

1 analysis of Alternatives 4A, 2D, and 5A and all associated figures, tables, etc., since the activities
 2 pursued under these alternatives are expected to take place in these same areas.

- 3 • **Covered Activities and Covered Species.** Alternatives 4A, 2D, and 5A do not include a list of
 4 “covered species” or “covered activities” since these concepts are not requirements of the ESA
 5 Section 7 or CESA Section 2081(b) permit processes. However, this RDEIR/SDEIS does include
 6 analysis of the special-status species addressed in the new permit process, to the extent that
 7 implementation of Alternatives 4A, 2D, and 5A could result in impacts to these species.

8 **ES.1.6 Public Review Process**

9 All of the comments received during the Draft EIR/EIS 2013–2014 public review period were
 10 considered in the development of this RDEIR/SDEIS. This RDEIR/SDEIS does not include responses
 11 to comments on the Draft EIR/EIS, though some revisions have been made in response to comments
 12 received on the Draft EIR/EIS. New public comments made during the public review period for the
 13 RDEIR/SDEIS should be specific only to the newly circulated information contained in the
 14 RDEIR/SDEIS and should not address issues not directly included in the RDEIR/SDEIS. The Lead
 15 Agencies intend to only respond to comments that address analysis included within this
 16 RDEIR/SDEIS and not those related solely to the original Draft EIR/EIS. Formal responses to the
 17 comments previously submitted on the Draft BDCP and Draft EIR/EIS, as well as comments received
 18 on this RDEIR/SDEIS, will be published in the Final EIR/EIS.

19 This RDEIR/SDEIS is being noticed and circulated for public review and comment until August 31,
 20 2015 in the same manner as the draft documents that were issued for public review on December
 21 13, 2013. Two public meetings will be held to receive comments on the RDEIR/SDEIS, on Tuesday,
 22 July 28 in Sacramento, and on Wednesday, July 29, in Walnut Grove. Comments can also be
 23 submitted by U.S. mail or email.

24 BDCP Comments
 25 P.O. Box 1919
 26 Sacramento, CA 95812
 27 BDCPComments@icfi.com

28 Following the close of the public review period, the Lead Agencies will consider and respond to all
 29 significant environmental issues raised in comments on the RDEIR/SDEIS (along with comments
 30 previously received on the Draft EIR/EIS) and incorporate revisions and response to comments into
 31 the Final EIR/EIS. The Final EIR/EIS will be circulated for a 30-day NEPA review period. Following
 32 completion of the Final EIR/EIS and the NEPA 30-day review period, DWR and Reclamation
 33 decision-makers will have the opportunity to certify/approve the Final EIR/EIS and submit a Notice
 34 of Determination/Record of Decision (NOD/ROD). Upon completion of the NOD/ROD, the agencies
 35 would be able to move forward with final permit approval and implementation.

36 **ES.2 Description of Alternatives**

37 In December 2014, state and federal Lead Agencies, along with the administration of Governor
 38 Edmund G. Brown Jr., announced several changes to the proposed water conveyance facilities to
 39 reduce environmental impacts. Since 2014, additional modifications to the proposed conveyance
 40 facilities and operations have been made based on refined engineering analysis and in consideration

1 of feedback received during the 2014 public comment period. Because the changes to Alternative 4
 2 ripple through multiple environmental resources analyzed, information about the potential impacts
 3 of these changes can be found in Section 1.0, *Introduction*, Section 2.0, *Substantive Draft EIR/EIS*
 4 *Revisions*, Section 3.0, *Alternative 4: Conveyance Facility Modifications*, and Section 5.0, *Revisions to*
 5 *Cumulative Impact Analyses*.

