Description of Alternatives (to be included in Chapter 3)

General Approach for Description of Alternatives

Chapter 3 is being reorganized and revised to improve the reader's understanding of each of the proposed alternatives and the individual components that comprise each of the alternatives. This will provide a legally defensible and accessible document that meets public disclosure requirements and supports the EIR/EIS analysis.

The approach to describing each alternative is based on a clear overview of the alternative components that are used to build each alternative. To that end, Chapter 3 will briefly describe the facility and other components (e.g. intakes, pumping plants, tunnels, canals, forebays, restoration) and identify locations on generalized figures or maps. The alternatives discussion will organize the components as physical/structural, operational, restoration and other stressors, following the conservation measure approach in Chapters 3 and 4 of the BDCP.

Following the component discussion, the alternatives will be presented by summarizing information from the alternatives screening process appendix. The discussion will be in enough detail to give the reader an understanding of how the range of alternatives were developed for evaluation in the EIR/EIS. The overall approach and screening criteria will be described as well as those alternatives that were selected for detailed evaluation and those that were considered but rejected from further consideration. The reader will be referred to the Alternatives Screening Report appendix for details of the alternatives development process.

Once the alternatives that are being carried forward in the EIR/EIS are fully defined, Chapter 3 will expand on the description of each alternative by summarizing in a table or tables the individual components and project features that apply to each alternative. The table(s) will be accompanied by text discussion of each alternative presented in enough detail for the reader to understand the overall actions proposed including facility information, operations, and maintenance as appropriate. Because of the manner in which the current alternatives are structured we anticipate that it would be helpful to also describe those components that are common to each of the alternatives such as restoration and other conservation measure components.

Chapter 3 will conclude with a detailed description of the components of the alternatives and an environmental commitments section. The description of the components of the alternatives will detail the physical/structural and operational aspects for those readers who would like additional discussion about facility specifications, construction, and operations. This section is placed toward the end of the chapter, after the overview of alternatives, to allow for a simplified discussion of alternatives first with reference to additional detail to follow. The components of the alternatives section will describe the location, design, and construction of each feature to support project and program-level impact analyses in following chapters. Location figures as well as design drawings and schematic illustrations will be used as needed to describe components. Appendices referenced in this chapter will provide highly technical or detailed information about the alternative components that support the alternatives descriptions but that are unnecessary to present in this chapter.

ED_000733_DD_NSF_00017946-00001

The following is the proposed outline for Chapter 3 Description of Alternatives. It is annotated to include a short summary of what is expected to be included under the particular headings. Section 3.4 also includes short descriptions of our understanding of each of the alternatives as they currently exist.

3.1 Introduction

The introduction will establish the context and background for the specific alternatives addressed in the EIR/EIS. ICF will reference Chapter 1, Introduction to help frame the discussion of the alternatives and will describe NEPA and CEQA requirements for alternatives.

3.2 Overview of Alternatives Components

This section will contain a brief overview and graphic description of the various project components that are described for each alternative.

3.2.1 Physical/Structural Components

This section will list the potential water conveyance facility components that are being considered for alternatives described in Section 3.4. Each component will be described in enough detail to support an understanding of location, design, and construction of the features.

3.2.2 Operational Components

This section will summarize operational parameters of each of the potential project components including changes in diversion rates and timing at existing and proposed facilities, proposed bypass flow criteria and pulse flow operations changes, and other SWP and CVP operational requirements described in Decision 1641 and USFWS and NMFS BO's. This section will also list operations criteria for operable gates proposed for certain alternatives. The operational components will be based in part on guidance presented in the February 11, 2010 Steering Committee Handout and the Scenario 6 Points of Agreement memorandum as well as any modifications made to these operations needed for an alternative.

3.2.3 Restoration Components

This section will summarize the restoration conservation measures target acreages and extent of tidal/intertidal and non-tidal marsh, channel margin and riparian habitat, seasonally inundated floodplain, grassland, and vernal pool habitat, and other habitat creation described in the BDCP. Restoration components will be described at a level of detail consistent with a program-level impact analysis.

3.2.4 Components Related to Other Stressors

Other ecosystem stressors addressed by conservation measures will be summarized based on the March 25, 2010 Steering Committee Handout guidance.

