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Working Draft Chapter 1 Introduction

Note to Reviewers: This document is a revised version of BDCP Chapter 1 Introduction. The last draft of Chapter 1 (dated December 2, 2009) was presented to the Steering Committee at the December 3, 2009 meeting. Revisions have been made throughout the text to address comments received, to clarify concepts, and to bring the document up to date with the progress on various components of the BDCP in 2010.

DRAFT

1	Chapter 1. Introduction.....	1
2	1.1 Background.....	1
3	1.1.1 BDCP Steering Committee and the Planning Agreement	5
4	1.2 BDCP Planning Goals and Conservation Objectives	6
5	1.3 Regulatory Context.....	8
6	1.3.1 Regulatory Purpose of the BDCP	8
7	1.3.2 The Federal Endangered Species Act	9
8	1.3.2.1 Compliance with the Services' Five-Point Policy	
9	Guidance	11
10	1.3.3 Natural Community Conservation Planning Act	12
11	1.3.4 California Endangered Species Act	13
12	1.3.5 The National Environmental Policy Act.....	14
13	1.3.6 The California Environmental Quality Act.....	14
14	1.3.7 Relationship with Existing Biological Opinions.....	15
15	1.3.8 Recent California Legislation Relating to Water and the	
16	Sacramento-San Joaquin Delta	15
17	1.3.9 Relationship between the BDCP and Other Federal and State	
18	Laws and Regulations	16
19	1.3.9.1 Section 404 of the Clean Water Act	16
20	1.3.9.2 Section 401 of the Clean Water Act	17
21	1.3.9.3 Section 10 of the Rivers and Harbors Act	17
22	1.3.9.4 California Fish and Game Code Section 1600 et seq.	18
23	1.3.9.5 Migratory Bird Treaty Act.....	19
24	1.3.9.6 Water Rights under the California Water Code.....	19
25	1.3.9.7 Porter-Cologne Water Quality Control Act	20
26	1.4 Scope of the BDCP	20
27	1.4.1 Geographic Scope of the BDCP Plan Area.....	21
28	1.4.2 Covered Natural Communities	22
29	1.4.3 Covered Species.....	23
30	1.4.3.1 Species Evaluated for Coverage	23
31	1.4.3.2 Evaluation and Selection Criteria	24
32	¹⁶ U.S. Fish and Wildlife Service, Portland, Oregon.	30
33	1.4.4 Covered Activities and Associated Federal Actions.....	31
34	1.4.4.1 Covered Activities	31
35	1.4.4.2 Associated Federal Actions.....	31
36	1.4.5 Permit Duration.....	32
37	1.5 Overview of the Planning Process	32
38	1.5.1 Role of the Steering Committee.....	32
39	1.5.2 Public Participation and Engagement	33
40	1.5.3 Integration of Science	35
41	1.5.3.1 Independent Science Advisory Process	35
42	1.5.3.2 DRERIP Evaluation Process.....	38
43	1.6 Organization of the BDCP	39
44		

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Chapter 1. Introduction

1.1 Background

The Bay Delta Conservation Plan (BDCP or “Plan”) addresses the increasingly significant and intensifying conflict between the ecological needs of a number of at-risk species adversely affected by a range of human activities and the need for adequate and reliable water supplies from the Sacramento-San Joaquin River Delta (Delta) for people, communities, agriculture, and industry. The Plan sets out comprehensive near-term and long-term conservation strategies for the Delta designed to advance the co-equal planning goals of restoring ecological functions of the Delta and improving water supply reliability to large portions of the State of California. The BDCP reflects the outcome of a multi-year collaboration between public water agencies, State and federal fish and wildlife agencies, non-governmental organizations, agricultural interests, and the general public.

The BDCP is expected to result in long-term regulatory authorizations under State and federal endangered species laws for the operations of the State Water Project (SWP) and the Central Valley Project (CVP), as well as the operations of certain power plants owned by Mirant Delta LLC (Mirant). The Plan will further provide the basis for durable regulatory assurances. Specifically, the goal of the BDCP is to serve as a Natural Community Conservation Plan (NCCP) under the State’s Natural Community Conservation Planning Act (NCCPA),¹ and a Habitat Conservation Plan under section 10 of the federal Endangered Species Act (ESA). The Plan will also provide the basis for biological assessments that support new ESA section 7 consultations between the Bureau of Reclamation (Reclamation), the U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS). The BDCP is further intended to meet the standards set out in the recently-enacted Sacramento-San Joaquin Delta Reform Act, which provides for the incorporation of the BDCP in a comprehensive management plan for the Delta (known as the “Delta Plan”).²

Unlike past regulatory approaches, which have relied almost exclusively on iterative adjustments to the operations of the SWP and CVP, the BDCP prescribes actions that will produce fundamental, systemic and long-term physical changes to the Delta. These changes will involve substantial alterations to water conveyance infrastructure and water management regimes in combination with extensive restoration of habitat and actions to reduce the impacts of various biological stressors. It is expected that these actions will significantly enhance Delta productivity and ecological processes so as to provide for the conservation of multiple species and natural communities, while improving water supply reliability for the export contractors. To further advance this holistic approach and enhance opportunities for success, the BDCP has been designed to accommodate and respond over time to new information and greater scientific understanding of the Delta.

¹ The BDCP has also been designed to meet the regulatory standards of the California Endangered Species Act.

² Add citation for the Delta Reform Act.

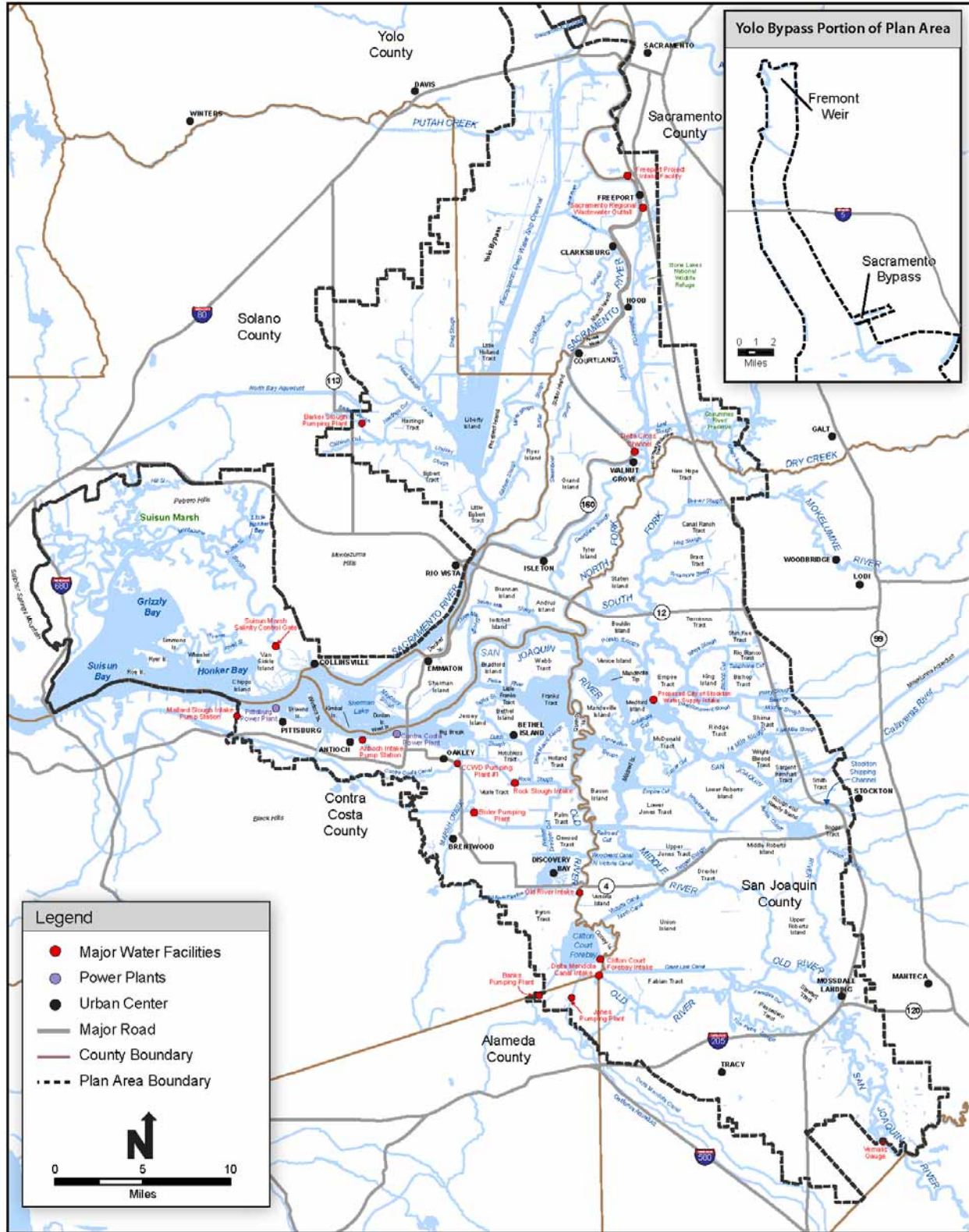
1 The BDCP sets out an integrated Conservation Strategy to achieve the overarching planning
2 goals of ecosystem restoration and water supply reliability (see section 1.2 *BDCP Planning*
3 *Goals and Conservation Objectives*) and meet a range of specific biological goals and objectives
4 (see section 3.3 *Biological Goals and Objectives*). The BDCP includes a description of each
5 element of the Conservation Strategy and the rationale for its inclusion in the Plan. The BDCP
6 further describes the expected contribution of each plan element toward advancing both the
7 overall planning goals and specific biological goals and objectives. The Conservation Strategy
8 was informed by findings and conceptual models developed over time through prior scientific
9 efforts, including those conducted by the CALFED Science Program, and supplemented by data
10 and analysis developed through the BDCP process. The Conservation Strategy is based on the
11 best available science and was built upon the following scientific tenets:

- 12 • Increase the quality, availability, spatial diversity, and complexity of aquatic habitat
13 within the Delta;
- 14 • Create new opportunities to restore the ecological health of the Delta by modifying the
15 water infrastructure to convey water around the Delta, reducing reliance on conveyance
16 of water through artificial and natural channels in the Delta to export pumping plants in
17 the southern Delta;
- 18 • Directly address key ecosystem drivers unrelated to freshwater flow patterns rather than
19 manipulation of Delta flow patterns alone;
- 20 • Improve connectivity among aquatic habitats, facilitate migration and movement of
21 covered fish among habitats, and provide transport flows for the dispersal of planktonic
22 material (organic carbon), phytoplankton, zooplankton, macroinvertebrates, and fish eggs
23 and larvae;
- 24 • Improve synchrony between environmental cues and conditions and the life history of
25 covered fish and their food resources within the upstream rivers, Delta, and Suisun Bay,
26 including the hydrologic seasonal synchrony within the watershed, seasonal water
27 temperature gradients, salinity gradients, turbidity, and other environmental cues;
- 28 • Reduce sources of direct mortality and other stressors on the covered fish and the aquatic
29 ecosystem within the Delta;
- 30 • Improve habitat conditions for covered fish in upstream river reaches, within the Delta,
31 and downstream within the low salinity zone of the estuary in Suisun Bay through the
32 integration of water operations with physical habitat enhancement and restoration;
- 33 • Minimize adverse affects on terrestrial wildlife and plants resulting from implementation
34 of measures to benefit aquatic species;
- 35 • Expand the extent and enhance the functions of existing natural communities and habitat
36 of covered wildlife and plants that is permanently protected;

- 1 • Restore habitat to expand the populations and distributions of covered wildlife and plant
2 species; and
- 3 • Rely, to the extent possible, on natural physical habitat and biological processes to
4 support and maintain covered species and their habitat.

5 The BDCP covers the Sacramento-San Joaquin Delta, as defined by California Water Code
6 Section 12220 (“statutory Delta”), as well as certain additional areas in which conservation
7 measures set out in the Conservation Strategy will be implemented (see section 1.4.1 *Geographic*
8 *Scope of the BDCP Plan Area*) (Figure 1.1). The geographic scope of the BDCP Plan Area also
9 encompasses the areas in which the activities that have been proposed for regulatory coverage
10 under the Plan are expected to occur.

11 Because the infrastructure of the State and federal water projects, however, form an integrated
12 system that extends beyond the boundaries of the Delta, the implementation of the BDCP will
13 affect water operations and species and habitat both inside and outside of the Delta. While the
14 geographic scope of BDCP Plan Area generally does not include areas upstream and downstream
15 of the Delta, the Plan will take into account and address the upstream and downstream effects of
16 covered activities, both beneficial and adverse.