6 As explained above, the RDEIR/SDEIS considers project revisions that were developed in response
 7 to input from the Draft EIR/EIS comment period (see below) as well as from agencies' comments
 8 regarding the challenges with meeting the standards required to issue long term assurances
 9 associated with compliance with Section 10 of the ESA and the NCCPA. Comments suggested DWR
 10 should pursue permit terms shorter than 50 years due to the levels of uncertainty regarding
 11 effectiveness of habitat restoration and the future effects of climate change. Other comments
 12 suggested that the proposed conveyance facility be separated from the habitat restoration
 13 components of the BDCP.

14 Consistent with this input, the Lead Agencies are analyzing an alternative implementation strategy
 15 with the new alternatives in this RDEIR/SDEIS, Alternatives 4A, 2D, and 5A. This strategy focuses on
 16 the conveyance facility improvements necessary for the SWP to address more immediate water
 17 supply reliability needs, and allows for other state and federal programs to address the long-term
 18 conservation efforts for species recovery through programs separate from the proposed project
 19 analyzed in this RDEIR/SDEIS. Alternatives 4A, 2D, and 5A would enable DWR to construct and
 20 operate new conveyance facilities that improve conditions for endangered and threatened aquatic
 21 species in the Delta while improving water supply reliability. Implementing the conveyance facilities
 22 alone would help resolve many of the concerns with the current south Delta conveyance system,
 23 would help reduce conveyance threats to endangered and threatened species in the Delta, and
 24 would allow for implementing habitat restoration projects on an expedited schedule through the
 25 state's EcoRestore program.

26 **ES.2.1 Alternative 4**

27 Revisions to the BDCP Alternative 4 in this RDEIR/SDEIS are limited to the water conveyance
 28 facilities Please refer to Figure ES-1, *Location of Conveyance Facility Alignment for Alternatives 4, 4A,*
 29 *2D and 5A* for an overview of the conveyance facility alignment. No changes were made to
 30 operations or conservation measures. The changes would achieve the benefits listed below.

- 31 • Eliminate three pumping plants associated with the new intake facilities, and the visual effects
 32 associated with these facilities, on the east bank of the Sacramento River between Clarksburg
 33 and Courtland.
- 34 • Minimize construction activities on Staten Island, which provides important sandhill crane
 35 habitat, by removing tunnel launch facilities, large reusable tunnel material (RTM) storage areas,
 36 a barge landing site, and high-voltage power lines.
- 37 • Minimize impacts to private landowners by relocating project features to property already
 38 owned by DWR and reducing the acreage of lands needing to be acquired from private and Non-
 39 Governmental Organization (NGO) landowners.
- 40 • Eliminate the need for additional permanent power lines to the intake locations in the north
 41 Delta, including lines proposed near Stone Lakes National Wildlife Refuge.

- 1 • Eliminate impacts on Italian Slough (near Clifton Court Forebay) by removing an underground
2 siphon.
- 3 • Reduce electric power requirements for construction and potentially operation of the facilities.
- 4 • Allow water to flow from the Sacramento River and through screened intakes, initial tunnels, an
5 intermediate forebay, main tunnels, and into Clifton Court Forebay entirely by gravity at certain
6 river stages (previously, only flows between the intermediate forebay and Clifton Court Forebay
7 would be conveyed by gravity).
- 8 • Reduce tunnel operation and maintenance costs.

9 These changes would eliminate the need to build three separate two-story pumping plants along the
10 Sacramento River between Clarksburg and Courtland. Instead, water could be moved from the river
11 into tunnels by two new pumping plants constructed 40 miles away on DWR property at the
12 southern end of the tunnels near Clifton Court Forebay.