ED_000733_DD_NSF_00017946-00002

3.3 Alternatives Development Process

This section will contain a summary of the information in the Alternatives Screening Report appendix.

3.3.1 Development of Alternatives

3.3.2 Screening Criteria

3.3.3 Alternatives Considered and Dismissed from Further Evaluation

3.4 Alternatives

This section will contain a summary and tables showing the components that apply to each alternative. The physical/structural components discussion under this section will be a short summary of the more detailed descriptions that will be found in Section 3.5 and Alternatives Detailed Description appendix. Table 3.4-1 (see attached) provides an overview of each alternative and its components as currently considered. The descriptions of alternatives presented below are preliminary summaries provided by DWR and have not been approved by the lead agencies. These descriptions will be expanded and supported by figures to provide an appropriate level of detail for project and program-level alternative components.

3.4.1 No-Action Alternative

The No-Action Alternative will describe the existing physical and regulatory conditions in the Delta plus those management actions and projects that could reasonably be expected to continue to be implemented in the absence of the proposed alternatives.

3.4.2 Alternative 1—Dual Conveyance with Intakes 1–5

3.4.2.1 Physical/Structural Components

Alternative 1 would consist of either a pipeline/tunnel generally located in the central Delta with an Intermediate Forebay, or an unlined or lined canal along the eastern Delta, or an unlined or lined canal along the western Delta. All of these options would convey water from five intakes located between Clarksburg and Walnut Grove to a new forebay adjacent to Clifton Court Forebay. The existing South Delta intakes for Clifton Court Forebay and Jones Pumping Plant would continue to be utilized. The operations could convey up to 15,000 cfs from the North Delta.

ED_000733_DD_NSF_00017946-00003

3.4.2.2 Operational Components

Alternative 1 operational criteria are described in the BDCP Steering Committee Handout dated February 11, 2010. The criteria includes North Delta diversion bypass flow criteria, South Delta OMR flow criteria, South Delta Export/Inflow Ratio, flow criteria over Fremont Weir into Yolo Bypass, Delta inflow and outflow criteria, Delta Cross Channel gate operations, Rio Vista minimum in-stream flow criteria, preferential operations of North Delta intakes as compared to the South Delta intakes, and water quality criteria for agricultural and municipal/industrial diversions.

3.4.2.3 Restoration Components

Alternative 1 proposes to include up to 65,000 acres of tidal marsh, up to 20 miles of channel margin, up to 5,000 acres of riparian forest and scrub, and up to 10,000 acres of seasonally inundated floodplain, as well as modification of Fremont Weir and Yolo Bypass.

3.4.2.4 Components Related to Other Stressors

This section will describe other conservation measures related to reducing other ecosystem stressors on the Delta ecosystem. Based on the similarity of these components for all alternatives, discussion of these components will be moved to a later section, titled components common to all alternatives.

3.4.3 Alternative 1A—Dual Conveyance with Intakes 1–3, 6, and 7

3.4.3.1 Physical/Structural Components

Alternative 1A would consist of either a pipeline/tunnel generally located in the central Delta with an Intermediate Forebay, or an unlined or lined canal along the eastern Delta, or an unlined or lined canal along the western Delta. All of these options would convey water from three intakes located between Clarksburg and Walnut Grove and two intakes located downstream of Sutter and Steamboat sloughs to a new forebay adjacent to Clifton Court Forebay. The existing South Delta intakes for Clifton Court Forebay and Jones Pumping Plant would continue to be utilized. The operations would convey up to 15,000 cfs from the North Delta.

3.4.3.2 Operational Components

Alternative 1 operational criteria are modified from the BDCP Steering Committee Handout dated February 11, 2010. The modifications include Fall X2 and more restricted South Delta OMR flows. The criteria also includes North Delta diversion bypass flow criteria, South Delta OMR flow criteria, South Delta Export/Inflow Ratio, flow criteria over Fremont Weir into Yolo Bypass, Delta inflow and outflow criteria, Delta Cross Channel gate operations, Rio Vista minimum instream flow criteria, preferential operations of North Delta intakes as compared to the South Delta intakes, and water quality criteria for agricultural and municipal/industrial diversions.