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Figure 1-1. BDCP Area

1 1.1.1 BDCP Steering Committee and the Planning Agreement

2 In January 2006, a number of stakeholders with diverse interests in the Delta, including public
3 water agencies, environmental and conservation organizations, and other parties, agreed to a
4 Statement of Principles that called for the development of a comprehensive conservation plan for
5 the Delta.^[1] The parties to that agreement envisioned a plan that would advance the recovery of
6 fish and wildlife species affected by certain water supply-related activities and provide long-term
7 assurances regarding the operation of existing and future water-related facilities and other
8 activities associated with the SWP and the CVP.

9 In July 2006, several of these parties entered into a memorandum of agreement (MOA) entitled
10 For Supplemental Funding for Certain Ecosystem Actions and Support for Implementation of
11 Near-Term Water Supply, Water Quality, Ecosystem, and Levee Action.^[2] The MOA set out the
12 financial commitments of the parties to carry out actions to satisfy existing regulatory
13 requirements related to the operation of the SWP and the CVP and to develop a conservation
14 plan for the Delta that would support new regulatory authorizations under State and federal
15 endangered species laws for current and future activities related to the SWP and CVP.

16 At the same time, the California Resources Agency (currently the “California Natural Resources
17 Agency”) convened a diverse group of stakeholders and regulatory agencies to help guide the
18 development of a comprehensive conservation plan for the Delta, which became known as the
19 Bay Delta Conservation Plan (BDCP). The resulting BDCP Steering Committee consisted of
20 parties to the Statement of Principles and MOA as well as other interested groups and additional
21 state and federal agencies, all of whom indicated their commitment to engage in a process to
22 advance the co-equal goals of ecosystem restoration and water supply reliability (Table 1-1).
23 The meetings of the BDCP Steering Committee were intended to serve as the principal forum
24 within which key policy and strategy issues pertaining to the development of the BDCP would
25 be discussed and considered. In December 2006, the members of the Steering Committee
26 entered into a formal Planning Agreement, consistent with requirements of the NCCPA,^[3] for the
27 development of the BDCP. The Planning Agreement, among other things, defined the goals,
28 commitments, and expectations of the parties regarding the BDCP planning process. It also
29 reiterated the goal of the Steering Committee to develop a conservation plan that would meet the
30 requirements of the ESA and the NCCPA.

31

^[1] Appendix XX [Jan 2006 Statement of Principles

^[2] Appendix XX MOA For Supplemental Funding for Certain Ecosystem Actions and Support for Implementation of Near-Term Water Supply, Water Quality, Ecosystem, and Levee Action, July 2006.).

^[3] Appendix XX BDCP Planning Agreement and amendments

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Table 1-1. BDCP Steering Committee Members

State and Federal Agencies
California Natural Resources Agency
California Department of Water Resources
State Water Resources Control Board
U.S. Bureau of Reclamation
U.S. Army Corps of Engineers
Potential Regulated Entities (PREs)
Kern County Water Agency
Metropolitan Water District of Southern California
Mirant Delta, LLC
San Luis & Delta-Mendota Water Authority
Santa Clara Valley Water District
Westlands Water District
Zone 7 Water Agency
Environmental Organizations
American Rivers
Defenders of Wildlife
Environmental Defense Fund
Natural Heritage Institute
The Nature Conservancy
The Bay Institute
Other Member Agencies
California Farm Bureau Federation
Contra Costa Water District
Friant Water Authority
North Delta Water Agency
Ex Officio Members
Fishery Agencies
California Department of Fish and Game
U.S. Fish and Wildlife Service
National Oceanic and Atmospheric Administration, National Marine Fisheries Service
Other Ex Officio Member Agencies
Delta Stewardship Council

2

3 1.2 BDCP Planning Goals and Conservation Objectives

4 The overarching goals of the BDCP are to advance the restoration of the ecological functions and
 5 productivity in the Delta and improve the reliability of water supplies provided by the SWP and
 6 CVP, as first stated in the Statement of Principles and reaffirmed in the BDCP Planning
 7 Agreement. The Planning Agreement further articulated specific planning goals to guide the
 8 development of the BDCP and further ensure its consistency with the broader goals of the
 9 program. The planning goals for the BDCP are as follows:

- 10 • Provide for the conservation and management of covered species within the Planning
 11 Area;

- 1 • Preserve, restore and enhance aquatic, riparian and associated terrestrial natural
2 communities and ecosystems that support covered species within the Planning Area
3 through conservation partnerships;
- 4 • Allow for projects to proceed that restore and protect water supply, water quality, and
5 ecosystem health within a stable regulatory framework;
- 6 • Provide a means to implement covered activities in a manner that complies with
7 applicable state and federal fish and wildlife protection laws, including CESA and ESA,
8 and other environmental laws, including CEQA and NEPA;
- 9 • Provide a basis for permits necessary to lawfully take covered species;
- 10 • Provide a comprehensive means to coordinate and standardize mitigation and
11 compensation requirements for covered activities within the Planning Area;
- 12 • Provide a less costly, more efficient project review process which results in greater
13 conservation values than project-by-project, species-by-species review; and
- 14 • Provide clear expectations and regulatory assurances regarding covered activities
15 occurring within the Planning Area.

16 Throughout the planning process, the Steering Committee worked to develop a plan consistent
17 with these planning goals. The BDCP reflects these goals and provides the basis for
18 conservation and regulatory outcomes identified in the Planning Agreement.

19 The BDCP process was also guided by a preliminary set of conservation objectives that were
20 first expressed in the Planning Agreement. These preliminary conservation objectives included
21 the following:

- 22 • Provide for the protection of covered species and associated natural communities and
23 ecosystems that occur within the Planning Area;
- 24 • Preserve the diversity of fish, wildlife, plant and natural communities within the Planning
25 Area;
- 26 • Minimize and mitigate, as appropriate, the take of proposed covered species;
- 27 • Preserve and restore habitat and contribute to the recovery of covered species;
- 28 • Reduce the need to list additional species;
- 29 • Set forth species-specific goals and objectives;
- 30 • Set forth specific habitat-based goals and objectives;
- 31 • Implement an adaptive management and monitoring program to respond to changing
32 ecological conditions; and

- Avoid actions that are likely to jeopardize the continued existence of covered species or result in the destruction or adverse modification of critical habitat.

These planning goals and preliminary conservation objectives set the initial direction for the BDCP planning process. As the planning process progressed, the Steering Committee began to identify specific biological goals and objectives that the BDCP would be expected to meet during its implementation. These specific biological goals and objectives are described in section 3.3 *Biological Goals and Objectives*, and are set out in a hierarchical framework that distinguishes between ecosystem-level goals and objectives, natural community goals and objectives, and species-specific goals and objectives. The biological goals reflect broad principals while the biological objectives identify more specific targets that the Plan should meet to achieve its overall biological goals. These objectives include measureable metrics or criteria to enable ongoing assessment of the Plan's effectiveness throughout its implementation.

1.3 Regulatory Context

1.3.1 Regulatory Purpose of the BDCP

The BDCP provides the basis for regulatory compliance with ESA and the NCCPA for a range of activities related to the operation of the SWP, CVP, and the Mirant power plants that occur within the Plan Area, including the diversion and export of water from the Delta and its tributaries. The BDCP advances a comprehensive solution to the persistent regulatory challenges that have faced the SWP and CVP. This comprehensive solution includes systemic changes to water conveyance infrastructure and broad-scale restoration and enhancement of ecological resources. This approach is intended to result in long-term regulatory stability for the State and federal water projects, while furthering the goals of water supply reliability and ecological restoration.

The BDCP has been prepared as a joint HCP/NCCP, which will support the issuance of incidental take authorizations from USFWS and NMFS pursuant to section 10 of the ESA and take authorizations from DFG under section 2835 of the NCCPA to the non-federal applicants.³ The BDCP has also been designed to meet the standards of section 2081 of the California Endangered Species Act (CESA). The BDCP will further provide the basis for biological assessments (BA) to support the issuance of incidental take authorizations from USFWS and NMFS to Reclamation pursuant to section 7 of the ESA, for its actions in the Delta.⁴

To meet these regulatory objectives, the BDCP sets out a comprehensive Conservation Strategy that will address the adverse effects of SWP and CVP actions that occur within the Plan Area on aquatic and terrestrial species, including those listed under the ESA or CESA as threatened, endangered, or candidates for listing, as well as on critical habitat, if any, that has been designated for these species pursuant to the ESA (see Chapter 3 *Conservation Strategy*). The

³ 16 U.S.C. § 1539.; California Fish and Game Code (Fish & Game Code) § 2835 *et seq.*

1 biological assessment for CVP-related activities in the Delta will adopt the BDCP Conservation
2 Strategy as it relates to those federal actions and will serve as a companion document to the
3 BDCP. It should be noted that the BDCP does not attempt to distinguish precisely between the
4 effects on covered species attributable to the CVP covered activities and those of the SWP.
5 Rather, the BDCP includes a comprehensive analysis of the effects associated with both the SWP
6 and the CVP within the BDCP Plan Area and proposes a Conservation Strategy that adequately
7 addresses the totality of those effects. On the basis of the BDCP and the companion biological
8 assessment, USFWS and NMFS are expected to issue section 10 permits and a new joint
9 biological opinion that supersedes biological opinions existing at that time as they relate to SWP
10 and CVP actions covered by the BDCP.

11 The BDCP affords an opportunity to move beyond the cycle of litigation that has compelled
12 incremental and disruptive adjustments to the operations of the existing water supply
13 infrastructure and toward a stable regulatory environment. The succession of federal court
14 decisions over the past several years regarding the intersection of the federal and State
15 endangered species acts and the operation of the State and federal water projects did little to
16 settle conflicts over species conservation and water supply needs. Rather, these decisions
17 translated into additional restrictions on water supplies to 25 million Californians in the Bay
18 Area, Central Valley, and Southern California. These water supplies had been previously
19 constrained because of a worsening environmental crisis in the Delta, prior court-ordered
20 pumping restrictions, and state-wide drought conditions. The recent legal proceedings are but
21 part of a history of legal battles that have served to further reinforce the need for comprehensive,
22 legally-defensible regulatory solutions to the environmental and water supply challenges
23 associated with the Delta.

24 **1.3.2 The Federal Endangered Species Act**

25 The United States Congress passed the Endangered Species Act (ESA) in 1973 to provide a
26 means for conserving the ecosystems that endangered and threatened species require in order to
27 prevent species extinctions. The ESA has three major components relevant to the BDCP: the
28 Section 7 requirement that federal agencies ensure, in consultation with the federal fish and
29 wildlife agencies, that their actions are not likely to jeopardize the continued existence of species
30 or result in modification or destruction of critical habitat; the Section 9 prohibition against the
31 “taking” of listed species; and the Section 10 provisions that provide for the permitting of non-
32 federal entities for the incidental take of listed species.

33 Section 7 of the ESA provides that each federal agency must ensure, in consultation with the
34 Secretary of the Interior or Commerce, that any actions authorized, funded, or carried out by the
35 agency are not likely to jeopardize the continued existence of any endangered or threatened
36 species or result in the destruction or adverse modification of areas determined to be critical
37 habitat.⁵ Section 7 requires federal agencies to engage in formal consultation with USFWS or

⁵ 16 U.S.C. § 1536(a)(2).

1 NMFS for any proposed actions that are likely to adversely affect listed species. A biological
2 opinion is issued by USFWS or NMFS at the completion of formal consultation. The biological
3 opinion can conclude that the project as proposed is either likely or not likely to jeopardize the
4 continued existence of the species. If the biological opinion concludes “no jeopardy,” the action
5 can proceed as proposed. If the biological opinion concludes “jeopardy,” USFWS or NMFS will
6 identify “reasonable and prudent alternatives” to the proposed action that would avoid
7 jeopardizing the species. Included in the biological opinion is an incidental take statement that
8 authorizes a specified level of take anticipated to result from the proposed action. The incidental
9 take statement contains “reasonable and prudent measures” that are designed to minimize the
10 level of incidental take and that must be implemented as a condition of the take authorization.⁶

11 Section 9(a)(1)(B) of the ESA prohibits the take by any person of any endangered fish or wildlife
12 species; take of threatened fish or wildlife species is prohibited by regulation. The ESA prohibits
13 the take of any listed threatened fish or wildlife species in violation of any regulation
14 promulgated by the USFWS or NMFS. “Take” is defined broadly to mean harass, harm, hunt,
15 shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct.⁷ “Harm”
16 is defined by regulation to mean an act which actually kills or injures wildlife, including those
17 activities that cause significant habitat modification or degradation resulting in the killing or
18 injuring of wildlife by significantly impairing essential behavior patterns, including breeding,
19 feeding, or sheltering.⁸ The take prohibitions of the ESA apply unless take is otherwise
20 specifically authorized or permitted pursuant to the provisions of section 7 or section 10 of the
21 ESA. The protections for listed plant species under the ESA are more limited than for fish and
22 wildlife.⁹

23 Section 10 of the ESA specifically addresses the authorization for take by non-federal entities
24 through the development of a HCP. For those actions for which no federal nexus exists, private
25 individuals, corporations, state and local government agencies, and other non-federal entities
26 who wish to conduct otherwise lawful activities that may incidentally result in the take a listed

⁶ 50 C.F.R. § 402.14(i)(5).

