

Chapter 8 Plan Implementation

Style Definition: List Number: Space Before: 8 pt,
Numbered + Level: 1 + Numbering Style: 1, 2, 3, ... + Start
at: 1 + Alignment: Left + Aligned at: 0.25" + Indent at: 0.5"

8.1 Overview

This chapter describes the organizational structure that will be established to implement the Butte Regional Conservation Plan (BRCP) and the roles, functions, and responsibilities of the entities that will participate in its implementation. BRCP implementation commences with execution of the BRCP Implementing Agreement with the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and California Department of Fish and Wildlife (CDFW); the issuance of section 10(a)(1)(B) incidental take permits from USFWS and NMFS and the Natural Community Conservation Planning Act (NCCPA) section 2035 permit; and passage of local authorizing ordinances.

8.2 Implementation Structure

The structure of the BRCP Implementing Entity and the organizational structure for BRCP implementation are presented in Figure 8-1, *Organizational Structure for the BRCP Implementing Entity*, and Figure 8-2, *Implementation Structure for Coordination and Consultation*. The structure includes a newly created Joint Powers Authority (JPA) developed specifically to implement the BRCP. The Butte County Association of Governments (BCAG) will serve as the Implementing Entity for BRCP implementation. The BCAG Executive Director and existing and new staff (BCAG staff) will provide the staffing needs for the BRCP JPA. A regular component of implementation will be coordination by BCAG staff with the permit issuing agencies (USFWS, CDFW, NMFS, U.S. Army Corps of Engineers [USACE], and others), the Permittees, the BRCP Stakeholder Committee, science advisors, and the public.

BRCP implementation will be directed by the BRCP JPA, an Implementing Entity that will be created as a new JPA among the local Permittees¹ specifically for implementation of the BRCP. Caltrans may also be a member of the JPA. The BRCP JPA will be led by a Board of Directors (Board) made of one elected official of each Permittee (except Caltrans). The Board will oversee implementation of the BRCP through its Executive Director. The Executive Director will expand BCAG staff, as needed, to meet the expanded BCAG mission to support the JPA and implement the BRCP. For the purpose of cost estimation and funding analyses, the BRCP has estimated that 4.0 full-time equivalent (FTE) BCAG employees will be required to oversee, manage, and implement the BCRP in the first 10 years, and 4.5 FTE staff will be needed between Year 10 and Year 50. The duties of the BRCP JPA Executive Director are subsumed within the existing duties of the BCAG Executive Director, and will therefore not require any additional FTEs².

¹ County of Butte, City of Chico, City of Oroville, City of Gridley, City of Biggs, Western Canal Water District, Butte Water District, Biggs West Gridley Water District, and Richvale Irrigation District.

² The BCAG Executive Director has for many years overseen the development of the BRCP. BRCP implementation oversight is assumed to be a similar level of effort, which is why no additional FTEs are needed.

Based on a comparative review of other habitat conservation plans (HCPs) and natural community conservation plans (NCCPs) throughout Northern California, JPAs are the most commonly used organization for implementation among entities developing and implementing HCP/NCCPs. Seven out of eight Northern California HCP/NCCPs currently use, or expect to use a JPA for HCP/NCCP implementation. Use of a JPA governance body provides the Implementing Entity with the land use authority that will be necessary to effectively implement the BRCP conservation strategy. Having BCAG serve as the BRCP Implementing Entity provides regional expertise and experience in the Plan Area. BCAG is currently responsible for development of federal and state transportation plans and programs and is also the administrative and policymaking agency for the region's public transit service. In addition to these responsibilities, BCAG has served as the lead agency in directing the development of the BRCP, the environmental review of the BRCP under the California Environmental Quality Act (CEQA), and additional permit processes related to the BRCP (e.g., Clean Water Act [CWA] section 404 permitting and section 401 certification).

8.2.1 Entities Involved in BRCP Implementation

As indicated in Figure 8-2, the Executive Director and staff will coordinate with various federal, state, local, and private entities to effectively implement the BRCP.

8.2.1.1 Permittees and the Permittees Committee

The following entities are anticipated to be Permittees on the Endangered Species Act (ESA) section 10(a)(1)(B) incidental take permit and the NCCPA section 2835 permit providing authorization for take that results from covered activities within their respective jurisdictions (see Chapter 2, *Covered Activities*):

- Butte County
- City of Chico
- City of Oroville
- City of Gridley
- City of Biggs
- BCAG (as the BRCP Implementing Entity)
- Western Canal Water District
- Butte Water District
- Biggs West Gridley Water District
- Richvale Irrigation District
- California Department of Transportation District 3

As the Implementing Entity, BCAG will be responsible for implementing the BRCP on behalf of the Permittees. The Permittees, however, will ultimately be responsible for compliance with all the terms and conditions of the BRCP permits and the Implementing Entity's performance in implementing the BRCP in conformance with the terms and conditions of those permits.

Each local jurisdiction will grant use of its take authorization under the ESA and NCCPA take permits as part of its normal project review process, after it has determined that the activity is

covered, the application is complete, [\(see Appendix E, Project Application Process and Application Package\)](#), and the applicant has complied with all the requirements of the BRCP. Each of the local jurisdictions will also be responsible for reporting the relevant details of approved projects to BCAG, for monitoring the applicant's compliance with the applicable avoidance and minimization measures described in Chapter 6, *Conditions on Covered Activities*, and for collecting any fees required under the BRCP.

The Permittees may elect to meet as a Permittee Committee to confer and receive reports from BCAG staff. BCAG staff will attend all Permittee Committee meetings as necessary. The Permittees will determine the membership and need for the Permittee Committee meetings.

8.2.1.2 Planning Directors Committee

BCAG staff will meet regularly with the City/County Planning Directors Committee to ensure continued coordination with local city and county planning department staff responsible for certain implementation tasks. This committee will be composed of planning directors from the cities of Biggs, Gridley, Oroville, and Chico and Butte County, as well as staff from each of these entities.

8.2.1.3 Science Advisors

BCAG staff will consult as needed with science advisors—specialists with expertise in conservation biology, management of local natural communities and agricultural lands, habitat enhancement and restoration design, and the ecology of covered species—and will seek input from USFWS, NMFS, and CDFW for guidance in BRCP implementation. The primary purpose of periodic consultation with the science advisors is to receive technical advice and the best available scientific data for assembling the conservation lands and interpreting monitoring results and data analysis through the adaptive management decision-making process (see Section 7.1.3, *Adaptive Management Plan*).

8.2.1.4 Delegated Implementation

BCAG is solely responsible for Plan implementation and ensuring the Plan is in compliance as described in this HCP. However, BCAG staff may delegate certain implementation tasks to other entities through agreements with local, state, and federal agencies and with the private nonprofit (e.g., land trusts and conservancies) and for-profit (e.g., mitigation banks and farming and ranching operations) entities. Such delegation may include conservation lands management, habitat enhancement and restoration, and monitoring activities. BCAG staff will oversee any cooperative agreements that may be entered into with other entities that own and/or manage conservation lands in fulfillment of BRCP commitments.

8.2.2 Regulatory Agencies

USFWS, NMFS, and CDFW are the regulatory agencies that will issue the federal and state permits for incidental take of covered species and oversee implementation of the BRCP. BCAG staff will submit annual reports to these agencies describing each year's implementation activities (see Section 8.8, *Compliance and Progress Reporting Requirements*, for details). USFWS, NMFS, and CDFW will provide guidance to BCAG staff, the Board, and the Permittees to guide implementation to help the Permittees ensure that the BRCP complies with terms and conditions of their permits. Representatives of these agencies will serve in an advisory role to the JPA Board and any technical advisory committees that may be established by the Board and Stakeholder Committee. USFWS,

NMFS, and CDFW will also assist BCAG staff in efforts to secure state and federal funding (e.g., funding under ESA section 6) for BRCP implementation (see Chapter 10, *Implementation Costs and Funding Sources*).

8.2.3 Public Input

Public input will be provided through various means under BRCP implementation. BCAG staff will be responsible for continuing public outreach efforts that were initiated as part of the development of the BRCP. This includes maintaining a publicly accessible website; producing and distributing newsletters, brochures, and press releases; and holding periodic workshops to present BRCP implementation findings and results to the public. All Stakeholder Committee meetings will be open to the public. Board meetings will be open to the public according to the public meeting rules that govern the JPA Board.

8.2.3.1 Stakeholder Committee

The BRCP JPA Board will establish and appoint members to a BRCP Stakeholder Committee to provide a venue for receiving input from the public. A Chair will be selected by the Stakeholder Committee members and approved by the Board. The Stakeholder Committee will be charged with providing input to the Board and BCAG staff regarding all aspects of BRCP implementation. It will be composed of representatives from the same interests that developed the BRCP, as well as other groups that have an interest in implementation actions. Committee members will be appointed by the Board to represent the following interests:

- Developers seeking permits under the BRCP;
- Landowners with resources relevant to BRCP success;
- Conservation advocacy groups;
- Agricultural interests; and
- Private residents, both rural and urban.

The size of the Stakeholder Committee will be determined by the Board, but will be not less than 10 and not more than 24 individuals. Should more than 24 individuals desire to be members of the Stakeholder Committee, the Board will insure that the 24 members selected are representative of all major interests in the Plan Area.

Staff from participating local jurisdictions and USFWS, NMFS, and CDFW may also participate in Stakeholder Committee meetings to ensure Stakeholder Committee deliberations are coordinated with those responsible for BRCP implementation. They will also serve as a source of information regarding the relationship of BRCP implementation to other relevant ongoing planning activities in the Plan Area.

The Chair of the Stakeholder Committee will prepare meeting agendas with input from BCAG staff, facilitate the meetings, and ensure that meeting outcomes are transmitted to BCAG staff and the Board.

The frequency of Stakeholder Committee meetings will be determined by the committee, but at least one meeting must be held each year of BRCP implementation. Committee meetings will be

open to the public and public participation in Committee discussions will be encouraged. BCAG staff representatives will attend all Stakeholder Committee meetings.

8.3 Implementation Timing

The conservation strategy of an NCCP must be implemented at, or faster than, the rate at which impacts on habitat or covered species occur, so that conservation always stays ahead of impacts and rough proportionality is maintained between impacts on covered species habitats and conservation measures (California Fish and Game Code 2820(b)(3)(B)). The rough proportionality standard of the NCCPA states that

“... implementation of mitigation and conservation measures on a plan basis is roughly proportional in time and extent to the impact on habitat or covered species authorized under the plan. These provisions shall identify the conservation measures, including assembly of reserves where appropriate and implementation of monitoring and management activities, that will be maintained or carried out in rough proportion to the impact on habitat or covered species and the measurements that will be used to determine if this is occurring” (California Fish and Game Code 2820(b)(3)(D)(9)).

Monitoring plans developed for NCCPs must provide “measurements to determine if mitigation and conservation measures are being implemented roughly proportional in time and extent to the impact on habitat or covered species authorized under the plan” (California Fish and Game Code Section 2805(f)(3)(C)).

The sections below describe how the BRCP will meet these requirements. They describe the timing requirements for mitigation measures (Section 8.3.1), and for conservation measures independent of impacts (Section 8.3.2).

8.3.1 Stay Ahead Provision for Land Acquisition

To meet the rough proportionality requirement of the NCCPA, the BRCP JPA will assemble the reserve system so that the proportion of all land acquired meets or exceeds the proportion of impacts allowed under the permits. This standard will be measured for each of the six natural communities (see Table 5-3) and for each covered species’ habitat (see Table 5-5). To ensure compliance with the NCCPA, all measurements will be made by combining the mitigation and conservation requirements of each natural community and covered species’ habitat. For example, if 15 percent of the expected impacts under the BRCP have occurred to grassland (i.e., all grassland land-cover types), then at least 15 percent of the required land acquisition (for mitigation and conservation) must also have occurred. Similarly, if 30 percent of impacts to modeled habitat of Swainson’s hawk have occurred, then at least 30 percent of all mitigation and conservation of habitat for Swainson’s hawk must also have occurred.