3.4.3.3 Restoration Components

Restoration components for Alternatives 1A would be the same as described for Alternative 1.

ED_000733_DD_NSF_00017946-00004

3.4.3.4 Components Related to Other Stressors

3.4.4 Alternative 2—Dual Conveyance with Intakes 1 and 2

3.4.4.1 Physical/Structural Components

Alternative 2 would include a pipeline/tunnel generally located in the central Delta with an Intermediate Forebay. Water would be conveyed from two intakes located between Clarksburg and Walnut Grove to a new forebay adjacent to Clifton Court Forebay. The existing South Delta intakes for Clifton Court Forebay and Jones Pumping Plant would continue to be utilized. The operations could convey up to 6,000 cfs from the North Delta.

3.4.4.2 Operational Components

Alternative 2 operational criteria are described in the BDCP Steering Committee Handout dated February 11, 2010. The criteria includes North Delta diversion bypass flow criteria, South Delta OMR flow criteria, South Delta Export/Inflow Ratio, flow criteria over Fremont Weir into Yolo Bypass, Delta inflow and outflow criteria, Delta Cross Channel gate operations, Rio Vista minimum instream flow criteria, preferential operations of North Delta intakes as compared to the South Delta intakes, and water quality criteria for agricultural and municipal/industrial diversions.

3.4.4.3 Restoration Components

Restoration components for Alternatives 2 would be the same as described for Alternative 1.

3.4.4.4 Components Related to Other Stressors

3.4.5 Alternative 2A—Dual Conveyance with Intakes 1–3

3.4.5.1 Physical/Structural Components

Alternative 2A would include a pipeline/tunnel generally located in the central Delta with an Intermediate Forebay. Water would be conveyed from three intakes located between Clarksburg and Walnut Grove to a new forebay located adjacent to Clifton Court Forebay. The existing South Delta intakes for Clifton Court Forebay and Jones Pumping Plant would continue to be utilized. The operations could convey up to 9,000 cfs from the North Delta.

3.4.5.2 Operational Components

Alternative 2A operational criteria are modified from the BDCP Steering Committee Handout dated February 11, 2010. The modifications include Fall X2 and more restricted South Delta OMR flows. The criteria also includes North Delta diversion bypass flow criteria, South Delta OMR flow criteria, South Delta Export/Inflow Ratio, flow criteria over Fremont Weir into Yolo Bypass, Delta inflow and outflow criteria, Delta Cross Channel gate operations, Rio Vista minimum instream flow criteria, preferential operations of North Delta intakes as compared to the South Delta intakes, and water quality criteria for agricultural and municipal/industrial diversions.

ED_000733_DD_NSF_00017946-00005

3.4.5.3 Restoration Components

Restoration components for Alternatives 2A would be the same as described for Alternative 1.

3.4.5.4 Components Related to Other Stressors

3.4.6 Alternative 2B—Dual Conveyance with 3,000 cfs Diversion

3.4.6.1 Physical/Structural Components

Alternative 2B would include a pipeline/tunnel generally located in the central Delta with an Intermediate Forebay. Water would be conveyed from one intake that has a capacity of 3,000 cfs or from two intakes each with a capacity of 1,500 cfs. The intakes would be located between Clarksburg and Walnut Grove to a new forebay adjacent to Clifton Court Forebay. The existing South Delta intakes for Clifton Court Forebay and Jones Pumping Plant would continue to be utilized. The operations could convey up to 3,000 cfs from the North Delta.

3.4.6.2 Operational Components

Alternative 2B operational criteria are: 1) North Delta water operations per BDCP Steering Committee Handout dated February11, 2010, with Fall X2 as described in the 2008 Delta Smelt Biological Opinion; and 2) South Delta water operations be per 2008 and 2009 Biological Opinions issued by USFWS and NMFS. These operations emphasize Fall X2, South Delta OMR flows, and San Joaquin E/I ratios.

3.4.6.3 Restoration Components

Alternative 2B proposes to include up to 25,000 acres of tidal marsh, up to 20 miles of channel margin, up to 5,000 acres of riparian forest and scrub, and up to 10,000 acres of seasonally inundated floodplain, as well as modification of Fremont Weir and Yolo Bypass.