⁷ 16 U.S.C. § 1532 (1988).

⁸ 50 C.F.R. § 17.3. NMFS has a similar definition that adds the concepts of spawning and migrating to examples of injury. NMFS defines “harm” as “an act which actually kills or injures fish or wildlife. Such an act may include significant habitat modification or degradation which actually kills or injures fish or wildlife by significantly impairing essential behavioral patterns, including, breeding, spawning, rearing, migrating, feeding or sheltering.” (50 C.F.R § 222.102).

⁹ Section 9(a)(2)(B) of the ESA prohibits removal, possession, or malicious damage or destruction of endangered plants in areas under federal jurisdiction, as well as actions that remove, cut, dig up, damage, or destroy endangered plants in areas outside of federal jurisdiction in violation of any state law or regulation, including state criminal trespass law. Protection for threatened plant species is limited to areas under federal jurisdiction. 50 C.F.R. § 17.71(a). The ESA section 7(a)(2) prohibition against jeopardy applies to plants, wildlife, and fish equally, and USFWS and NMFS may not issue a section 10(a)(1)(B) permit if the issuance of that permit would result in jeopardy to any listed species.

1 species must first obtain a section 10 incidental take permit from USFWS or NMFS. The non-
2 federal entity is required to develop an HCP as part of the permit application process.

3 Under Section 10(a)(1)(B) of the ESA, the Services may permit the incidental take of listed
4 species that may occur as a result of an otherwise lawful activity. To obtain a Section
5 10(a)(1)(B) permit, an applicant must prepare an HCP that meets the following five criteria: 1)
6 the taking will be incidental to an otherwise lawful activity; 2) the applicant will, to the
7 maximum extent practicable, minimize and mitigate the impacts of such taking; 3) the applicant
8 will ensure that adequate funding for the plan will be provided; 4) the taking will not appreciably
9 reduce the likelihood of the survival and recovery of the species in the wild; and, 5) other
10 measures, if any, which the Services require as being necessary or appropriate for purposes of
11 the plan will be met.¹⁰

12 The BDCP is intended to meet all regulatory requirements necessary for USFWS and NMFS to
13 issue section 10 permits to allow incidental take of all proposed covered species as a result of
14 covered activities undertaken by DWR, certain SWP contractors, and Mirant Corporation, and to
15 issue section 7 biological opinions to authorize incidental take for covered actions undertaken by
16 USBR and CVP contractors. The BDCP assessment of direct and indirect effects (Chapter 5
17 *Assessment of Effects and Level of Take*) on covered species and critical habitat provides the
18 analyses and information necessary for USBR, USFWS, and NMFS to meet the analytical
19 requirements of section 7.

20 **1.3.2.1 Compliance with the Services' Five-Point Policy Guidance**

21 In June 2000, the USFWS and NMFS adopted a five-point policy designed to clarify elements of
22 the habitat conservation planning program as they relate to biological goals, adaptive
23 management, monitoring, permit duration, and public participation.¹¹ The five-point policy
24 directs that the following elements be addressed in the development of habitat conservation
25 plans:

26 **Biological Goals and Objectives.** HCPs are required to define biological goals and objectives
27 that the plan is intended to achieve. Biological goals and objectives clarify the purpose and
28 direction of the plan's conservation program. The BDCP sets out extensive biological goals and
29 objectives, including specific measurable targets, that the Plan is designed to meet. These targets
30 were developed on the basis of the best available scientific information and have been used as
31 parameters and benchmarks to guide the conservation strategies for the species and natural
32 communities covered by the Plan. The biological goals and objectives of the BDCP are
33 described in Section 3.3, *Biological Goals and Objectives*.

¹⁰ 16 U.S.C. § 1539(a)(2)(A).

¹¹ Final Addendum to the Handbook for Habitat Conservation Planning and Incidental Take Permitting, 65 FR 106, June 1, 2000 (hereinafter referred to as the "Five Point Policy")

1 **Adaptive Management.** The five-point policy encourages the inclusion of adaptive
2 management strategies in HCPs in appropriate circumstances to address uncertainty related to
3 species covered by a plan. The agencies describe adaptive management as a “method for
4 examining alternative strategies for meeting measurable biological goals and objectives, and then
5 if necessary, adjusting future conservation management actions according to what is learned.”¹²
6 The BDCP incorporates an adaptive management process that is designed to facilitate and
7 improve decision-making during the implementation of the Plan and identify adjustments and
8 modifications, as defined in the Plan, to the conservation strategy as new information becomes
9 available over time. The framework for the BDCP adaptive management program is set out in
10 section 3.6 *Adaptive Management Plan*.

11 **Monitoring.** HCPs are required to include provisions for monitoring to gauge the effectiveness
12 of the plan in meeting the biological goals and objectives and to verify that the terms and
13 conditions of the plan are being properly implemented. The biological and compliance
14 monitoring provisions of the BDCP are found in section 3.5 *Monitoring and Research Program*.

15 **Permit Duration.** Consistent with the five-point policy, the USFWS and NMFS consider
16 several factors in determining the term of an incidental take permit. The agencies, for instance,
17 take into account the expected duration of the activities proposed for coverage and the
18 anticipated positive and negative effects on covered species that will likely occur during the
19 course of the plan. The agencies also factor in the level of scientific and commercial data
20 underlying the proposed operating conservation program, the length of time necessary to
21 implement and achieve the benefits of the operating conservation program, and the extent to
22 which the program incorporates adaptive management strategies. The duration of the permits to
23 be issued pursuant to the BDCP is anticipated to be 50 years.

24 **Public Participation.** Under the five-point policy, the federal fish and wildlife agencies have
25 sought to increase public participation in the HCP process, including greater opportunity for the
26 public to assess, review, and analyze HCPs and associated NEPA documentation. As part of this
27 effort, the agencies have encouraged greater engagement of the public for most HCPs,
28 particularly those with regional scopes. As described in section 1.5.2, the BDCP process
29 afforded extensive opportunities for public involvement and input throughout the development of
30 the Plan.

31 **1.3.3 Natural Community Conservation Planning Act**

32 The Natural Community Conservation Planning Act (NCCPA) provides a mechanism for
33 compliance with State endangered species regulatory requirements through the development of
34 comprehensive, broad-scale conservation plans that focus on the needs of natural communities
35 and the range of species that inhabit them.¹³ The NCCP program has provided the basis for
36 successful collaborations throughout California between State and federal agencies, local

¹² 65 FR at X.

¹³ Fish & Game Code § 2800 *et. seq.*

1 governments, community groups, and private interests that have resulted in long-term, habitat-
2 based protections for regional biodiversity and related ecosystems. It has also proved to be an
3 effective tool in achieving these protections while reducing conflicts between conservation goals
4 and the reasonable use of natural resources and lands for economic development. The BDCP
5 adopts the approaches set out in the NCCPA and incorporates those elements necessary to meet
6 regulatory requirements of the Act.

7 Specifically, the BDCP has been developed in a manner consistent with the process identified in
8 its Planning Agreement, including processes to ensure ample public participation and
9 engagement throughout Plan development and review, extensive input from independent
10 scientists, and coordination with federal fish and wildlife agencies with respect to ESA
11 requirements. Consistent with the requirements of the NCCPA, the Plan further provides a
12 multi-faceted approach to provide for the conservation and management of covered species and
13 their habitats, incorporating a conservation strategy that provides for the protection of habitat,
14 natural communities, and species diversity on an ecosystem level; establishes conservation
15 measures, including measures sufficient to fully mitigate the effects of covered activities;
16 integrates adaptive management strategies that can be modified based on new information
17 developed through monitoring; and sets out a detailed implementation program, including
18 provisions that ensure adequate funding to carry out the Plan.

19 The BDCP addresses all of the requirements of the NCCPA for aquatic, wetland, and terrestrial
20 covered species of fish, wildlife, and plants and Delta natural communities affected by BDCP
21 actions. On that basis, CDFG may issue permits for the taking of the species proposed for
22 coverage under the Plan.¹⁴

23 **1.3.4 California Endangered Species Act**

24 The California Endangered Species Act (CESA) prohibits the take of wildlife or plant species
25 designated as threatened or endangered by the California Fish and Game Commission.¹⁵ “Take”
26 is defined as any action or attempt “to hunt, pursue, catch, capture, or kill.”¹⁶ Like the ESA,
27 CESA allows for exceptions to the take prohibitions for otherwise lawful activities. The
28 requirements of an application for incidental take under CESA are described in section 2081 of
29 the Fish and Game Code. Incidental take of endangered, threatened, or candidate species may be
30 authorized if an applicant demonstrates, among other things, that the impacts of the proposed
31 take will be minimized and fully mitigated.¹⁷

32 Although the BDCP has been designed to comply with the NCCPA, and take authorizations are
33 being sought under Section 2835 of the Fish and Game Code, the Plan’s provisions have also
34 been developed to be consistent with the regulatory standards of CESA. Specifically, the BDCP

¹⁴ Fish & Game Code § 2835.

¹⁵ Fish & Game Code § 2080.

¹⁶ Fish & Game Code § 86.

¹⁷ Fish & Game Code § 2081(b)(2).

1 Conservation Strategy incorporates measures that adequately minimize and fully mitigate the
2 effects of Covered Activities on State-listed species and includes other such measures as required
3 by CESA. As such, the actions set out in the BDCP are expected to be sufficient to allow for
4 findings to be made by DFG to support the issuance of incidental take authorizations under
5 CESA.

6 **1.3.5 The National Environmental Policy Act**

7 The purpose of the National Environmental Policy Act (NEPA) is to ensure that federal agencies
8 consider the environmental impacts of their actions and decisions.¹⁸ NEPA requires that the
9 federal government use all practicable means and measures to protect environmental values and
10 makes environmental protection a part of the mandate of every federal agency and department.
11 To accomplish this goal, NEPA establishes a process and approach to analysis to determine the
12 environmental impacts associated with proposed federal actions that significantly affect the
13 quality of the human environment.

14 The permitting and implementation of the BDCP involve several federal actions and decisions
15 that are subject to review under NEPA. Reclamation's actions include changes in the operation
16 of the Delta Cross Channel, an expected agreement with DWR to provide for wheeling of CVP
17 water through a new isolated conveyance facility, and the implementation of certain conservation
18 measures through the BDCP Management Entity. USFWS and NMFS will make decisions
19 regarding the issuance of incidental take permits under section 10(a)(1)(B) of the ESA.
20 Reclamation, USFWS, and NMFS are joint lead agencies for the preparation of the BDCP
21 Environmental Impact Statement (EIS). The U.S. Army Corps of Engineers (Corps) and the
22 U.S. Environmental Protection Agency (EPA) are participating in the NEPA process as
23 cooperating federal agencies.

24 **1.3.6 The California Environmental Quality Act**

25 The California Environmental Quality Act (CEQA) serves as a counterpart to NEPA, and applies
26 to all discretionary activities proposed to be carried out or approved by California public
27 agencies. CEQA requires state and local agencies to identify significant environmental impacts
28 of their actions and to take all feasible steps to avoid or mitigate those impacts. CEQA sets forth
29 both procedural and substantive requirements and its procedures are intended to ensure adequate
30 public participation and input into the decision-making process.