13 Under Alternative 4, water would primarily be conveyed from the north Delta to the south Delta
14 through tunnels. Water would be diverted from the Sacramento River through three fish-screened
15 intakes on the east bank of the Sacramento River between Clarksburg and Courtland. Water would
16 travel from the intakes to a sedimentation basin before reaching the tunnels. From the intakes water
17 would flow into an initial single-bore tunnel, which would lead to an intermediate forebay on
18 Glannvale Tract. From the southern end of this forebay, water would pass through an outlet
19 structure into a dual-bore tunnel where it would flow by gravity to the south Delta. Water would
20 then reach pumping plants to the northeast of the Clifton Court Forebay, where water would be
21 pumped into the north cell of the expanded Clifton Court Forebay. The forebay would be dredged
22 and redesigned to provide an area isolating water flowing from the new north Delta facilities. New
23 siphon and canal connections would be constructed between the north cell of the expanded
24 Clifton Court Forebay and the Banks and Jones pumping plants, along with control structures to
25 regulate the relative quantities of water flowing from the north Delta and the south Delta.
26 Alternative 4 would entail the continued use of the SWP/CVP south Delta export facilities. A
27 map and a schematic diagram depicting the conveyance facilities associated with Alternative 4
28 are also provided in Figures 3-9 and 3-10 in Appendix A of this RDEIR/SDEIS.

29 **ES.2.2 Alternative 4A**

30 Under Alternative 4A water conveyance facilities would be constructed and maintained identically
31 to those proposed and analyzed under Alternative 4 (including the modifications that have been
32 made since the Draft EIR/EIS was released and described in Section 3, *Alternative 4: Conveyance*
33 *Facility Modifications* and Section ES 2.1, *Alternative 4*, above).

34 Table ES.2.2.-1, below, provides a side-by-side comparison of Alternative 4 to Alternative 4A.

1 **Table ES.2.2-1. Comparison of Alternative 4 and Alternative 4A**

Element of Project Description	Alternative 4 (BDCP)	Alternative 4A
ESA Compliance	Section 10 (DWR)/Section 7 (Reclamation)	Section 7
California Endangered Species law Compliance	NCCPA	2081(b) permit
Facilities	Modified Pipeline/Tunnel Alignment: 3 intakes, 9,000 cfs	Modified Pipeline/Tunnel Alignment: 3 intakes, 9,000 cfs
Operations	Dual Conveyance; Operational Scenarios H1–H4 with Decision Tree (see Chapter 3, Section 3.6.4.2 of the Draft EIR/EIS); evaluated at LLT	Dual Conveyance; Operational Scenario H3+ (a new operational scenario which includes a criterion for spring outflow bounded by the criteria associated with Scenarios H3 and Scenario H4, as described in Chapter 3, Section 3.6.4.2 of the Draft EIR/EIS); evaluated as Scenarios H3-H4 at early long-term (ELT, which is associated with conditions around 2025)
Conservation Measures/ Environmental Commitments	Conservation Measures 2–21; includes Yolo Bypass Improvements and 65,000 acres of tidal wetland restoration	Environmental Commitments 3, 4, 6, 7, 8, 9, 10, 11, 12, 15, 16; includes up to 59 acres of tidal wetland restoration
CEQA Baseline	Existing Conditions	Existing Conditions
NEPA Baseline	No Action Alternative at LLT	No Action Alternative at ELT

2

3 While all aspects of water conveyance facility design, construction, and maintenance would be
4 identical to those described for Alternative 4, operational components would be similar, but not
5 identical. Alternative 4A starting operations will be determined through the continued coordination
6 process as outlined in the Section 7 consultation process and 2081(b) permit prior to the start of
7 construction. An adaptive management and monitoring program will be implemented to develop
8 additional scientific information during the course of project construction and operations to inform
9 and improve conveyance facility operational limits and criteria. Additionally, operational elements
10 associated with Fremont Weir modifications would not be incorporated as part of this alternative,
11 because Yolo Bypass improvements previously contemplated in the BDCP (under CM2) would not
12 be implemented as part of Alternative 4A; instead, they would be assumed to occur as part of the No
13 Action Alternative because they are required by the existing Biological Opinions (BiOps) (discussed
14 below). Table 4.1-2 in the RDEIR/SDEIS provides a detailed characterization of operational criteria.