3.4.6.4 Components Related to Other Stressors

3.4.7 Alternative 3—Isolated Conveyance with Intakes 1–5

3.4.7.1 Physical/Structural Components

Physical/structural components of Alternative 3 conveyance facilities would be the same as described for Alternative 1.

3.4.7.2 Operational Components

The proposed operations of Alternative 3 would discontinue use of the South Delta Intakes and convey up to 15,000 cfs from the North Delta using proposed flows similar to the BDCP Steering Committee Handout dated February 11, 2010, with the following exceptions: South Delta Channel

ED_000733_DD_NSF_00017946-00006

Flows would not be applicable; Delta Outflow (July through August and December through January, per D-1641, and September through November; includes Fall X2 per the USFWS Biological Opinion); and Operations for Delta Water Quality and Residence Time would not be applicable.

3.4.7.3 Restoration Components

Restoration components for Alternative 3 would be the same as described for Alternative 1.

3.4.7.4 Components Related to Other Stressors

3.4.8 Alternative 4—Dual Conveyance with Intakes 2, 3, and 5 and Enhanced Aquatic Conservation

3.4.8.1 Physical/Structural Components

Alternative 4 would include a pipeline/tunnel generally located in the central Delta with an Intermediate Forebay. Water would be conveyed from three intakes located between Clarksburg and Walnut Grove to a new forebay adjacent to Clifton Court Forebay. The existing South Delta intakes for Clifton Court Forebay and Jones Pumping Plant would continue to be utilized. The operations could convey up to 9,000 cfs from the North Delta.

3.4.8.2 Operational Components

Alternative 4 operational criteria are modified from the BDCP Steering Committee Handout dated February 11, 2010. The modifications under this enhanced aquatic alternative are intended to further improve fish and wildlife habitat, especially along the San Joaquin River.

3.4.8.3 Restoration Components

Alternative 4 proposes to include up to 65,000 acres of tidal marsh, up to 40 miles of channel margin, up to 5,000 acres of riparian forest and scrub, and up to 20,000 acres of seasonally inundated floodplain, as well as modification of Fremont Weir and Yolo Bypass.

3.4.8.4 Components Related to Other Stressors

3.4.9 Alternative 4A—Dual Conveyance with Increased Delta Outflow

3.4.9.1 Physical/Structural Components

Alternative 4A would include a pipeline/tunnel generally located in the central Delta with an Intermediate Forebay. Water would be conveyed from three intakes located between Clarksburg and Walnut Grove to a new forebay adjacent to Clifton Court Forebay. The existing South Delta intakes for Clifton Court Forebay and Jones Pumping Plant would continue to be utilized. The operations could convey up to 9,000 cfs from the North Delta.

ED_000733_DD_NSF_00017946-00007

3.4.9.2 Operational Components

Alternative 4 operational criteria are under development. The goal is to provide an increased Delta outflow of up to 1.5 MAF utilizing State Water Project/Central Valley Project water rights.

3.4.9.3 Restoration Components

Alternative 4A proposes to include up to 65,000 acres of tidal marsh, up to 20 miles channel margin, up to 5,000 acres of riparian forest and scrub, and up to 10,000 acres of seasonally inundated floodplain, as well as modification of Fremont Weir and Yolo Bypass.

3.4.9.4 Components Related to Other Stressors

3.4.10 Alternative 5—Separate Corridors

3.4.10.1 Physical/Structural Components

Alternative 5 would include construction of several operable barriers throughout the Delta to primarily convey water from the Sacramento River at the Delta Cross Channel and Georgiana Slough through the Mokelumne River system to the San Joaquin River, and continuing along an isolated water supply corridor following Middle River and Victoria Canal to Clifton Court Forebay. Other facilities and activities would include, but not be limited to, boat locks, and various canal extensions, and dredging. The operations would convey up to 15,000 cfs.

3.4.10.2 Operational Components

3.4.10.3 Restoration Components

Restoration components for Alternative 5 would be the same as described for Alternative 4A.

3.4.10.4 Components Related to Other Stressors

3.5 Components of the Alternatives

This section describes the components of all the alternatives (except the No-Action Alternative) related to location, configuration, and construction in more detail. There may also be an appendix that would contain more detailed information related to engineering or other topics.