This measurement approach will ensure that assembly of the reserve system stays ahead of impacts as much as possible, and that the BRCP JPA is making steady progress toward completing the reserve system by the end of the permit term. This plan requirement is referred to as the “Stay-Ahead” provision or “Stay-Ahead” requirement.

Thus, the schedule for implementing land acquisition will be determined, in part, by when the permanent development and ongoing maintenance activities described in Chapter 2, *Covered Activities*, are implemented. In practice, the pace of much of the early land acquisitions will be determined by the availability of willing sellers and of local, state, and federal funding sources for conservation (see Chapter 9).

To provide flexibility during implementation, the BRCP JPA may fall behind by a maximum of 10 percent of its conservation strategy requirements for any natural community or covered species habitat and still be in compliance with the Stay-Ahead provision for this plan. This deviation accounts for the likely pattern of infrequent acquisition of large parcels that will allow the BRCP JPA to jump far ahead of impacts with just one acquisition.

Regardless of the pace of impacts, however, the BRCP JPA must acquire land to fulfill the conservation requirements of the plan. These requirements are described below in Section 8.3.3.

The BRCP JPA will monitor the status of the Stay-Ahead provision throughout plan implementation. The Stay-Ahead provision will also be evaluated on an annual basis by the Wildlife Agencies. The BRCP JPA will report annually on the status of the Stay-Ahead provision beginning with the annual report submitted in Year 2, which allows BCAG time to acquire the first lands. As long as the pace of land acquisition does not fall behind the pace of impacts by more than 10 percent, the Stay-Ahead provision will have been satisfied.

If the BRCP is found to be out of compliance with the Stay-Ahead provision, the Wildlife Agencies will determine if the plan has maintained rough proportionality. If any of the Wildlife Agencies issue a notification to the BRCP JPA that rough proportionality has not been met, then the Wildlife Agencies and the BRCP JPA will meet to develop a plan to remedy the situation.

8.3.2 The Timing of Restoration for Mitigation

Restoration construction completion is defined as completion of all grading and planting of the restoration site such that the only remaining activities are irrigation and weed control (if necessary), monitoring, ongoing maintenance, and adaptive management. To provide time for BCAG to acquire a sufficient amount of conservation lands suitable for restoration of the various natural communities, and to become efficient at designing and completing restoration projects, the timing of habitat restoration for mitigation will be as follows:

1. For the first 10 percent of impacts on the specific resource (e.g., vernal pools and other seasonal wetlands, permanent emergent wetlands, and riparian forest and scrub habitats) requiring mitigation restoration during implementation, the restoration will be completed no later than 1 year after initiation of impacts from covered activities.
2. For the second 10 percent of impacts (i.e., up to 20 percent of impacts total impacts allowed) on the specific resource requiring mitigation restoration during implementation, the restoration will be completed no later than 6 months after initiation of impacts from covered activities.
3. For the remaining 80 percent of impacts, restoration construction must be completed before initiation of impacts.

Required habitat restoration for mitigation of impacts on individual covered species habitat is a subset of the natural community restoration; the same timing is required for meeting the mitigation requirements of covered species habitat.

Formatted: List Number, No bullets or numbering

Implementation of actions under the BRCP conservation measures that are independent of mitigation will be implemented on the time schedule described below.

8.3.3 Timing of Conservation Measures Independent of Impacts

The BRCP implementation schedule requires that natural community protection and restoration actions contributing to the conservation of covered species be implemented by specified points in time during BRCP implementation, regardless of the pace of impacts. Table 8-1 provides the acquisition schedule for conservation of natural communities, Table 8-2 provides the schedule for special species conservation actions, and Table 8-3 provides the schedule for habitat restoration. These schedules apply to the conservation component of the strategy only.

The first 10-year increment of the schedule for natural community acquisition (Table 8-1) has lower targets than the second through fourth 10-year increments to provide the time necessary for BCAG to become established as the Implementing Entity, develop implementation procedures and processes, develop partnerships, raise funds, and gather information necessary to initiate land acquisition. Lands selected for protection under the BRCP must also protect specified biological resources (e.g., protection of known and currently unprotected covered plant species occurrences) to achieve the biological goals and objectives (see Section 5.3, *Biological Goals and Objectives*). The schedule for the protection of these specified biological resources is presented in Table 8-2.

The implementation schedule assumes that monitoring and management of protected and restored natural communities will follow completion of each restoration increment and continue over the term of the BRCP as described in CM5, Enhance Protected Natural Communities for Covered Species. As with the Stay-Ahead provision, the BRCP JPA will monitor compliance with this provision continuously and will report compliance annually starting in Year 2 of implementation as part of the annual report to the wildlife agencies.

Table 8-1 Land Acquisition Schedule for Conservation Component (Not Mitigation)¹

Natural Community/ Land Cover Type	Land Acquisition Target by Implementation Period (acres)										Total
	Years 1-10		Years 11-20		Years 21-30		Years 31-40		Years 41-50		
	Protected/ Maintained	Percent of Total	Protected/ Maintained	Percent of Total	Protected/ Maintained	Percent of Total	Protected/ Maintained	Percent of Total	Protected/ Maintained	Percent of Total	
Oak woodland and savanna	460	5%	2,380	26%	2,660	29%	2,660	29%	1,007	11%	9,167
Grassland	190	3%	1,430	25%	1,950	24%	1,550	27%	627	11%	5,747
Grassland with vernal swale complex	2,962	22%	2,929	17%	4,824	28%	2,790	22%	1,722	10%	17,228
Riparian ²	880	15%	1,170	20%	1,875	22%	1,290	22%	629	11%	5,854
Wetland ³	100	15%	170	26%	170	26%	150	23%	70	10%	660
Perennial stream channel ⁴	30	12%	55	23%	60	25%	60	25%	37	15%	242
Rice	2,000	10%	5,000	25%	6,000	30%	5,000	25%	2,000	10%	20,000
Total	7,622	12%	12,124	22%	17,529	30%	14,500	25%	6,103	10%	59,998

¹Land acquisition may be through fee title or conservation easement. Acreages provided are for measures to contribute to species recovery and natural community conservation ("conservation component") and do not include land acquisition to address the mitigation of impacts of covered activities ("mitigation component").

²Includes cottonwood-willow riparian forest, valley oak riparian forest, dredger tailings riparian forest and scrub (stream-associated), and willow scrub.

³Includes emergent wetland.

⁴50 percent of channels are assumed to be in grassland and 50 percent in orchard lands.

Table 9-2. Schedule for Species Conservation Actions (Not Mitigation) of Specified Biological Resources

Conservation Action (unit)	Applicable Concorvation Measure ¹	Target by Implementation Period					Total
		Years 1-10	Years 11-20	Years 21-30	Years 31-40	Years 41-50	
Protect seeps supporting emergent wetland (number)	GM1	2	2	2	2	2	10
Protect perennial stream channel (miles) ²	GM1	2	4	5	5	2	20
Protect intermittent stream channel (miles)	GM1	2	2	2	2	0	12
Protect ponds (number) ²	GM1	6	6	6	6	5	29
Protect tricolored blackbird nesting sites (number)	GM1	— ⁴	— ⁴	— ⁴	— ⁴	— ⁴	2
Protect occupied California black rail habitat (no. of protected seeps)	GM1	— ⁴	— ⁴	— ⁴	— ⁴	— ⁴	10
Protect Conservancy fairy shrimp habitat in the Vina Plains Core Recovery Area (acres)	GM1	40	40	40	20	0	150
Protect Conservancy fairy shrimp occurrences (number)	GM1	0	5	0	0	0	5
Protect Hoover spurge occurrences (number)	GM1	1	0	0	0	0	1
Protect slender Orcutt grass occurrences (number)	GM1	0	2	0	0	0	2
Protect Greene's tuctoria occurrences (number)	GM1	0	2	0	0	0	2
Place salmonid spawning gravels in stream channels (thousands of yds ²)	GM9	8	8	7	7	0	20
Remove impediments to passage of covered fish species (number)	GM10	0	2	2	0	0	5
Remove, modify, or screen diversions (number)	GM11	5	5	5	5	5	25
Protect Butte County meadowfoam suitable habitat (acres)	GM12	748	747	747	747	0	2,989
Protect Butte County meadowfoam occupied habitat (acres)	GM12	6	6	6	6	0	24
Translocate Conservancy fairy shrimp (number of sites)	GM14	0	1	1	0	0	2
Translocate Hoover's spurge (number of sites)	GM14	0	1	1	0	0	2
Translocate hairy Orcutt grass (number of sites)	GM14	0	1	1	0	0	2
Translocate slender Orcutt grass (number of sites)	GM14	0	1	1	0	0	2
Reintroduce Greene's tuctoria (number of sites)	GM14	0	1	1	0	0	2

Formatted Table
Formatted Table

Conservation Action (unit)	Applicable Conservation Measure ¹	Target by Implementation Period					Total
		Years 1-10	Years 11-20	Years 21-30	Years 31-40	Years 41-50	
¹ CM1, Acquire Lands; CM9, Replenish Spawning Gravels for Salmonids; CM10, Remove Impediments to Upstream and Downstream Fish Passage; CM11, Remove, Modify, or Screen Unscreened Diversions; CM12, Conserve Butte County Meadowfoam; CM14, Translocate Conservancy Fairy Shrimp, Hoover's Spurge, Butte County Meadowfoam, Hairy Orcutt Grass, Slender Orcutt Grass, and Greene's Tuctoria. ² Includes protection of 15 miles of salmonid habitat along Butte Creek and 5 miles along Little Chico Creek. ³ At least 19 ponds must support western pond turtle habitat and at least 9 ponds must support western spadefoot toad habitat. ⁴ The overall target may be achieved in any combination of implementation periods.							

Formatted Table

Table 8-3. Schedule for Restoration for Giant Garter Snake and Greater Sandhill Crane for Conservation Component (Not Mitigation)*

Restored Habitat Type	Habitat Restoration by Implementation Period (acres)										Total
	Years 1–10		Years 11–20		Years 21–30		Years 31–40		Years 41–50		
	Restored	Percent of Total	Restored	Percent of Total	Restored	Percent of Total	Restored	Percent of Total	Restored	Percent of Total	
Giant garter snake habitat (mosaic of emergent wetland, open water, and upland)	75	15%	120	26%	145	29%	100	20%	50	10%	500
Greater sandhill crane roosting habitat (managed wetland)	0	0%	80	50%	0	0%	80	50%	0	0%	160
Total	75	15%	210	32%	145	22%	180	27%	50	8%	660

*Habitat restoration acreages provided are for measures to contribute to species recovery and natural community conservation (“conservation”) and do not include habitat restoration acreage to address the mitigation of impacts of covered activities on natural communities and covered species (“mitigation”).

8.4 Process for BRCP Implementation

This section provides guidance and clarification on various aspects of the implementation of the BRCP. In most instances, Chapter 5, *Conservation Strategy*, provides sufficient detail to understand what actions are to be taken, but this section provides some important information that connects different components of the conservation strategy and focuses on some key implementation details and requirements.