31 The BDCP is a project subject to CEQA, as are numerous BDCP-related actions that will be
32 implemented over the term of the plan.¹⁹ DWR serves as the lead agency for the preparation of
33 the Environmental Impact Report (EIR), which will include analyses of DWR's proposed
34 adoption of the plan, as well as its implementation of certain projects covered by the BDCP.
35 Among the BDCP-related projects that will undergo review are the construction of new

¹⁸ 42 U.S.C. § 4371 *et seq.*

¹⁹ California Public Resources Code (CPRC) section 21000 *et seq.* and CEQA Guidelines 14 CCR 15000 *et seq.*

1 conveyance facilities and several identifiable habitat restoration actions, which are all described
2 in the BDCP. CDFG is participating in the preparation of the EIR as both a responsible and
3 trustee agency. The EIR will also serve as the CEQA document for the purpose of regulatory
4 permits issued by CDFG pursuant to the BDCP.

5 The state and federal lead agencies will prepare a joint BDCP EIR/EIS to satisfy CEQA and
6 NEPA concurrently.

7 **1.3.7 Relationship with Existing Biological Opinions**

8 The operations of the SWP and the CVP are currently subject to the terms and conditions of
9 biological opinions issued by the USFWS and NMFS pursuant to section 7 of the federal ESA.
10 The biological opinion to be jointly issued by USFWS and NMFS on the basis of the BDCP and
11 its companion biological assessments will supersede USFWS and NMFS biological opinions that
12 exist at the time of the approval of the BDCP as they relate to the coordinated operation of the
13 CVP and SWP to the extent that the BDCP addresses activities covered by these existing
14 biological opinions.

15 **1.3.8 Recent California Legislation Relating to Water and the Sacramento-San** 16 **Joaquin Delta**

17 In November 2009, the State of California enacted comprehensive legislation to address the
18 range of challenges facing the Delta, including those involving water supply reliability and
19 ecosystem health. The legislation advances several broad goals of the State with regards to the
20 Delta and specifies a range of actions to be implemented to meet those goals. Among the several
21 goals stated in the legislation is the following:

22 *Achieve the two co-equal goals of providing for a more reliable water supply for*
23 *the California and protecting, restoring, and enhancing the Delta ecosystem. The*
24 *co-equal goals shall be achieved in a manner that protects and enhances the*
25 *unique cultural, recreational, natural resource, and agricultural values of the*
26 *Delta as an evolving place.²⁰*

27 The codification of these co-equal goals has served to reinforce the nearly-identical BDCP
28 planning goals adopted by the Steering Committee and used throughout the planning process to
29 help guide the development of the Plan.

30 The Delta legislation includes the Sacramento-San Joaquin Delta Reform Act of 2009,²¹ which
31 provides for the establishment of an independent state agency, the Delta Stewardship Council, to
32 further the co-equal goals of ecosystem restoration and a reliable water supply. The Council,
33 which became operational on February 3, 2010, is charged with the development and
34 implementation of a comprehensive management plan for the Delta (Delta Plan), and is vested

²⁰ SBX 7 1

²¹ Division 35, California Water Code

1 with the authority to review actions of state and local agencies and advise on their consistency
2 with the Delta Plan.

3 The Council is also required to consider the inclusion of the BDCP in the Delta Plan. The Delta
4 Reform Act sets out the conditions under which the Council is to incorporate the BDCP into the
5 Delta Plan. To be considered for inclusion in the BDCP, the BDCP must comply with the
6 requirements of the NCCPA and CEQA, which includes a review and analysis of various
7 specified alternatives to the proposed Plan. Upon approval of the BDCP as an NCCP and as an
8 HCP under the ESA, the Council is required to incorporate the BDCP into the Delta Plan.
9 However, the determination by DFG that the BDCP meets the requirements of the NCCPA may
10 be appealed to the Council.

11 **1.3.9 Relationship between the BDCP and Other Federal and State Laws and** 12 **Regulations**

13 The BDCP has been developed as a conservation plan that complies with State and federal
14 endangered species laws. However, the Plan or the actions described herein will need to
15 conform to the requirements of various other State and federal laws and regulations not
16 specifically addressed by the Plan. Prior to the implementation of many of the conservation
17 actions set out in the BDCP, regulatory authorizations and approvals will need to be obtained
18 from State and federal under applicable laws. Such authorizations will likely involve some or all
19 of the following statutes: California Water Code sections 1000 *et seq.* (water rights), Water Code
20 sections 13000 *et seq.* (water quality), California Fish and Game Code sections 1600 *et seq.* and
21 5900 *et seq.* (channel modification, fish screens), Clean Water Act section 404 (placement of
22 dredge and fill), Rivers and Harbors Act section 408 (work on levees), Rivers and Harbors Act
23 section 10 (navigation), and the Migratory Bird Treaty Act (migratory birds).

24 **1.3.9.1 Section 404 of the Clean Water Act**

25 In 1972, Congress passed the Federal Water Pollution Control Act, commonly known as the
26 Clean Water Act (CWA), with the goal of “restor[ing] and maintain[ing] the chemical, physical,
27 and biological integrity of the Nation’s waters.”²² In furtherance of this goal, the CWA prohibits
28 the discharge of any pollutants into navigable waters, except as allowed by permit issued under
29 certain sections of the CWA.²³ Specifically, Section 404 authorizes the Corps to issue permits
30 for and regulate the discharge of dredged or fill materials into wetlands or other “waters of the
31 United States.” Under the CWA and its implementing regulations, “waters of the United States”
32 are broadly defined to consist of rivers, creeks, streams, and lakes extending to their headwaters,
33 including adjacent wetlands.²⁴

²² 33 U.S.C. § 1251(a).

²³ See 33 U.S.C. §§ 1311, 1342, and 1344.

²⁴ 33 C.F.R. § 328.3(a)(3).

1 Responsibility for the implementation of Section 404 of the CWA is shared by the U.S.
2 Environmental Protection Agency (EPA) and the Corps. EPA is generally responsible for
3 establishing policy and guidance regarding the implementation of the program. For instance,
4 EPA developed the guidelines that are used to evaluate the sufficiency of Section 404 permit
5 applications, and has played the lead role in determining the scope of the federal government's
6 jurisdiction over aquatic resources, including the reach of the term "waters of the United States."
7 EPA also determines the eligibility of a state to assume responsibility for portions of the Section
8 404 program.²⁵ On the other hand, the Corps is responsible for the day-to-day administration of
9 the Section 404 permit program.

10 Many of the actions that will be implemented under the BDCP will result in the discharge of
11 dredged or fill materials into "waters of the U.S." and will need to be authorized by the Corps.
12 These BDCP actions will receive such authorizations through both General Permits and
13 Individual Permits. Typically, General Permits apply to specific classes of activities that have
14 been determined to cause no more than minimal impact to the aquatic environment (e.g.,
15 construction of road crossings, installation of utility lines, and operations and maintenance
16 activities).²⁶ Individual Permits are designed for activities that have the potential to have more
17 than a minimal effect on jurisdictional waters or that otherwise do not qualify under the
18 conditions of a General Permit. Substantively, the Corps must evaluate applications for
19 Individual Permits to determine their consistency with the requirements of the Section 404(b)(1)
20 Guidelines²⁷ and the Corps' regulations.²⁸

21 **1.3.9.2 Section 401 of the Clean Water Act**

22 Pursuant to Section 401, states can certify or deny federal permits or licenses that might result in
23 a discharge to State waters, including wetlands.²⁹ Section 404 permit applicants must obtain a
24 "water quality certification" from the state water quality agency indicating that the proposed
25 activity complies with all applicable state water quality standards, limitations, and restrictions.
26 In California, the Regional Water Quality Control Boards (RWQCB) issue water quality
27 certifications within their jurisdictions. Appeals to the decisions of the RWQCBs are heard by
28 the State Water Board.

29 **1.3.9.3 Section 10 of the Rivers and Harbors Act**

30 Section 10 of the Rivers and Harbors Act of 1899 requires authorization from the Secretary of
31 the Army for the construction of any structure in or over any navigable water of the United
32 States or the construction of structures or alteration of capacity in any port, canal, navigable

²⁵ The 1977 amendments to the CWA provided that States can assume the federal 404 program provided that the State has a "comparable" program. State program assumption of 404 is only available for non-navigable waters so that even in States where the program has been assumed, the federal government retains control over activities in navigable waters. Only two States, Michigan and New Jersey, have assumed the 404 program to date. In States with assumed 404 programs, the State authorization is the only one required.

²⁶ 33 C.F.R. § 325.5(c)

²⁷ 40 C.F.R. Part 230.

²⁸ 33 C.F.R. Part 325.

²⁹ 33 U.S.C. § 1341.

1 river, or other water of the United States.³⁰ “Navigable waters” under Section 10 of the Rivers
2 and Harbors Act are defined as “those waters of the United States that are subject to the ebb and
3 flow of the tide shoreward to the mean high water mark and/or are presently used, or have been
4 used in the past, or may be susceptible to use to transport interstate or foreign commerce.”³¹
5 Certain BDCP actions will require authorizations under Section 10.

6 *[Note to Reviewers: additional text to be added regarding section 408 of the Rivers and*
7 *Harbors Act addressing modifications to structures (e.g., work on levees)]*

8 **1.3.9.4 California Fish and Game Code Section 1600 et seq.**

9 California has adopted regulations to address impacts to many of the resources subject to Section
10 404 of the CWA. Although not entirely overlapping, these programs intersect frequently.
11 Project proponents are required to obtain separate authorizations from the Corps and the
12 California Department of Fish and Game (DFG).

13 Section 1602 of the California Fish and Game Code requires any person, state or local
14 governmental agency to provide advance written notification to DFG prior to initiating any
15 activity that would: (1) divert or obstruct the natural flow of, or substantially change or remove
16 material from the bed, channel, or bank of any river, stream, or lake; (2) result in the disposal or
17 deposition of debris, waste, or other material into any river, stream, or lake.³² The State
18 definition of “lake, rivers, and streams” includes all rivers or streams that flow at least
19 periodically or permanently through a bed or channel with banks that support fish or other
20 aquatic life, and watercourses with surface or subsurface flows that support or have supported
21 riparian vegetation.³³

22 Certain actions that will be implemented under the BDCP will require Streambed Alteration
23 Agreements under Section 1602. As part of that process, DFG will review notifications
24 submitted by the BDCP Management Entity to determine if the proposed project would impact
25 existing fish and wildlife resources that are directly dependent on a lake, river, or stream. If
26 DFG determines that the proposed activity will not substantially adversely affect an existing fish
27 and wildlife resource, it will notify the Management Entity that no Streambed Alteration
28 Agreement is required and the project may proceed.³⁴ If DFG determines that the project may
29 substantially adversely affect an existing fish and wildlife resource, it will require, as part of a
30 Streambed Alteration Agreement, reasonable measures necessary to protect the fish and wildlife
31 resource.³⁵

³⁰ 33 C.F.R. § 401 *et seq.*

³¹ 33 C.F.R. § 329.4

³² Fish & Game Code § 1602.

³³ 14 C.C.R. § 1.72.

³⁴ Fish & Game Code § 1602(a)(4)(A)(i).

³⁵ Fish & Game Code § 1603(a).

1 **1.3.9.5 Migratory Bird Treaty Act**

2 The Migratory Bird Treaty Act (MBTA) of 1918 implements four international treaties for the
3 conservation and management of bird species that may migrate through more than one country.³⁶
4 The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird
5 listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as
6 allowed by implementing regulations.³⁷ For federally listed migratory bird species covered
7 under the BDCP for which an ESA Section 10(a) permit has been issued, the Management Entity
8 may also obtain an MBTA permit for those species.

9 **1.3.9.6 Water Rights under the California Water Code**

10 The California Water Code³⁸ prescribes detailed procedures that govern the appropriation of
11 water from a lake, river, stream, or creek. After the enactment of the State Water Commission
12 Act in 1914, the State required any person or agency seeking to use surface water, without an
13 existing riparian right, to apply for and receive approval for such use from the State Water
14 Resources Control Board (State Water Board). Water rights permits granted by the State Water
15 Board include detailed descriptions of the amounts, conditions, and construction timetables
16 under which the proposed water project must comply. Prior to permit issuance, the State Water
17 Board must take into account all prior rights and the availability of water in the basin. The
18 Board must also consider the flows needed to preserve instream uses such as recreation and fish
19 and wildlife habitat. The Board may impose additional conditions to ensure that these criteria
20 are satisfied and it may use its continuing authority to enforce and revise the conditions of water
21 right permits over time. The State Water Board is also empowered to revoke a permit or issue
22 cease and desist orders if conditions of the permit are not being met.