15 Implementation of Alternative 4A will include conveyance operations of both new and existing
16 water conveyance facilities once the new north Delta facilities are completed and become
17 operational, thereby enabling joint management of north and south Delta diversions. Operational
18 limits included in Alternative 4A for south Delta export facilities would supplement the south Delta
19 operations currently implemented in compliance with the FWS (2008) and NMFS (2009) BiOps.
20 Alternative 4A incorporates existing criteria from the 2008 and 2009 BiOps (including Fall X2), and
21 adds additional criteria for spring outflow and new minimum flow requirement at Rio Vista from
22 January through August. The north Delta diversions and the head of Old River barrier (HORB) are

1 new facilities for the SWP and CVP and would be operated consistent with the proposed operating
2 criteria for each of these facilities. All other criteria included in the FWS (2008) and NMFS (2009)
3 BiOps and State Water Resources Control Board Water Right Decision 1641 (D-1641) will continue
4 to be complied with, subject to adjustments made pursuant to the adaptive management process as
5 described in the 2008 and 2009 BiOps, as part of the continued operations of the CVP and SWP.
6 Alternative 4A includes modified or new operations and criteria of only the following elements.

- 7 • North Delta intake facilities.
- 8 • South Delta export operations.
- 9 • Head of Old River barrier operations.
- 10 • Spring Delta outflow.
- 11 • Rio Vista minimum flow standard in January through August.

12 Alternative 4A operations include a preference for south Delta pumping in July through September
13 to provide limited flushing for improving general water quality conditions and reduced residence
14 times.

15 To achieve the regulatory standards under ESA Section 7 and CESA Section 2081(b) while also
16 complying with NEPA and CEQA, some of the actions proposed in the conservation strategy for the
17 Draft BDCP would be implemented under Alternative 4A, 2D, and 5A, though on a smaller scale, as
18 environmental commitments to mitigate significant environmental effects of the conveyance
19 facilities. These commitments consist primarily of habitat restoration, protection, enhancement, and
20 management activities necessary to offset—that is, mitigate for—adverse effects from construction
21 of the proposed water conveyance facilities, along with species-specific resources guidelines to
22 ensure that implementation of these commitments would achieve the intended mitigation of
23 impacts. Additionally, pertinent elements previously included as Avoidance and Minimization
24 Measures and the proposed Adaptive Management and Monitoring Program would be implemented
25 as applicable to the activities proposed under Alternative 4A. These, too, would serve a mitigation
26 function under CEQA. All of these components would function as de facto CEQA and NEPA mitigation
27 measures for the construction and operations-related impacts of Alternative 4A. Section 4.1.2.3 of
28 the RDEIR/SDEIS describes and analyzes the Alternative 4A Environmental Commitments.

29 Portions of the actions previously contemplated under CM3, CM4, CM6, CM7, CM8, CM9, CM10,
30 CM11, CM12, CM15, and CM16 would be included in Alternatives 4A, 2D, and 5A, but at different
31 levels. Table ES.2.2-2 provides a comparison of the acreages or actions for each environmental
32 commitment proposed for Alternatives 4A, 2D, and 5A.

1 **Table ES.2.2-2. Comparison of Environmental Commitments under Alternatives 4A, 2D, and 5A**