8.4.1 Land Acquisition

BCAG will acquire lands that meet BRCP site selection criteria (see Section 5.4.1.1.2, *Site Selection Criteria*) with the concurrence of USFWS and CDFW (protection of stream channels supporting covered fish species habitat will also include concurrence of NMFS). Lands may be acquired through various means to implement the BRCP and create the system of BRCP Conservation Lands. The Implementing Entity may acquire conservation lands via fee title, permanent conservation easement on private land, or land dedication to the Implementing Entity. Permanent conservation easement acquisitions allow for continued land use practices in the working landscapes of Butte County (e.g., farming, ranching) and can be less costly to acquire and maintain compared to fee title acquisitions. Fee title acquisition may sometimes be necessary for conservation lands that require restoration, frequent access, or more intensive habitat management, and in instances where landowners are only interested in fee title sale of the land. In all cases, the BRCP JPA's Board of Directors must approve lands acquired for conservation in fee title.

All acquisition of land by BCAG will be with willing sellers whether the acquisition is via fee title or conservation easement.

BRCP conservation lands may also be acquired by the Permittees or other appropriate entities (e.g., state government agencies, local agencies, land trust, or conservancy) as long as the property owner provides BRCP-level protection and management requirements, and implements all applicable BRCP conservation measures, monitoring, and adaptive management.

Improving the level of protection and management of habitat on public and easement habitat lands (PEHLs) Category 2 (Figure 5–3, *Decision Matrix for Assigning Public and Easement/Habitat Lands (PEHL) Categories*) up to protection and management requirements of the BRCP is a means by which natural community and species habitat conservation commitments can be met. For example, existing private easements, such as certain easements that are not as protective as permanent conservation easements or existing conservation easements that do not meet all of the BRCP protection criteria for conservation lands, may be augmented to meet BRCP standards (see Appendix M, *Conservation Easement Template*, for the minimum requirements for BRCP conservation easements).³ Similarly, state lands that are in PEHL Category 2 may be used to bring the level of protection and management up to BRCP standards and qualify those lands as part of the BRCP conservation lands system and counted toward conservation component commitments (but not mitigation commitments) for natural communities and covered species habitat. Conservation actions that are implemented on existing protected lands (i.e., Category 1 PEHL), but that do not

³ Reasonable variations from conservation easements may be needed to address site-specific constraints. CDFW and USFWS, along with the Implementing Entity, must review and approve all conservation easements as well as any modifications to the template easement prior to its execution

meet BRCP management, monitoring, and adaptive management standards, even though some level of natural community and covered species benefits are provided, will not be counted toward achieving conservation component commitments.

All land included in the BRCP conservation lands system must have a permanent conservation easement for the purpose of community and species conservation and management. Conservation easements on working lands (e.g., rice land, irrigated cropland, irrigated pasture, and rangeland) will be designed to protect species and habitats, while allowing certain compatible agricultural and grazing operations, thereby keeping these viable for future generations of agriculturalists. Conservation easements requirements are described in Appendix M.

8.4.2 Tracking Impacts and Conservation

All individual proposed project (covered activities) sites under the BRCP must be surveyed for resources using a combination of remotely sensed and field verified information. Requirements for planning surveys are described under AMM1 in Section 6.2.1.1, *Biological Surveys and Evaluations*.

All individual projects implemented under the BRCP will be evaluated for the following:

- **BRCP Fee Calculation.** Measure the impacts on BRCP land cover types and Butte County meadowfoam habitat to determine the types and amounts of impact fees required (e.g., the Base Fee and additional specific fees on riparian habitats, vernal pools, emergent wetlands, and Butte County meadowfoam). See Section 9.3.1.1, *BRCP Fees*, for details of fee calculations.
- **Mitigation Requirements.** Measure the impacts on BRCP land cover types, covered species habitat, and covered species occurrences to determine the types and amounts of protection and restoration mitigation required.
- **Tracking the Loss of Resources.** Measure the impacts on BRCP land cover types, covered species habitat, and covered species occurrences to track the loss of these resources by urban permit area (UPA), conservation acquisition zone (CAZ), and the Permit Area.

Impacts on a particular resource may be measured in different ways. For example, BRCP fee calculations will be based on results of project-specific mapping and field surveys of the acreage of land cover types affected. In contrast, the loss of each land cover type for the purpose of tracking impacts within the given UPA, CAZ, and the Permit Area will be calculated using the BRCP geographic information system (GIS) database used for the Plan at permit issuance.

BCAG will also track the protection of conservation commitments for acreages of land cover types (or linear miles of channel for covered aquatic species), modeled covered species habitat, and covered species occurrences by CAZ. Conservation commitments were established using the acreages and distribution of natural community land cover types in the BRCP Land Cover GIS used for the final Plan. Consequently, BCAG will use this BRCP Land Cover GIS and modeled covered species habitat data from Appendix A, *Covered Species Accounts*, to add up the protection of each resource relative to the Final BRCP GIS data as conservation lands are acquired. Only the target resources that are present on properties at the time of acquisition will be credited toward fulfillment of the protection commitments. For example, if a land cover type present in October 31, 2011, no longer exists on a property acquired as BRCP conservation land, only the land cover type that is actually present on the property at the time of acquisition may be credited toward fulfillment of a conservation commitment.

BCAG will track the timing of protection and restoration of land cover types to achieve the conservation component of the BRCP to ensure that the acreage protection schedule provided in Table 8-1 and acreage restoration schedule are achieved. BCAG will track the time of protection and restoration of land cover types and species habitat for mitigation of impacts to ensure that the timing requirements as described in Section 8.3 are achieved, and will also to track any Stay Ahead acreage (see Section 8.3.1).

Conservation lands will be acquired through application of the conservation land assembly principles (see [Section 5.4.1.1](#)) to ensure that BCAG protects the highest functioning habitats available at the time of acquisition.

Tracking of the achievement of natural community and covered species habitat restoration commitments will be based on the measured acreage of the completed restoration projects (i.e., all grading completed and plantings installed).

Formatted: Not Highlight

8.4.3 **Use of Mitigation and Conservation Banks, and Land in Lieu of Fees**

[BCAG](#) or project proponents covered by the BRCP may elect to use USFWS, CDFW, and USACE-approved private or public mitigation and conservation banks within the Plan Area to help implement conservation measures and achieve the goals and objectives of the BRCP. Credits in mitigation and conservation banks may be purchased to contribute to achieving commitments for the protection and restoration of natural communities and covered species occurrences and habitat. For BCAG to use a mitigation or conservation bank for BRCP purposes, the conditions of the bank lands must meet all of the BRCP criteria (e.g., level of land protection, quality of habitat, conservation land assembly principles, management plans, monitoring) for the natural communities and covered species or must be brought up to BRCP standards to be credited to the BRCP.

To ensure a fair selection process for all mitigation and conservation bank owners, and competitive pricing for the BRCP, BCAG will establish a process for purchasing mitigation bank credits. This purchasing process will include a “request for proposals” step such that all approved mitigation and conservation banks in the Plan Area have an opportunity to bid to help fulfill the mitigation and conservation needs of the BRCP.

[Project proponents also have the option of offering land in lieu of BRCP fees. The process for approval of land in lieu of fees is described in Chapter 9, Section 9.3.1, Local Funding Sources.](#)

8.4.4 **Opt-Out Provision**

[A project proponent of a covered activity will not be required to comply with the conditions in the BRCP or pay any BRCP fees if the project proponent:](#)

- [Applies to the BRCP Board of Directors to opt out of the Plan;](#)
- [The BRCP Board of Directors determines in writing that opting out would not jeopardize the successful implementation of the BRCP in terms of financial viability or successful implementation of the conservation strategy; and](#)

- The USFWS, NMFS, and CDFW concur in writing with the BRCP Board of Directors decision that opting out would not jeopardize the successful implementation of the BRCP in terms of successful implementation of the conservation strategy.

BCAG, as the implementing entity, can deem an activity to be exempt from BRCP fees and any conditions in the BRCP if the proponent provides the following items:

- Letters from USFWS, NMFS, and CDFW that specifically refer to the activity and state that the activity is not likely to result in take of any federally or state-listed species; or
- A copy of an incidental take permit issued by CDFW for the activity, and copies of incidental take statements or incidental take permits issued by USFWS and NMFS that authorize the incidental take associated with the proposed activity;
- Proof of other means by which the project proponent has complied with the ESA and CESA.

8.4.5 Dispute Resolution Process

Project proponents will be interacting most with staff from the Permittee with jurisdiction over the project, as described in Appendix E, *Permittee Application Process*. At any time, Permittee staff may consult with BCAG staff, as the Implementing Entity, to seek advice or verification. Decisions regarding the implementation of the BRCP rest with the Permittee with jurisdiction over the project. Disputes concerning implementation or interpretation of the BRCP may arise from time to time between project proponents and Permittees, and some disputes might not be resolved at the Permittee staff level. The Permittee will work in good faith with project proponents to resolve such disputes using the informal dispute resolution described in this section.

If a project proponent objects to any requirements being imposed by the Permittee during the application process, it will so notify the Permittee and the Implementing Entity in writing, explaining the basis of such objection. The Permittee or Implementing Entity will respond to the notice within thirty (30) days of receiving it, stating what actions the Permittee or Implementing Entity proposes to take to resolve the objection or, alternatively, explaining why the objection is unfounded. If the response resolves the objection to the satisfaction of the project proponent, the project proponent will so notify the Permittee and the Implementing Entity, and the application will be processed according to the resolution. If the response does not resolve the objection to the project proponent's satisfaction, the project proponent will notify the Permittee or Implementing Entity accordingly, and the project proponent, the Permittee and the Implementing Entity will meet and confer to attempt to resolve the dispute. The meeting will occur within thirty (30) days after the Permittee or Implementing Entity receives the project proponent's response, or at such later time as the Permittee, the Implementing Entity and the project proponent may agree.

If the parties do not resolve a dispute after completing the dispute resolution procedure described above, the project proponent may elevate the dispute to BRCP Board of Directors at their next regularly scheduled meeting. The BRCP Board of Directors will discuss the matter and recommend a resolution to the Permittee with jurisdiction over the project. The Permittee with jurisdiction over the project may follow that recommendation or not.

8.5 Regulatory Assurances

Regulations under the ESA and provisions of the NCCPA provide for regulatory and economic assurances to Permittees covered by approved HCPs and NCCPs concerning their financial obligations under a plan. These assurances are intended to provide a degree of certainty regarding the overall costs associated with the mitigation of impacts on species and other conservation measures and to add durability and reliability to agreements reached between Permittees and the USFWS, NMFS, and CDFW. If unforeseen circumstances occur that adversely affect species covered by an HCP or NCCP, USFWS, NMFS, and CDFW will not require additional land, water, or financial compensation or impose additional restrictions on the use of land, water, or other natural resources.

The assurances provided under the ESA and the NCCPA do not limit or constrain USFWS, NMFS, or CDFW, or any other public agency, from taking additional actions to protect or conserve species covered by a HCP or NCCP. The state and federal agencies may use the variety of tools at their disposal and take actions to reduce adverse effects on species and to ensure that the needs of species affected by unforeseen events are adequately addressed.

8.5.1 Changed and Unforeseen Circumstances

8.5.1.1 Definitions

USFWS and NMFS regulations define changed circumstances as “changes in circumstances affecting a species or geographic area covered by a conservation plan that can reasonably be anticipated by plan developers and the [USFWS and NMFS] and that can be planned for ...” and the NCCPA defines changed circumstances as “... reasonably foreseeable circumstances that could affect a covered species or geographic area covered by the plan.” To ensure successful implementation of the conservation strategy, the BRCP identifies measures that are designed to respond to these anticipated changed circumstances. The BRCP changed circumstances and responses to those circumstances, should they occur, are described below.