23 At any time after receiving a water right permit, a permittee may seek permission from the State
24 Water Board to change the point of diversion, place of use, or purpose of use from that specified
25 in the permit. The proposed change cannot involve a new right or cause injury to any other legal
26 user of water. The implementation of the BDCP will require a change in points of diversion
27 specified in the DWR and Reclamation water right permits. As such, DWR and Reclamation
28 will need to petition the State Water Board to change the point of diversion. Prior to approving
29 these petitions, the State Water Board must find that the change will not cause injury to any legal
30 user of the water involved or result in harm fish or wildlife. Other right holders and the public
31 will have an opportunity to object to the proposed change by filing a protest form with the State
32 Water Board. If a protest is filed, the Board must hold a hearing on the petition and will either
33 grant or refuse permission to make the change, as the facts may warrant. Because the State
34 Water Board has discretion to approve the requested petition, it must comply with the California
35 Environmental Quality Act.

³⁶ 16 U.S.C. § 703 *et seq.*

³⁷ 50 C.F.R. § 21.

³⁸ Division 2, Wat. Code section 1000 *et seq.*

1 **1.3.9.7 Porter-Cologne Water Quality Control Act**

2 The Porter-Cologne Water Quality Control Act (Porter-Cologne)³⁹ sets out a comprehensive
3 regulatory, planning, and management program to protect water quality and beneficial uses of
4 the state's water. The Act established the State Water Resources Control Board's authority to
5 preserve and enhance the quality of California's water resources, and to ensure proper allocation
6 and efficient use of water.

7 Under Porter-Cologne, the State Water Board is required to prepare a Water Quality Control
8 Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan). While
9 the Regional Water Boards have primary responsibility for formulating and adopting water
10 quality control plans for their respective regions, the State Water Board also is authorized to
11 develop and adopt water quality control plans. In such instances, the water quality control plan
12 adopted by the State Water Board supersedes regional plans developed for the same waters, to
13 the extent they conflict.

14 The Bay-Delta Plan consists of three primary components: (1) the beneficial uses (of water) to be
15 protected; (2) the water quality objectives for the estuary; and (3) the implementation programs
16 to meet the water quality objectives. Beneficial uses include uses such as domestic, agricultural
17 and industrial supply; power generation; recreation and aesthetic use; navigation; and
18 preservation and enhancement of fish, aquatic, and wildlife resources. Water quality objectives
19 or standards reflect the levels of water quality constituents that have been determined to be
20 necessary to protect beneficial uses. Implementation plans describe actions to be taken to
21 achieve the objectives and set out programs for monitoring, management, and enforcement.

22 The State Water Board is vested with primary regulatory authority over flows, water quality, and
23 other water rights issues in the Bay-Delta. As such, many of the actions described in the BDCP,
24 including modifications to the water conveyance system, will require the approval of the State
25 Water Board. It is expected, however, that the State Water Board's extensive participation in
26 the development of the BDCP, and in the environmental review process, will help ensure
27 consistency between the actions described in the BDCP and those required by the board as part
28 of its water quality control planning and implementation activities, particularly with respect to
29 those measures identified to protect fish and wildlife beneficial uses.

30 **1.4 Scope of the BDCP**

31 This section describes the geographic scope of the BDCP, the types of activities that the Plan
32 covers, and the duration sought for regulatory permits that are issued by the Fish and Wildlife
33 agencies pursuant to the Plan.

³⁹ Water Code § 13000 *et seq.*

1 1.4.1 Geographic Scope of the BDCP Plan Area

2 The geographic scope of the BDCP Plan Area encompasses the Sacramento-San Joaquin Delta
3 and additional areas in which conservation measures may be implemented pursuant to the Plan.
4 Take authorizations issued under the BDCP will extend to covered activities that occur within
5 the Plan Area.

6 The BDCP Conservation Strategy is primarily focused on the statutory Delta, as defined in
7 California Water Code Section 12220. However, certain areas outside the statutory Delta
8 contain desirable locations for conservation actions that advance the goals and objectives of the
9 Plan (Figure 1.1).⁴⁰ Areas such as Suisun Marsh, Suisun Bay, and upstream areas of the upper
10 Yolo Bypass and the area that encompasses the Fremont Weir, for instance, provide important
11 sites for habitat restoration to support goals and objectives for natural communities and covered
12 species (Figure 1.1). In addition, the Conservation Strategy includes measures that will be
13 implemented outside of the statutory Delta to support or complement regional conservation
14 planning efforts underway in Yolo, Solano, Contra Costa, San Joaquin, and Sacramento counties.
15 As such, the geographic scope of the Plan Area will also encompass habitat lands that are
16 conserved through BDCP actions taken in conjunction with these other regional conservation
17 programs. To the extent appropriate, these conservation actions will be implemented through
18 cooperative agreements, or similar mechanisms, between the BDCP Management Entity and
19 local agencies, interested non-governmental organizations, landowners, or other parties.

20 To accommodate the range of conservation measures necessary to meet the goals and objectives
21 of the BDCP, the scope of the Plan Area may be expanded during the implementation of the
22 Plan. The flexibility to expand the boundaries of the Plan during plan implementation will allow
23 for greater opportunity to maximize conservation benefits associated with the measures set out in
24 the Conservation Strategy. Adjustments to the Plan Area, however, would occur only under
25 certain defined circumstances and within identified areas, as set out in the Conservation Strategy.

26 Because the SWP and CVP water infrastructure is operated as an integrated system, the effects of
27 implementing the BDCP will extend beyond the Delta, both upstream and downstream, and will
28 implicate water operational parameters as well as species and their habitats. Therefore, the
29 BDCP effects analysis (see Chapter 5 *Effects Analysis*) takes into account these upstream and
30 downstream effects, both positive and negative, to ensure that the overall effects of the BDCP
31 are sufficiently described, analyzed and addressed. Areas potentially affected by the
32 implementation of the BDCP located outside of the geographic scope of the plan, have been
33 included in the analysis of effects to ensure that all of the potential effects within the “action
34 area,” as defined by section 7 of the ESA, have been adequately assessed.

⁴⁰ The BDCP Planning Agreement, recognized the likelihood that the BDCP Conservation Strategy would include actions that would be implemented outside of the Statutory Delta to further advance the goals and objectives of the plan

1 1.4.2 Covered Natural Communities

2 Natural communities are distinct and reoccurring assemblages of plants and animals associated
3 with specific physical environmental conditions and ecological processes. A natural community
4 occurs across a landscape where similar ecological conditions exist. The Wildlife and Natural
5 Areas Conservation Act defines natural community as “a distinct, identifiable, and recurring
6 association of plants and animals that are ecological interrelated” (California Fish and Game
7 Code subsection 2702[d]). Individual species occur within the context of natural communities
8 and it is within these communities that species interact with other species and the physical
9 environment. The NCCPA states that the purpose of natural community conservation planning is
10 “to sustain and restore those species and their habitat ...that are necessary to maintain the
11 continued viability of those biological communities impacted by human changes to the
12 landscape.”⁴¹

13 To adequately address the natural communities in the Delta that support covered species and
14 native biodiversity, the BDCP includes measures that sustain and enhance ecological processes
15 and provide for the protection and restoration of a broad range of natural communities.
16 Conservation measures have been designed to improve ecological functions and restore species
17 habitat in the following natural communities:

- 18 • Tidal Perennial Aquatic;
- 19 • Tidal Mudflats;
- 20 • Tidal Brackish Emergent Wetland;
- 21 • Tidal Freshwater Emergent Wetland;
- 22 • Valley/Foothill Riparian;
- 23 • Nontidal Perennial Aquatic;
- 24 • Nontidal Freshwater Permanent Emergent Wetland;
- 25 • Alkali Seasonal Wetland Complex;
- 26 • Vernal Pool Complex;
- 27 • Other Natural Seasonal Wetlands;
- 28 • Managed Wetlands;
- 29 • Grassland; and
- 30 • Inland Dune Scrub.

31 Although not considered a natural community, cultivated croplands are nonetheless taken into
32 account in the BDCP Conservation Strategy because, in certain instances, they provide value as

⁴¹ Fish & Game Code § 2801(h)(i).

1 habitat for covered species. Cultivated croplands addressed by the BDCP have been divided into
2 subtypes, each of which provide varying benefits to different covered species or groups of
3 covered species. These cultivated cropland subtypes are as follows:

- 4 • Alfalfa;
- 5 • Irrigated Pasture;
- 6 • Rice;
- 7 • Other cultivated crops;
- 8 • Orchards; and
- 9 • Vineyards.

10 Collectively, the covered natural communities encompass the habitat used by covered species
11 within the BDCP Plan Area.

12 **1.4.3 Covered Species**

13 The ESA and the NCCPA set forth specific criteria that must be satisfied to support the issuance
14 of regulatory authorizations that provide for the incidental take of species. The term “covered
15 species” refers to those species for which incidental take authorizations may be issued under the
16 BDCP pursuant to State and federal endangered species laws. The proposed BDCP covered
17 species are identified in Table 1.2.

18 The BDCP seeks regulatory coverage for those species that will potentially be adversely affected
19 by those activities covered by the Plan. As such, the list of species proposed for coverage is
20 limited to those species currently protected under state or federal wildlife laws, and those species
21 that are likely to receive the protection of those laws in the future. The list of covered species is
22 not intended to include all species that occur within the BDCP Plan Area or all species and
23 habitats that will directly or indirectly benefit from implementation of the BDCP. Rather, the
24 covered species list reflects the range of species for which regulatory authorizations are needed
25 under State and/or federal law for any take associated with the activities covered by the BDCP.
26 Species not covered under the BDCP will benefit from the measures that provide for the
27 conservation of natural communities that encompass both common and rare species.

28 **1.4.3.1 Species Evaluated for Coverage**

29 The species evaluated for potential coverage under the BDCP include a broad range of fish and
30 wildlife species that are likely to occur within the geographic scope of the Plan and are currently
31 considered to be rare, sensitive, threatened or imperiled, or likely to be so in the future
32 (Appendix X – *full list of species considered with criteria evaluation results*). Many of the
33 species on the list have been granted protected or special status, including those that have been
34 listed under the state and/or federal endangered species acts or other laws or regulations. This
35 list further included species that have been recognized by the scientific community as warranting

1 concern due to their rarity or ecological importance. Among the species included on the list are
2 those with the following special status:

- 3 • Listed as threatened or endangered under the ESA;
- 4 • Proposed or candidates for listing under ESA;
- 5 • Listed as threatened or endangered under CESA;
- 6 • Candidates for listing under CESA;
- 7 • California species of special concern identified by CDFG;
- 8 • California fully protected species under California Fish & Game Code sections 3511
9 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish);
- 10 • USFWS birds of conservation concern;
- 11 • NMFS species of concern;
- 12 • Plants listed as rare under the California Native Plant Protection Act (NPPA); or
- 13 • Plants included in the California Native Plant Society (CNPS) List 1A, 1B, or 2.

14 **1.4.3.2 Evaluation and Selection Criteria**

15 The evaluation process relied primarily on four criteria to determine which special-status species
16 would be included on the list of species proposed for coverage under the BDCP. The selection
17 criteria, which are discussed in detail in Appendix X, are as follows:

- 18 1. Listing status of the species.
- 19 2. Likelihood that the species is present in the BDCP Plan Area or other areas within the
20 geographic scope.
- 21 3. Potential for the species to be adversely affected by BDCP covered activities, including
22 the implementation of conservation measures.
- 23 4. Level of information available to determine potential impacts to species and to identify
24 effective conservation measures.

25 Those species that met all four of these criteria are proposed for coverage under the BDCP
26 (Table 1.2). The results of the evaluations conducted for each species are set out in Appendix X.

27

Table 1-2. BDCP Proposed Covered Species and Critical Habitat

[Note to reviewers: This table provides the current list of proposed covered species. Additional species may be added and some of the species presented here may be removed from the covered species list as per continuing development of the BDCP.]