3.5.1 Physical/Structural Components

3.5.1.1 Intakes

This section will provide a description of the 7 optional North Delta intakes including conceptual design drawings and schematic illustrations showing the location and configuration of intake facilities.

ED_000733_DD_NSF_00017946-00008

North Delta Intakes

South Delta Intakes

3.5.1.2 Pumping Plants

This section will describe pumping plants required for each of the conveyance alignments (pipeline/tunnel, east, and west canals) including appurtenant facilities and their general layout, configuration, and connection to conveyance pipelines and canals.

Pumping Plant Facilities

Utilities

Surge Shafts

Sedimentation Basins and Solids Handling Facilities

Substation

3.5.1.3 Pipeline/Tunnels

This section will describe in detail the various pipelines and tunnels required for each alternative to convey surface water from the Sacramento River to the Banks and Tracy pumping plants.

Pipelines/Tunnels between Intake Pumping Plants and Intermediate Forebay

Pipeline/Tunnel between Intermediate Forebay and Byron Tract Forebay

Pipelines between Intake Pumping Plants and Canal

ED_000733_DD_NSF_00017946-00009

Pipeline/Tunnel between Intermediate Pumping Plant and Exit Portal

3.5.1.4 Precast Segment Plant and Yard

3.5.1.5 Canals

This section will describe in detail the various canal options proposed for each alternative to convey surface water from the Sacramento River to the Banks and Tracy pumping plants.

Canals to Banks and Jones Pumping Plants

East Canal between Intermediate Pumping Plant and Byron Tract Forebay

West Canal between Exit Portal and Byron Tract Forebay

North Bay Aqueduct

3.5.1.6 Forebays

This section will describe Intermediate and Byron Tract Forebays including pipeline/canal connections and appurtenant facilities.

Intermediate Forebay

Byron Tract Forebay

3.5.1.7 Fish Facilities

This section will describe proposed fish screens associated with Delta Cross Channel and Georgiana Slough diversions under Alternative 5 as well as proposed operable gate locations and operations.

Operable Barriers

Fish Screens

ED_000733_DD_NSF_00017946-00010

3.5.1.8 Levees

This section will describe required levee modifications required for physical/structural and restoration components of the alternatives. Descriptions will be in enough detail to provide project-level impact analyses for conveyance facilities and program-level impact analyses for restoration components.

3.5.1.9 Dredging

This section will describe the location, method, and amounts of dredging for water-dependent facilities and for operational requirements of alternatives.

3.5.1.10 Culverts, Ditches, and Culvert Siphons

This section will describe the proposed location, design, and construction of major culvert, ditches and siphons associated with pipeline/tunnels and canals.

Drainage Culverts

Irrigation and Drainage Ditches

Culvert Siphons

3.5.1.11 Covered Actions Related to SWP and CVP Delta Facilities

This section will provide an overview of the existing SWP and CVP water conveyance facilities and maintenance requirements.

Clifton Court Forebay

Skinner Fish Facility/Banks Pumping Plant

Tracy Fish Facility/Jones Pumping Plant

Delta-Mendota Canal/California Aqueduct Intertie

South Delta Temporary Barriers Project

ED_000733_DD_NSF_00017946-00011

Joint Point of Diversion

Barker Slough Pumping Plant/North Bay Aqueduct

Contra Costa Water District Diversion Facilities

Suisun Marsh Facilities

3.5.2 Restoration Components

This section will describe proposed restoration concepts, including locations of restoration opportunities and potential physical modifications needed to implement restoration activities in enough detail to support program-level impact analyses related to habitat and land use conversions. Other conservation measures related to monitoring and research, adaptive management, and contaminant and other stressor reduction will be summarized in this section with references to the BDCP descriptions.