The USFWS and NMFS define unforeseen circumstances as those “changes in circumstances affecting a species or geographic area covered by a conservation plan that could not reasonably have been anticipated by the plan developers and the [USFWS and NMFS] at the time of the conservation plan’s negotiation and development and that result in a substantial and adverse change in the status of a covered species.” Under ESA regulations, if unforeseen circumstances arise during the term of the BRCP, USFWS and NMFS may “not require the commitment of additional land, water, or financial compensation, or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon for the species covered by the conservation plan” unless the BRCP Permittees consent.

Similarly, unforeseen circumstances are defined in the NCCPA as “changes affecting one or more species, habitat, natural community, or the geographic area covered by a conservation plan that could not reasonably have been anticipated at the time of plan development, and that result in a substantial adverse change in the status of one or more covered species.” The NCCPA further provides that, in the event of unforeseen circumstances, CDFW shall not require “additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources ... without the consent of the plan participants for a period of time specified in the implementation agreement.” However, such assurances are not applicable in those

circumstances in which CDFW determines that the plan “is not being implemented consistent with the substantive terms of the implementation agreement.”

8.5.1.2 Changed Circumstances

Ecological conditions in the Plan Area may change as a result of future events and circumstances that may occur over the term of BRCP implementation. This section identifies changes in circumstances that are reasonably foreseeable and that could adversely affect BRCP covered species and natural communities, consistent with the “changed circumstances” provisions of ESA regulations and of the NCCPA. The changed circumstances provisions of the BRCP are intended to address reasonably foreseeable events, both inside and outside of the Plan Area, that may impede or prevent the BRCP from achieving its biological goals and objectives within the Plan Area. The BRCP identifies a range of potential changed circumstances, including events or conditions that may cause population-level declines in covered species, such as new invasive species, or that may substantially degrade habitat functions, such as flooding, fire, and climate change. Future changes in circumstances, should they occur, that are not identified in this section as changed circumstances will be deemed as unforeseen circumstances.

To address the potential for changed circumstances, the BRCP identifies specific funding commitments for remedial measures (see Chapter 9, *Implementation Costs and Funding Sources*). In the event that changed circumstances occur, the BRCP JPA will implement the remedial measures identified in this section.

The occurrence of a changed circumstance will generally become apparent to the BRCP JPA and BCAG through information gained through effectiveness monitoring, scientific study, or by notification from another party (e.g., a reported wildfire on BRCP conservation lands). With indication that a changed circumstance has occurred or is likely to occur, BCAG will immediately investigate and confirm the occurrence of the event. BCAG will notify the BRCP JPA Board of Directors, Permittees, and other appropriate entities of the changed circumstance. BCAG will notify USFWS, NMFS, and CDFW within 10 working days after learning of any changed circumstance identified, and will coordinate a response to the changed circumstance. USFWS, NMFS, and CDFW will provide BCAG with guidance for responding to a declared changed circumstance within 30 days. The occurrence of a changed circumstance and BCAG’s response will be reported in annual progress reports as described in Section 8.8, *Compliance and Progress Reporting Requirements*.

BCAG will determine specific remedial actions that are consistent with the responses described below for the particular changed circumstance and develop an implementation schedule. After implementing remedial actions, BCAG will monitor the effectiveness of the measures.

Floods

Nature of the Changed Circumstance

The effects of floods on BRCP conservation lands and covered species depend on several factors, including the severity of the flood event, its duration, and the type of habitat affected. Flood events are a natural process that maintain aquatic, riparian, and wetland ecosystems. Small flood events are expected to have relatively minor effects on protected natural communities and covered species. Many of the covered species are either adapted to flooding (e.g., sandhill crane), would likely not be present or nesting during winter flood events (e.g., Swainson’s hawk, western burrowing owl), or are capable of fleeing flooded areas (e.g., tricolored blackbird). Generally, flood

events will have beneficial effects on the riparian natural community and the covered species and other native species it supports. More severe flood events, however, can have deleterious consequences for biological resources, including erosion of sensitive terrestrial and wetland habitats, deposition of sediment and debris on conservation lands that damage habitat functions for covered species, and loss of recently installed vegetation in restored riparian habitats.

While flood frequencies, such as 10- or 100-year events could be used to identify changed circumstances, it is not the size of the flood event that determines the changed circumstance but the amount of damage to natural communities and covered species habitat. Generally, however, a flood event of greater size (lower frequency) than a 100-year event that results in substantial damage to wetland, riparian, and upland habitats would be considered an unforeseen circumstance. Flood damage to natural communities and species habitats within BRCP conservation lands caused by 100-year or more frequent flood events on a given stream are considered to be a changed circumstance and reasonably foreseeable over the term of the BRCP. This changed circumstance includes the deposition of flood debris in channels that inhibit the upstream or downstream movement of covered fish species and the scour and removal of riparian habitats within the floodplains of stream channels in the Plan Area. Damage to upland habitats (e.g., grassland and oak woodland) that are typically located outside of active floodplains is not expected to occur, but inspection of these habitats will be conducted following any flood events that extend into them. The flood events addressed by this changed circumstance are not expected to result in the complete removal of riparian habitats along stream channels, but could scour and thereby result in loss of habitat patches along affected stream channels. In many cases, the removal of riparian habitat by flood flows provides beneficial effects through creating or maintaining the mosaic of riparian seral stages. For restored riparian habitat recently constructed, flood flows can damage installed plantings, antiherbivory apparatus, and irrigation equipment.

Unforeseen Circumstances

The occurrence of more than four 25-year flood events or two 50-year or greater flood events adversely impacting a BRCP conservation land management unit over the term of the BRCP will be considered an unforeseen circumstance.

Planned Response

Following a flood event, BCAG will inspect affected conservation lands within 30 days of the end of the event (i.e., recession of all flood waters) or as soon thereafter as conditions permit access to evaluate the extent of damage to the protected habitats and evaluate the need for implementing actions to rehabilitate affected habitat functions. Previously restored riparian habitat will be evaluated to determine the extent of damage and the ecological need for a remedial response. In cases in which damage is limited or a natural mosaic of seral stages is created that benefits covered species and common wildlife, then remedial actions need not be conducted. In cases where the damaged riparian habitat is removed to such an extent that natural regeneration would not return habitat function for covered species within a timeframe that has been agreed upon by BCAG and Wildlife Agencies, after which remedial action will be taken. All debris deposited within stream channels that inhibit the passage of covered fish species will be removed within 30 days after a flood event. Remedial actions to address flood damage to riparian habitats may include actions such as grading, new riparian plantings, debris removal, covered plant species restoration. These remedial actions will be implemented within a time period to maintain permit compliance with the Stay Ahead provision for restoration, creation, and enhancement.

In the case of flood events that remove or damage installed plantings, antiherbivory apparatus, and irrigation equipment from recently constructed riparian restoration projects (typically less than 5 years old), BCAG will remediate all damage at the site within 1 year of the event.

If the cost to rebuild or restore a damaged site exceeds the cost for constructing a new restoration project elsewhere in the reserve system, BCAG, with USFWS, NMFS, and CDFW concurrence, will have the option of implementing remedial actions elsewhere within the conservation lands system of equivalent or greater biological function.

Drought/Water Availability

Nature of the Changed Circumstance

The Plan Area is characterized by a Mediterranean climate, with cool, wet winters and warm, dry summers, but temperature and rainfall can vary greatly among years. El Niño and La Niña climatic events typically cause large annual fluctuations in precipitation levels (Minnich 2007, Reeve-Morghan et al. 2007). Precipitation is almost exclusively in the form of rain, approximately 90 percent of which is received from October through April. Drought is a natural part of Mediterranean climates and native species and natural communities have survived many drought periods.

To estimate how many drought years might be expected during the term of the BRCP, annual hydrological conditions were examined within the Plan Area from 1906 through 2010 by water year. The BRCP considers a drought year to occur when the governor of California officially declares a drought, or state water officials or Butte County officials make a similar proclamation. Drought conditions in Butte County have occurred seven times during the past 50 years (Butte County 2016) with droughts exceeding 3 years occurring three times (42 percent). The two worst droughts in Butte County during the past 50 years have occurred in the twenty-first century. The 2007–2009 drought was one of the worst on record. The most recent drought, which started in 2011 and ended in 2016, was the longest period of drought in Butte County. The influences of climate change are expected to alter this drought frequency, but exactly how is uncertain. There could be fewer droughts, but of longer duration, more frequent droughts of shorter duration, or more frequent droughts of longer duration. Drought conditions experienced over the term of the BRCP could result in the loss of restored riparian and wetland habitats and BRCP-maintained agricultural habitats.

Planned Response

Drought conditions may affect the development and maintenance of habitat restoration sites. In the event of drought conditions, BCAG will evaluate habitat restoration sites to assess the degree of effect on habitat development and functions. Following the evaluation, BCAG will prepare a report that documents the effects of drought on restoration sites and identifies management actions that will be implemented through the adaptive management process (see Section 7.4, *Adaptive Management*) to remediate restoration sites affected by drought (e.g., providing supplemental irrigation of riparian plantings, replanting of riparian vegetation). For droughts that affect the availability of water for irrigation of agricultural habitats managed by BCAG, BCAG will ensure additional water supplies necessary to maintain crop types or acquire natural habitat areas to replace the habitat provided by the affected agricultural habitat when appropriate (e.g., acquisition of grassland to replace affected foraging habitat associated with croplands fallowed in response to

drought may be appropriate, whereas it may not be feasible to replace the loss of giant garter snake rice habitat with natural wetlands under drought conditions).

The irrigation of BRCP-protected wetlands within the Plan Area relies on continuous water supplies that are generally provided by water districts. If circumstances change and the water districts are no longer able to provide the same level of water service or cease to provide irrigation water deliveries in the Plan Area, the covered species and their habitat could potentially experience a significant impact. Considered herein are changed circumstances that could result in the event of either temporary or long-term reductions in the delivery of irrigation water by the water districts.

Unforeseen Circumstances

Drought. To account for impacts from drought, the BRCP assumes droughts exceeding three years but not exceeding six years in length will occur up to twice and droughts exceeding two years, but not ~~exceeding three~~ **exceeding three** years in length will occur up to four times during the term of the BRCP (i.e., doubling the historic frequency). Droughts exceeding two years but not exceeding three years in length occurring more than four times during the term of the BRCP will be considered an unforeseen circumstance. Similarly, droughts exceeding three years but not exceeding six years in length and occurring more than two times during the term of the BRCP will be considered an unforeseen circumstance. Any single drought that lasts more than six years will be considered an unforeseen circumstance.

Water Districts Discontinuing Service. Water districts within the Plan Area are long-established privately held water companies that provide irrigation water service within Butte County. As long as agricultural activities continue within the Plan Area, water supply service for irrigation purposes will be necessary. Consequently, if the water districts discontinue service it is reasonable to assume that another water company would provide irrigation service for such activities. Therefore, financial implications to the BRCP resulting from water districts discontinuing service within the Plan Area are considered an unforeseen circumstance.

Fire

Nature of Changed Circumstance

Fire as a changed circumstance is defined as any fire on BRCP conservation lands not prescribed by BCAG that removes a sufficient extent of vegetation such that the intended habitat functions of the conservation land for covered species are substantially reduced and would not naturally recover within a sufficient time to meet BRCP goals and objectives, as determined by BCAG, or that destroys infrastructure that is necessary to maintain conservation benefits of the affected conservation lands over time.