	Common Name/ Scientific Name	Status (Federal/State/ CNPS) ¹	Natural Communities Supporting Species Habitat
Mammals (6 species)			
1	San Joaquin kit fox <i>Vulpes macrotis mutica</i>	E/T/- Recovery Plan ²	Alkali seasonal wetland complex, vernal pool complex, other natural seasonal wetlands, grassland, agricultural lands
2	Riparian woodrat <i>Neotoma fuscipes riparia</i>	E/SSC/- Recovery Plan ²	Valley/foothill riparian
3	Salt marsh harvest mouse <i>Reithrodontomys raviventris</i>	E/E,FP/- Recovery Plan ^{3,4}	Tidal brackish emergent wetland
4	Riparian brush rabbit <i>Sylvilagus bachmani riparius</i>	E/E/- Recovery Plan ²	Valley/foothill riparian
5	Townsend's western big-eared bat <i>Corynorhinus townsendii</i>	-/SSC/-	All natural communities
6	Suisun shrew <i>Sorex ornatus sinuosus</i>	-/SSC/- Recovery Plan ³	Tidal brackish emergent wetland
Birds (12 species)			
7	Tricolored blackbird <i>Agelaius tricolor</i>	-/SSC/-	Tidal brackish emergent wetland, tidal freshwater emergent wetland, valley/foothill riparian, alkali seasonal wetland complex, vernal pool complex, managed wetlands, other natural seasonal wetlands, grassland, agricultural lands
8	Suisun song sparrow <i>Melospiza melodia maxillaris</i>	-/SSC/- Recovery Plan ⁴	Tidal brackish emergent wetland, tidal freshwater emergent wetland, alkali seasonal wetland complex, managed wetlands, other natural seasonal wetlands
9	Yellow breasted chat <i>Icteria virens</i>	-/SSC/-	Valley/foothill riparian
10	Least Bell's vireo <i>Vireo bellii pusillus</i>	E/E/- Recovery Plan ⁵	Valley/foothill riparian
11	Western burrowing owl <i>Athene cunicularia hypugea</i>	-/SSC/-	Alkali seasonal wetland complex, vernal pool complex, managed wetlands, other natural seasonal wetlands, grassland, agricultural lands
12	Western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>	C/E/-	Valley/foothill riparian
13	California least tern <i>Sternula antillarum browni</i>	E/E/- Recovery Plan ⁶	Tidal perennial aquatic
14	Greater sandhill crane <i>Grus canadensis tabida</i>	-/T,FP/-	Alkali seasonal wetland complex, vernal pool complex, managed wetlands, other natural seasonal wetlands, grassland, agricultural lands
15	California black rail <i>Laterallus jamaicensis coturniculus</i>	-/T,FP/- Recovery Plan ⁴	Tidal brackish emergent wetland, tidal freshwater emergent wetland, nontidal freshwater permanent emergent wetland, other natural seasonal wetlands

Table 1-2. BDCP Proposed Covered Species and Critical Habitat (continued)

	<i>Common Name/ Scientific Name</i>	<i>Status (Federal/State/ CNPS)</i>	<i>Natural Communities Supporting Species Habitat</i>
16	California clapper rail <i>Rallus longirostris obsoletus</i>	E/E,FP/- Recovery Plan ^{3,4}	Tidal brackish emergent wetland, tidal freshwater emergent wetland, nontidal freshwater permanent emergent wetland, other natural seasonal wetlands
17	Swainson's hawk <i>Buteo swainsoni</i>	-/T/-	Valley/foothill riparian, alkali seasonal wetland complex, vernal pool complex, managed wetlands, other natural seasonal wetlands, grassland, agricultural lands
18	White-tailed kite <i>Elanus leucurus</i>	-/FP/-	Valley/foothill riparian, alkali seasonal wetland complex, vernal pool complex, managed wetlands, other natural seasonal wetlands, grassland, agricultural lands
Reptiles (2 species)			
19	Giant garter snake <i>Thamnophis gigas</i>	T/T/- Recovery Plan ⁶	Tidal perennial aquatic, tidal freshwater emergent wetland, nontidal perennial aquatic, nontidal freshwater permanent emergent wetland, alkali seasonal wetland complex, vernal pool complex, managed wetlands, other natural seasonal wetlands, grassland, agricultural lands
20	Western pond turtle <i>Actinemys</i> (formerly <i>Clemmys</i> and <i>Emys</i>) <i>marmorata</i>	-/SSC/-	Tidal perennial aquatic, tidal brackish emergent wetland, tidal freshwater emergent wetland, valley/foothill riparian, nontidal perennial aquatic, nontidal freshwater permanent emergent wetland, alkali seasonal wetland complex, vernal pool complex, managed wetlands, other natural seasonal wetlands, grassland, agricultural lands
Amphibians (3 species)			
21	California red-legged frog <i>Rana draytonii</i>	T/SSC/- Critical Habitat, Recovery Plan ⁸	Valley/foothill riparian, nontidal perennial aquatic, nontidal freshwater permanent emergent wetland, alkali seasonal wetland complex, vernal pool complex, managed wetlands, other natural seasonal wetlands, grassland, agricultural lands
22	Western spadefoot toad <i>Spea hammondi</i>	-/SSC/- Recovery Plan ⁹	Nontidal perennial aquatic, alkali seasonal wetland complex, vernal pool complex, other natural seasonal wetlands, grassland
23	California tiger salamander <i>Ambystoma californiense</i> Central Valley Distinct Population Segment (DPS)	T/T/- Central Valley DPS Critical Habitat	Nontidal perennial aquatic, alkali seasonal wetland complex, vernal pool complex, other natural seasonal wetlands, grassland
Fish (11 species)			
24	Central Valley steelhead <i>Oncorhynchus mykiss</i> DPS	T/-/ DPS Critical Habitat, Recovery Plan ¹¹	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
25	Sacramento River winter- run Chinook salmon <i>Oncorhynchus tshawytscha</i> Evolutionarily Significant Unit (ESU)	E/E/- ESU Critical Habitat, Recovery Plan ^{11, 12}	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland

Table 1-2. BDCP Proposed Covered Species and Critical Habitat (continued)

	<i>Common Name/ Scientific Name</i>	<i>Status (Federal/State/ CNPS)</i>	<i>Natural Communities Supporting Species Habitat</i>
26	Central Valley spring-run Chinook salmon <i>Oncorhynchus tshawytscha</i> ESU	T/T/- ESU Critical Habitat, Recovery Plan ^{11, 13}	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
27	Central Valley fall- and late fall-run Chinook salmon <i>Oncorhynchus tshawytscha</i>	-/SSC/- Recovery Plan ¹³	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
28	Longfin smelt <i>Spirinchus thaleichthys</i>	-/T/- Recovery Plan ¹³	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
29	Delta smelt <i>Hypomesus transpacificus</i>	T/T/- Critical Habitat, Recovery Plan ¹³	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
30	Sacramento splittail <i>Pogonichthys macrolepidotus</i>	-/SSC/- Recovery Plan ¹³	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
31	White sturgeon <i>Acipenser transmontanus</i>	-/-/-	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
32	North American green sturgeon <i>Acipenser medirostris</i> Southern DPS	T/SSC/- Southern DPS <i>Proposed</i> Critical Habitat, Recovery Plan ¹³	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
33	Pacific lamprey <i>Lampetra tridentata</i>	-/-/-	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
34	River lamprey <i>Lampetra ayresii</i>	-/-/-	Tidal perennial aquatic, tidal mudflats, tidal brackish emergent wetland, tidal freshwater emergent wetland
Invertebrates (8 species)			
35	Lange's metalmark butterfly <i>Apodemia mormo langei</i>	E/-/- Recovery Plan ¹⁵	Inland dune scrub, grassland, agriculture, vacant
36	Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T/-/- Recovery Plan ¹⁴	Valley/foothill riparian, grassland
37	Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E/-/- Critical Habitat Recovery Plan ⁹	Vernal pool complex
38	Conservancy fairy shrimp <i>Branchinecta conservatio</i>	E/-/- Critical Habitat Recovery Plan ⁹	Vernal pool complex
39	Longhorn fairy shrimp <i>Branchinecta longiantenna</i>	E/-/- Recovery Plan ⁹	Vernal pool complex
40	Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	T/-/- Critical Habitat Recovery Plan ⁹	Vernal pool complex

Table 1-2. BDCP Proposed Covered Species and Critical Habitat (continued)

	<i>Common Name/ Scientific Name</i>	<i>Status (Federal/State/ CNPS)</i>	<i>Natural Communities Supporting Species Habitat</i>
41	Mid Valley fairy shrimp <i>Branchinecta mesovallensis</i>	-/-/ Recovery Plan ⁹	Vernal pool complex
42	California linderiella <i>Linderiella occidentalis</i>	-/-/ Recovery Plan ⁹	Vernal pool complex
Plants (21 species)			
43	Alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	-/-/1B Recovery Plan ⁹	Vernal pool complex
44	Heartscale <i>Atriplex cordulata</i>	-/-/1B	Alkali seasonal wetland complex, vernal pool complex
45	Brittlescale <i>Atriplex depressa</i>	-/-/1B	Alkali seasonal wetland complex, vernal pool complex
46	San Joaquin spearscale <i>Atriplex joaquinana</i>	-/-/1B	Alkali seasonal wetland complex, vernal pool complex, grassland
47	Slough thistle <i>Cirsium crassicaule</i>	-/-/1B	Valley/foothill riparian
48	Suisun thistle <i>Cirsium hydrophilum</i> var. <i>hydrophilum</i>	E-/1B Critical Habitat Recovery Plan ⁴	Tidal brackish emergent wetland
49	Soft bird's-beak <i>Cordylanthus mollis</i> ssp. <i>mollis</i>	E/R/1B Critical Habitat Recovery Plan ⁴	Tidal brackish emergent wetland
50	Dwarf downingia <i>Downingia pusilla</i>	-/-/2	Vernal pool complex
51	Delta button celery <i>Eryngium racemosum</i>	-/E/1B	Alkali seasonal wetland complex, vernal pool complex, valley/foothill riparian
52	Contra Costa wallflower <i>Erysimum capitatum</i> var. <i>angustatum</i>	E/E/1B Critical Habitat Recovery Plan ¹⁵	Inland dune scrub
53	Boggs Lake hedge-hyssop <i>Gratiola heterosepala</i>	-/E/1B Recovery Plan ⁹	Vernal pool complex
54	Carquinez goldenbush <i>Isocoma arguta</i>	-/-/1B	Alkali seasonal wetland complex, grassland
55	Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	-/-/1B Recovery Plan ⁴	Tidal brackish emergent wetland, tidal freshwater emergent wetland
56	Legenere <i>Legenere limosa</i>	-/-/1B Recovery Plan ⁹	Vernal pool complex
57	Heckard's peppergrass <i>Lepidium latipes</i> var. <i>heckardii</i>	-/-/1B	Vernal pool complex
58	Mason's lilaepsis <i>Lilaeopsis masonii</i>	-/R/1B	Tidal mudflats
59	Delta mudwort <i>Limosella subulata</i>	-/-/2	Tidal mudflats
60	Antioch Dunes evening-primrose <i>Oenothera deltoides</i> ssp. <i>howellii</i>	E/E/1B Critical Habitat Recovery Plan ¹⁵	Inland dune scrub

Table 1-2. BDCP Proposed Covered Species and Critical Habitat (continued)

	<i>Common Name/ Scientific Name</i>	<i>Status (Federal/State/ CNPS)</i>	<i>Natural Communities Supporting Species Habitat</i>
61	Side-flowering skullcap <i>Scutellaria lateriflora</i>	-/-/2	Tidal freshwater emergent wetland, valley/foothill riparian
62	Suisun Marsh aster <i>Symphyotrichum</i> (formerly <i>Aster lentus</i>) <i>lentum</i>	-/-/1B	Tidal brackish emergent wetland, tidal freshwater emergent wetland, valley/foothill riparian
63	Caper-fruited tropidocarpum <i>Tropidocarpum capparideum</i>	-/-/1B	Grassland

1 ¹Status:
2 Federal
3 E = Listed as endangered under ESA
4 T = Listed as threatened under ESA
5 C = Candidate for listing under ESA
6
7 State
8 E = Listed as endangered under CESA
9 T = Listed as threatened under CESA
10 R = Listed as rare under the California Native Plant Protection Act
11 SSC = California species of special concern
12 FP = Fully protected under the California Fish and Game Code
13
14 California Native Plant Society (CNPS)
15 1B = rare or endangered in California and elsewhere
16 2 = rare and endangered in California, more common elsewhere
17
18 ²U.S. Fish and Wildlife Service. 1998. Recovery plan for upland species of the San Joaquin Valley, California. Region 1,
19 Portland, OR. 319 pp.
20 ³U.S. Fish and Wildlife Service. 1984. Salt marsh harvest mouse and California clapper rail recovery plan. Portland, OR.
21 ⁴U.S. Fish and Wildlife Service. 2009. Draft Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California.
22 Sacramento, California. xviii+636 pp.
23 ⁵U.S. Fish and Wildlife Service. 1998. Draft recovery plan for the least Bell’s vireo. U.S. Fish and Wildlife Service, Portland,
24 OR. 139 pp.
25 ⁶U.S. Fish and Wildlife Service. 1985. Recovery plan for the California least tern, *Sterna antillarum browni*. U.S. Fish and
26 Wildlife Service, Portland, OR. 112 pp.
27 ⁷U.S. Fish and Wildlife Service. 1999. Draft Recovery Plan for the Giant Garter Snake (*Thamnopsis gigas*). U.S. Fish and
28 Wildlife Service, Portland, Oregon. ix+192 pp.
29 ⁸U.S. Fish and Wildlife Service. 2002. Recovery Plan for the California Red-legged Frog (*Rana aurora draytonii*). U.S. fish and
30 Wildlife Service, Portland, Oregon. viii+173 pp.
31 ⁹U.S. Fish and Wildlife Service. 2005. Recovery Plan for Vernal Pool Ecosystems of California and Southern Oregon. Portland,
32 Oregon. xxvi + 606 pages.
33 ¹⁰California Tiger Salamander distinct population segments are federally listed as endangered in Sonoma and Santa Barbara
34 counties.
35 ¹¹National Marine Fisheries Service. 2009. Public Draft Recovery Plan for the Evolutionarily Significant Units of Sacramento
36 River Winter-run Chinook Salmon and Central Valley Spring-run Chinook Salmon and the Distinct Population Segment of
37 Central Valley Steelhead. Sacramento Protected Resources Division. October 2009.
38 ¹²National Marine Fisheries Service. 1997. NMFS Proposed Recovery Plan for the Sacramento River winter-run Chinook
39 Salmon. NMFS Southwest Region. Long Beach, CA.
40 ¹³U.S. Fish and Wildlife Service. 1995. Sacramento-San Joaquin Delta Native Fishes Recovery Plan. U.S. Fish and Wildlife
41 Service, Portland, Oregon.

