, focusing specifically on those actions that would not result in reductions to water supply, to the extent appropriate. Moreover, the parties agree that the most cost-effective actions would receive priority. The assurances will further reflect the principle of joint responsibility between the fish and wildlife agencies and the Authorized Entities for identifying and implementing actions to avert the suspension or revocations of the BDCP authorizations.
- The BDCP regulatory assurances will include a commitment from state and federal fish and wildlife agencies to make every effort to secure the funding outlined in Chapter 8 of the BDCP. A process and approach to address any shortfalls in the public funding component of the BDCP will be established in the Implementing Agreement. The process and approach will be devised to minimize risk to the Authorized Entities and water contractors that such shortfalls would trigger additional financial obligations or result in the suspension or revocation of authorizations and may specify alternative approaches that could be used to address such a shortfall (e.g., atypical sources of public funds or loans to bridge shortfalls). In the event public funding is not available on the expected timelines, the permitting agencies and the permittees will meet and confer. Regardless of any anticipated funding shortfall, as long as the BDCP conservation measures are being implemented in rough proportionality to impacts on covered habitats and species, the regulatory authorizations issued under the BDCP would remain in effect.

Next Steps

Completing the Public Draft

A Public Review Draft BDCP is anticipated to be available for public review and comment in fall 2011.

Since the inception of the planning process in 2006, various stages of working draft materials have been made available to the public. In November 2010, a working draft Plan was compiled and posted to the BDCP website, representing the culmination of four years of stakeholder input. The November 18, 2010, Working Draft describes key elements of the Plan and inter-related aspects of ongoing scientific and technical analysis, refinements to conservation actions, cost estimates, and other plan elements. **Additional work to be completed in advance of a Public Review Draft BDCP includes:**

- Technical and scientific analysis of the Plan's effects on biological resources.

  This effort will result in:

  ➡ Draft Chapter 5 – Effects Analysis

- Refinements to the Conservation Strategy as a result of ongoing analysis and technical work including:
  - Operational criteria and adaptive range for existing through-Delta conveyance
  - Operational criteria and adaptive range for new dual conveyance facilities
  - Continue to refine terrestrial community and species objectives and further develop conservation measures
  - Revised goals and objectives for fish species
  - Revised monitoring actions and metrics

  This effort will result in:

  ➡ Revised Draft Chapter 3 – Conservation Strategy

- Refinements to cost estimates based on revisions to conservation actions and funding allocation of habitat restoration and other stressor actions.

  This effort will result in:

  ➡ Revised Draft Chapter 8 – Implementation Costs and Funding Sources

- Description and evaluation of alternatives to take contemplated during the planning process.

  This effort will result in:

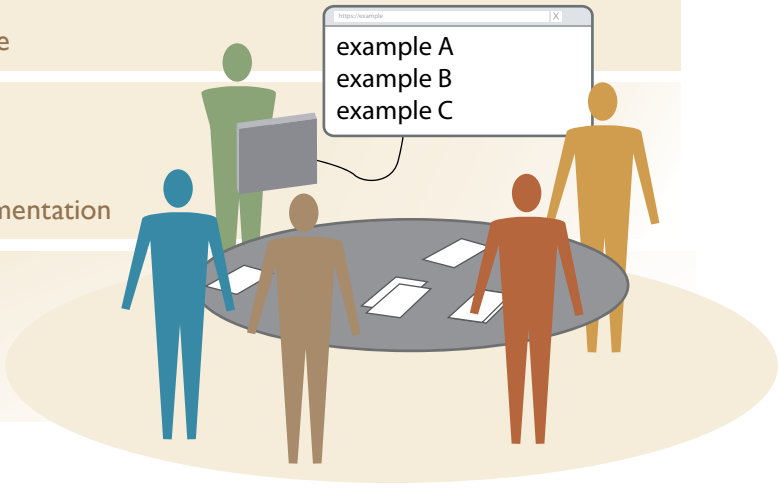
  ➡ Draft Chapter 9 – Alternatives to Take

- Description of regulatory assurances

  This effort will result in:

  ➡ Revised Draft Chapter 6 – Plan Implementation

- Other modifications to existing Chapters 1 through 12 to ensure consistency of concepts and language across Plan components.



Public Participation

Numerous stakeholders who participated on the Steering Committee, interested observers who attended Steering Committee meetings, and those who attended public workshops contributed to the development of the November 18, 2010, Working Draft. As Plan details are further refined in advance of a Public Review Draft BDCP, stakeholder input will remain important to crafting a durable Plan.

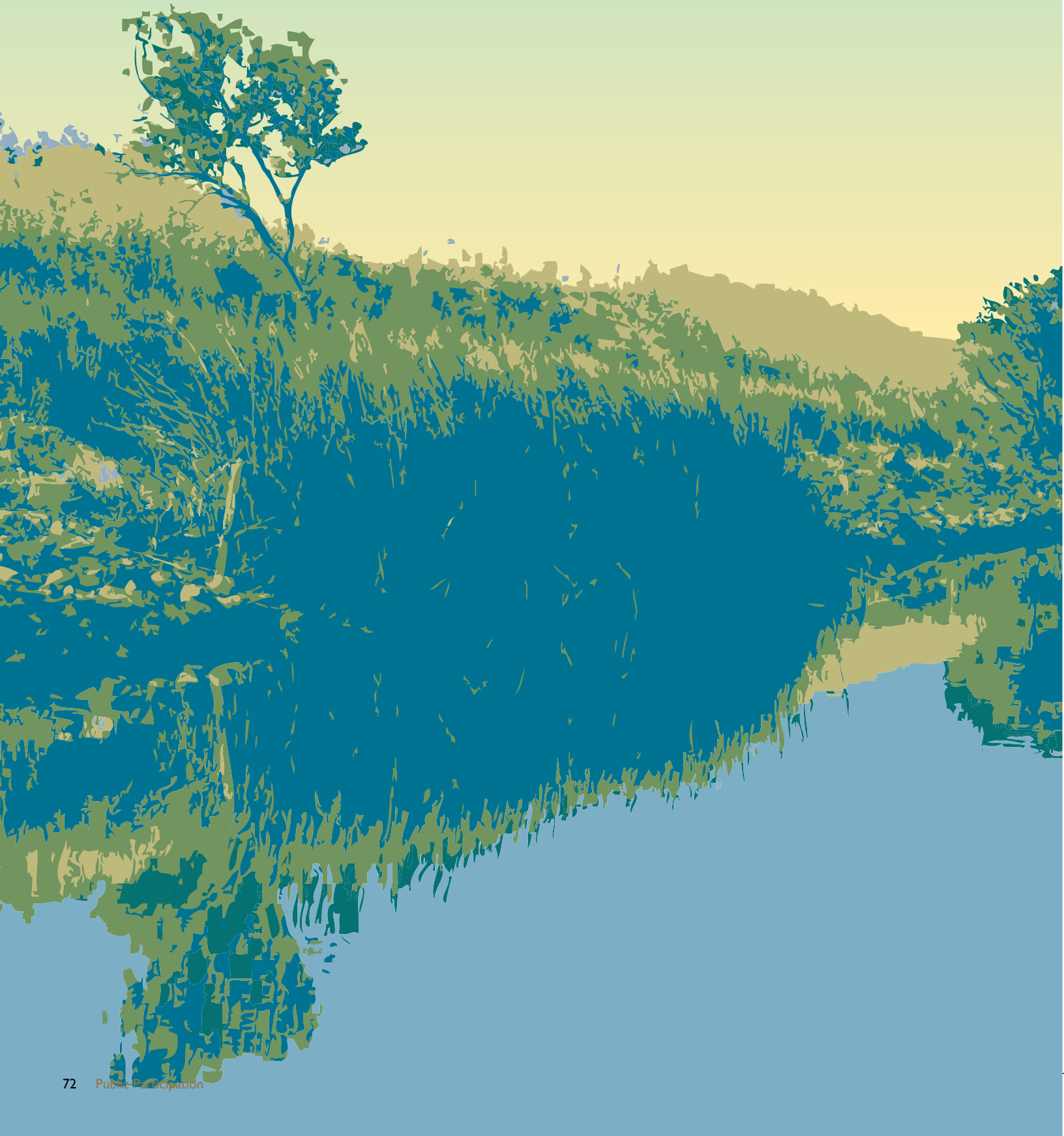
The stakeholder input process moving forward will be:

- Transparent
- Inclusive
- Targeted

Components of a BDCP stakeholder input process could include:

1) Ongoing, periodic engagement of the Steering Committee.

2) Targeted stakeholder review of specific plan elements through small workgroup meetings. This review could include ongoing technical analysis, refinements of individual conservation actions, and early habitat restoration implementation considerations.



Environmental Review

EIR/EIS Process

The EIR/EIS will evaluate the effects of the conservation plan on both the natural (biological) and the human environment. This evaluation will address impacts to, among others:

- Water Resources
- Air Quality
- Water Quality
- Climate Change
- Socioeconomic Conditions
- Land Use
- Agricultural Resources
- Cultural Resources
- Historical Resources
- Archaeological Resources
- Biological Resources
- Geology, Seismicity, Minerals, and Soils
- Transportation/Navigation
- Recreation
- Tourism
- Noise
- Visual Resources
- Hazardous materials
- Utilities and Public Services
- Environmental Justice

The Screening Process

The lead agencies preparing the environmental review document have been working towards identifying a range of reasonable alternatives to the pending proposed BDCP project. The alternatives chart (opposite) represents the current list of proposed alternatives that will be fully evaluated in the EIR/EIS. The alternatives were selected by the lead agencies using a multi-step screening selection process in addition to the consideration of the responsible and cooperating agencies' scoping comments. The Sacramento-San Joaquin Delta Reform Act criteria for defining "a reasonable range of alternatives" is also being considered in the review of the range of alternatives to be included in the EIR/EIS analyses.

First Screening Level

- Under NEPA, could the potential alternative concept meet the project's purpose and need as presented in the Notice of Intent?
- Under CEQA, could the potential alternative concept feasibly attain most of the basic objectives of the project, as presented in the Notice of Preparation?

Second Screening Level

- Under CEQA would the potential alternative avoid or substantially lessen any of the expected significant environmental effects of the proposed project?
- Under NEPA would the potential alternative address one or more significant issues related to the proposed action?

Third Screening Level

- Could the potential alternative concept be "potentially feasible" under CEQA?
  - Capable of being accomplished in a reasonable time period, taking into account economic, legal, social, and technological factors?
- Could the potential alternative concept be "reasonable" under NEPA?
  - Practical or feasible from technical or economic standpoint?

Alternatives Proposed for Full Evaluation

The EIR/EIS analysis must include a reasonable range of alternatives as required by NEPA and CEQA. The alternatives that have currently been identified by the lead agencies for full evaluation are described below. Additionally, the lead agencies will continue evaluation of options that include a 3,000 cfs capacity pipeline/tunnel as well as options to restore up to 100,000 acres of tidal habitat. These options should be carried forward unless they do not meet the screening criteria. Likewise, the screening process will be used to evaluate other alternative concepts that may be proposed as part of the BDCP EIR/EIS process.

Alternatives for the BDCP EIR/EIS*

Alternative	Conveyance	North Delta Diversion Capacity (cfs)	Conveyance Alignment	Operational Criteria	Restoration Concepts
Alternative 1 – Dual Conveyance with Intakes #1-5	Focus on dual conveyance, meaning the combined use of a new isolated facility and existing through-Delta conveyance	15,000	Pipeline/ Tunnel East Unlined East Lined West Unlined West Lined	Under development[1]	Per BDCP Steering Committee - 3/25/10 BDCP Steering Committee handout
Alternative 2 – Dual Conveyance with Intakes #1-2	Similar to Alternative 1, but with a smaller design capacity	6,000	Pipeline/ Tunnel	Under development[1]	Per BDCP - 3/25/10 BDCP Steering Committee handout
Alternative 3 – Isolated Conveyance with Intakes #1-5	Use of a new isolated conveyance facility without dual conveyance. Includes operational requirements to manage salinity during the fall months.	15,000	Pipeline/ Tunnel East Unlined East Lined West Unlined West Lined	Under development[1]	Per BDCP - 3/25/10 BDCP Steering Committee handout
Alternative 4 – Enhanced Aquatic Conservation – Dual Conveyance with Intakes #2, 3, 5	Similar to Alternative 1 with a smaller design capacity and more aquatic habitat	9,000	Pipeline/ Tunnel	Modified operations to promote enhanced aquatic conditions	Similar to the 3/25/10 BDCP Steering Committee handout with additional 20 miles of channel margin habitat and 10,000 acres of seasonally inundated floodplain in Yolo Bypass
Alternative 5 – Separate Corridors with Screened Intakes at Delta Cross Channel and Georgiana Slough	Focused only on modifications to existing through-Delta system without any new conveyance	15,000	Through-Delta Channel Modifications	Modified operations from existing conditions	Similar to the 3/25/10 BDCP Steering Committee handout with changes in South Delta
Alternative 6 – No Action Alternative	Represents the through-Delta system as it exists today.	Existing	Through-Delta without any Modifications	Based on Biological Opinions	Based on biological opinions with no terrestrial habitat restoration, 8,000 acres of intertidal restoration, and 17,000 to 20,000 acres of floodplain restoration.

[1] *Pending completion of the effects analysis*

* *Additionally, the lead agencies will consider public comments and continue evaluation of options that include a 3,000-cfs capacity pipeline/tunnel, as well as options to restore up to 100,000 acres of tidal habitat. These options should be carried forward unless they are screened out by screening criteria.*

EIR/EIS Schedule and Next Steps

The BDCP draft EIR/EIS is expected to be released in 2011. Once released, there will be a public review period during which the public is encouraged to review the BDCP, associated EIR/EIS, attend public meetings, and provide feedback. Information about the public meetings and how to provide comments will be posted at www.baydeltaconservationplan.com. Comments will be considered and responses provided. A final EIR/EIS is scheduled for completion in late 2012.

Next Steps for the EIR/EIS

- Finalize the array of alternatives, including modifying existing preliminary alternatives and the potential to develop additional alternatives
- Incorporate potential changes to the proposed BDCP project as the BDCP continues to be developed (for example, incorporating refined operating criteria based on the effects analysis)
- Consider information developed from BDCP separate analyses and important related actions in the review of alternatives
- Begin to identify potential adverse impacts and related mitigation measures through impact assessments, and modify alternatives as warranted

Permitting

The BDCP will require a number of approvals, authorizations and permits to implement the proposed project. The BDCP is designed to comply with the requirements of local, state, and federal laws and regulations and will work with numerous regulatory agencies through the implementation process.