A total of 20 wildfires larger than 50 acres have been recorded in the Plan Area between 1985 and 2015, burning on average approximately 2,200 acres per year (CalFire 2017). These wildfires ranged from 91 to 23,344 acres, and all but four fires burned less than 2,200 acres. The natural community types that are susceptible to damage by wildfire are oak woodland and savanna, grassland, and riparian.⁴ Based on the historical average annual 2,200 acres of wildfire loss, the

⁴ Wetland and aquatic natural communities are well watered environments that are typically not subject to loss by wildfire. The probability of loss of cropland to wildfire is low because of low fuel availability or because it is well

area of each of these natural communities in the Plan Area that is likely to be affected annually by wildfire in the Plan Area is 939 acres, 1,036 acres, and 224 acres respectively (the variance, however, is expected to be high). Based on the proportion of these natural communities in the Plan Area that will be protected on conservation lands under the BRCP (Table 5-5, *BRCP Covered Species Modeled Habitat Protection Commitments*), this changed circumstance applies to an average annual loss of 323 acres of oak woodland and savanna and 71 acres of riparian. An additional 427 acres of grassland would also be affected by wildfire per year, on average. With their low aboveground biomass and large seed bank, grasslands are expected to naturally recover during the subsequent wet season and, therefore, fire impacts on grasslands (including grasslands with vernal swale complex) are not considered a changed circumstance.

Planned Response

In the event of a wildfire on BRCP conservation lands, BCAG will assess the proportion of the species habitat area within the conservation lands that has burned and its likely effect on covered species. BCAG will make an initial determination of whether a changed circumstance exists. The following conditions will be considered in determining if a changed circumstance exists for burned oak woodland and savanna or riparian forest and scrub natural communities:

- If fires burned more than 323 acres of oak woodland and savanna or 71 acres of riparian forest and scrub within conservation lands, then it is considered an unforeseen circumstance. If fires have burned less than that, BCAG is responsible for any remedial actions that must be taken, unless USFWS and CDFW agree that natural regeneration would be ecologically preferable.
- Did fire remove a large proportion of the forest canopy (crown fire) within the burn area or predominately remove only the understory? Removal of understory vegetation typically indicates a cool fire and the likely rapid recovery of ecosystem functions in just a few years; therefore remedial actions may not be necessary.
- Would forest recover naturally and restore habitat functions for covered species within ten years without active remediation or restoration efforts, taking into consideration the speed of recovery? In riparian habitats, particularly early successional riparian scrub, the vegetation may recover as quickly without active remedial intervention as with intervention.
- Would remediation efforts do more damage to ecological functions than allowing for natural regeneration?
- Were recent restoration plantings and infrastructure (e.g., irrigation systems, herbivore exclosures) damaged? If so, these must be replaced.

If a changed circumstance requiring remedial measures is determined to exist, BCAG will implement the appropriate post-fire monitoring plan for a 2-year period following the fire. The following remedial measures will be implemented as appropriate to reestablish natural communities and covered species habitat lost to wildfire to restore pre-fire or improved conditions.

- Initiate a post-fire damage assessment within 6 months following the fire event to identify the appropriate post-fire restoration and rehabilitation actions.
- Initiate habitat restoration and invasive-species control actions in affected conservation lands to ensure the reestablishment of covered species habitat conditions and covered plant

watered (e.g., rice land). Agricultural lands that support covered species habitats are also annually cultivated and thus if any loss of cropland to fire will be remediated through annual cultivation cycles.

populations through active or passive means, as appropriate, within 1 year after a fire. Appropriate actions include seeding and replanting of native vegetation, including care and maintenance of plantings (e.g., irrigation, herbivory control) and mechanical or chemical removal of invasive plants.

- Ensure appropriate erosion control measures/structures (e.g., seeding of grasses and placement of coir logs to reduce erosion) are in place before the next post-fire wet season.
- Removal of debris that may inhibit passage of covered fish species in affected stream channels.

Invasive Species and Diseases

Nature of Changed Circumstance

A changed circumstance that involves a new infestation or substantial increase in an existing infestation of nonnative animals and plants affecting covered wildlife and plant species and diseases affecting covered plant species and/or native vegetation will be considered to have occurred under the following circumstances for all grassland, riparian, and wetland natural community land cover types except managed wetland and managed seasonal wetlands. (Agricultural and aquatic land cover types are not included in this changed circumstance.)

- An increase from baseline conditions (defined as the conditions of the protected site at the time of acquisition for the BRCP) in the absolute cover of nonnative invasive plant species of 0 to 10 percent is not a changed circumstance and will be addressed as part of routine reserve management; an increase from baseline conditions of 11 to 25 percent is a changed circumstance, and greater than 25 percent is an unforeseen circumstance.
- Establishment of any new nonnative animal that through predation, parasitism, or competition reduces the abundance of a covered wildlife or plant species on conservation lands from baseline conditions of 0 to 10 percent is not a changed circumstance and will be addressed as part of routine reserve management; a reduction from baseline conditions of 11 to 25 percent is a changed circumstance, and a reduction greater than 25 percent is an unforeseen circumstance.
- Establishment of plant diseases that reduces the absolute cover of native vegetation on conservation lands from baseline conditions by 0 to 10 percent is not a changed circumstance and will be addressed as part of routine reserve management; a reduction from baseline conditions of 11 to 25 percent is a changed circumstance; and of greater than 25 percent is an unforeseen circumstance.
- For instances in which scientific information and practicable technology do not exist to address invasive species or diseases, no remedial actions are required of BCAG.

It is highly unlikely that infestations of a nonnative animal, plant, or disease that result in greater than 25 percent loss of native vegetative cover or covered species populations within BRCP conservation lands can be addressed within the operating budget of the BRCP or the authority of the Permittees. Such infestations would likely need to be addressed at a regional scale beyond the Plan Area and with the assistance of other local, state, and federal agencies.

Outbreaks of existing or introduction of new wildlife diseases that affect covered wildlife species are unforeseen circumstances because what diseases may establish in the Plan Area or the degree of their effects on covered wildlife species cannot be predicted.

Planned Response

As described in Section 7.1.2, *Types of Monitoring*, BCAG will take steps to detect, through the monitoring program and through collaboration with other responsible entities, new infestations or substantial increase in existing infestations of nonnative animal, plant, or disease in the Plan Area. If an infestation of a nonnative animal, plant, or disease is discovered, BCAG in coordination with USFWS and CDFW will conduct an assessment to determine the possible threats of the species or disease to covered species and the Plan Area ecosystems. The BRCP Implementing Entity, through the adaptive management process, will determine the best method of measuring, monitoring, and eradicating or controlling the disease or invasive species. Remedial measures, for which scientific information and practicable technology exist to address the invasion of nonnative species or disease, include the following:

- Prepare a damage-assessment report within 4 months of detection that describes the extent of the affected area, covered species affected or at risk of being affected, and the degree of effects on covered species.
- Within 6 months of detection, coordinate with responsible local, state, and federal agencies (e.g., Butte County Agricultural Commissioner, California Department of Conservation, USDA, USFWS, CDFW) and identify practicable remedial actions that can be implemented to address the threat.
- Initiate proposed actions approved by USFWS and CDFW within 1 year of detection of the changed circumstance. Depending on the nature of the invasive species or disease, remedial actions could include trapping and shooting of nonnative vertebrate animals, trapping and chemical removal of invertebrate animals, mechanical and chemical removal of nonnative plants, removal of infested vegetation, and restoration of native plant species and covered plant species occurrences. Ecosystem management tools, such as controlled fire, may also be effective at controlling nonnative species and diseases. If the invasive species or disease is being addressed under existing or new regional programs, control actions will be coordinated with or implemented by responsible local, state, and federal agencies.

If methods to adequately reduce or control adverse effects of the species or disease are not available, BCAG will identify alternative design, implementation, and management approaches to future habitat restoration and management actions to avoid or minimize potential adverse effects of the disease on covered species. If such modifications are ineffective, BCAG, through the adaptive management process, will identify and implement alternative conservation measures that provide equivalent levels of benefit to applicable covered species.

Climate Change

Nature of Changed Circumstance

Global climate change is occurring as a result of high concentrations of greenhouse gases in the Earth's atmosphere (National Research Council 2010; Intergovernmental Panel on Climate Change 2007). Greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxide, chlorofluorocarbons, and ozone. These gases absorb energy emitted by the Earth's surface, and then reemit some of this energy back to Earth, warming the Earth's surface and influencing global and local climates. As more and more greenhouse gases are emitted into the atmosphere from human activities such as the burning of fossil fuels, the Earth's energy balance is disrupted, resulting in a number of changes to the historical climate. Evidence of long-term changes in climate

over the twentieth century includes the following (Intergovernmental Panel on Climate Change 2014):

- An increase of 0.3 to 4.8 degree Celsius (°C) (0.5 to 8.6 degrees Fahrenheit [°F]) in the earth's global average surface temperature by 2100;
- An increase of 0.82 meters (2.6 feet) in the global average sea level;
- A decrease in arctic sea-ice cover at a rate of approximately 3.5 to 4.1 percent per decade since 1979 with faster decreases of 13.69.4 to percent per decade in summer;
- Decreases in the extent and volume of mountain glaciers and snow cover;
- A shift to higher altitudes and latitudes of cold-dependent habitats;
- Longer growing seasons; and
- More frequent weather extremes such as droughts, floods, severe storms, and heat waves.

Current global and regional trends suggest that climate change is likely to have an effect on the Plan Area. However, current or near-term forecasting technology for modeling changes in climate at the regional or county scale is not reliable. By 2050, California is projected to warm by approximately 2.7°F above 2000 averages, a threefold increase in the rate of warming over the last century. By 2100, average temperatures could increase by 4.1–8.6°F, depending on emissions levels (California Energy Commission 2012). There is significant variability in the precipitation projections by individual model and emissions scenario. Individual simulations suggest that there could be up to a 10 to 20 percent decrease in total annual precipitation. A number of ecological responses to climate change could occur in the Plan Area.

First, the timing of seasonal events, such as migration, flowering, and egg laying may shift earlier or later (Walther et al. 2002; Forister and Shapiro 2003; Root et al. 2003; Root et al. 2005; Ackerly et al. 2015; CDFW 2015; Matchett et al. 2015). Such shifts may affect the timing and alignment of events that must occur together, such as butterfly emergence and nectar availability.

Second, range and distribution of species and natural communities may shift (Parmesan 1999; Pimm 2001; Walther et al. 2002; Easterling et al. 2000). Range is the area over which a species occurs or potentially occurs, whereas distribution refers to where a species is located within its range. This is of particular concern for narrowly distributed species that already have restricted ranges due to urban growth or altitudinal gradients. Historically, some species could shift their ranges across the landscape. Today, urban and rural development prevents the movement of many species across the landscape.

Species or natural communities that occur only at higher elevations or within narrow environmental gradients (e.g., Butte County meadowfoam) are particularly vulnerable to changing climate because they likely have nowhere to move if their habitat becomes less suitable (Shainsky and Radosevich 1986; Murphy and Weiss 1992; Thorne 2006). Model predictions for California range from a 6 mm (0.24 inches) annual decrease in precipitation to a 70 mm (2.76 inches) annual increase (Hayhoe et al. 2004). Consequently, it is likely that the climate in the Plan Area would shift to be warmer and dryer.

Third, increases in disturbance events, such as fire or flooding, could increase the distribution of disturbance-dependent land cover types, such as annual grassland, within the Plan Area (Brown and Hebda 1998; Lenihan et al. 2003; Fried et al. 2004; California Climate Change Center 2006;

Rogers and Westfall 2007). An increase in the frequency and intensity of disturbance could increase the likelihood that these events will harm or kill individual covered species, many of which are already quite rare. Events that occur with unpredictable or random frequency (called stochastic events) such as those described above can have an inordinately negative effect on rare species.