1 ¹⁴U.S. Fish and Wildlife Service. 1984. Valley elderberry longhorn beetle Recovery Plan. U.S. Fish and Wildlife Service,
2 Portland, Oregon. 62 pp.

3 ¹⁵U.S. Fish and Wildlife Service. 1984. Revised recovery plan for three endangered species endemic to Antioch Dunes,
4 California.

5 ¹⁶U.S. Fish and Wildlife Service, Portland, Oregon.

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1 1.4.4 Covered Activities and Associated Federal Actions

2 The BDCP is intended to provide the basis for the issuance of regulatory authorizations under the
3 ESA and the NCCPA for a broad range of ongoing and anticipated activities in the Plan Area
4 that are associated with the operations of the SWP and the CVP, as well as for actions related to
5 the operation of Mirant power plants. Covered Activities and Associated Federal Actions
6 encompass all actions that are proposed for coverage under take authorizations that are expected
7 to be issued by the State and/or federal Fish and Wildlife Agencies on the basis of the BDCP.

8 These actions have been designated as either “Covered Activities,” which encompass those
9 actions that will be undertaken by non-federal parties, or “Associated Federal Actions,” which
10 refer to those actions that are authorized, funded, or carried out by Reclamation. The BDCP
11 Covered Activities and Associated Federal Actions are described in Chapter 4, *Description of*
12 *Covered Activities and Associated Federal Actions*.

13 1.4.4.1 Covered Activities

14 The BDCP Covered Activities consist primarily of activities related to the development and
15 operation of water conveyance infrastructure associated with the SWP that will occur within the
16 Plan Area. Specifically, those SWP-related actions covered by the BDCP involve: 1) the
17 operation of existing and future Delta facilities to transport and deliver water for SWP purposes;
18 2) the construction of new water conveyance infrastructure and other facilities; 3) the
19 maintenance and monitoring of water infrastructure and other facilities.

20 The BDCP also covers the operation of the Pittsburg and Contra Costa power plants owned by
21 Mirant. The Plan covers activities related to the intake and discharge of water from the Delta
22 necessary to operate the plants as well as certain other maintenance activities required to ensure
23 continued proper operation of the existing facilities.

24 The BDCP Covered Activities also include the conservation measures described in the
25 Conservation Strategy for the Plan. These actions are covered by the BDCP because they may
26 potentially impact species protected under State and/or federal endangered species laws. Such
27 conservation actions include the restoration of aquatic and terrestrial habitats, construction of
28 facilities, monitoring of Covered Species, and research and study of species and habitats.

29 1.4.4.2 Associated Federal Actions

30 The BDCP associated federal actions comprise those activities that are authorized, funded, or
31 carried out by Reclamation within the BDCP Plan Area and relate to the operation of the CVP’s
32 Delta facilities. These actions include: 1) operation of existing CVP Delta facilities to convey
33 and export water to meet project purposes; and 2) associated maintenance and monitoring
34 activities. While the CVP and SWP are separate systems, the projects function in an integrated
35 and coordinated manner pursuant to the Coordinated Operations Agreement (COA). As such,

1 Reclamation and/or the CVP contractors will utilize a portion of the conveyance capacity of a
2 new tunnel/pipeline facility.

3 **1.4.5 Permit Duration**

4 DWR is seeking take permits from the State and federal Fish and Wildlife Agencies that remain
5 in effect for a term of 50 years. A 50 year term is necessary to allow for the full implementation
6 of the BDCP Conservation Strategy and to maximize the ecological benefits of the Plan.
7 Moreover, the nature and scope of the actions to be permitted require a permit duration of 50
8 years.

9 **1.5 Overview of the Planning Process**

10 **1.5.1 Role of the Steering Committee**

11 The BDCP reflects input from a range of interested parties, public agencies, stakeholder groups,
12 independent scientists, and the general public. The development of the Plan was primarily
13 guided by the BDCP Steering Committee, whose membership is set out in Table 1.1. The
14 Steering Committee provided direction on a range of technical, regulatory, and policy matters
15 that shaped the Plan. The state and federal fish and wildlife agencies participated on the Steering
16 Committee in an *ex officio* capacity. The proceedings of the Steering Committee, including the
17 schedule and notice of meetings, topics for inclusion in meeting agendas, and the course of
18 deliberations, were facilitated by the California Natural Resources Agency.

19 The Steering Committee formed a number of standing “Working Groups” and “Technical
20 Teams,” as well as ad hoc groups, to focus on approaches and solutions to specific issues related
21 to Plan development. The focus of these groups is described below. The Working Groups dealt
22 primarily with broad topics related to such matters as biological goals and objectives,
23 conservation strategies, water conveyance, other stressors, and governance, and developed
24 recommendations which were presented to the Steering Committee for consideration. Each
25 Working Group was co-chaired by members of the Steering Committee. Technical Teams were
26 tasked with responsibility for developing proposed approaches to technical and scientific issues.
27 These teams were co-chaired by subject-matter experts who represented Steering Committee
28 members, and were staffed by technical experts from both inside and outside the Steering
29 Committee. All of these subgroups of the Steering Committee were composed of or were
30 informed by technical experts representing a broad range of disciplines relevant to various
31 aspects of plan development. Meetings of the Working Groups and Technical Teams were
32 noticed on the BDCP website and open to the public.

33 The Working Groups included the following:

- 34 • Conservation Strategy Working Group;
- 35 • Biological Goals and Objectives Working Group;

- 1 • Conveyance Working Group;
- 2 • Other Stressors Working Group; and
- 3 • Implementation Structure/Governance Working Group.

4 The Technical Teams included the following:

- 5 • Analytical Tools Technical Team;
- 6 • Fish Facilities Technical Team;
- 7 • Habitat and Operations Technical Team;
- 8 • Habitat Restoration Program Technical Team;
- 9 • Terrestrial Resources Subgroup;
- 10 • Integration Team; and
- 11 • Metrics Group.

12 **1.5.2 Public Participation and Engagement**

13 The NCCPA requires the establishment of a process for public participation and outreach
14 throughout the development of a plan.⁴² Similarly, policies governing the ESA emphasize the
15 importance of public involvement in the development of large-scale HCPs and encourage plan
16 participants to facilitate the engagement of the public.⁴³ Beginning at the initial stage of the
17 BDCP planning process, the public has been afforded a wide range of opportunities to learn
18 about the various elements of the Plan and provide input during the course of its development.

19 The BDCP Steering Committee was established in May 2006, and met on a regular and ongoing
20 basis throughout the planning process. All meetings of the Steering Committee, as well as
21 Working Groups and Technical Teams, were open to the public. Such meetings could also be
22 attended by teleconference, with live or archived access to presentations provided through the
23 internet. An electronic listserv was maintained to ensure that interested members of the public
24 were adequately notified of upcoming meetings and that draft documents pertaining to the
25 planning process were distributed as they became available. All documents discussed by the
26 Steering Committee, including its Working Groups and Technical Teams, were also made
27 available to the public on the BDCP website. At BDCP meetings, both oral and written public
28 comments were received by the Steering Committee, and those comments received in writing
29 were posted to the website. The notes of Steering Committee meetings also reflected comments
30 and input offered by the public.

31 Throughout the planning process, representatives of the BDCP conducted approximately 200

⁴²Fish & Game Code § 2815. .

⁴³ 65 FR at X.

1 briefings for community organizations, local jurisdictions within and adjacent to the BDCP Plan
2 Area, environmental organizations, urban and agricultural water users groups, and recreational
3 and commercial fishing organizations. Public presentations were made throughout the State, and
4 information about the BDCP was regularly distributed, including updated “fact sheets”
5 explaining the purpose of the Plan and describing its various components. To further facilitate
6 the dissemination of information, the BDCP maintained a project website at
7 www.baydeltaconservationplan.com. Additional public outreach and involvement activities
8 were conducted around major milestones in the planning process, and in compliance with NEPA
9 and CEQA environmental review processes.

10 In 2008, DWR, Reclamation, NMFS, and USFWS, the lead agencies in the CEQA and NEPA
11 environmental review processes, hosted ten scoping meetings throughout California. These
12 meetings occurred at locations within the Sacramento Valley, the primary watershed through
13 which stored water supplies are conveyed to and through the Delta to Project pumping facilities;
14 other Delta communities; the San Francisco Bay Area; the San Joaquin Valley; and Southern
15 California. Within the same year, DWR held eight landowner workshops in various Delta
16 communities that focused in particular on the Temporary Entry Permit process and on updating
17 these communities on the status of the BDCP planning process, and the environmental review
18 process associated with the plan. In addition, the California Natural Resources Agency
19 convened town hall meetings in Sacramento, Stockton, and Walnut Grove to further inform
20 Delta communities about the BDCP and to respond to questions about the broader array of public
21 agency efforts underway in the Delta, including the BDCP, pertaining to land use, flood
22 protection, ecosystem restoration and governance.

23 In the spring of 2009, the BDCP produced and distributed a summary update about the
24 development of the Plan to interested members of the public, including details of individual
25 conservation measures that were being considered as part of the BDCP conservation strategy.
26 NEPA and CEQA lead agencies also conducted 12 additional scoping meetings throughout
27 California, seeking public input about the scope of BDCP actions and potential alternatives to the
28 proposed action. Six of these scoping meetings were held in communities in or in close
29 proximity to the BDCP Plan Area including Brentwood, Clarksburg, Davis, Fairfield,
30 Sacramento, and Stockton. A Webinar was hosted in advance of these meetings to provide more
31 in depth information about the BDCP process and to afford individuals unable to attend the
32 workshops in person an opportunity to access to this information and interact with the BDCP
33 representatives.

34 During the fall of 2009, after the release of a draft of a partial conservation strategy, four
35 technical workshops were held in the Delta communities of Brentwood, Stockton, Walnut Grove,
36 and West Sacramento to solicit input about the planning assumptions, biological rationale, and
37 feasibility of draft conservation measures, as well as to seek recommendations for additional or
38 different conservation measures. Input from the workshops was compiled and conveyed to the
39 BDCP Steering Committee for its consideration and posted on the BDCP website. Three fact
40 sheets were distributed that described the status of the Plan’s development, the draft conservation

1 strategy generally, and proposed water conveyance and flow and habitat restoration conservation
2 measures more specifically.

3 Throughout 2010, BDCP representatives continued to conduct community briefings throughout
4 the State, but primarily with organizations and local jurisdictions located within the Delta. As a
5 result of these ongoing briefings, important working relationships were established with
6 community leaders, further facilitating local engagement. In addition, informational materials
7 about the BDCP, including fact sheets and issue summaries, evolved over time to ensure that the
8 public was kept up-to-date with BDCP developments.