3.5.2.1 Tidal Habitat

Considerations

Site Preparation and Earthwork

3.5.2.2 Channel Margin Habitat

Considerations

Site Preparation and Earthwork

3.5.2.3 Riparian Habitat

Considerations

ED_000733_DD_NSF_00017946-00012

Site Preparation and Earthwork

3.5.2.4 Seasonally Inundated Floodplain

Considerations

Site Preparation and Earthwork

Fremont Weir and Yolo Bypass Habitat Improvements

3.5.2.5 Monitoring and Research

3.5.2.6 Adaptive Management

3.5.2.7 Activities to Reduce Contaminants

3.5.2.8 Activities to Reduce Other Stressors

3.5.2.9 Other Conservation Actions

3.5.2.10 Emergency Actions

3.5.3 Operational Components

This section will provide an overview of existing and proposed alternatives operations rules based on Decision 1641 as modified by USFWS and NMFS Biological Opinion, the BDCP February 11, 2010 Steering Committee Handout and the Scenario 6 Points of Agreement memorandum.

3.5.3.1 Capacity of Water Supply Facilities

ED_000733_DD_NSF_00017946-00013

3.5.3.2 Conveyance System Hydraulics

3.5.3.3 Operations Criteria

3.6 Environmental Commitments

This section will summarize the environmental commitments including standard best management practices incorporated into the project description. There will also be an appendix that will contain more detailed information on the environmental commitments of the BDCP.

ED_000733_DD_NSF_00017946-00014

ALTERNATIVE	NEW INTAKES	NEW PUMPING PLANTS	NEW FOREBAYS[1]	CONVEYANCE	CONVEYANCE OPTIONS	CANALS TO JONES AND BANKS PUMPING PLANTS	NEW OPERABLE BARRIERS	FISH MOVEMENT CORRIDOR AROUND CLIFTON COURT FOREBAY	WATER SUPPLY CORRIDOR FROM MODIFIED CHANNEL	OPERATIONAL COMPONENTS	RESTORATION CONCEPTS (in acres, except where noted)										OTHER STRESSOR COMPONENTS
											TIDAL HABITAT RESTORATION	CHANNEL MARGIN HABITAT ENHANCEMENT	RIPARIAN HABITAT RESTORATION	SEASONALLY INUNDATED FLOODPLAIN RESTORATION	GRASSLAND PROTECTION AND RESTORATION	NONTIDAL MARSH RESTORATION	ALKALI SEASONAL WETLAND COMPLEX PROTECTION	VERNAL POOL COMPLEX PROTECTION AND RESTORATION	MANAGED SEASONAL WETLAND ENHANCEMENT AND RESTORATION	AGRICULTURAL PROTECTION	
No Project/No Action Alternative	None	None	None	Isolated	Existing Channels	Existing	No	No	No	Per D-1641 as modified by Biological Opinions Issued by USFWS and NMFS	Per several federal and state requirements and Biological Opinions issued by USFWS and NMFS										Existing activities
Alternative 1	1-5	5	Intermediate, Byron Tract	Dual	East, West, or Pipeline	Yes	No	No	No	Per BDCP Steering Committee Proposed Project (2/11/10 BDCP Steering Committee Handout)	65,000	20 linear miles	5,000	10,000	8,000 protected, 2,000 restored[2]	400	400	300 protected, 200 restored	2,000 enhanced, 5,000 restored	16,620 - 32,640	Per BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)
Alternative 1A	1-3, 6, 7	5	Intermediate, Byron Tract	Dual	Pipeline	Yes	No	No	No	Scenario 6 per Points of Agreement with Fall X2	65,000	20 linear miles	5,000	10,000	8,000 protected, 2,000 restored[2]	400	400	300 protected, 200 restored	2,000 enhanced, 5,000 restored	16,620 - 32,640	Per BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)
Alternative 2	1, 2	2	Intermediate, Byron Tract	Dual	Pipeline	Yes	No	No	No	Per BDCP Steering Committee Proposed Project (2/11/10 BDCP Steering Committee Handout)	65,000	20 linear miles	5,000	10,000	8,000 protected, 2,000 restored[2]	400	400	300 protected, 200 restored	2,000 enhanced, 5,000 restored	16,620 - 32,640	Per BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)
Alternative 2A	1-3	3	Intermediate, Byron Tract	Dual	Pipeline	Yes	No	No	No	Scenario 6 per Points of Agreement with Fall X2	65,000	20 linear miles	5,000	10,000	8,000 protected, 2,000 restored[2]	400	400	300 protected, 200 restored	2,000 enhanced, 5,000 restored	16,620 - 32,640	Per BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)
Alternative 2B	1 at 3,000 cfs or 1 and 2 at 1,500 cfs	1 or 2	Intermediate, Byron Tract	Dual	Pipeline	Yes	No	No	No	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	25,000 (limited to 2025 level of restoration)	20 linear miles	5,000	10,000	8,000 protected, 2,000 restored[2]	400	400	300 protected, 200 restored	2,000 enhanced, 5,000 restored	16,620 - 32,640	Per BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)