Environmental Commitments	4A	2D	5A
3: Natural Communities Protection & Restoration			
Valley /Foothill Riparian	103 acres	122 acres	91 acres
Grassland	1,060 acres	1,089 acres	1,034 acres
Vernal Pool Complex & Alkali Seasonal Wetland Complex	150 acres	150 acres	150 acres
Nontidal Marsh	119 acres	187 acres	118 acres
Cultivated Lands	11,870 acres	13,410 acres	11,330 acres
Total:	Up to 13,302 acres	Up to 14, 958 acres	Up to 12, 724 acres
4: Tidal Natural Communities	Up to 59 acres	Up to 65 acres	Up to 55 acres
6: Channel Margin Enhancement	Up 4.6 levee miles	Up to 5.5. levee miles	Up to 3.1 levee miles
7: Riparian Natural Community	Up to 251 acres	Up to 297 acres	Up to 222 acres
8: Grassland Natural Community	Up to 1,070 acres	Up to 1,099 acres	Up to 1,044 acres
9: Vernal Pool & Alkali Seasonal Wetland Complex Restoration	Up to 34 acres	Up to 34 acres	Up to 34 acres
10: Nontidal Marsh Restoration	Up to 832 acres	Up to 1,307 acres	Up to 826 acres
11: Natural Communities Enhancement & Management	At sites protected or restored under Environmental Commitments 3-10	At sites protected or restored under Environmental Commitments 3-10	At sites protected or restored under Environmental Commitments 3-10
12: Methylmercury Management	At sites restored under Environmental Commitment 4	At sites restored under Environmental Commitment 4	At sites restored under Environmental Commitment 4
15: Localized Reduction of Predatory Fishes	At north Delta intakes and at Clifton Court Forebay	At north Delta intakes and at Clifton Court Forebay	At north Delta intakes and at Clifton Court Forebay
16: Nonphysical Fish Barrier	At Georgianna Slough	At Georgianna Slough	At Georgianna Slough

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3 **ES.2.3 Other RDEIR/SDEIS Alternatives**

4 Under Alternatives 2D and 5A, water conveyance facilities would be constructed and maintained
5 similarly to those proposed and analyzed under Alternative 4 and 4A. However, Alternative 2D
6 would entail five intakes in the same locations as those under Alternative 2A (as shown in Figure 30-
7 2 of the Draft EIR/EIS), rather than three. As proposed for Alternative 4, a new pumping facility
8 would be constructed northeast of the north cell of the expanded Clifton Court Forebay, along with
9 control structures to regulate the relative quantities of water flowing from the north Delta and the
10 south Delta to the Banks and Jones Pumping Plants. All alternatives would entail the continued use
11 of the SWP/CVP south Delta export facilities.

12 Alternative 5D would include one intake rather than three. Construction of a single intake site
13 (Intake 2) would preclude the need for ancillary facilities and features associated with Intakes 3 and

1 5. Alternative 5A would not require construction of a single-bore tunnel between Intake 5 and the
2 intermediate forebay. An operable barrier would not be constructed at the head of Old River.

3 Operational components of the water conveyance facilities under Alternative 2D would be similar,
4 but not identical, to those described under Scenario B in Chapter 3, Section 3.6.4.2 of the Draft
5 EIR/EIS. Operational elements associated with Fremont Weir modifications would not be
6 incorporated, because Yolo Bypass improvements previously contemplated for Alternative 2A
7 would not be implemented as part of Alternative 2D; instead, they would be assumed to occur as
8 part of the No Action Alternative because they are required by the existing BiOps.

9 Implementation of Alternative 2D would include operations of both new and existing water
10 conveyance facilities once the new north Delta facilities are completed and become operational,
11 thereby enabling joint management of north and south Delta diversions. Operations included in this
12 alternative for south Delta export facilities would replace the south Delta operations currently
13 implemented in compliance with the FWS (2008) and NMFS (2009) BiOps. The north Delta intakes
14 and the HORB would be new facilities for the SWP and CVP. Compliance with all other criteria
15 included in the FWS (2008) and NMFS (2009) BiOps and D-1641, including Fall X2, the E:I ratio, and
16 operations of the Delta Cross Channel gates and the Suisun Marsh Salinity Control Gates, will
17 continue as part of the continued operations of the CVP and SWP. When compared to operations
18 under the No Action Alternative, Alternative 2D includes modified or new operations and criteria of
19 only the following elements.

- 20 ● North Delta intake facilities.
- 21 ● South Delta export operations.
- 22 ● HORB operations.
- 23 ● Rio Vista minimum flow standard in January through August.

24 Alternative 2D operations include a preference for south Delta pumping in July through September
25 to provide limited flushing for improving general water quality conditions and reduced residence
26 times.