9 **1.5.3 Integration of Science**

10 The BDCP is built upon and reflects the extensive body of scientific investigation, study, and
11 analysis of the Delta compiled over several decades,⁴⁴ including the results and findings of
12 numerous studies initiated under the CALFED Bay-Delta Science program and Ecosystem
13 Restoration Program, the long-term monitoring programs conducted by the Interagency
14 Ecological Program (IEP), research and monitoring conducted by state and federal resource
15 agencies, and research contributions of academic investigators.

16 In addition, the BDCP Steering Committee considered a number of other recent reports on the
17 Delta, including reports of the Governor's Delta Vision Blue Ribbon Task Force (January and
18 October 2008) and several recent reports of the Public Policy Institute of California.⁴⁵ Many
19 elements of the BDCP conservation strategy parallel the recommendations of these other reports.

20 **1.5.3.1 Independent Science Advisory Process**

21 To ensure that the BDCP would be based on the best scientific and commercial data available,
22 the Steering Committee also sought input and advice from independent scientists on the key
23 elements of the Plan. Early in the planning process, the Steering Committee established a group
24 of "Science Liaisons" to recommend approaches to ensure an appropriate level of independent
25 scientific input into the development of the BDCP and to coordinate with facilitators tasked with
26 responsibility for arranging and overseeing the independent science process. Consistent with the
27 requirements of the NCCPA and the policy directives of the Five-Point Policy,⁴⁶ the BDCP
28 Steering Committee directed the facilitators to convene independent scientists at several key
29 stages of the BDCP planning process, enlisting well-recognized experts in ecological and
30 biological sciences to produce recommendations on a range of relevant topics, including
31 approaches to conservation planning for aquatic and terrestrial species in the Delta and

⁴⁴ See *The State of Bay-Delta Science* (2008).

⁴⁵ For example, *Comparing Futures for the Sacramento-San Joaquin Delta* (Public Policy Institute of California 2008).

⁴⁶ 65 Fed. Reg. 35242.

1 developing adaptive management and monitoring programs.⁴⁷ Among other things, the
2 independent scientists provided recommendations and guidance on such matters as:

- 3 • Scientifically sound conservation strategies for species and natural communities proposed
4 to be covered by the Plan;
- 5 • A set of reserve design principles that addresses the needs of species, landscapes,
6 ecosystems, and ecological processes in the BDCP Planning Area proposed to be
7 addressed by the Plan;
- 8 • Management principles and conservation goals that could be used in developing a
9 framework for the monitoring and adaptive management component of the Plan; and
- 10 • Identification of data gaps and uncertainties so that risk factors may be adequately
11 evaluated.

12
13 Reports prepared by independent science advisors to the BDCP are provided in Appendix **XX**
14 [*Note to Reviewers: This appendix will contain the ISA report on BDCP aquatic resources, ISA*
15 *report on terrestrial species, ISA report on adaptive management, and reports on Logic Chain*
16 *Process. All were distributed to the SC and are on the BDCP website.].*

17 The Steering Committee assembled five different groups of independent science advisors during
18 the development of the BDCP. The first group gathered in September 2007, to provide guidance
19 on approaches to planning for the conservation of aquatic species and ecosystem processes in the
20 Delta. Specifically, the group advised the Steering Committee on the following elements of the
21 BDCP:

- 22 • The application of conservation planning principles within the BDCP Planning Area;
- 23 • Geographic and temporal scope of the BDCP;
- 24 • Addressing facets of Delta ecosystem dynamics;
- 25 • Analytical methods used in BDCP formulation, methods of analysis; and
- 26 • Adaptive management and monitoring considerations.

27 A second group of science advisors was convened in September 2008 to consider approaches to
28 planning for the conservation of non-aquatic resources in the BDCP Planning Area. The group
29 provided recommendations to the Steering Committee on such issues as:

- 30 • Non-aquatic species to be considered for regulatory coverage under the BDCP;
- 31 • Terrestrial natural communities that should be addressed under the BDCP;
- 32 • Landscape-level approaches to conservation planning for non-aquatic resources;

- 1 • Additional sources of information that should be developed to support the non-aquatic
2 resource elements of the BDCP; and
- 3 • Conservation strategies that may be considered for addressing terrestrial and non-tidal
4 wetland communities and dependent wildlife and plant species.

5 The third group of science advisors met in December 2008 and focused on matters related to the
6 development of an adaptive management decision making process for the BDCP informed by
7 data and information generated by monitoring and research efforts. This group built upon
8 guidance on adaptive management that followed from the first of the independent science
9 workshops, offering more specific advice based on progress that had since been made in the
10 development of the BDCP.

11 The Delta Science Program provided assistance in assembling a fourth group of independent
12 science advisors in February-March 2010 and a fifth group in July-August 2010 to evaluate and
13 provide recommendations on the “Logic Chain” planning structure. The Logic Chain has been
14 proposed as a framework for linking recovery goals for covered fish species with BDCP goals,
15 objectives, conservation measures, monitoring, and adaptive management. Two science reports
16 on the Logic Chain were prepared.

17 In the first report, dated March 19, 2010 (Appendix **XX**), the group assessed the value of the
18 Logic Chain as a tool, its internal consistency, and next steps for input of information into the
19 Logic Chain. The group stated that the Logic Chain was a useful tool for clearly articulating and
20 linking goals, objectives, actions, and outcomes, but recommended an alternate approach that
21 clarifies the links in the chain and reduces areas of ambiguity; distinguish between order-of-
22 magnitude approximations of goals and objectives that are acceptable in early planning and the
23 more detailed descriptions developed later; frame projected outcomes as testable hypotheses
24 linked to specific conservation measures; use metrics to evaluate the success of outcomes that
25 clearly link to biological functions and consider the judicious use of surrogate metrics; consider
26 constraints to implementation of conservation measures; consider the potential impacts of system
27 dynamics, variation, and change over time; and provide more detail to the adaptive management
28 framework. As next steps, the group recommended developing logic chains for a few species
29 initially; leaving recovery goal development to responsible regulatory agencies; focusing on
30 development of the BDCP biological goals and objectives; and convening a workshop to develop
31 monitoring metrics.

32 In the second report, dated August 23, 2010 (Appendix **XX**), the group assessed the populated
33 logic chains to evaluate internal logic, measurability, and linkages, and consistency in approach;
34 recommended alternative strategies and metrics for goals and objectives and alternative ways of
35 framing goals and objectives to be more practicable; and provided advice on constructing an
36 integrated monitoring program linked to the logic chains. Recommendations of this science
37 group included: simplifying the logic chain structure to reduce the number of objective
38 statements and to focus on BDCP objectives; identify stressors that are outside of BDCP
39 management; focus BDCP objectives on measures of individual and population-level

1 performance, such as habitat-specific estimates of growth and survivorship, quantitative
2 estimates of abundance, and quantitative measures of movement and/or distribution; take care in
3 populating the compliance and performance monitoring actions and consider three monitoring
4 levels separately, the global goal, the “covered activity” level, and compliance; and to link
5 implementation of conservation measures, through monitoring and evaluation, to the adaptive
6 management program.

7 **1.5.3.2 DRERIP Evaluation Process**

8 The BDCP Steering Committee undertook a rigorous process to incorporate new and updated
9 information and to evaluate a wide variety of issues and approaches as it formulated a cohesive,
10 comprehensive BDCP conservation strategy. This effort included an evaluation conducted early
11 in 2009 by multiple teams of experts of draft BDCP conservation measures, using the CALFED
12 Bay-Delta Ecosystem Restoration Program’s (ERP) Delta Region Ecosystem Restoration
13 Implementation Plan (DRERIP) Scientific Evaluation Process.

14 In October 2008, the Steering Committee developed early drafts of BDCP conservation measures
15 related to water operations, habitat restoration, and other stressors. The DRERIP evaluation
16 process was used to evaluate these draft conservation measures. The DRERIP process was
17 specifically developed to aid in planning and decision making regarding potential ecosystem
18 restoration projects in the Delta. The process entails engaging teams of experts to work through
19 a structured, step-by-step examination of the scientific efficacy of proposed restoration actions
20 by analyzing both potential positive and negative outcomes which might result from a given
21 action.

22 To conduct the DRERIP evaluations, the Steering Committee engaged 52 technical experts
23 assembled into five teams to address related groupings of conservation measures. The DRERIP
24 Technical Team meetings were limited to specific technical experts trained in the DRERIP
25 evaluation process. The teams conducted DRERIP evaluations, from January-April 2009, on 32
26 draft conservation measures that could be evaluated using the process. The evaluations were
27 conducted using a series of peer-reviewed DRERIP ecosystem and species conceptual models⁴⁸
28 developed specifically for the Delta and additional relevant sources of information (e.g.,
29 published literature, recently collected data). The conceptual models describe the current
30 scientific understanding regarding how the Delta ecosystem works and were designed to serve as
31 a foundation for the evaluation process. A description of the BDCP DRERIP evaluations and
32 evaluation results are presented in Appendix X, *BDCP DRERIP Evaluation Results of Draft*
33 *Conservation Measures*.

34 Results include an assessment of the likely magnitude of the ecological outcomes and the
35 certainty of those outcomes that could be associated with implementation of each evaluated
36 conservation measure. However, because the DRERIP process is designed to evaluate
37 restoration actions independently, it does not provide for a direct assessment of the combined

⁴⁸ [Footnote to be added specifying additional detail regarding peer review of models]

1 magnitude and certainty of positive and negative ecological outcomes that would be associated
2 with the contemporaneous implementation of multiple conservation measures under BDCP. To
3 address this need, the Steering Committee established a Synthesis Team comprised of Steering
4 Committee member representatives and technical experts that participated in the DRERIP
5 evaluations to conduct an assessment of the likely synergistic ecological effects of simultaneous
6 implementation of multiple conservation measures based on the evaluation results for individual
7 conservation measures. The Synthesis Team conducted the evaluation during March-April 2009
8 and provided recommendations to the Steering Committee for refining conservation measures,
9 sequencing implementation of conservation measures, and adjusting DRERIP results for
10 individual conservation measures based on their synergistic effects with implementation of other
11 conservation measures.

12 DRERIP evaluation results were also used to inform development of the effectiveness
13 monitoring for conservation measures (see Section 3.5, *Monitoring and Research Plan*).
14 DRERIP evaluation results include assessments and sources of uncertainty surrounding the
15 magnitude of ecological outcomes that could be expected with the implementation of each
16 conservation measure. Based on these assessments, effectiveness monitoring was developed to
17 collect the information necessary to address these sources of uncertainty and to inform the need
18 for future adjustments to conservation measures to improve their performance over time through
19 the BDCP adaptive management decision making process (see Section 3.6, *Adaptive*
20 *Management*).

21 **1.6 Organization of the BDCP**

22 The BDCP consists of an Executive Summary, twelve chapters, and eight appendices.
23 Specifically, the plan includes the following components:

24 The BDCP includes an executive summary, which provides an overview of the BDCP, including
25 descriptions of the background, purpose, covered activities, conservation strategy, and approach
26 to plan implementation. Chapter one sets the context for the development of the BDCP,
27 including the purpose and scope of the plan, the planning and conservation goals and objectives,
28 and the expected regulatory outcomes. Chapter one also describes the process that guided the
29 development of the Plan. Chapter two describes existing environmental conditions within the
30 Plan Area, providing the context in which the BDCP and its various elements have been
31 developed. Chapter three sets out the BDCP conservation strategy, including the biological
32 goals and objectives of the Plan, approach to conservation adopted by the Plan, the range of
33 conservation measures for aquatic and terrestrial species and habitats, and the monitoring and
34 adaptive management plans.

35 Chapter four identifies the activities proposed for regulatory coverage, including existing and
36 future actions. Chapter five includes an analysis of the beneficial and adverse effects of the
37 BDCP on covered natural communities and covered species. The chapter also describes the
38 indirect effects resulting from the implementation of the BDCP conservation strategy and the

1 covered activities. Chapter six addresses matters relating to the implementation of the BDCP,
2 including the schedule for the implementation of actions, the reporting process to ensure
3 compliance, regulatory assurances anticipated by the entities seeking authorizations, measures to
4 address changed circumstances, and the approach to unforeseen circumstances. Chapter seven
5 sets out a governance structure to ensure successful long-term implementation of the Plan.
6 Chapter eight estimates the costs of Plan implementation and identifies the sources of funding
7 that will be relied on to implement the Plan.

8 Chapter nine sets out the alternatives to take that were developed and considered and the reasons
9 why they were not adopted. Chapter ten describes the independent science advisory process and
10 the recommendations provided by these scientists. Chapter eleven lists the preparers of the
11 BDCP and chapter twelve lists the sources cited in the Plan.