References to the Plan

Topic of Interest	BDCP Chapter/Section Reference
Adaptive Management Process Framework	3.7.1
Adaptive Management	3.2.1.1, 3.7, 7.3.5
Alternatives	9
Aquatic Habitat Restoration	3.2.3
Avoidance and Minimization Measures	3.4.5
Background	1.1
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California Endangered Species Act (CESA)	1.3.4
Channel Margin Restoration	3.4.3.3, 6.1.2.3, 8.3.6
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Conservation Targets	3.2.4.1
Conservation Zones	3.2.2; Figure 3-1
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Delta Cross Channel	3.2.3.3, 3.4.2.1, 4.3.1.1
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Federal Endangered Species Act (ESA)	1.3.2
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Hatcheries (Conservation Hatcheries)	3.4.4.8, 6.1.3.6, 8.3.19
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Independent Science Reviews	10.3
Land Acquisition	3.4.2.3, 7.3.1, 8.2.6
Methylmercury	3.4.4.1, 6.1.2.9, 8.3.12; Table 3-3

Topic of Interest	BDCP Chapter/Section Reference
Modeling	5.3.2.1
Monitoring and Research	3.6
Natural Communities Descriptions	2.3.4
Natural Communities Enhancement and Management	3.4.3.8, 6.1.2.8, 8.3.11
Natural Communities Protection	3.4.2.3, 6.1.1.3, 8.3.3
Natural Community Conservation Planning Act (NCCPA)	1.3.3
Nonnative Aquatic Vegetation	3.4.4.2, 6.1.2.10, 8.3.13
Non-Physical Barriers	3.4.4.5, 4.2.6, 6.1.3.3, 8.3.16; Figure 3-60, 3-61
Nontidal Marsh Restoration	3.4.3.7, 6.1.2.7, 8.3.10
Organization of the BDCP	1.6
Other Stressors Conservation Measures	3.4.4, 3.5, 6.1.3
Outflows	2.3.2.1.1, 3.4.2.1
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Scope of the BDCP	1.4
Stockton Deep Water Ship Channel	3.4.4.3, 6.1.3.1, 8.3.14; Tables 8-35, 8-36
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SWP and CVP	4.1.1, 7.1.4
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Vernal Pool Complex Restoration	3.4.3.6, 6.1.2.6, 8.3.9
Water Facilities and Operations	3.2.3.3, 3.4.2.1, 6.1.1.1, 8.3.1
Water Flows	2.3.2.1, 3.4.2.1, 5
Water Quality	2.3.2.1, 3.4.2.1, 5
X2	2.3.2.1, 3.4.2.1, 5.2

Acronyms and Definitions

Acronyms and Definitions

BDCP	Bay Delta Conservation Plan
CDFG	California Department of Fish and Game
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
cfs	cubic feet per second
CM	conservation measure
CVIFMS	Central Valley Integrated Flood Management Study
CVP	Central Valley Project
CZ	conservation zone
Delta	Sacramento-San Joaquin River Delta
DISB	Delta Independent Science Board
DRERIP	Delta Regional Ecosystem Restoration Implementation Plan
DSC	Delta Stewardship Council
DSP	Delta Science Program
DWR	Department of Water Resources
EIR	environmental impact report
EIS	environmental impact statement
ESA	Endangered Species Act
HCP	Habitat Conservation Plan
IEP	Interagency Ecological Program
IRA	important related action
MAF	million acre-feet
NCCP	Natural Community Conservation Plan
NCCPA	Natural Community Conservation Planning Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
OMR	Old and Middle River
ppt	parts per trillion
PRE	Potential Regulated Entities
Reclamation	Bureau of Reclamation
ROA	Restoration Opportunity Area
SFCWA	State and Federal Contractors Water Agency
SWP	State Water Project
USFWS	U.S. Fish and Wildlife Service

Adaptive Range – The parameters within which a conservation measure may be adjusted to improve its effectiveness or respond to changing biological conditions.

Bay Delta Conservation Plan (BDCP) – A conservation plan prepared for the Sacramento-San Joaquin River Delta region to meet ESA, and NCCPA requirements.

Biological Opinion – Document that states a proposed opinion of a federal agency as to whether or not the federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

California Environmental Quality Act (CEQA) – A California law enacted in 1970 intended to require decision-makers to document and consider the environmental consequences of their actions and to provide a vehicle for public input into governmental actions that have environmental consequences. CEQA requires the preparation of an environmental impact report (EIR) for any project that may have significant environmental effects. CEQA applies to any project that requires approval by a state or local government body.

California Endangered Species Act (CESA) – State law declaring it a policy of California to conserve, protect, restore, and enhance endangered and threatened species and their habitat, and allowing the Department to authorize the take of state listed threatened, endangered, or candidate species if certain conditions are met.

Channel Margin Restoration – Habitat restoration aimed at returning suitable sites along the waterside of levees to a more natural condition for increased food production, rearing habitat, improved water temperature conditions, and movement corridors for fish.

Covered Activities – Activities to be undertaken by non-federal entities and proposed for coverage under take authorizations that are expected to be issued by the state and/or federal fish and wildlife agencies on the basis of the BDCP. Covered activities are related primarily to water supply and power generation, including water conveyance (pipes, canals, and pumps), facility maintenance and improvements, but also include conservation measures.

Central Valley Project (CVP) – A federal water project operated by the Bureau of Reclamation that irrigates more than 3 million acres of farmland and provides drinking water to nearly 2 million consumers.

Delta – The Sacramento-San Joaquin River Delta is an expansive inland inverted river delta and estuary, the largest on the west coast and one of only a few worldwide. The Delta is formed at the western edge of the Central Valley by the confluence of the Sacramento and San Joaquin Rivers which empty into Suisun Bay, an upper arm of San Francisco Bay.

Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) – One of four regional plans intended to guide the implementation of the CALFED Ecosystem Restoration Program element. The DRERIP will refine the planning foundation specific to the Delta, refine existing and develop new Delta-specific restoration actions and provide Delta-specific implementation guidance, program tracking, performance evaluation, and adaptive management feedback.

Delta Stewardship Council (DSC) – Created by the legislature in 2009, the Delta Stewardship Council is composed of members who represent different parts of the state and offer diverse expertise in fields such as agriculture, science, the environment, and public service. The Delta Stewardship Council is charged with protecting the Delta and the critical role it serves in the water supply for millions of Californians and its unique ecosystem and way of life.

Ecosystem – All of the living organisms of a natural community together with their surrounding physical environment (e.g., soil, climate, water, light) all functioning as a unit. All the living organisms of an ecosystem are linked together and with the physical environment by physical, chemical, and biological processes.

Environmental Impact Report (EIR) – A detailed statement prepared under CEQA describing and analyzing the significant environmental effects of a project and discussing ways to mitigate or avoid the effects.

Environmental Impact Statement (EIS) – An environmental impact document prepared pursuant to the National Environmental Policy Act (NEPA) for any federal action that will significantly affect the quality of the human environment.

Environmental Justice (EJ) – The fair treatment and meaningful involvement of all people regardless of race, color, national origin, educational level, or income with respect to the development, implementation, and enforcement of environmental laws. EJ seeks to ensure that minority and low-income communities have access to public information relating to human health and environmental planning, regulations, and enforcement. EJ ensures that no population, especially the elderly and children, are forced to shoulder a disproportionate burden of the negative human health and environmental impacts of pollution or other environmental hazard.

Early Long-Term – BDCP conservation measures that will be implemented in years 11 through 15.

Endangered – Any species which is in danger of extinction throughout all or a significant portion of its range.

Entrainment – The loss of fish and other organisms as a direct result of water diversion operations.

Endangered Species Act (ESA) – Enacted in 1973, this law protects plants and animals that are listed by the federal government as endangered or threatened. ESA makes it unlawful for anyone to "take" a listed animal, including significantly modifying its habitat.

Fishery Agencies – California Department of Fish and Game (CDFG), United States Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS)

FloodSAFE – A sustainable integrated flood management and emergency response system throughout California that improves public safety by reducing the probability of destructive floods, promoting beneficial floodplain processes, and minimizing flood-related damages.

Flow – The rate, direction, and volume of water movement through Delta channels.

Habitat – An ecological or environmental area inhabited by a particular species of animal, plant, or other type of organism. Habitat is the natural environment in which an organism lives, or the physical environment that surrounds a species population.

Habitat Conservation Plan (HCP) – A plan prepared under the ESA by non-federal parties wishing to obtain permits for incidental takings of threatened and endangered species.

Implementing Agreement – An agreement that defines the terms for implementing the BDCP.

Incidental Take Permit – A permit that allows for the take of listed species incidental to, and not the purpose of, an otherwise lawful activity.

Independent Science Advisors – The BDCP sought input and advice from independent science advisors to ensure that the Plan has access to the best available science.

Late Long-Term – BDCP conservation measures that will be implemented in years 16 through 50.

Listed Species – Species designated as candidate, threatened, or endangered pursuant to CESA and/or listed as threatened or endangered under ESA.

Natural Community – Distinct, identifiable, and recurring assemblage of plants and animals that are ecologically interrelated.

Natural Community Conservation Plan (NCCP) – A Plan prepared pursuant to a planning agreement entered into in accordance with DFG Code Section 2810 and that identifies and provides for the measures necessary to conserve and manage biological diversity within the Plan Area while allowing compatible and appropriate economic development, growth and other human uses.

Natural Community Conservation Planning Act (NCCPA) – A California law authorizing the Natural Community Conservation Plan program to use an ecosystem approach to conserve natural communities at the ecosystem scale while accommodating compatible land use. NCCPA authorizes the CDFG to enter into a planning agreement with any person or public agency to prepare a natural community conservation plan in cooperation with a local agency that has land use permit authority over the activities proposed to be addressed in the plan, to provide comprehensive management and conservation of multiple wildlife species.

National Environmental Policy Act (NEPA) – A federal law adopted by Congress in 1969 intended to address the need for a comprehensive approach to environmental management aimed at anticipating and, if feasible, avoiding environmentally damaging activities rather than merely reacting to environmental problems after they occurred. NEPA also introduced processes aimed at providing opportunities for meaningful public participation in the federal decision-making process. NEPA requirements must be fulfilled whenever a federal agency proposes an action, grants a permit, considers funding, or otherwise authorizes any entity to undertake an action that could have an environmental effect.

Plan Area – The statutory Delta and all other areas where conservation measures are expected to be implemented in order to advance the goals and objectives of the Plan. For example, the Suisun Marsh is located outside the statutory Delta, but it is part of the Plan Area and will be the focus of extensive tidal restoration during the implementation of the BDCP.

Potential Regulated Entities – Those entities that may seek take authorizations, including federal and non-federal entities that export, divert, or utilize water from the Delta and/or its tributaries within the Plan Area for water supply or power generation.

Rearing Habitat – Areas in Delta channels where juvenile fish find food and shelter to live and grow.

Riparian – The green, vegetated areas on each side of streams and rivers. They serve many important functions, including purifying water by removing sediments and other contaminants; reducing the risk of flooding and associated damage; reducing stream channel and stream bank erosion; increasing available water and stream flow duration by holding water in stream banks and aquifers; supporting a diversity of plant and wildlife species; maintaining or enhancing habitat conditions for healthy fish populations in adjacent stream or river reaches; providing water, forage, and shade for wildlife and livestock; and creating opportunities for recreationists to fish, camp, picnic, and enjoy other activities.

Restoration Opportunity Areas (ROAs) – Areas identified by the BDCP as the most appropriate, most promising locations for the restoration of tidal habitat and associated upland natural communities. Five ROAs have been identified. They are different from, but overlap with, the conservation zones of the Plan Area.

Riprap – Rock or other material used to line and stabilize shorelines. Riprap is an unnatural structure that reduces habitat quality by preventing the establishment and growth of vegetation.

Spawning Habitat – Aquatic habitat suitable for fish reproduction (e.g., egg laying and incubation).

Steering Committee – The principal forum within which key policy and strategy issues related to the BDCP are discussed and considered. Members of the Steering Committee include representatives of state, federal, and local water agencies; state and federal fish agencies; environmental organizations; and other interested parties.

State Water Project (SWP) – A water project operated and maintained by the Department of Water Resources that provides water supplies for 25 million Californians and 755,000 acres of irrigated farmland.

Take – Defined in the federal and state ESAs as to harass, harm, hunt, shoot, wound, kill, trap, capture, or collect a threatened or endangered species.

Threatened Species – Any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Vernal Pools – Isolated, seasonal bodies of standing water that typically form in the spring. Vernal pools are devoid of fish and provide important breeding habitat for many terrestrial or semiaquatic species such as frogs, salamanders, and turtles.

Wanger I & II – There have been two important rulings by Judge Oliver W. Wanger regarding pumping restrictions in the Delta. Judge Wanger of the U.S. District Court in Fresno ruled in 2007 that pumping from the Delta violated the ESA and needed to decrease significantly to protect endangered and threatened species. In 2010, Judge Wanger ruled that the revised biological opinions did not take into consideration the impact of decreased water supplies on humans and the economy.

X2 – X2 is the distance in kilometers (km) from the Golden Gate Bridge to the 2 parts per trillion (ppt) salinity line (also referred to as the mixing zone) and is a measure of western Delta salinity. Upstream of X2 water becomes progressively fresher and downstream of X2 water becomes more and more brackish (saltier) until reaching the ocean. The location of X2 is largely controlled by the amount of water flowing out of the Delta (Delta outflow). The higher the volume of water flowing out of the Delta, the shorter the distance from the Golden Gate Bridge to the 2 ppt salinity line.