ALTERNATIVE	NEW INTAKES	NEW PUMPING PLANTS	NEW FOREBAYS[1]	CONVEYANCE	CONVEYANCE OPTIONS	CANALS TO JONES AND BANKS PUMPING PLANTS	NEW OPERABLE BARRIERS	FISH MOVEMENT CORRIDOR AROUND CLIFTON COURT FOREBAY	WATER SUPPLY CORRIDOR FROM MODIFIED CHANNEL	OPERATIONAL COMPONENTS	RESTORATION CONCEPTS (in acres, except where noted)										OTHER STRESSOR COMPONENTS
											TIDAL HABITAT RESTORATION	CHANNEL MARGIN HABITAT ENHANCEMENT	RIPARIAN HABITAT RESTORATION	SEASONALLY INUNDATED FLOODPLAIN RESTORATION	GRASSLAND PROTECTION AND RESTORATION	NONTIDAL MARSH RESTORATION	ALKALI SEASONAL WETLAND COMPLEX PROTECTION	VERNAL POOL COMPLEX PROTECTION AND RESTORATION	MANAGED SEASONAL WETLAND ENHANCEMENT AND RESTORATION	AGRICULTURAL PROTECTION	
Alternative 3	1-5	5	Intermediate, Byron Tract	Isolated	East, West, or Pipeline	Yes	No	No	No	Similar to BDCP Streeting Committee Proposed Project (2/11/10 BDCP Steering Committee Handout); modified to eliminate South Delta Intakes plus addition of Fall X2	65,000	20 linear miles	5,000	10,000	8,000 protected, 2,000 restored[2]	400	400	300 protected, 200 restored	2,000 enhanced, 5,000 restored	16,620 - 32,640	Per BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)
Alternative 4	2, 3, 5	3	Intermediate, Byron Tract	Dual	Pipeline	Yes	No	No	No	Modified from BDCP Streeting Committee Proposed Project (2/11/10 BDCP Steering Committee Handout)	65,000	40 linear miles	5,000	20,000	8,000 protected, 2,000 restored[2]	400	400	300 protected, 200 restored	2,000 enhanced, 5,000 restored	16,620 - 32,640	Per BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)
Alternative 4A	2, 3, 5	3	Intermediate, Byron Tract	Dual	Pipeline	Yes	No	No	No	Developing operations that could include up to 1.5 maf Increased Delta Outflow	65,000 [3]	20 linear miles[3]	5,000 [3]	10,000 [3]	8,000 protected, 2,000 restored[2 3]	400 [3]	400 [3]	300 protected, 200 restored[3]	2,000 enhanced, 5,000 restored[3]	16,620 - 32,640 [3]	Per BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)
Alternative 5	Delta Cross Channel and Georgiana Slough	0	None	Through Delta	Modified Channels	Existing	Yes	Yes	Yes	Similar to BDCP Steering Committee Proposed Project (2/11/10 BDCP Steering Committee Handout)	65,000 [4]	20 linear miles[4]	5,000 [4]	10,000 [4]	8,000 protected, 2,000 restored[2 4]	400 [4]	400 [4]	300 protected, 200 restored[4]	2,000 enhanced, 5,000 restored[4]	16,620 - 32,640 [4]	Per BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)

[1] Byron Tract Forebay currently refers to proposed forebays both north and south of Clifton Court Forebay; the north forebay, which would be used by the west conveyance facility, should have a different name

[2] Restored component counted in tidal habitat and agriculture restoration sections.

[3] Or TBD

[4] With changes in South Delta

Resources:

BDCP Steering Committee Proposed Project (2/11/10 BDCP Steering Committee Handout)

D-1641, Biological Opinions Documents

BDCP Steering Committee Proposed Project (3/25/10 BDCP Steering Committee Handout)

Scenario 6 Description