Fourth, the number or density of individuals found in a particular location may change. This may be triggered in large part by changes in resource availability associated with an increase or decrease in precipitation (Martin 1998; Dukes and Mooney 1999; Walther et al. 2002; Lenihan et al. 2003; Millar et al. 2006; Pounds et al. 2006). Changes such as these may benefit one species at the expense of another.

Fifth, over a longer time period, species may change in outward appearance and behavior. Changes in climate may favor different adaptive strategies or appearances that may lead to genetic shifts (Davis and Shaw 2001). An example of this would be a shift to smaller average body size of certain mammals to use limited food sources for maintenance rather than growth.

The conservation strategy, reserve design, and monitoring and adaptive management program anticipate possible effects of climate change using a multiscale approach that views conservation at landscape, natural community, and species levels. This approach focuses on protecting and enhancing a range of natural communities, habitat types, and environmental gradients (e.g., altitude, aspect, slope), as well as other features that are important as global warming changes the availability of resources and habitat types in the Plan Area.

Implementing conservation actions that protect a variety of landscapes over a large scale provides flexibility for shifts in range and distribution of species and natural communities due to climate change. Land-acquisition actions target properties that provide connectivity to allow for northward and upslope movement, maintenance and restoration of habitat linkages, and reduced habitat fragmentation. In addition, habitat types across environmental gradients would be targeted for acquisition in the reserve system to provide topographic diversity, thereby reducing the chance of population extinction (Murphy and Weiss 1992). As a result, some species and natural communities in the Plan Area would continue to be able to move in response to climate change, allowing for shifts in range and distribution.

At the natural community level, BCAG developed conservation and monitoring actions to address natural communities primarily through the protection, enhancement, restoration, and management of vegetation types (i.e., land cover types) and monitoring those changes. Habitats will be managed to ensure natural community and species persistence in the face of abundance shifts driven by climate change. Enhancement, restoration, and management actions will likely increase the resilience of natural communities by improving habitat quality overall and controlling invasive plants and nonnative predators.

At the species level, conservation and monitoring actions were developed to supplement and focus actions developed at broader scales and to ensure that all the needs of particular species are addressed. These species-specific actions will help ensure that shifts of range, distribution, and abundance driven by climate change are buffered by protection and enhancement of individuals, populations, and groups of populations. Monitoring actions will serve as an early warning system for the possible effects of climate change and will allow the conservation strategy to adapt to ensure species persistence in the Plan Area. In addition to the conservation actions, monitoring actions will allow for the early detection of trends driven by climate change over multiple scales.

Collectively, these monitoring actions will allow BCAG to detect and respond to the effects of climate change. Taken together, conservation and monitoring actions described above will help buffer against the effects of climate change in the Plan Area.

Climate change is considered a foreseeable event and is therefore a changed circumstance. For the purposes of the BRCP, limits on the changed circumstance must be identified.

Planned Response

BCAG will use a method consistent with the California Climate Action Team for measuring temperature change within the Plan Area. The baseline index, as measured from Chico, Oroville, and Gridley weather stations (or other stations deemed appropriate by Implementing Entity and wildlife agencies) will be historic temperatures from 1961 to 1990. For the purposes of the plan, three baseline measurement periods will be set using 1961 to 1990 historic temperatures: average annual temperature, average summer temperature (June, July, and August), and average winter temperature (December, January, and February). If modeled California climate-change trends are applied to the Plan Area, one may anticipate that the temperature could increase up to 2.8°C during the permit term. Under the Plan, the following is considered changed circumstances for which remedial measures will be funded: A temperature increase greater than 2.8°C will be considered an unforeseen circumstance. Temperature increases will be measured for the three baseline periods measured as a 10-year running average.

BCAG's response to the changed circumstance of global climate change will vary by the character and magnitude of the physical and biological changes observed. Responses may include those listed below. All responses will occur within one year of identifying changed circumstances, unless the USFWS, NMFS, and CDFW concur on a case-by-case basis that specific remedial actions would require more time to initiate.

- Enhanced monitoring to detect ecological responses to climate change (see Chapter 5, *Conservation Strategy*).
- Identification of target species most vulnerable to climate change and increased monitoring for those species.
- Alterations to the conceptual ecological models for natural communities and covered species as a tool to devise improved management actions (see Chapter 5, *Conservation Strategy*).
- Altered or more intensive management actions on target or vulnerable species to facilitate shifts in species distribution (e.g., more active population management of covered species).
- More aggressive control of invasive species that respond positively to climate change.
- Implementation of other measures through the adaptive management process (see Section 7.1.3) in ways consistent with permit obligations and with the consent of BCAG.

Unforeseen Circumstances

Thresholds for events that are not reasonably foreseeable have been established for determining unforeseen circumstances. Unforeseen circumstances not funded by the BRCP include a temperature increase greater than 2.8°C. Temperature increases will be measured for the three baseline periods as a 10-year running average.

Limits on the variation in other parameters (e.g., rainfall) are much more difficult to determine. Given the seasonality of rainfall in the Plan Area, an increase in winter precipitation may be offset by increased evapotranspiration during the summer months (Intergovernmental Panel on Climate Change 2007). A decrease in winter precipitation would be exacerbated by increased summer temperatures, leading to increased drought. Therefore, it is not possible at this time to define limits of rainfall patterns that would qualify as unforeseen circumstances. Regardless of increases or decreases in precipitation, it is anticipated that the number of strong storm events would increase during the winter season. These events are more likely to result in flooding than in increased soil percolation or water storage recharge (California Natural Resources Agency 2009). Increased frequencies of flooding and drought are discussed above in the sections addressing these changed circumstances.

New Species Listings

Nature of the Changed Circumstance

The USFWS, NMFS, or CDFW may list additional species as threatened or endangered under the ESA or CESA (including designated CESA candidate species) that occur or could occur in the Plan Area and are not BRCP covered species. In the event that USFWS, NMFS, or CDFW lists a species not covered by the BRCP, the provisions of this changed circumstance will be triggered.

Planned Response

BCAG will undertake the following measures in the event of the listing of a new species present in the BRCP Plan Area according to state or federal endangered species laws:

- Evaluate the potential impacts of covered activities on the newly listed, proposed, or candidate species and conduct an assessment of the presence of the species or habitat in the Plan Area..
- Implement measures to avoid impacts on newly listed species until such time as the BRCP has been amended, if needed, to include the newly listed species as a covered species.

In the event that a species not covered by the BRCP becomes listed as threatened or endangered or is proposed or petitioned for listing, BCAG may request that USFWS, NMFS, and CDFW add the species to the relevant ESA, NCCPA or CESA take authorizations issued in accordance with the BRCP. In determining whether to seek take coverage for the species, BCAG will consider, among other things, whether the species is present in the Plan Area and if the covered activities could result in take of the species. If such take coverage is sought, the BRCP and its authorizations will be amended. Alternatively, BCAG, on behalf of the Permittees, could seek new and separate take authorizations.

8.5.1.3 Procedures for Addressing Unforeseen Circumstances

Under ESA regulations, if unforeseen circumstances arise during the term of the BRCP, USFWS and NMFS may “not require the commitment of additional land, water, or financial compensation, or additional restrictions on the use of land, water, or other natural resources beyond the level otherwise agreed upon for the species covered by the conservation plan” unless the BRCP Permittees consent. Within these constraints, USFWS or NMFS may require additional measures under the following conditions.

If additional conservation and mitigation measures are deemed necessary to respond to unforeseen circumstances, the USFWS director or NMFS administrator may require additional measures of the Permittees where the conservation plan is being properly implemented, but only if such measures are limited to modifications within conserved habitat areas, or to the conservation plan's operating conservation program for the affected species, and maintain the original terms of the conservation plan to the maximum extent possible.

USFWS and NMFS bear the burden of demonstrating that unforeseen circumstances exist. A finding of unforeseen circumstances must be clearly documented, based upon the best available scientific information, and consider certain specific factors. If such a finding is made and additional measures are required, the BRCP Permittees will work with USFWS or NMFS to appropriately redirect resources to address the unforeseen circumstances.

The NCCPA provides that, in the event of unforeseen circumstances, CDFW shall not require "additional land, water, or financial compensation or additional restrictions on the use of land, water, or other natural resources ... without the consent of the plan participants for a period of time specified in the implementation agreement." However, such assurances are not applicable in those circumstances in which CDFW determines that the plan "is not being implemented consistent with the substantive terms of the implementation agreement." If such a determination is made by CDFW and additional measures are required, the BRCP Permittees will work with CDFW to appropriately redirect resources to address the unforeseen circumstances.

8.6 Section 7 Consultations under the ESA

Other parts of the ESA may affect the implementation of the BRCP following the issuance of ESA section 10(a) permits, specifically future ESA section 7 consultations on proposed projects in the Plan Area that require other federal approvals or funding. An important goal of the BRCP is to provide a framework for ESA compliance for covered species for all covered activities in the Plan Area. Whether a covered activity occurs under section 7 or 10 of the ESA, the BRCP provides the framework for the conservation of all covered species. For some future projects, with nexus to a federal action, ESA consultation under section 7 of the ESA will still be required even after the BRCP is complete.

Federal projects that are subject to section 7 of the ESA are evaluated under different standards than non-federal projects subject to section 10 of the ESA. Non-federal projects must obtain a permit for take of listed species, while federal agencies must consult with USFWS or NMFS whenever their actions have the potential to affect a listed species. For example, the definition of "affect" differs slightly from that of "take" and may be applied differently, depending on the species and the project.

The BRCP is not intended to alter the obligation of other federal agencies to consult USFWS or NMFS pursuant to section 7 of the ESA. Unless otherwise required by law or regulation, USFWS and NMFS will ensure that biological opinions issued for projects that are defined as covered activities under the BRCP are consistent with their intraservice biological opinions and the section 10 permits issued for the BRCP. Section 7 of the ESA applies only to federally listed species, so only those covered species that are federally listed at the time of the consultation need be included in the consultation. Unless otherwise required by law or regulation, USFWS and NMFS will not impose measures on BRCP applicants (i.e., the Permittees and other project proponents under the BRCP) in

Formatted: Body Text, Indent: Left: 0", Space Before: 0 pt

excess of those that have been or will be required by the Implementing Agreement, the BRCP, and the federal permits.

No Surprises assurances cannot be provided to federal agencies under the ESA section 7 process (50 C.F.R. §17.22(b)(5)). However, prior to completing a section 7 consultation for a covered activity in which USFWS or NMFS proposes to require a measure in excess of the requirements of the Implementing Agreement, the BRCP, or the federal permits, USFWS and NMFS will meet and confer with BCAG and the Permittee with jurisdiction over the affected project to discuss alternatives to the imposition of the measures that would meet the applicable legal or regulatory requirements. USFWS and NMFS will process ESA section 7 consultations for covered activities in accordance with the established regulatory process and deadlines (50 C.F.R. §402.14)

8.7 Neighboring Landowner Assurances

The BRCP requires the development of a conservation lands system that will eventually encompass over 90,000 acres of lands in the Plan Area. Habitat within these conservation lands will be protected, restored, enhanced, and managed for the benefit of ecosystem functions, natural communities, and covered species. BRCP implementation is expected to result in the expansion of populations of covered species and individuals or populations of these species could move to and colonize adjacent (“neighboring”) lands not within the conservation lands system. In recognition of this potential effect, the BRCP includes a process by which neighboring landowners may receive assurances through certificates of inclusion under the BRCP ESA section 10 and NCCPA section 2835 permits. The neighboring landowner assurances process provides for take of covered species above the baseline conditions on neighboring lands⁵. The assurances do not provide for take of existing populations or occupied habitat before the establishment of adjacent conservation lands and, therefore, would not result in impacts relative to baseline conditions.