12-15-10

For more information visit
www.BayDeltaConservationPlan.com
or call 1-866-924-9955

Contact Karla Nemeth
at the California Natural Resources Agency at:
karla.nemeth@resources.ca.gov

BDCP
Bay Delta Conservation Plan

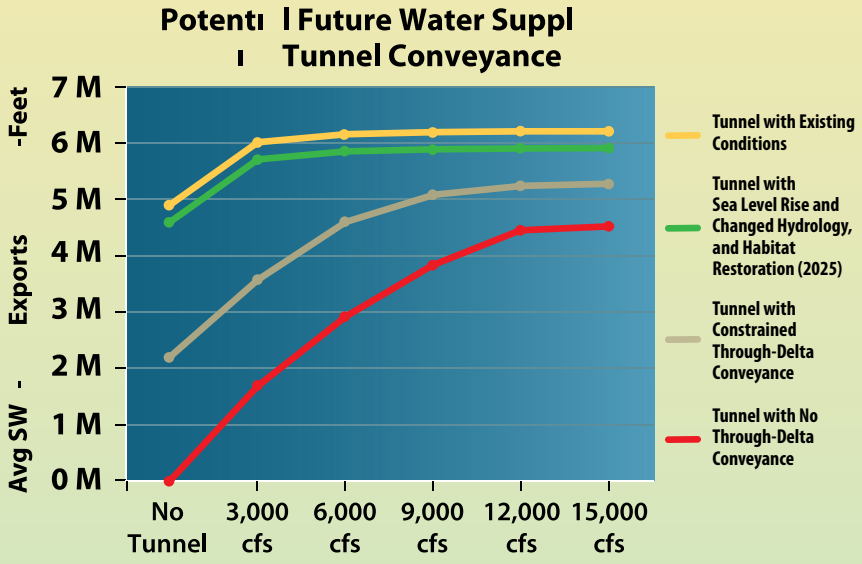
Preliminary Evaluation of Conveyance Sizing

July 2010

In developing the Bay Delta Conservation Plan (BDCP) potential sizes of a new water conveyance facility were evaluated according to a variety of important factors. These factors include: biological performance (flow patterns for fish), water supply, cost, in-Delta and export water quality; and future conditions. Those future conditions include climate change, seismic and other natural events, potential increased outflow requirements, and potential additional South Delta pumping constraints. Design capacities evaluated were 3,000, 6,000, 9,000, 12,000 and 15,000 cubic feet per second (cfs).

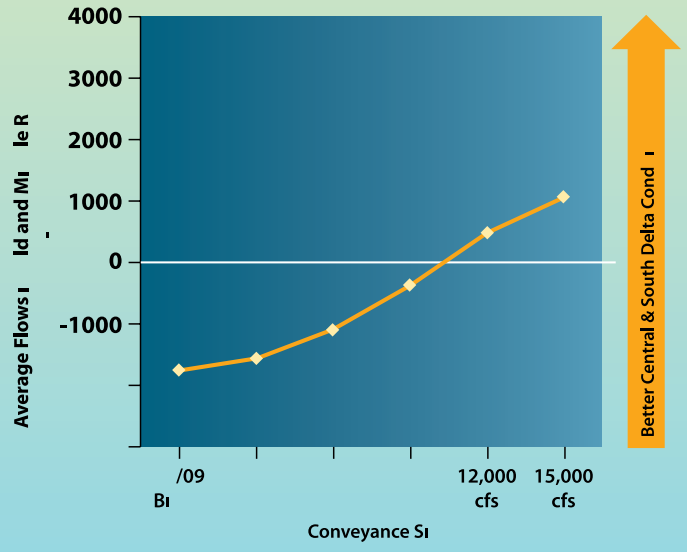
This preliminary evaluation assumed that tunnel facility sizes represent the maximum diversion capacity and would operate under the range of criteria currently under development by the BDCP for fisheries and water supply; each size uses two tunnels for reliability and assumes maximum gravity flow to limit power costs; and each 3,000 cfs size increment requires one additional intake.

Water Supply



- *Tunnel sizes ranging between 3,000 and 15,000 cfs provide similar water supplies under existing conditions.*
- *Smaller tunnel sizes are more effective at providing water supplies under existing conditions and with a future of sea level rise and changed hydrology than in a future with constrained through Delta conveyance or no through Delta conveyance.*
- *Tunnel sizes between 9,000 15,000 cfs provide greater water supplies than smaller tunnels in a future where through Delta conveyance is constrained.*
- *Larger tunnel sizes better alleviate the water supply risk of a changing Delta.*

Flows in Central Delta



- *The existing pumping facilities in the southern Delta can create reverse flow conditions in the region that can conflict with fish migration patterns. A key benefit of new diversions and conveyance starting in the northern Delta is the ability to restore more natural flow patterns in the Central Delta while providing water supplies.*
- *Reverse flow conditions improve incrementally with each increase in tunnel size.*

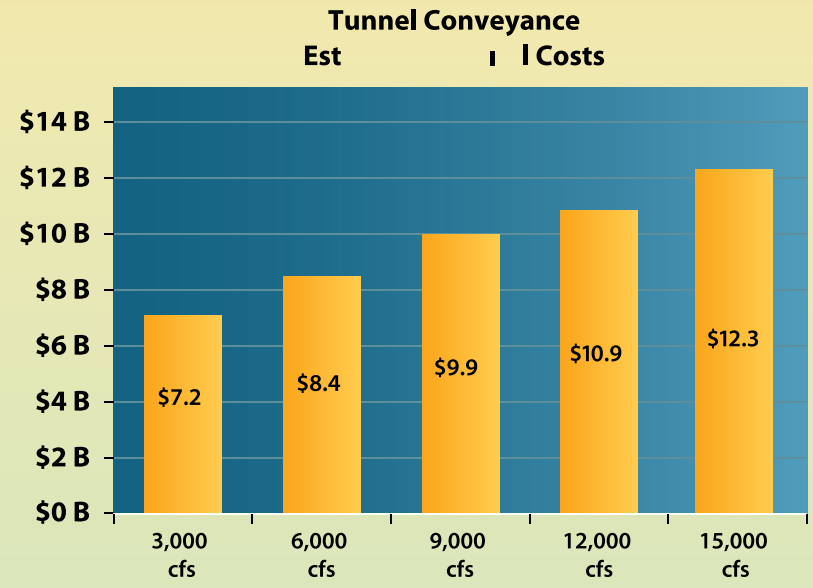
PRELIMINARY EVALUATION OF CONVEYANCE SIZING

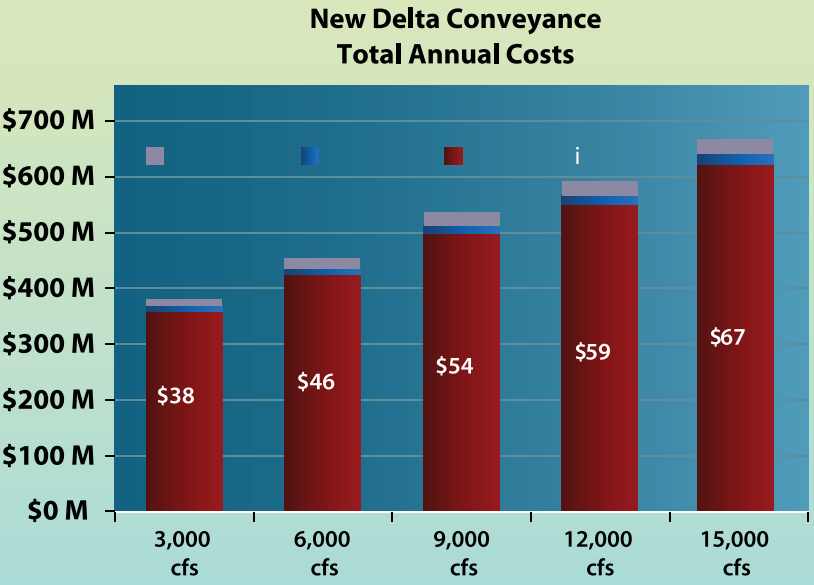
Water Quality

- *Export water quality improves by about 5% when tunnel size is increased from 3,000 cfs to 6,000 cfs; then gradually by another 5% with an increase from 6,000 cfs to 15,000 cfs.*

- *While still meeting water quality standards for salinity, in-Delta water quality measured at Emmaton worsens gradually by about 10% when tunnel capacity increases from 3,000 cfs to 15,000 cfs. The decline is similar if water exports from the southern Delta are further constrained in the future. At Jersey Point, water quality worsens gradually by about 5% as tunnel sizes increase. Water quality remains about the same across tunnel sizes under future scenarios when water exports from the southern Delta are further constrained.*

Cost





- *Physical tunnel sizes and intakes range between two 18-foot tunnels with 1 intake (3,000 cfs) and two 33 foot tunnels with 5 intakes (15,000 cfs), based on design specifications.*

- *Cost of a 3,000 cfs tunnel is estimated at $7.2 billion, slightly more than half of the cost of the largest tunnel under consideration.*

- *Construction of a 3,000 cfs tunnel could cost three times more per cfs capacity than a 15,000 cfs tunnel ($2.4 million and $0.8 million respectively).*

- *The cost per acre-foot of incremental water supply varies with size and is lower with smaller sized conveyance under existing hydrology.*

The information provided in this document is preliminary and does not represent the entirety of the evaluation. To see the complete presentation provided to the BDCP Steering Committee about the preliminary evaluation of tunnel sizing, please visit: www.baydeltaconservationplan.com. The preliminary tunnel sizing evaluation will be used to help determine the size of the proposed facility to be included in the draft conservation plan. An environmental review of alternatives to the draft conservation plan under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) will include a variety of conveyance sizes among other approaches to meeting the BDCP's purpose.

BDCP Status Update 3
June 2010

BDCP
Bay Delta Conservation Plan

A plan to restore the Delta's ecosystem and California's water supplies

What is new with the BDCP?

The Bay Delta Conservation Plan (BDCP) Steering Committee is preparing a Draft Habitat Conservation Plan (HCP) and Natural Communities Conservation Plan (NCCP) for the Sacramento San-Joaquin Delta (Delta), expected to be available for public comment by the end of 2010. The Plan is designed to provide for the conservation of sensitive species and their habitat in a way that will protect and restore water supplies.

PRELIMINARY DETAILS:

Habitat Restoration & Other Stressors

- Habitat restoration targets (up to 80,000 acres) for aquatic species
- Preserve and enhance approximately 45,000 acres of habitat for the needs of plant & wildlife species
- Refined list of measures to address water quality and other stressors on aquatic species

New Water Conveyance Facilities

- Up to five intakes along the Sacramento River from Freeport to Courtland
- Additional study of two underground 33-foot-diameter tunnels/pipelines designed for a combined capacity of up to 15,000 cubic feet per second (cfs). In addition, an above-ground canal is being considered as a conveyance option.

Flow Criteria (Operations Rules)

A range of potential new diversion rules for new North Delta water facilities in combination with continued operation of existing South Delta facilities (dual conveyance) and other key flow rules.

What are the Next Steps to Complete the Draft Plan?

In the coming months, the Steering Committee will address other important elements that need to be completed prior to the release of the Draft Plan, such as identifying terrestrial communities and species conservation measures, developing the adaptive management plan and implementation schedule, verifying covered activities, identifying funding mechanisms, refining biological goals, developing a governance structure, and further developing conservation measures.

Separately, a detailed analysis of impacts to water quality and other important aspects of the human environment will be conducted through the preparation of an Environmental Impact Report/Environmental Impact Statement (EIR/EIS) under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA). The EIR/EIS will analyze BDCP-proposed actions and alternatives to those actions, including alternative water conveyance options.

What is in the Draft Conservation Strategy?

Below is an overview of the most recent draft conservation strategy measures:

Habitat Restoration Targets

- Restore up to 65,000 acres of freshwater and brackish tidal habitat within restoration opportunity areas.
- Restore 5,000 acres of riparian forest and scrub in restoration opportunity areas.
- Enhance channel banks along 20 to 40 linear miles with more natural riverbank features, such as overhanging shade, instream woody debris, and shallow benches.
- Restore 10,000 acres of seasonally inundated floodplain.
- Increase the frequency and duration of Yolo Bypass inundation via the modification of the Fremont or Sacramento Weirs to improve fish migration, food production, and spawning and rearing habitat.
- Preserve and enhance approximately 45,000 acres of terrestrial habitat. This target acreage is above and beyond the 75,000 acres of tidal marsh and riparian restoration in support of aquatic and terrestrial species. These targets can take place anywhere within the planning area where species may be present.

Water Facilities Rules

North Delta Diversion and Bypass Flows (1)*

- Construct diversion facilities to support flexibility in flow management, with a preliminary design capacity of up to 15,000 cfs, which is similar to existing south Delta facilities.
- Establish minimum river flows to ensure that Sacramento River flows are always greater than export diversions and that flows support the habitat needs of covered fish and the ecological needs of the Delta as a whole.

South Delta Channel Flows (2)*

- Minimize incidence and magnitude of reverse flow to acceptable levels during times of year most important to fish, and also to reduce entrainment.

Outflow (3)*

- Provide freshwater outflow necessary to maintain a desirable salinity regime and for fish health and survival.

Water Quality

- Maintain water quality standards set forth by the State Water Resources Control Board and other standards for quality throughout the Delta.

Other Controls

- Set new operating rules to better manage inflows, better manage flows through the Delta Cross Channel, and better manage flows at Rio Vista.

*Numbers refer to pull-out map.

Actions to Limit Other Stressors

- Minimize methyl mercury generation from restoration sites
- Control non-native aquatic plants that support predator habitat
- Reduce illegal harvest of Chinook salmon, Central Valley steelhead, green sturgeon, and white sturgeon
- Establish hatchery and genetic management plans
- Support Delta and longfin smelt propagation programs
- Reduce predators in high predator density locations
- Construct non-physical barriers to redirect outmigrating juvenile salmonids (e.g., bubbles, light, and sound barriers)
- Improve dissolved oxygen levels in the Stockton Deep Water Ship Channel

For a complete description of the proposed conservation measures, visit http://baydeltaconservationplan.com/BDCPPages/BDCPInfoCurrentDocs.aspx

What New Conveyance Facilities Are Currently Proposed?

A focused analysis is underway on an underground tunnel/pipeline conveyance system for potential inclusion into the Draft Plan. While the current pumping capacity proposed allows for a maximum diversion of up to 15,000 cfs, the Steering Committee is evaluating criteria based on a range of facility sizes, operations, and anticipated costs. The decision to further analyze a tunnel/pipeline is based on best available, preliminary information including cost estimates of $11.7 billion, as well as energy requirements, ongoing operations, maintenance needs, and anticipated environmental impacts at a 10 percent design stage. An above-ground canal is also being considered as a conveyance option. A decision on the proposed conveyance facility will be made after additional analysis has been completed.

In addition, five intake locations along the eastern bank of the Sacramento River between Freeport and Courtland are under consideration for the Draft Plan. Intake locations were identified, in part, to avoid and minimize impacts to important fish and wildlife species and their habitats, cultural and historical sites and housing, existing communities, and planned future land uses.

Under the current proposal, the conceptual tunnel/pipeline conveyance system would include:

- Up to 5 intakes, each at 3,000 cfs
- 6 pump stations
- 36 miles of tunnel (2 bores, 33 feet inside diameter)
- One 620-acre forebay near the existing Clifton Court Forebay
- One 750-acre forebay near Courtland

How will BDCP Water Operations Rules Help Recover Fish and Their Habitat?