27 Operational components of the water conveyance facilities under Alternative 5A would be similar,
28 but not identical, to those described under Scenario C in Chapter 3, Section 3.6.4.2 of the Draft
29 EIR/EIS. Operational elements associated with Fremont Weir modifications would not be
30 incorporated as part of this alternative, because Yolo Bypass improvements previously
31 contemplated for Alternative 5 (under CM2) would not be implemented as part of Alternative 5A;
32 instead, they would be assumed to occur as part of the No Action Alternative because they are
33 required by the existing BiOps.

34 Implementation of Alternative 5A would include operations of both new and existing water
35 conveyance facilities once the new north Delta facilities are completed and become operational,
36 thereby enabling joint management of north and south Delta diversions. The north Delta intake
37 would be a new facility for the SWP. Compliance with all other criteria included in the FWS (2008)
38 and NMFS (2009) BiOps and D-1641, including Fall X2, the E:I ratio, and operations of the Delta
39 Cross Channel gates and the Suisun Marsh Salinity Control Gates, will continue as part of the
40 operation of the CVP and SWP. When compared with operations under the No Action Alternative,
41 Alternative 5A includes modified or new operations and criteria of only the following elements.

- 42 ● North Delta intake facilities.

- Rio Vista minimum flow standard in January through August.

Alternative 5A operations include a preference for south Delta pumping in July through September to provide limited flushing for improving general water quality conditions and reduced residence times.

As discussed in Section ES 2.1, *Alternative 4*, portions of the actions previously contemplated under CM3, CM4, CM6, CM7, CM8, CM9, CM10, CM11, CM12, CM15, and CM16 would be included in Alternatives 2D and 5A, but at different levels. See Table ES.2.2-2, *Comparison of Environmental Commitments under Alternatives 4A, 2D, and 5A*, above, for a comparison of the implementation of Environmental Commitments.

Table ES.2.3-1 below, provides an overview of the alternatives analyzed in the RDEIR/SDEIS. The complete descriptions of these alternatives is provided in Section 3, *Alternative 4: Conveyance Facility Modifications* and Section 4, *New Alternatives: Alternatives 4A, 2D, and 5A* of this RDEIR/SDEIS.

Table ES.2.3-1. Comparison of Alternative 4, 2D, 4A, 5A

Alternative	Alignment Option	Conveyance Type	Intake Locations	North Delta Diversion Capacity	Operational Scenario	Federal ESA and CESA Compliance Approach
4	Pipeline/ Tunnel	Dual	2, 3, and 5	9,000 cfs	H	Section 10/ NCCP
2D	Pipeline/ Tunnel	Dual	1 through 5	15,000 cfs	B	Section 7/ 2081(b) permit
4A*	Pipeline/ Tunnel	Dual	2, 3, and 5	9,000 cfs	H3+** (See Table ES.2.2-1)	Section 7/ 2081(b) permit
5A	Pipeline/ Tunnel	Dual	2	3,000 cfs	C	Section 7/ 2081(b) permit

* Alternative 4A is the CEQA and NEPA preferred project proposed by State and Federal Lead Agencies.

** Operational Scenario H for Alternative 4A would not include the operation of the Fremont Weir modification associated with Yolo Bypass improvements because those activities would not be implemented as part of Alternative 4A. Starting operations would be determined through the Section 7 and 2081(b) permit processes and an adaptive management and monitoring program would guide future operational limits and criteria.

ES.3 Summary of Substantive Revisions

The following sections provide a brief overview of the substantives changes and conclusions provided in the RDEIR/SDEIS.

ES.3.1 Improved Fish and Aquatic Habitat Analyses

Section 2.1, *Improved Fish and Aquatic Habitat Analyses*, summarizes revisions made to Chapter 11, Fish and Aquatic Resources, since the release of the Draft EIR/EIS. Revisions were made to address design changes associated with the proposed project, incorporate the latest engineering assumptions and modeling procedures, and to respond to comments raised by the public.