8.7.1 Eligible Lands and Estimated Enrollment

BCAG will provide certificates of inclusion for incidental take by neighboring landowners engaged in agricultural activities that agree to participate, i.e., it is an “opt-in” process and landowners that do not wish to participate would not be required to do so. All agricultural lands within 0.5 mile of any BRCP conservation lands may qualify for the neighboring landowner assurances. Neighboring landowner agreements can only extend take coverage to eligible parcels or portions of parcels in the Plan Area (i.e., not adjacent counties or portions of Butte County that are outside of the Plan Area). Landowners with parcels that lie partly within the Plan Area or partly within the 0.5 mile eligible radius may enroll only that eligible portion of their parcel in the neighboring landowner assurances program. For the purpose of the Neighboring Landowner Assurance program under the BRCP, agricultural lands include all lands in the following BRCP land cover classifications:⁶

- Agriculture, including rice, irrigated cropland, irrigated pasture, and orchard/vineyard,

⁵ Baseline conditions for neighboring lands are defined as the site conditions at the time the certification of inclusion is issued to the participating neighboring landowner.

⁶ Note that this definition of “agricultural lands” differs from the more narrow definition used in all other parts of the BRCP which identifies agricultural lands only as rice, irrigated cropland, irrigated pasture, and orchard/vineyard and does not include rangelands.

- Grassland and oak woodland and savanna used for livestock grazing, and
- Wetland, riparian, aquatic, nonnative woodland communities (e.g., stock ponds, agricultural irrigation and drainage channels) within the communities above.

A simple method was used to estimate the extent of cultivated agricultural lands within 0.5 miles of existing or restored natural communities that could become part of the BRCP conservation lands. The Plan Area was divided by a north-south line that separates the mostly agricultural west side from the natural community dominated east side of the Plan Area. The acreage of all agricultural lands within 0.5 miles west of this line was calculated. An additional acreage of agricultural lands within 0.5 miles of giant garter snake habitat and emergent wetland that will be restored within rice lands was calculated based on one square-shaped habitat restoration of 69 acres and four square-shaped habitat restorations of 125 acres each totaling the 569-acre restoration commitment. Based on these two calculations, the total area of cultivated agricultural lands within 0.5 miles of protected and restored natural communities is approximately 21,050 acres. This is likely an overestimate, since not all BRCP conservation lands will abut cultivated agriculture.

While some agricultural growers will opt into the neighboring landowners assurances program, others are likely not to opt-in for various reasons including deciding that the adjacent conservation lands will not affect their property or not wanting to meet the survey and other requirements of the program. It is assumed that up to 25 percent of eligible lands will enter into neighboring landowner agreements, or no more than 5,255 acres (25 percent of the 21,050 acre estimate). This estimated level of participation is expected to be sufficient to provide for the level of actual landowner participation within the Plan Area based on participation levels to date in other counties with approved HCPs (e.g., approximately 10 percent in San Joaquin County).

Take of covered species associated with ongoing activities on neighboring cultivated lands is expected to be limited to covered vertebrate species because it is highly unlikely that covered vernal pool shrimp and plant species will expand their populations onto adjacent lands as a result of BRCP conservation actions as these species have limited mobility and cultivated agricultural lands are unlikely to support suitable habitat for these species. Impacts of agricultural activities on covered species could include direct mortality of covered reptile and amphibian species by farming equipment, ongoing noise and visual disturbances associated with operation of farming equipment that could preclude use of habitat, changes in crop types that lower or remove foraging habitat for covered species, and construction of infrastructure (e.g., access roads) that remove habitat or create barriers to movement of covered species.

Though eligible to be enrolled in neighboring land agreements, ongoing activities on rangelands supporting grassland and oak woodland and savanna used for livestock grazing are unlikely to result in take of covered species beyond the baseline condition of those lands. Impacts of ranching activities on covered species could include trampling of covered reptile and amphibian species by livestock, ongoing noise and visual disturbances associated with operation of ranching equipment that could preclude use of habitat, disking of grasslands that lower or remove foraging habitat for covered species, and construction of infrastructure (e.g., access roads) that remove habitat or create barriers to movement of covered species.

8.7.2 Neighboring Land Agreement Requirements

The following are requirements of the process for acquiring certificate of inclusion under the BRCP neighboring landowner assurances program.

- Only private landowners may apply for neighboring landowner assurances through the voluntary application process. Landowner will apply to BCAG for a certificate of inclusion under the BRCP Permits. BCAG will determine whether the applicant's lands qualify for neighboring landowner assurances and will issue the certificate of inclusion where specific conditions are met.
- Only agricultural practices on agricultural lands within 0.5 mile of BRCP conservation lands boundaries may be covered by certificates of inclusion to the BRCP Permits.
- For the purpose of the neighboring landowner assurances, agricultural lands include all lands on which normal agricultural practices are conducted such as crop planting and production, irrigation and fertilization, soil tilling, crop harvesting, fallowing in accordance with normal crop-rotation, animal production, forage production, and grazing activities, and other associated activities such as fence construction and maintenance, vehicle or horse use, and construction and maintenance of typical farm outbuildings. Agricultural practices must be occurring at the time the adjacent BRCP conservation lands are established. For example, if agricultural lands used for crop production lie fallow in accordance with normal crop-rotation practices at the time the neighboring preserve is established, those lands would be considered to be actively used for agricultural purposes.
- Certificates of inclusion may continue, subject to the terms and conditions of the BRCP, the Implementing Agreement, and the Permits, for as long as the neighboring lands are actively used for agricultural purposes consistent with baseline use (see below) and the BRCP Permits remain in effect. Take authorization under the certificates of inclusion shall not include conversion of agriculture to other uses. Coverage will not be offered to neighboring lands devoted to non-farmland purposes at the time the neighboring BRCP conservation lands are established.
- Certificates of inclusion may only be extended to landowners for the purpose of incidental take of covered species that colonize or expand onto neighboring lands after the adjacent BRCP conservation lands are established. Take coverage will not be provided for individuals or populations of covered species that inhabit neighboring lands prior to the establishment of adjacent BRCP conservation lands, as identified in a baseline survey (see below).
- Upon establishment of lands within the BRCP conservation lands system, BCAG will notify owners of parcels that are actively used for agricultural purposes within 0.5 mile of the conservation lands boundary. The notice will explain the landowner's potential eligibility for coverage under BRCP neighboring landowner assurances. Interested landowners may apply to BCAG for certificates of inclusion up to the time that the BRCP Conservation Lands System is fully established.
- Prior to receiving coverage under a certificate of inclusion, the landowner must determine the environmental baseline for covered species on their property and prepare a map that includes the location of occupied habitat, location and number of occurrences, and estimate of number of individuals within each occurrence. Landowners will have the option of either funding BCAG to employ a qualified biologist to survey their property or hiring a qualified biologist, approved

by BCAG, on their own to conduct the surveys. Survey costs associated with applying for and maintaining a certificate of inclusion are the responsibility of the landowner.

- No take of covered fish species may be included in certificates of inclusion to neighboring landowners and therefore NMFS need not be involved in certificate of inclusion approval.
- Allowances for take of certain covered species, including newly discovered occurrences, are limited under the BRCP (see Table 6–4). Certificates of inclusion that provide neighboring landowner assurances may not violate the requirements of the BRCP Conservation Strategy (including biological goals and objectives, conservation measures, and AMMs) for protecting newly discovered occurrences of these species.
- BCAG, USFWS, and CDFW will review the baseline biological conditions map and any supporting documentation provided by the landowner. The certificate of inclusion must be approved by USFWS, CDFW, and BCAG and signed by the landowner before it becomes effective and provides take authorization. BCAG, USFWS, and CDFW may add specific conditions to the certificate of inclusion for individual landowners depending on specific circumstances.

BCAG will maintain a record of all correspondence and certificates of inclusion provided to neighboring landowners under this neighboring landowner assurances program, and any signed certificates of inclusion returned by landowners. BCAG will notify USFWS, NMFS, and CDFW annually of the number, location, and size of neighboring lands covered under certificates of inclusion. Copies of the certificates of inclusion will be provided to the USFWS, NMFS, and CDFW upon request.

8.8 Compliance and Progress Reporting Requirements

8.8.1 Annual Workplans and Budgets

Annually, the Executive Director of the BRCP JPA will prepare a workplan and budget for the upcoming implementation year through the term of the BRCP. The workplan will identify planned actions for the implementation of conservation measures and the monitoring and adaptive management plans in the coming year. The budget will identify planned expenditures and sources of funding for those expenditures. A Draft Annual Workplan and Budget will be provided to USFWS, NMFS, CDFW, Permittees, JPA Board of Directors, and the BRCP Stakeholder Committee for review and comment no later than 65 days prior to the annual due date for the Final Annual Workplan and Budget. The Final Workplan and Budget will be completed and approved by the BRCP JPA Board no later than one month prior to the beginning of the upcoming implementation year. If no comments are received from one or more of the entities receiving the Draft Workplan and Budget within their 60-day review period, the BRCP JPA Board may proceed with approving it.

At a minimum, the Annual Workplan and Budget will contain the following information:

- A description of the planned actions to implement conservation measures, including acquisition of conservation lands, and the entities that will carry out the actions.
- A description of the planned monitoring actions and any anticipated research studies to be undertaken, and the entities that will conduct the monitoring and research.

- A budget reflecting the costs of implementing the planned conservation actions and monitoring along with all other costs for operating BCAG in the workplan year, and a summary of the projected and actual budgets for all prior implementation years.
- A description of the sources of funding to support the budget.

8.8.2 Annual Progress Reports

At the end of each implementation year, BCAG will prepare an Annual Progress Report. These reports will provide a summary of the activities carried out during the previous implementation year. Annual Progress Reports will be completed within 3 months of the close of each reporting year to provide sufficient time to compile data and complete analyses of monitoring data. BCAG will develop a standardized format for the reports, including submittal of GIS data. Final Annual Progress Reports will be maintained in the BRCP implementation database (see Section 7.3.6, *Requirement 11. Database Development and Maintenance*).

Each Annual Progress Report will provide the following information:

- Documentation of the implementation of habitat conservation measures (protection, enhancement, creation, and restoration) in relationship to the implementation schedule described in Section 8.3, *Implementation Timing*, including the following information:
 - A summary of the completed or in-progress habitat conservation actions, including information related to type, extent, and location of restored, enhanced, and protected habitats and natural communities and a description of the conservation land assembly criteria supporting the acquisition of conservation lands. The report will document, on an annual and cumulative basis, the habitat conservation actions that have been carried out.
 - A summary of all land management activities undertaken on BRCP conservation lands and a discussion of overall and site-specific management issues encountered by BCAG.
 - Identification of habitat protection, restoration, or enhancement actions that have not been implemented in accordance with the implementation schedule (i.e., behind or ahead of schedule) and an explanation for the deviation from the schedule and method of remediation.
- An assessment of the nature and extent of the impacts of covered activities on natural communities and covered species, including the following information:
 - A list of covered activities conducted, the entity responsible for each covered activity, and the location of habitat permanently or temporarily removed or disturbed by each covered activity;
 - A cumulative accounting (for the report year and for all years of implementation) of all impacts of BRCP covered activities on covered natural communities and covered species habitats, habitat mitigation implemented to address these impacts, and a description of how implementation of conservation measures is roughly proportional in time and extent to the impacts on covered species and their habitats;
 - Amount of take that occurred (for the report year and for all years of implementation) and reporting of any mortality of covered species observed; and
 - The status of the BRCP conservation lands system assembly, including an accounting of habitat providing mitigation for covered activities impacts.