Separating California's water supply system from the fragile Delta estuary provides the ability to restore critical ecosystem functions – such as spawning and rearing habitat, production of food for fish, and fish migration patterns – throughout the Delta that are essential for species recovery. The Plan intends to restore these functions by:

- Establishing water flow rules that mimic natural seasonal flows in the estuary.
- Steering fish away from the existing state and federal water pumps.
- Restoring habitat areas throughout the Delta to support the natural ecological processes that are found in a properly functioning estuary.

How Will Water Diversions from the Sacramento River be Determined?

The Plan will propose water operations criteria that will determine how much water could be diverted from the Sacramento River via a new water conveyance facility. Currently, a range of operations is being studied that will limit the amount of water available for diversion depending on the time of the year and real-time flows. For instance, from December through April the proposed rules would require a base flow of 9,000 to 15,000 cfs in the Sacramento River before any water could be diverted at a North Delta diversion. These rules will be put in place to support the BDCP's goals of fish recovery and the restoration of natural seasonal flows.

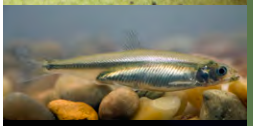
What is the Role of Science in Developing the Draft Conservation Strategy?

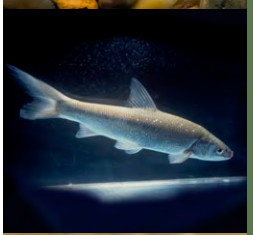
The BDCP Conservation Strategy is built upon and reflects the extensive body of scientific investigation, study, and analysis of the Delta. The BDCP Steering Committee also undertook a rigorous process to develop new and updated information, including an evaluation of conservation options using the CALFED Bay-Delta Ecosystem Restoration Program's Delta Regional Ecosystem Restoration Implementation Plan (DRERIP) evaluation process conducted by multiple teams of experts in early 2009. The BDCP Steering Committee sought and utilized independent scientific advice at several key stages of the planning process, enlisting well-recognized experts in ecological and biological sciences to produce recommendations on a range of relevant topics, including conservation planning for both aquatic and terrestrial species and to develop adaptive management and monitoring programs. Independent science input will continue as the plan is developed, and ongoing scientific input will be provided during plan implementation.

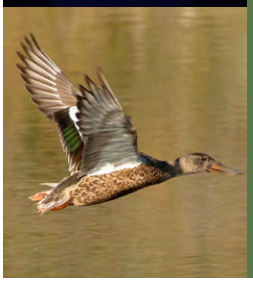
What Are the Benefits of Regional Conservation Planning?

The combination of an HCP/NCCP is the best available tool to develop a comprehensive plan that will contribute to the recovery of sensitive species and their habitats in a way that will protect and restore water supply reliability. This conservation plan will:

- Allow operations of state and federal water projects to proceed with a comprehensive ecosystem-focused approach that provides for the conservation of affected species and habitats and meets the standards of the NCCP Act.
- Eliminate more costly, often less effective piecemeal project-by-project, species-by-species permitting
- Provide flexibility in addressing those issues that are most effective for promoting the conservation of covered species.
- Are based on the best available science.
- Provide reliable funding sources for ecosystem restoration.







What Species Will Be Addressed by the BDCP?

"Covered Species" identified in the BDCP include both endangered or sensitive terrestrial and aquatic species whose conservation and management will be provided by the plan. The draft conservation strategy includes biological goals and objectives for approximately 50 sensitive wildlife and plant species, and also identifies conservation measures to help in their recovery. Species considered for coverage include:

- Delta smelt
- Longfin smelt
- Winter-run Chinook salmon
- Spring-run Chinook salmon
- Fall-run and late fall–run Chinook salmon
- Central Valley steelhead
- Green sturgeon
- White sturgeon
- Sacramento splittail
- River lamprey
- Pacific lamprey
- Approximately 50 terrestrial species (such as Giant garter snake, Swainson's hawk, and others)

Where feasible, BDCP conservation measures will be designed to complement other existing or planned terrestrial HCP/NCCPs in the Delta to enhance benefits to natural communities and species, and to support locally led conservation efforts and compatible existing land uses to the extent possible.

How Will Lands for Habitat Restoration Be Identified?

The following is a partial list of site selection criteria that will be used, along with local input, to identify lands for habitat restoration and enhancement.

FEASIBILITY

- Minimized effects on existing land uses
- Site availability
- Cost effectiveness in implementing restoration
- Potential effects on mosquito vector control

BIOLOGICAL ATTRIBUTES

- Ability to achieve multiple biological objectives for multiple species
- Proximity to channel systems that could benefit from restoration (e.g., increased tidal marsh restoration may help reduce bi-directional flows in upstream channels, or support greater mixing in channels, both of which are beneficial for native fish)
- Capacity to contribute to more natural transitions between habitats in the Delta (seasonal wetland, riparian, grassland)
- Proximity to existing habitats so that new restoration adds to and develops habitat corridors for fish and wildlife
- Minimal effects of other stressors (such as nearby water diversions or discharges of low-quality water) that could offset intended fish and wildlife benefits

How Will Restoration Sites Be Managed in the Long Term?

Individual habitat management plans will guide long-term management of BDCP restoration sites and will include:

- Biological goals and objectives to be met by the restoration activity
- Site-specific monitoring requirements and approach to adaptive management
- Controls for invasive plants
- Controls for non-native predators and competitor species
- Vegetation management and infrastructure maintenance
- Public access and other allowable uses

In addition, recent legislation created the Delta Conservancy to implement long-term restoration efforts.

What is the BDCP?

The BDCP is an HCP and NCCP under federal and state laws, respectively. When completed, the BDCP will provide the basis for the issuance of Endangered Species Act (ESA) authorizations for the operation of the state and federal water projects. The plan considers a 50-year planning period. The heart of the BDCP is a long-term conservation strategy that sets forth actions needed for a healthy Delta ecosystem.

Why is the Delta Important?

The Delta is home to half a million people and many historic communities. It is a key recreation destination and supports extensive infrastructure of statewide importance. Fresh water that reaches the Delta is the core of California's water system, which provides 25 million people throughout the Bay Area, the Central Valley, and southern California with a portion of their water supplies. Delta-conveyed water supports farms and ranches from the north Delta to the Mexican border. These agricultural resources are a major economic driver for the state, producing roughly half of the nation's domestically grown fresh produce. The Delta – the largest estuary on the West Coast – is also a vitally important ecosystem that is home to hundreds of aquatic and terrestrial species, many of which are unique to the area and several of which are threatened or endangered.

For More Information visit

www.BayDeltaConservationPlan.com

or call 1-866-924-9955

Contact Karla Nemeth

at the California Natural Resources Agency at:

karla.nemeth@resources.ca.gov

Who Is Participating In the BDCP?

The BDCP is being prepared through a voluntary collaboration of state, federal, and local water agencies, state and federal fish and wildlife agencies, environmental organizations, and other interested parties. The BDCP Steering Committee consists of the following participants.

STATE AND FEDERAL AGENCIES

California Department of Water Resources

California Natural Resources Agency (chair)

California State Water Resources Control Board

US Bureau of Reclamation

US Army Corps of Engineers

FISH & WILDLIFE AGENCIES

California Department of Fish and Game

US Fish and Wildlife Service

US National Marine Fisheries Service

WATER AGENCIES

Kern County Water Agency

Metropolitan Water District of Southern California

San Luis & Delta-Mendota Water Authority

Santa Clara Valley Water District

Westlands Water District

Zone 7 Water Agency

Contra Costa Water District

Friant Water Authority

North Delta Water Agency

ENVIRONMENTAL ORGANIZATIONS

American Rivers

Defenders of Wildlife

Environmental Defense Fund

Natural Heritage Institute

The Bay Institute

The Nature Conservancy

OTHER ORGANIZATIONS

California Farm Bureau Federation

Mirant Delta

Planning Area Boundary:

- **Statutory Delta**
  Conservation measures also are identified in Suisun Marsh and upper Yolo Bypass areas.

Water Conveyance:

- **Water Conveyance Tunnel/Pipeline**
- **Isolated Conveyance Facility East Option**
- **Intake**
- **Forebay**

Habitat Restoration Opportunity Area(s):

Potential New Floodplain *and* **Riparian Habitat Restoration**
10,000 acre target may occur anywhere appropriate within the planning area.

- **Channel Margin**
  20-40 mile target may occur within the following areas:
  - **Sacramento River Between Freeport and Walnut Grove**
    Approx. total area: 36 linear miles
  - **Steamboat/Sutter Slough Area**
    Approx. total area: 36 linear miles
  - **San Joaquin/Old River/Mossdale to Vernalis Area**
    Approx. total area: 86 linear miles
- **Floodplain** *(enhanced existing)*
- **Tidal Marsh**
  Tidal marsh restoration over and above the minimum tidal marsh targets in each ROA, up to 65,000 acres, would be expected to occur over the life of the plan depending in part on the availability of willing sellers, as well as the total relative amount of suitable habitat within each ROA, among other factors.
- **Terrestrial Restoration**
  May occur anywhere appropriate within the planning area.

Yolo Bypass

Objectives: (1) modify Fremont or Sacramento weirs to increase the frequency and duration of Yolo Bypass inundation, (2) increase spawning and rearing habitat for splittail and salmon, (3) provide alternate migration corridor to the mainstem Sacramento River, and (4) increase availability and quality of food and habitat in Cache Slough.

Inflow

Potential objectives: (1) maintain seasonal and daily increases and decreases in river flows between the mainstem Sacramento River and its tributaries, (2) maintain environmental cues used by fish and other aquatic species to signal spawning, migration, and other population responses and behaviors, and (3) increase the survival and growth of covered fish inhabiting the river and estuary.

① North Delta Diversion Bypass Flows ✻

Objectives: Maintain adequate river flows to (1) keep fish away from the pumps, (2) keep fish moving in the right direction, towards regions of suitable habitat, (3) minimize fish predation, (4) maintain or improve the overall quality of rearing habitat in the north Delta.

Yolo Bypass/Cache Slough Area
Minimum tidal marsh restoration target: 5,000 acres
within the total area: 49,167 acres

In-Delta Water Quality

Maintain existing water quality standards in the North, Central, and West Delta.

Cosumnes/Mokelumne Area
Minimum tidal marsh restoration target: 1,500 acres
within the total area: 7,805 acres

Delta Cross Channel Gate Operations

Objectives: (1) reduce movement of outmigrating Sacramento River fish into central Delta, (2) maintain flows downstream on Sacramento River, and (3) provide enough Sacramento River flow into interior Delta when water quality for municipal and industrial use and agriculture may be of concern.

Suisun Marsh Area
Minimum tidal marsh restoration target: 7,000 acres
within the total area: 82,970 acres

Rio Vista Flows

Objectives: maintain flows for migrating salmon and smelt.

West Delta Area
Minimum tidal marsh restoration target: 2,100 acres
within the total area: 6,178 acres

East Delta Area
Minimum tidal marsh restoration target: 1,400 acres
within the total area: 9,033 acres

③ Outflow ✻

Objectives: (1) Provide enough outflow to maintain acceptable salinity levels during the spring, and (2) explore variable inflow and outflow criteria to make water conditions more suitable for fish (e.g. better mimicking of natural seasonal flows).

② South Delta Channel Flows ✻

Objectives: (1) improve fish survival by reducing the risk of their capture at the south Delta pumps, (2) increase survival of juvenile salmon and steelhead by keeping them on their migration path, (3) improve downstream transport of larval and juvenile fish, and (4) improve the production of food resources within the Delta and Suisun Bay.

South Delta Area
Minimum tidal marsh restoration target: 5,000 acres
within the total area: 39,969 acres

✻ Primary factor in managing Delta Flows

BDCP Habitat Restoration and Conveyance

Planning Area Boundary:

- **Statutory Delta**
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✻ Primary factor in managing Delta Flows

BDCP Habitat Restoration and Conveyance

06.14.10

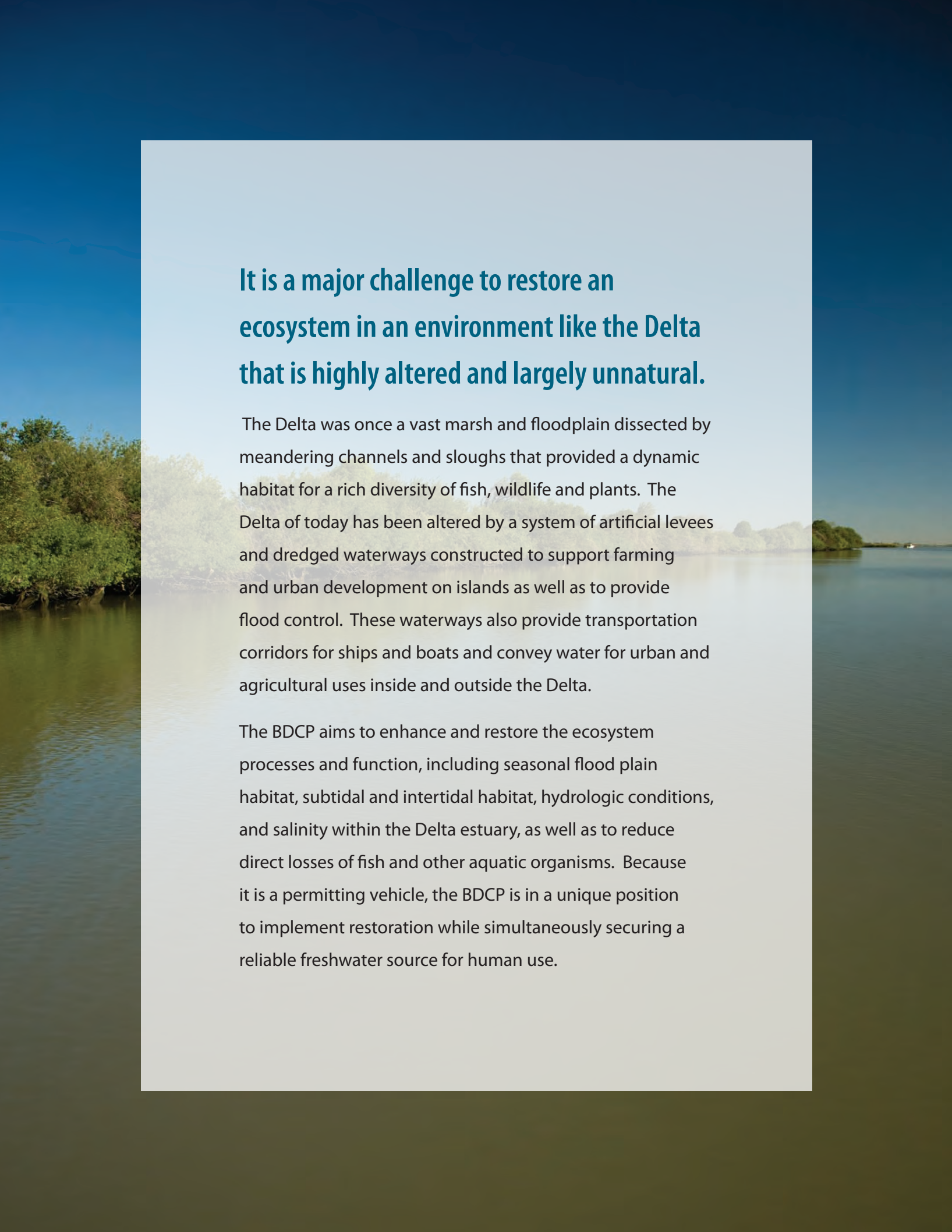
BDCP

Bay Delta Conservation Plan

A Collaborative Approach to Restore the Delta Ecosystem and Protect Water Supplies

An Overview and Update

March 2009



It is a major challenge to restore an ecosystem in an environment like the Delta that is highly altered and largely unnatural.

The Delta was once a vast marsh and floodplain dissected by meandering channels and sloughs that provided a dynamic habitat for a rich diversity of fish, wildlife and plants. The Delta of today has been altered by a system of artificial levees and dredged waterways constructed to support farming and urban development on islands as well as to provide flood control. These waterways also provide transportation corridors for ships and boats and convey water for urban and agricultural uses inside and outside the Delta.

The BDCP aims to enhance and restore the ecosystem processes and function, including seasonal flood plain habitat, subtidal and intertidal habitat, hydrologic conditions, and salinity within the Delta estuary, as well as to reduce direct losses of fish and other aquatic organisms. Because it is a permitting vehicle, the BDCP is in a unique position to implement restoration while simultaneously securing a reliable freshwater source for human use.

Introduction to the BDCP Draft Conservation Strategy

As a Habitat Conservation Plan/Natural Community Conservation Plan under federal and state law respectively, the purpose of the Bay Delta Conservation Plan (BDCP) is to provide for the conservation of threatened and endangered fish species in the Delta and improve the reliability of the water supply system within a stable regulatory framework. When adopted and approved by the federal and state fishery agencies, it will result in the issuance of long-term permits for those activities that support water supply and power generation, such as water conveyance and facility maintenance and improvements.

When completed, the BDCP is required to have the plan elements listed below on the left. This document is an overview and summary of some of the conservation measures that could comprise the BDCP's conservation strategy, shown as chapter 3 below. This document provides details on the approach and status of the development of the conservation strategy to date.

Conservation Strategy Overview

The BDCP approach is essential to making significant contributions to the recovery of covered species and to the restoration of a more naturally functioning ecosystem while securing a reliable freshwater source for human use. The draft conservation measures in this overview document reflect BDCP efforts to date with regard to fish species that are covered by the plan. Consideration of terrestrial species for coverage in the BDCP is ongoing.

The BDCP's draft conservation measures are highly interrelated. Any one of the conservation measures alone would have limited effectiveness. However, implementing these measures together as an integrated package dramatically increases the potential for success of the overall Conservation Strategy.

Primary Components of the Draft Conservation Strategy

Physical habitat restoration

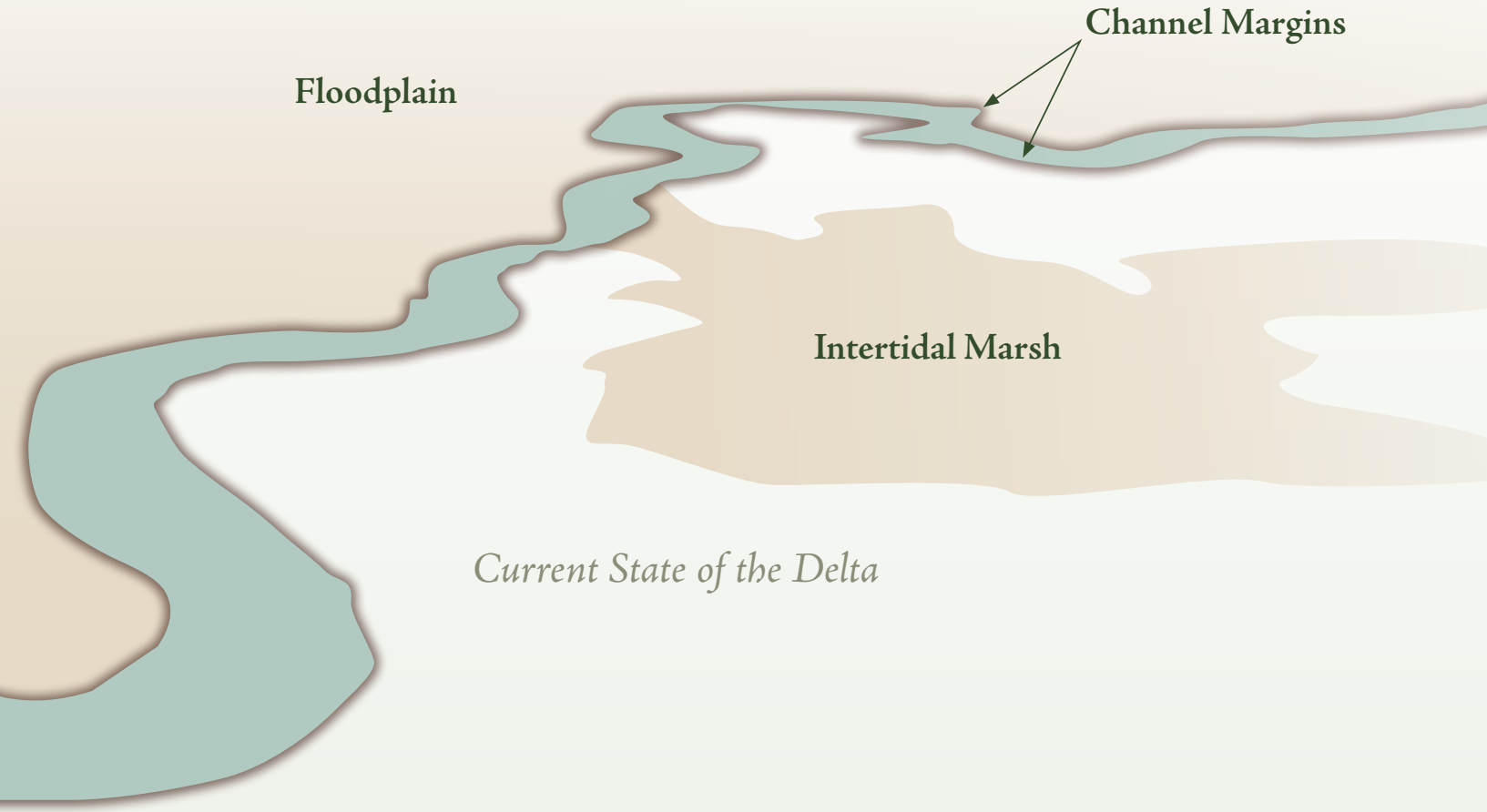
- Including floodplain, freshwater and brackish tidal marsh, channel margin, riparian, and shallow subtidal habitat restoration
- Intended to improve spawning, rearing and migration habitat and to increase nutrient and food availability for covered fish species and to restore and enhance habitat for covered wildlife and plant species

Reduction in other stressors

- Reducing the occurrence of toxic contaminants
- Controlling nonnative aquatic species
- Improving the physical design of operations of non-Project diversions to reduce entrainment
- Managing legal harvest and reducing illegal harvest of covered fish species
- Improving hatchery management practices to minimize adverse effects on wild salmonid stocks
- Providing a safety net against extinction by creating and expanding fish conservation hatchery/refuge programs
- Reducing the adverse effects of commercial and recreational activities on covered fish species

Improvements to water operations and flow

- Improving the existing system for moving water through the Delta using existing points of diversion in the southern Delta
- Constructing and operating new points of diversion in the northern Delta reach of the Sacramento River with isolated conveyance around the Delta to existing south Delta State Water Project and Central Valley Project facilities
- Providing seasonal fresh water flows to support fish survival, transport and migration, food production, growth, and reproduction
- Protecting the state water supply system against the threat of sea level rise, earthquakes, continued land subsidence, and higher winter flood flows
- Providing opportunities for habitat restoration that are otherwise incompatible with the existing through-Delta water conveyance and export system

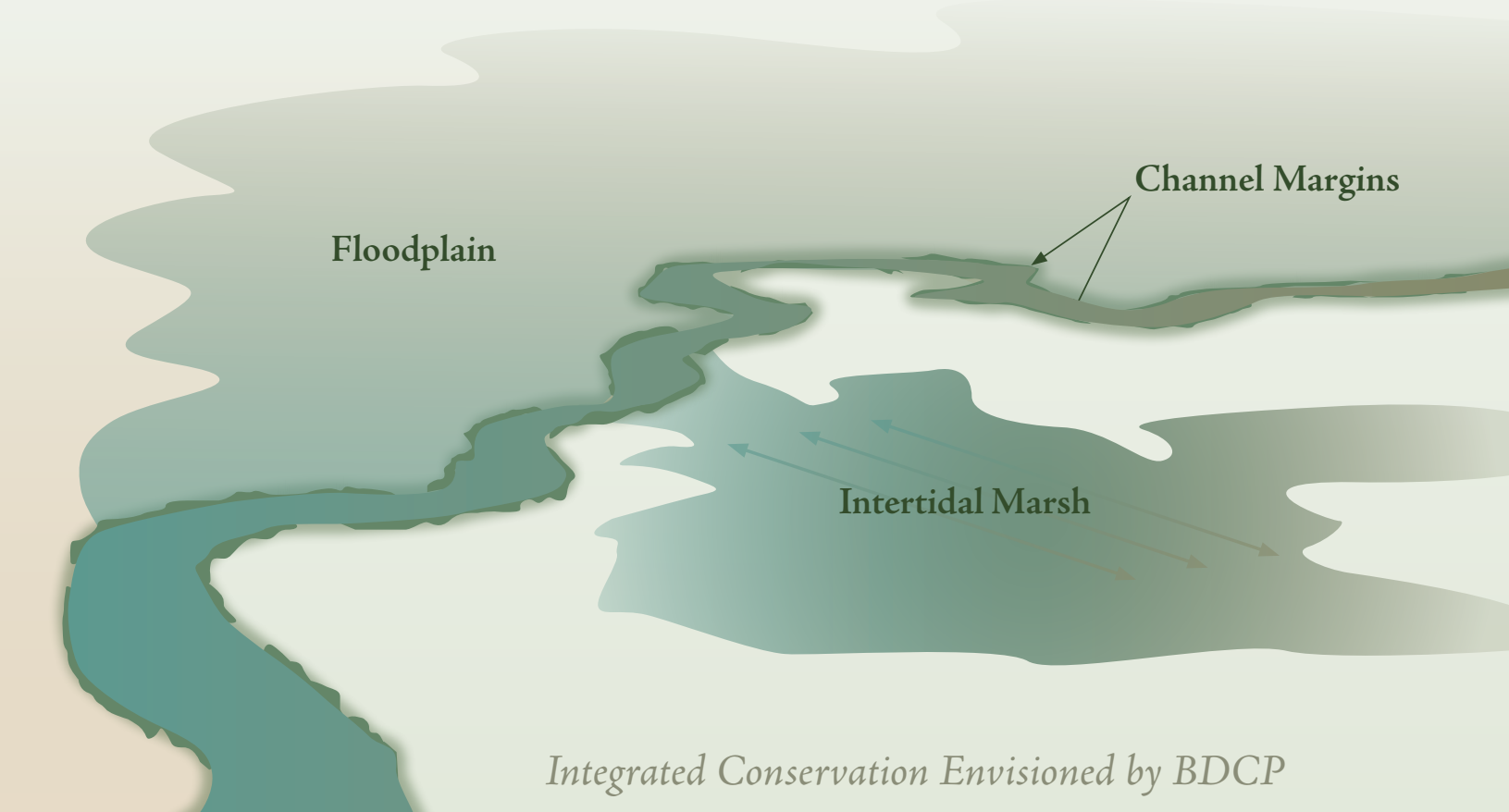


Current State of the Delta

- Many historical floodplains are disconnected from water channels by levees. Many of those floodplains that are still connected are not inundated as frequently, at great enough depths, or for long enough periods of time to provide beneficial habitat for fish.
- Levees and riprap do not provide the types of habitat features that are beneficial to fish, such as overhanging shade, instream woody material and shallow benches.
- Lands that historically provided intertidal marsh and shallow subtidal habitat are disconnected by levees and dikes, meaning less habitat for fish and less production of phytoplankton, zooplankton, and less organic material that provide food for fish.
- The flow of water is affected by the pull of the State Water Project and Central Valley Project pumps. Fish and their food supply are pulled toward and into the pumps. Fish get disoriented and get lost or stuck in channels. Predators have learned where to find the fish, giving them an unnatural advantage.
- Toxic contaminants affect water quality, fish health and habitat conditions.
- Invasive species change the natural balance in the ecosystem, affecting the prey/predator system and disrupting the food web.

Integrated Conservation Envisioned by BDCP

- Reconnected floodplains produce large quantities of phytoplankton, zooplankton and organic material, as well as spawning and rearing habitat.
- Reintroducing flows of brackish and fresh water (unaffected by the pull of the water project pumps) to tidal marshes and subtidal aquatic habitat also supports a beneficial food web.
- Riverbanks in a more natural state (more logs, trees, bushes, and shallow benches) increase food production, provide rearing habitat, improve local water temperature conditions, and provide movement corridors for fish.
- Water that is free of toxic contaminants improves fish health and the health of the food web.
- Controlling invasive species protects fish from predation and helps support a more natural balance of the ecosystem.
- Constructing new diversions equipped with state-of-the-art fish screens while reducing diversions from the south Delta is expected to reduce mortality and substantially improve aquatic habitat within the Delta.

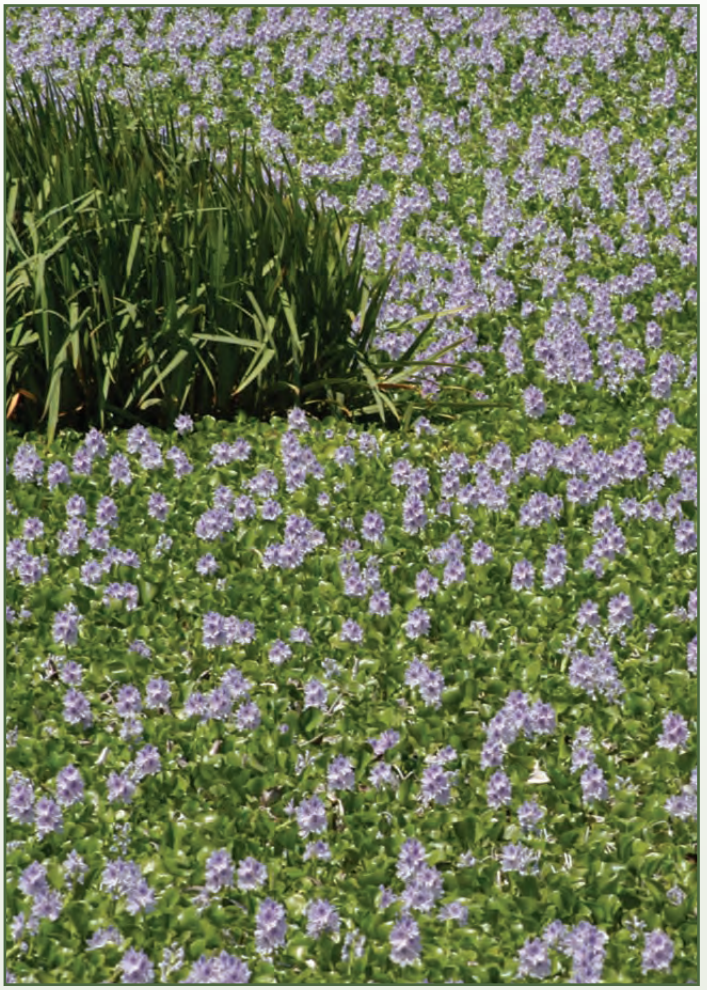


Integrated Conservation Envisioned by BDCP

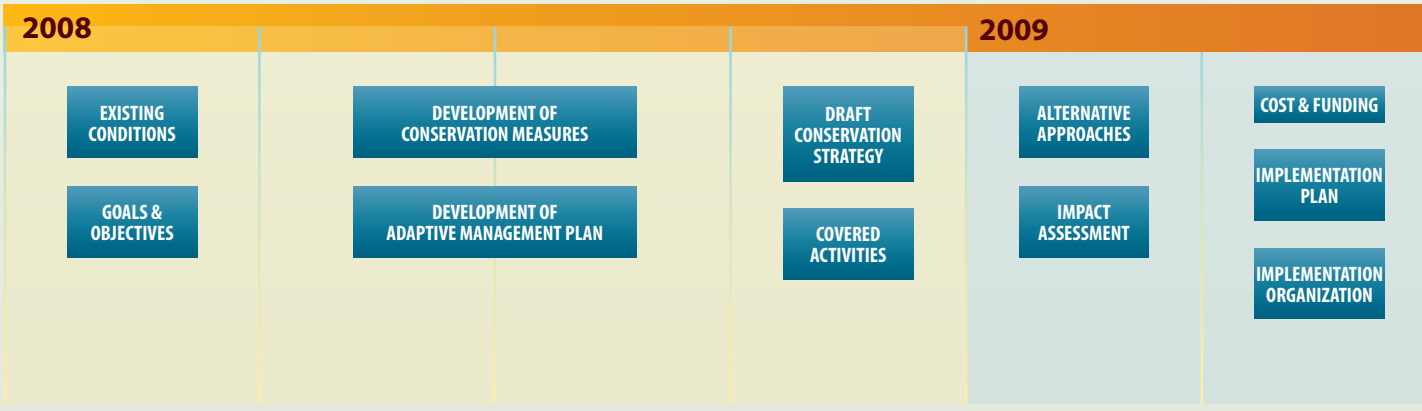
Planning Principles

To help guide their deliberations the BDCP Steering Committee developed the following planning principles to clarify the approach to the integration of conservation measures and the underlying rationales for the BDCP.

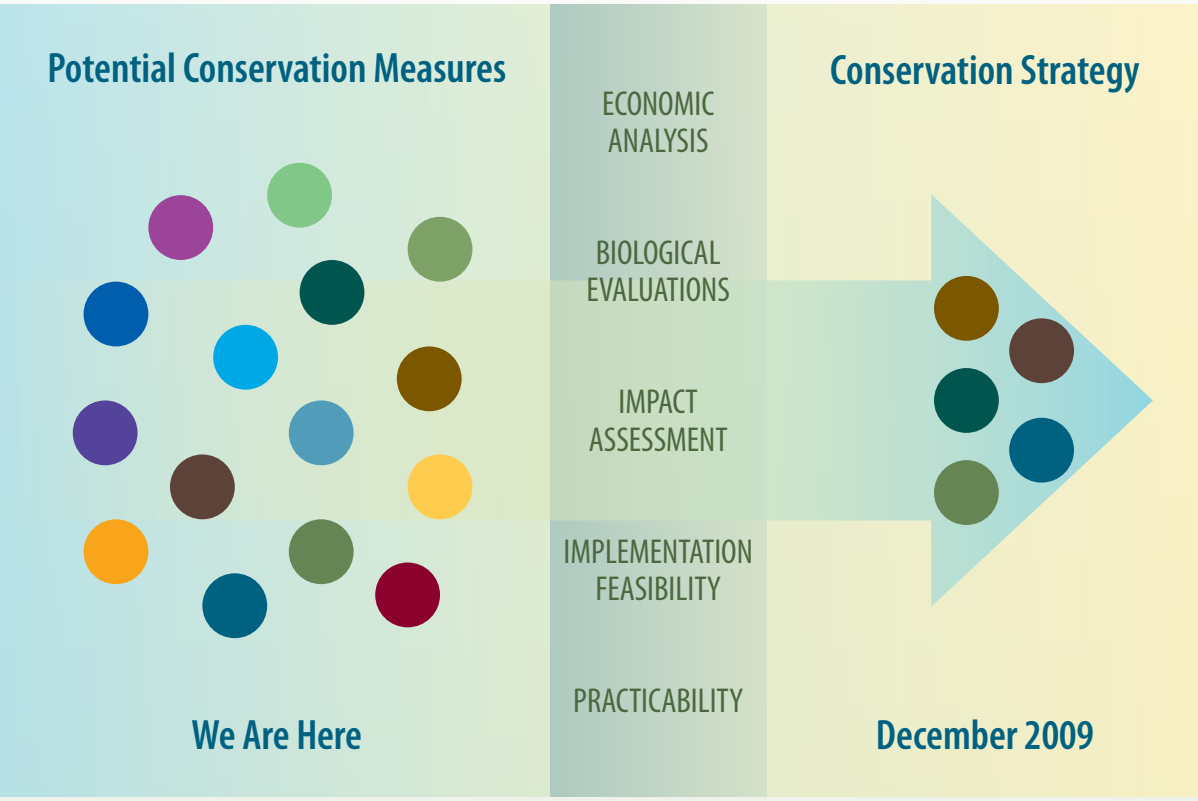
1. Provide a comprehensive set of conservation measures to recover species
2. Divert more water in the wetter periods and less in the drier periods
3. Focus on natural biological and physical processes
4. Build in flexibility
5. Address scientific uncertainty directly through adaptive management
6. Provide for reliable water supplies



BDCP Process Moving Forward



Developing Conservation Measures



At this stage, the BDCP Steering Committee is discussing and considering a wide variety of potential conservation measures. After continued analysis, including economic analysis, biological evaluations, impact assessment, and a feasibility assessment, only those conservation measures that meet the plan's objectives will be carried forward.

Overview Strategy Elements

In December 2008, the BDCP Steering Committee released *An Overview of the Draft Conservation Strategy for the Bay Delta Conservation Plan* to share key components of the draft Conservation Strategy as well as the approach and direction being taken by the BDCP Steering Committee. The Overview identified a number of elements that demonstrated the integrated nature of the draft Conservation Strategy, including those that are likely to form the nucleus of the overall Conservation Strategy. These elements were selected based on the following attributes:

1. Elements that shape the overall architecture of a new hydrodynamic system that would be developed as a result of the BDCP.
2. Measures that would be likely to be included in any scenario to rehabilitate the Delta ecosystem and water supply system.
3. Elements that could be planned or constructed in the next five to 10 years.

A significant amount of additional detail than can be included in this brief summary—including a discussion of assumptions, rationale, issues, concerns, and next steps—is available by reading *An Overview of the Draft Conservation Strategy for the Bay Delta Conservation Plan* dated January 12, 2009.

Large Scale Tidal Marsh Restoration in the Cache Slough Complex

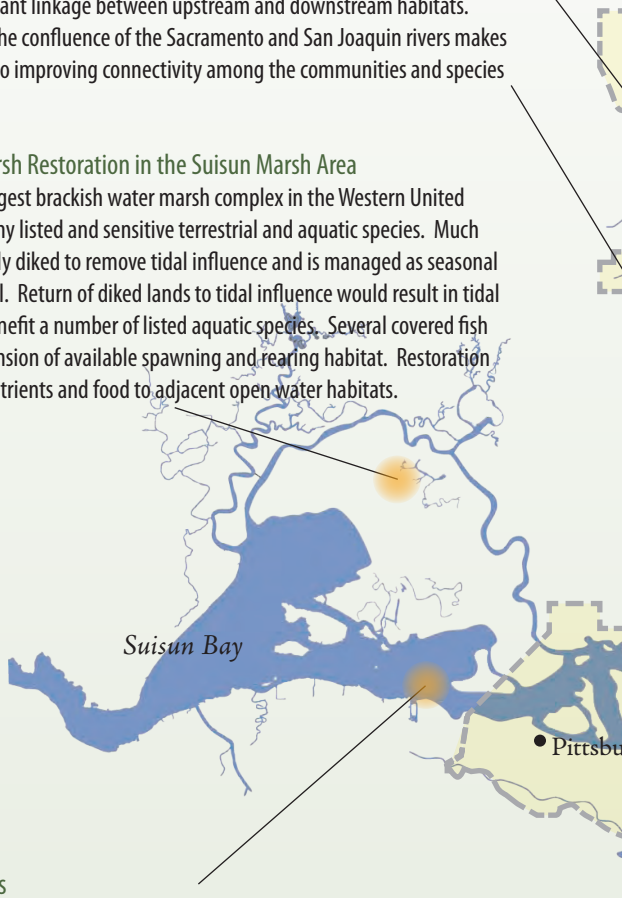
The Cache Slough area provides an excellent opportunity to expand habitat supporting multiple aquatic and terrestrial covered species. Restoration of freshwater tidal marsh and shallow subtidal habitats would be designated to support the physical and biological attributes that benefit covered species. This habitat restoration element would be further enhanced by integration with increased flows through the Yolo Bypass (see "Modify Fremont Weir and Yolo Bypass" on page 9).

Strategic Tidal Marsh Restoration in the West Delta

Tidal and subtidal marsh and channel margin habitat located in the western delta may provide an important linkage between upstream and downstream habitats. This area's location at the confluence of the Sacramento and San Joaquin rivers makes it uniquely important to improving connectivity among the communities and species of the Delta.

Large Scale Tidal Marsh Restoration in the Suisun Marsh Area

Suisun Marsh is the largest brackish water marsh complex in the Western United States. It supports many listed and sensitive terrestrial and aquatic species. Much of the marsh is currently diked to remove tidal influence and is managed as seasonal wetlands for waterfowl. Return of diked lands to tidal influence would result in tidal brackish marsh and benefit a number of listed aquatic species. Several covered fish would benefit by expansion of available spawning and rearing habitat. Restoration also may contribute nutrients and food to adjacent open water habitats.

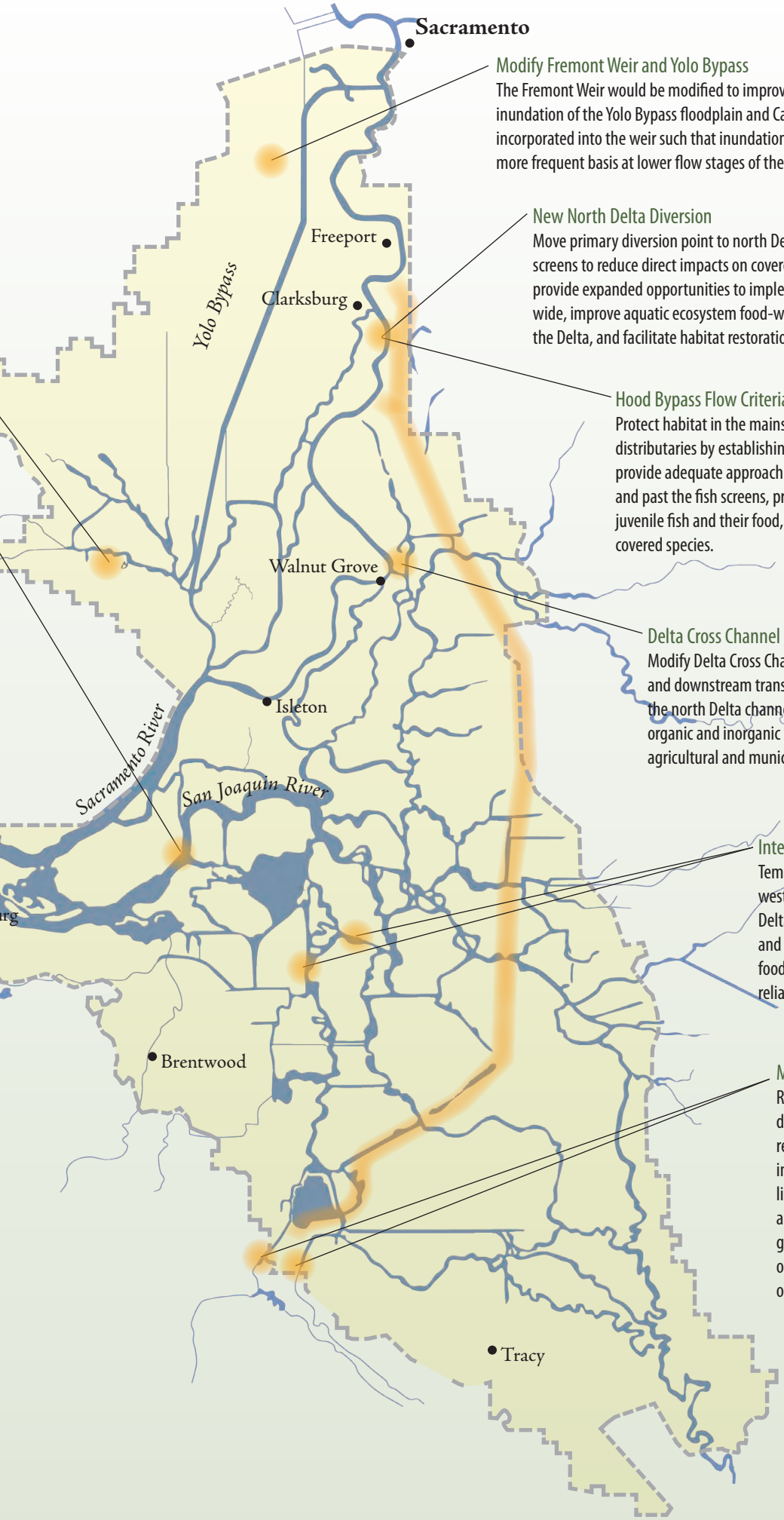


Delta Outflow Targets

Delta outflows provide downstream transport of fish and other aquatic organisms as well as nutrients and food supplies into the lower reaches of the Delta and Suisun Bay. Delta outflows also control, in balance with salinity intrusion from the Bay, the location of the low salinity region of the estuary (often described as the location of "X2"). Outflow targets above and below the range currently contained in the Water Quality Control Plan and Water Right Decision 1641 will be evaluated in future modeling and analysis.

Other Stressors

Continue to identify, develop and refine measures to address other stressors on covered species and natural communities



Modify Fremont Weir and Yolo Bypass

The Fremont Weir would be modified to improve passage for fish and allow more frequent inundation of the Yolo Bypass floodplain and Cache Slough. An operable gate would be incorporated into the weir such that inundation of the bypass could occur in winter and spring on a more frequent basis at lower flow stages of the Sacramento River than under existing conditions.

New North Delta Diversion

Move primary diversion point to north Delta diversion facilities with state-of-the-art fish screens to reduce direct impacts on covered species by entrainment at south Delta diversions, provide expanded opportunities to implement comprehensive conservation measures Delta-wide, improve aquatic ecosystem food-web processes, restore more natural flow patterns in the Delta, and facilitate habitat restoration in the south Delta.

Hood Bypass Flow Criteria

Protect habitat in the mainstem Sacramento River and downstream distributaries by establishing bypass flow criteria to ensure sufficient flow to provide adequate approach and sweeping velocities for fish moving toward and past the fish screens, provide downstream transport for larval and juvenile fish and their food, and protect spawning and rearing habitats for covered species.

Delta Cross Channel Operations

Modify Delta Cross Channel gate operations to improve fish survival and downstream transport of nutrients. Better flow conditions in the north Delta channels enable fish migration and movement and organic and inorganic nutrient transport, while minimizing effects on agricultural and municipal water quality.

Interim Tidal Gates

Temporary gates could be installed in sloughs on the western and eastern side of Bacon Island, in the central Delta, or in Three-Mile Slough and operated seasonally and on tidal cycles to provide added protection to fish, food resources, and nutrients, as well as improve water reliability for south Delta diverters.

Manage South Delta Exports/Hydrodynamics

Reduce entrainment of fish and food resources by decreasing Old and Middle river reverse flows through reduction of south Delta exports (rather than by increasing San Joaquin River flows, for which there is limited control through the BDCP process). Include an interim program to test the efficacy of temporary gates to reduce entrainment. Evaluate the benefits of other potential measures, including isolating Middle or Old river corridors or other south Delta actions.

Conservation Measures Addressing Other Stressors

A number of stressors that affect covered fish species throughout the Delta and Suisun Bay and Marsh would be addressed through conservation measures that are not specific to individual geographic regions. Examples of potential Other Stressors measures include:

- Preventing, identifying and rapidly responding to new introductions of nonnative species, and controlling existing populations.
- Reducing inputs of toxic contaminants to Delta waterways.
- Improving hatchery practices to benefit wild-reared salmonids.
- Supporting conservation hatcheries to create refuge populations of delta and longfin smelt.
- Improving harvest practices to protect covered fish species from overfishing and illegal harvest.
- Improving the design and operations of non-Project diversions to reduce entrainment of covered fish species.
- Reducing the effects of recreational activities on specific sensitive habitat sites in the Delta.

BDCP Background

The BDCP Steering Committee was formed in mid-2006. Members of the Steering Committee signed a Planning Agreement in late 2006. Throughout 2007, the Steering Committee evaluated different conceptual approaches to the development of the BDCP, focusing primarily on water conveyance and ecosystem restoration opportunities. Ten conservation strategies were analyzed based on biological, planning, and other criteria, then narrowed to four conservation options.

In late 2007, the Steering Committee published *Points of Agreement for Continuing into the Planning Process*, which outlined basic approaches for developing the elements of the BDCP. The Steering Committee agreed that the most promising approach for achieving both BDCP conservation and water supply goals would be to develop and analyze more environmentally friendly ways to move water through and/or around the Delta, and then to develop corresponding conservation strategies.

Throughout 2008, the Steering Committee focused on:

- Developing biological goals and objectives
- Identifying existing ecological conditions
- Identifying habitat restoration and conservation actions
- Analyzing different water conveyance approaches
- Developing ideas for the eventual organizational structure for governing BDCP implementation
- Developing an adaptive management and monitoring program

Purpose of the BDCP

The purpose of the Bay Delta Conservation Plan is to provide for the recovery of endangered and sensitive species and their habitats in the Delta in a way that also will provide for the protection and restoration of water supplies. The BDCP is being developed to provide for the issuance of permits under the Federal Endangered Species Act and the California Natural Community Conservation Planning Act and will undergo extensive environmental analysis that will include opportunities for public review and comment.

For more information about the BDCP, please contact Karla Nemeth by phone at (916) 651-7587 or by email at Karla.Nemeth@resources.ca.gov.

Challenges

The changes in Delta land use and hydrology, water conveyance facilities, and ways to reduce other stressors on fish species that are being contemplated in the Draft Conservation Strategy have raised concerns among Delta communities about the potential local and Delta-wide effects of such actions. The BDCP Steering Committee recognizes these concerns and the need for an intensified, ongoing dialogue with Delta communities and other members of the public to better understand and explore solutions to conflicts that may arise as a result of the implementation of the BDCP.

The issues and concerns identified currently include, but are not limited to:

- existing land uses such as agriculture and ag-based economies
- recreational activities and recreation-based economies
- property tax, in lieu fees and user fee revenues of local jurisdictions
- potential regulatory effects on adjacent property owners
- mosquito and vector controls
- the production of methylmercury
- the effects of the plan on other protected terrestrial species
- the compatibility of the plan with flood control plans
- the effects on existing irrigation and drainage infrastructure
- adverse effects on local water quality such as salinity, dissolved oxygen, and organic carbon
- existing water rights
- effects on existing wastewater treatment operations of local jurisdictions
- local control over local land use

The BDCP Steering Committee will strive to resolve these issues and additional concerns that may arise through further detailed analysis of the BDCP as draft conservation measures are refined, as well as during the environmental review process of the proposed plan and through the design of avoidance and mitigation strategies for potentially unavoidable effects as the planning process progresses.

Public Participation

The BDCP process is open to public participation. All Steering Committee, Technical Team and Working Group meetings are open to the public. Documents, links, a calendar of events, and other useful information are available at the BDCP Web site, located at ***http://resources.ca.gov/bdcp/***.

There is a three-tiered approach to public participation, tied directly to milestones in the development of the BDCP.

1. Leading up to the Administrative Draft of the BDCP, which is expected in summer 2009, the public is encouraged to participate in Steering Committee, Technical Team and Working Group meetings and to submit comments in writing (which are posted on the Web site for public review). BDCP staff are actively engaged in making presentations and providing briefings to interested organizations. The focus in this time period will be on crafting the Administrative Draft, which will be the first opportunity to see the shape of an overall, integrated plan.
2. After the Administrative Draft is made available, public participation will shift toward seeking input directly about elements of the plan, and narrowing in on issues and details that can be addressed in the Public Review Draft. Again, BDCP staff will be available for briefings and presentations, and the public will be encouraged to continue participation in the various BDCP meetings and to provide comment.
3. Once the Public Review Draft has been released, there will be public meetings and a public review period, as established by state and federal law, typically lasting 90 days.

In addition, there are several opportunities for public input as a part of the environmental review process, including scoping meetings and public meetings associated with both the Draft and Final Environmental Impact Report/Environmental Impact Statement. For information about the environmental review process, visit ***http://www.water.ca.gov/deltainit/bdcp.cfm.***

For more information or to set up a presentation or briefing, contact Karla Nemeth at 916/651-7587 or ***karla.nemeth@resources.ca.gov***.

General BDCP Definitions & Acronyms

BDCP	Bay Delta Conservation Plan, a conservation plan prepared to meet the requirements of the Federal Endangered Species Act, California Endangered Species Act and/or the Natural Community Conservation Planning Act
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
Covered Activities	Activities to be identified in the BDCP that support water supply and power generation, including water conveyance (pipes, canals, and pumps) and facility maintenance and improvements
Covered Species	Species that are threatened or endangered in the Delta and potentially affected by certain water and energy projects to be identified in the BDCP
CVP	Central Valley Project—operated by the Bureau of Reclamation; irrigates more than 3 million acres of farmland and provides drinking water to nearly 2 million consumers
EIR/EIS	Environmental Impact Report / Environmental Impact Statement
Endangered	At risk of becoming extinct
Entrainment	The loss of fish and other organisms as a direct result of water diversion operations
ESA	Federal Endangered Species Act
Fishery Agencies	CA Department of Fish and Game (DFG), US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS)
Flow	The rate, direction and volume of water movement through Delta channels
HCP	Habitat Conservation Plan—prepared pursuant to section 10(a) (1) (B) of ESA
Incidental Take Permit	Permit that allows for the take of listed species incidental to, and not the purpose of, an otherwise lawful activity
Listed Species	Species designated as candidate, threatened or endangered pursuant to CESA and/or listed as threatened or endangered under ESA
NCCPA	Natural Community Conservation Planning Act
NCCP	Natural Community Conservation Plan, prepared to meet the requirements of Fish and Game Code, section 2800

NEPA	National Environmental Policy Act
NOI/NOP	Notice of Intent (federal) and Notice of Preparation (state)
Planning Area	The legal Delta, which is the geographic area proposed to be addressed in the BDCP
PRE	Potential Regulated Entity—Those entities that may seek take authorizations, including federal and non-federal entities that export, divert, or utilize water from the Delta and/or its tributaries within the Planning Area for water supply or power generation
Rearing Habitat	Areas in Delta channels where juvenile fish find food and shelter to live and grow
Spawning Habitat	Aquatic habitat suitable for reproduction (e.g., egg laying and incubation)
Steering Committee	The principal forum within which key policy and strategy issues related to the BDCP are discussed and considered. Members of the Steering Committee include state, federal, and local water agencies; state and federal fish agencies; environmental organizations; and other interested parties
SWP	State Water Project—operated and maintained by the California Department of Water Resources; provides water supplies for 25 million Californians and 755,000 acres of irrigated farmland
Take	Defined in the federal and state Endangered Species Acts as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect a threatened or endangered species
Threatened	At risk of becoming endangered in the foreseeable future

Immediate Next Steps in Developing the Plan

The BDCP Steering Committee anticipates the publication by the federal and state lead agencies of a draft joint Environmental Impact Statement/Environmental Impact Report by the end of 2009, with public reviews to follow. To meet this schedule, environmental review has commenced and other work is underway to map out the necessary analyses that will be undertaken to ensure a full and complete environmental review of the proposed plan.

In coming months, the Steering Committee will address a number of important and difficult issues that are intrinsic to such a large and complex conservation planning process, including the following issues related to the development of Chapter 3:

1. Continued identification, development and refinement of measures to address other stressors
2. Completing further analytical work and modeling to assess and refine conservation measures
3. Refining the operating parameters for the State Water Project and Central Valley Project taking into consideration effects on Delta water quality
4. Refining the current draft biological goals and objectives for the BDCP and developing biological goals and objectives and conservation measures for covered terrestrial species
5. Completing the adaptive management and monitoring plans
6. Refining conservation measures and their monitoring metrics in response to comments and new information

The Steering Committee also will address governance and assurances, and implementation structures for the plan, as well as identify costs and address funding. In addition, a number of issues extend beyond the current scope of the BDCP, but yet are related to the actions being considered in the Conservation Strategy. These include, but are not limited to:

- Sacramento River inflows
- San Joaquin River inflows
- New water storage facilities
- Conservation measures outside the planning area
- Measures to address changed circumstances

  (e.g., levee failure and climate change)

BDCP Steering Committee

Federal and State Agencies

California Bay-Delta Authority
California Department of Water Resources
California Resources Agency (chair)
State Water Resources Control Board
US Department of Interior, Bureau of Reclamation
US Army Corps of Engineers

Fish Agencies

California Department of Fish and Game
US Fish and Wildlife Service
National Marine Fisheries Service

Water Agencies

Kern County Water Agency
Metropolitan Water District of Southern California
San Luis & Delta-Mendota Water Authority
Santa Clara Valley Water District
Westlands Water District
Zone 7 Water Agency
Contra Costa Water District
Friant Water Authority
North Delta Water Agency

Environmental Organizations

American Rivers
Defenders of Wildlife
Environmental Defense Fund
Natural Heritage Institute
The Bay Institute
The Nature Conservancy

Other Organizations

California Farm Bureau Federation
Mirant Delta

BDCP

Bay Delta Conservation Plan

www.resources.ca.gov/bdcp/

BDCP

Bay Delta Conservation Plan

Facts about Conveyance

What Is Conveyance?

Water flowing from the Sierra mountains and moved through the Delta is the core of California's water system, providing drinking water to 25 million people and supporting farms that produce roughly half the nation's domestically grown fresh produce.

How this water is moved through the Delta is known as "conveyance" and includes natural watercourses as well as constructed facilities like canals and pipelines, including control structures such as weirs. Conveyance facilities also require associated infrastructure such as pumping plants and power supply, diversion structures, fish ladders, and fish screens. Conveyance infrastructure in the Delta has a significant effect on the ability of the Delta ecosystem to support a viable population of native fish species. The Conveyance Working Group is evaluating potential changes to the conveyance system in support of BDCP goals and objectives, namely both to restore the Delta ecosystem and to protect water supplies.

How Does Conveyance Affect Fish?

The current "through-Delta" conveyance method has several effects on fish.

1. The pumps that pull water from the Delta into canals trap and kill fish in some locations. In addition, native fish are more subject to predation by non-native species near certain conveyance facilities.
2. The conveyance system at times changes the direction of the flow of water, which may confuse fish as they try to travel along their intended paths and also affects how far inland salty bay water reaches.
3. Altered hydrodynamics—water movement and interaction with channel beds and banks—does not provide the proper nutrients, water temperature, water volume, water speed or water depth to support fish species survival.

It is widely believed that conveyance is not the only problem for fish. Other problems are the availability of quality habitat, contaminants, competition and predation by non-native species, climate change, and harvest (commercial fishing and poaching). These issues are being addressed in other BDCP working groups and coordinated with the Conveyance Working Group.

Background

The Delta was historically in a near constant state of change. Daily tidal flux, annual flooding, and ever changing patterns of water flow shaped and reshaped the landscape. Today, the Delta is a very different place. Hundreds of miles of levees line the Sacramento and San Joaquin rivers and ring Delta islands, protecting farmland and communities. The Delta has several major water export locations that pump water to canals that deliver water to the Bay Area, the San Joaquin Valley, and Southern California. In an effort to engineer the Delta for water conveyance and agriculture, we have created a fairly static environment—while the water still flows, and the tides still fluctuate, the land and the water have become disconnected, and the complexity of the ecosystem has diminished considerably. Continued change in the Delta is inevitable because of sea level rise, earthquakes, continued land subsidence, and higher winter flood flows.

The purpose of the BDCP is to provide for the recovery of endangered and sensitive species and their habitats in a manner that also will provide for the protection and restoration of water supplies.

For more information about the BDCP, contact: Keith Coolidge, 916/445-0092. For more information about BDCP conveyance efforts, please contact: Paul Cylinder, 916/446-7120.

BDCP Approach to Developing Conveyance-related Conservation Measures

There is now growing consensus that the most promising approach to meet both ecosystem and water supply goals would be to focus on the potential habitat benefits that could be realized by implementing what is known as "dual conveyance," which consists of:

- improving the existing system for moving water through the Delta using existing points of diversion in the southern Delta, and
- new point(s) of diversion in the northern Delta with isolated conveyance around the Delta.

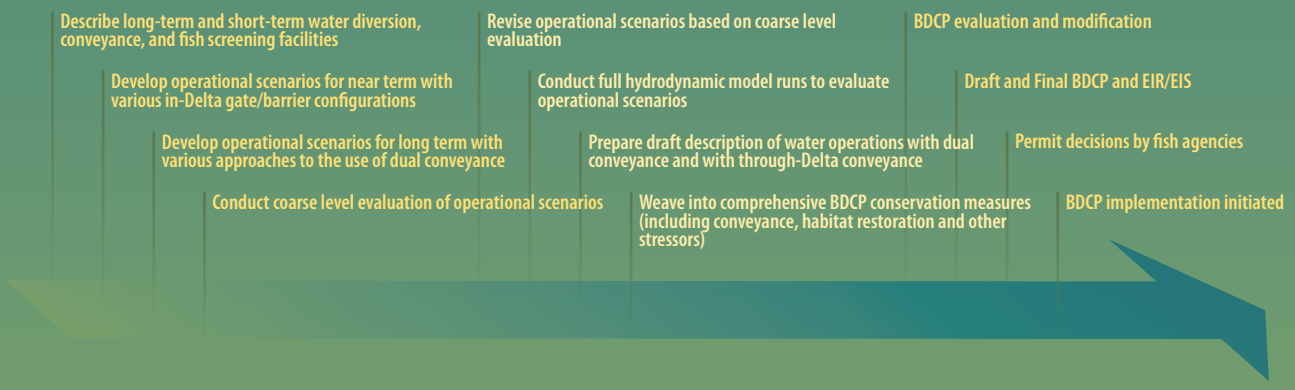
The benefit to this approach would be 1) the protection afforded to the state water supply system against the threat of sea level rise, earthquakes, continued land subsidence, and higher winter flood flows; 2) flexibility to help in maintaining water quality for in-Delta agriculture and other interests, and 3) providing opportunities for habitat restoration that otherwise would not exist.

The BDCP Steering Committee agreed in late 2007 to focus on dual-conveyance as most promising for further analysis. As a result, the BDCP Conveyance Working Group is now developing and recommending specific potential changes to the Delta conveyance infrastructure. They are crafting these potential changes as actions that are intended to become, after extensive review and analysis, conservation measures that will be identified in the conservation plan.

The efforts of the Conveyance Working Group include:

- Developing criteria for the operation of conveyance facilities that would provide desirable hydrodynamic and water quality conditions (For example, how high do flows need to be for specific restoration activities?)
- Recommending potential locations and sizing of new facilities, including intake structures, temporary and permanent barriers, and fish screen types
- Addressing issues related to both near-term and long-term conveyance actions
- Developing recommendations for both new around-Delta facilities and improved through-Delta facilities
- Understanding how well the system can adapt to uncertainties and how it reacts under extreme conditions

General Process
for BDCP Conveyance Elements



BDCP
Bay Delta Conservation Plan

Facts about BDCP Habitat Restoration

The alteration of river corridors, channels, and adjacent floodplains in the Delta has significantly and permanently changed the natural habitat, diminishing the ability of the ecosystem to support native species. The BDCP Habitat Restoration Program Technical Team is charged with developing and recommending conservation actions that would restore these remnants of natural habitat and where possible expand habitat to mimic natural conditions. The objective is to improve the living conditions, in particular the availability of food and good locations for spawning and rearing, for BDCP covered species in this highly changed environment.

The specific issues being addressed by the Habitat Restoration Program Technical Team include:

- Identifying areas with appropriate elevations that may be suitable for expanding and enhancing habitat
- Defining the ecological functions that would need to be provided by restored habitats
- Prioritizing habitat restoration opportunities
- Identifying approaches for restoring habitats
- Evaluating the feasibility of restoration concepts based on current and future land use, interests and concerns of local communities, anticipated cost, and the requirements of monitoring and adaptive management

Major physical habitat restoration concepts undergoing investigation include:

Floodplain restoration–under this concept, suitable floodplain (i.e., lands adjacent to channels that currently or historically were flooded during periods of high flow) would be inundated more frequently, at greater depths, or for longer periods of time during winter and spring.

How would floodplain restoration help?

Inundated floodplains:

1) *Produce large quantities of phytoplankton and zooplankton (fish food) that are transported into the Delta and support the Delta food web, and*
2) *Provide spawning habitat for Sacramento splittail and rearing habitat for splittail and salmon species.*

Restoring floodplains can be accomplished by reconnecting historical floodplains to channels using set-back levees or by increasing the frequency with which existing connected floodplains are inundated by water that tops the bank. Careful attention will be paid to ensuring that floodplain restoration does not interfere with current or future land use and that it does not increase local flood risk.

The Yolo Basin Wildlife Area near Davis, California, in Yolo County is a good example of floodplain restoration. Instead of flowing quickly down the riprapped and channelized Sacramento River, water flows through the Yolo Bypass and over the floodplain and picks up nutrients along the way that are beneficial to fish.

Intertidal marsh restoration–under this concept, brackish and freshwater intertidal marsh would be restored by reintroducing a daily inflow and outflow of water to currently diked and leveed lands that historically supported marshes.

How would intertidal marsh restoration help?

Intertidal marshes produce large quantities of phytoplankton, zooplankton, and organic material that provide food for covered fish species and support food production in the Delta and Suisun Bay.

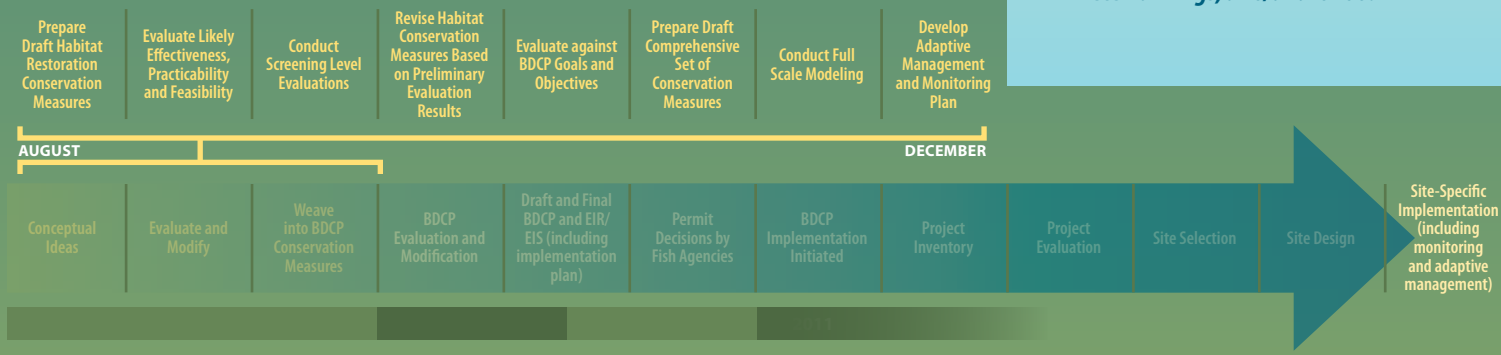
Channel margin habitat restoration–under this concept, suitable sites along the water side of levees would be restored to a more natural state. This could be accomplished by increasing instream woody material (e.g., logs), restoring riparian vegetation to provide overhanging shade (trees and bushes), and constructing shallow benches that periodically are exposed to discourage predators.

How would channel margin habitat restoration help?

Riverbanks in a more natural state increase food production, provide rearing habitat, improve local water temperature conditions, and provide movement corridors for covered fish species.

Juvenile salmon that grow up in a floodplain (right) grow faster and larger than those from the main channel (left).

General Process
for BDCP Habitat Restoration Elements



Accommodating Land Use and Development

Existing and future land use and development plans will influence the feasibility of restoration concepts and the viability of the restored habitat. A major component of BDCP implementation will be in working with local land owners to assess their interest in participating in the restoration program. No land will be sought for the restoration program unless the landowner is supportive and a mutually beneficial agreement can be made. In addition, the environmental review of the BDCP will include an analysis of the human environment, including the potential impact to local landowners and communities, and will identify necessary mitigation measures.

The purpose of the BDCP is to provide for the recovery of endangered and sensitive species and their habitats in a manner that also will provide for the protection and restoration of water supplies.

For more information about the BDCP, contact: Keith Coolidge, 916/445-0092. For more information about BDCP habitat restoration efforts, please contact: Pete Rawlings, 916/949-6786.

BDCP
Bay Delta Conservation Plan

Facts about the BDCP Approach to "Other Stressors"

The BDCP has identified several issues that affect the survival of covered species in the Delta, beyond water exports and habitat conditions. These "other stressors" include:

- exposure to contaminants
- competition, predation, and changes to the ecosystem caused by non-native species
- entrainment at water intake pumps not operated by SWP and CVP
- harvest (commercial and recreational fishing, poaching)
- hatcheries
- fish passage (including flows and barriers)
- disease and parasites
- other water quality issues (dissolved oxygen, temperature)

The BDCP Other Stressors Working Group (OSWG) identified and described these stressors on fish and developed a preliminary list of conservation measures to address these stressors. The group has identified those that could be most readily and accurately measured in order to evaluate their true benefit to covered species. These conservation measures, listed below, will undergo the Delta Regional Ecosystem Restoration Implementation Plan's (DRERIP) suite of species life history models and then will be either removed from consideration or refined and further developed. There are many other potential conservation measures that are in discussion and will continue to be evaluated; those listed below are only those that will be evaluated by DRERIP.

Non-Native Invasive Species

The OSWG is investigating ways to 1) help reduce the future colonization and establishment of non-native species in the Delta to an acceptable level of risk, 2) help reduce the extent of non-native aquatic vegetation to improve conditions for covered species, and 3) help reduce the adverse effects of non-native predators on covered fish species. Examples under consideration include:

- Support watercraft inspection programs to prevent future invasions of non-natives into the Delta.
- Support chemical and mechanical removal of non-native aquatic vegetation (e.g., water hyacinth [*Eichornia crassipes*], Brazilian waterweed [*Egeria densa*]) in localized "hot spots" that are important habitat for covered species.

Toxic Contaminants

The OSWG is investigating ways to reduce the load of contaminants entering the Delta ecosystem from both upstream and in-Delta sources. Examples under consideration include:

- Improve treatment processes at wastewater treatment facilities to reduce loads of contaminants into the Delta.
- Support the efforts to reduce the load of methylmercury entering the Delta.
- Encourage and support eco-friendly agricultural practices.

Hatcheries

The OSWG is investigating ways to preserve wild populations of covered species. Examples under consideration include:

- Support the operations of delta smelt genetic refugial populations to preserve populations and genetic integrity.
- Support the construction and operations of a new conservation hatchery to serve as a genetic refuge and to enhance the low natural abundance of delta and longfin smelt in the Delta.

Harvest

The OSWG is investigating ways to help manage legal harvest (sport and commercial fishing) and reduce illegal harvest (poaching) of Chinook salmon, steelhead, green sturgeon, white sturgeon, and Sacramento splittail. Examples under consideration include:

- Increase enforcement of fishing regulations to reduce illegal harvest of covered fish species in the legal Delta.
- Set regulations on bag and size limits for Sacramento splittail to maintain and enhance splittail populations.

Non-Project Diversions

The OSWG is investigating ways to help reduce entrainment at in-Delta water diversion and pumping facilities to an acceptable level of risk. Examples under consideration include:

- Support existing programs to screen non-project diversions, thereby reducing entrainment risk of covered fish species at non-project diversions.
- Investigate interest by non-project diverters to remove or relocate individual non-project diversions from high to lower quality habitat for covered fish species.

Other Water Quality Issues

The OSWG is investigating ways to protect existing habitat from loss and degradation. Examples under consideration include:

- Modify agricultural return practices to reduce water temperatures of return flows to Delta waterways.
- Support existing programs to improve dissolved oxygen conditions in the Stockton Deep Water Ship Channel.
- Coordinate with owners/managers of seasonal managed wetlands to improve quality of water released from these wetlands ("black water") by modifying operations.

Examples of other types of potential conservation measures that may be further developed include:

- Developing public outreach and education programs to inform the public about areas of concern and to encourage specific ways to help.
- Improving real time monitoring, assessment, and rapid response programs.
- Improving the temperature and quality of water that is returned to the Delta after it has been used for industrial, commercial, and agricultural purposes.

The purpose of the BDCP is to provide for the recovery of endangered and sensitive species and their habitats in a manner that also will provide for the protection and restoration of water supplies.

For more information about the BDCP, contact: Keith Coolidge, 916/445-0092. For more information about Other Stressors, please contact: Rick Wilder, 916/446-3980.