- An evaluation of the results of monitoring and research activities, including the following:
 - A description of the monitoring program objectives, techniques, and protocols including monitoring locations, variables measured, sampling frequency, timing and duration, analysis methods, and who performed the analyses.
 - A description of all BRCP directed studies conducted during the reporting period, a summary of study results to date, and a description of how these results were or will be integrated into implementation.
- A description of adaptive management activities, including the following:
 - A description of the adaptive management decisions made during the reporting period, including how existing information was used to guide these decisions and the rationale for the actions.
 - A description of the use of independent scientists or other experts in the adaptive management decision-making processes.
 - A summary of the recommendations or advice provided by the USFWS, NMFS, CDFW, and science advisors regarding adaptive management.
 - A description of adopted and recommended changes to the conservation measures and monitoring plan (e.g., monitoring protocols, variables, analytical methods) through the adaptive management process based on monitoring results and research findings.
- A financial report describing the following:
 - Funds acquired by BCAG by source.
 - Annual and cumulative expenditures by cost category.
 - Deviations in expenditures from the annual budget and other relevant information as appropriate.
- A description of changed circumstances and actions to respond to changed circumstances, including the following:
 - A description of the changed circumstance and its effects on covered species and natural communities.
 - A description of the actions taken to address the changed circumstance and the effectiveness of those actions, including the outcomes of actions to address changed circumstances from earlier years.
- A description of any unforeseen circumstances occurrences and responses.

A summary of any administrative changes, minor modifications and revisions, or formal amendments to the BRCP proposed or approved during the reporting period.

8.8.3 Five-Year Comprehensive Review Report

The BRCP adaptive management plan provides for 5-year reviews of BRCP implementation to provide BCAG with a longer term and methodical process to periodically evaluate its progress and implementation procedures. BCAG will prepare a report for submittal to USFWS, NMFS, CDFW, and the Stakeholder Committee describing findings of each review within 6 months following the completion of each BRCP 5-year implementation period

8.9 Administrative Changes and Plan Amendments

Administrative changes are internal changes or corrections to the BRCP that do not require preauthorization from USFWS, NMFS, and CDFW. Administrative changes do not result in any changes to the impacts analysis, conservation strategy, or decision documents. BCAG will document administrative changes in writing and provide a summary of changes to USFWS, NMFS, and CDFW in each annual report. Examples of administrative changes include the following:

- Corrections of errors in the BRCP text that do not change the intended meaning or obligations;
- Day-to-day implementation decisions, such as modifying irrigation schedules for restored habitats on the basis of observed water needs of planted vegetation;
- Adjustments to the design of directed studies;
- Adjustments to monitoring methods to incorporate new USFWS, NMFS, and CDFW monitoring protocols;
- Changes to the fees to address inflation and actual implementation costs;
- Changes in JPA members and Implementing Entity staff and roles; and
- Changes in the membership of BRCP advisory committees.

8.9.1 Minor Modifications

To respond appropriately to new information, scientific understanding, technological advances, and other such circumstances, BCAG may need to make minor modifications to the BRCP. Minor modifications are primarily expected to address the need for technical updates. Minor modifications are changes that would not adversely affect covered species, the conservation strategy, the level of take or impacts on covered species, or the obligations of Permittees described in the BRCP. Minor modifications do not require an amendment to the BRCP permits or Implementing Agreement (see Appendix L). Minor modifications require pre-approval by USFWS, NMFS, and CDFW. Minor modifications may include the following:

- Minor corrections to land ownership descriptions;
- Changes to survey, monitoring, reporting, and/or management protocols in accordance with the Adaptive Management Plan described in Section 7.1.3;
- Modification of existing or adoption of additional conservation measures that improve the likelihood of achieving covered species objectives;

- Transfers of habitat protection and restoration commitments among the CAZs that do not affect the level of conservation benefits provided to the targeted covered species or preclude achieving the biological goals and objectives described in Section 5.3;
- Updates/corrections to the vegetation or other resource maps, species occurrence data, and other biological data; and
- Other proposed changes to the BRCP that USFWS, NMFS, and CDFW have determined to be appropriate for implementation as a minor modification.

8.9.1.1 Procedures for Minor Modifications

Minor modifications require pre-approval by USFWS, NMFS, and CDFW. The Implementation Entity, Permittees, USFWS, NMFS, and CDFW may propose minor modifications by providing a written request to each of these parties. Requests will include a description of the proposed change, an explanation of the reason for the proposed change, an analysis of the effects of the change on impacts on covered species and natural communities, and a description of why the effects of the proposed change would not differ from the biological effects described in the original BRCP, conflict with the terms and conditions of the original BRCP, or substantially affect BRCP implementation.

All minor modifications must first be approved by the BRCP JPA and then provided to USFWS, NMFS, and CDFW for final approval. To modify the BRCP without amending the permits, BCAG will submit to USFWS, NMFS, and CDFW a written description of the proposed change and an explanation of why its effects are not believed to be significantly different from those described in the original BRCP.

Upon receiving the proposal for a minor modification, USFWS, NMFS, and CDFW may authorize the modification, request additional information, or deny the modification. If USFWS, NMFS, and CDFW concur with the proposed change, they will authorize the modification in writing, and the modification shall be considered effective on the date of USFWS, NMFS, and CDFW's written authorization. If USFWS, NMFS, and CDFW determine that the proposed change lacks specific information, they may request additional information necessary to authorize or deny the modification. If USFWS, NMFS, and CDFW deny the modification, they will provide a written explanation for the denial.

USFWS, NMFS, and CDFW will not approve minor modifications to the BRCP if they determine that the modifications would result in adverse effects on covered species or natural communities that are significantly different from those analyzed in the plan. If USFWS, NMFS, or CDFW denies a proposed modification, it may be proposed as a formal amendment as described in Section 8.9.2, *Formal Amendments*. USFWS, NMFS, and CDFW will make every effort to respond to proposals from BCAG for minor modifications within 60 days of receipt.

8.9.2 Formal Amendments

Over the term of the BRCP, it may be necessary to substantially amend the BRCP to address new conditions not envisioned during the BRCP planning process. Such instances are expected to be infrequent or may not ever occur over the term of the BRCP. Any proposed changes to the BRCP that are not considered to be administrative changes or minor modifications will require a formal amendment. Formal amendments will also require corresponding amendments to the BRCP

authorizations and permits, in accordance with applicable laws and regulations regarding permit amendments. BCAG will be responsible for submitting any proposed formal amendments to USFWS, NMFS, and CDFW.

Formal amendments may include the following:

- Making revisions to the Plan Area or Permit Area boundary;
- Adding new covered species;
- Increasing the allowable take limits;
- Adding new covered activities;
- Making changes to biological goals and objectives if monitoring or research indicate that they are not attainable because technologies to attain them are either unavailable or infeasible;
- Extending the permit term⁷; and Making adjustments to BRCP implementation schedules that extend the scheduled implementation of conservation actions.

8.9.2.1 Procedures for Formal Amendment

Formal amendments generally involve the same process that was required for the original approval of the BRCP ESA section 10(a)(1)(B) and NCCPA section 2835 permits. Amendments will require approval of the BRCP JPA or the affected Permittees, before BCAG can submit any proposed amendments to USFWS, NMFS, and CDFW.

For the USFWS and NMFS section 10(a)(1)(B) permits, the formal amendment process would include a revised BRCP, a permit application form, any required fees, a revised Implementing Agreement, and the compliance documents required under the National Environmental Policy Act (NEPA) and section 7 of the ESA. The appropriate NEPA compliance process and document will depend on the nature of the proposed amendment. A new scoping process may be required, depending upon the nature of the amendment. If additional scoping is deemed appropriate and necessary, USFWS or NMFS will publish a notice of intent in the Federal Register to initiate the scoping process. Upon submission of a completed application package, USFWS or NMFS will publish a notice of availability of the proposed application in the Federal Register, initiating the NEPA and HCP amendment review process. After public comment, USFWS or NMFS may approve or deny the permit amendment application.

For the section 2835 permit, the formal amendment process will include a revised BRCP, a revised Implementing Agreement, the required compliance documents under CEQA and NCCPA (e.g., NCCPA Determination). The appropriate CEQA compliance process and document will depend on the nature of the proposed amendment. A new scoping process may be required, depending upon the nature of the amendment. If additional scoping is deemed appropriate and necessary, BCAG will publish a notice of preparation to initiate the scoping process. Upon submission of a completed application package, BCAG will conduct any necessary public review and public hearing processes under CEQA. After public comment, CDFW will make its NCCPA determination and may approve or deny the permit amendment application.

⁸ Under USFWS and NMFS regulations, a section 10 permit may be extended through a simplified process (not an amendment) as long as the level of take under the permit is unchanged (50 C.F.R. § 13.22 and 50 C.F.R. § 222.304).

8.9.3 Permit Suspension or Revocation

USFWS, NMFS, and CDFW have the ability in accordance with applicable state and federal law to suspend or revoke all or part of the BRCP permits in the event that the Permittees are out of compliance with the BRCP requirements, the Implementing Agreement, or the permits. USFWS and NMFS have the ability to suspend or revoke all or part of the ESA permits if continuation of covered activities appreciably reduces the likelihood of the survival and recovery of the species in the wild (50 C.F.R. §§ 13.28–13.29, 50 C.F.R. §17.22(b)(8) and §17.32(b)(8)). CDFW has the ability to suspend or terminate all or part of the NCCP permit if revocation or termination is required to avoid jeopardizing the continued existence of a covered species to fulfill a legal obligation of the CDFW under the NCCPA (Fish & G. Code § 2820 and § 2823). If such a situation arises, USFWS, NMFS, and CDFW will notify the Permittees of the actions they must take, if any, to prevent jeopardy to the listed species and maintain the permits, giving the Permittees a reasonable opportunity to implement such actions. If one or more of the permits are revoked, the Permittees have the obligation to fulfill all outstanding mitigation requirements, including management and monitoring of the BRCP conservation lands system in perpetuity, for any take that occurs prior to the revocation ([Appendix XX, Implementation Agreement](#)).

8.10 Participating Special Entities

Entities that are not subject to the jurisdiction of the Permittees may conduct or initiate projects or ongoing activities within the Permit area that may affect listed species and require take authorization from USFWS or CDFW. Such organizations may include existing or future school districts, water districts, irrigation districts, transportation agencies, local park districts, geologic hazard abatement districts, other utility or special districts that own land or provide public services, or individuals with activities that may result in take but that do not require a discretionary permit. These public agencies or individuals, known as *Special Participating Entities* (SPEs), can request coverage under the BRCP during implementation. Such coverage will provide take authorization for their projects.

Some management and monitoring activities will result in take of the covered species, even if the net result of the actions are beneficial (e.g., prescribed burning, handling species to identify or mark them). Any special district or other agency that carries out such activities on behalf of the BCAG will require take authorization. If the special district or agency is either a Permittee itself or a contractor of the BCAG that carries out management and monitoring activities on BRCP reserve lands, it will receive take authorization under the HCP/NCCP Permits. Management or monitoring agencies that are not a Permittee or a contractor of the BCAG can secure take authorization as an SPE.

Formatted Table

Formatted: Width: 11", Height: 8.5"

8.11 Tables

Table 8-1. Land Acquisition Schedule for Conservation Component (Not Mitigation)¹

<u>Natural Community/ Land Cover Type</u>	<u>Land Acquisition Target by Implementation Period (acres)</u>										<u>Total</u>
	<u>Years 1-10</u>		<u>Years 11-20</u>		<u>Years 21-30</u>		<u>Years 31-40</u>		<u>Years 41-50</u>		
	<u>Protected/ Maintained</u>	<u>Percent of Total</u>	<u>Protected/ Maintained</u>	<u>Percent of Total</u>	<u>Protected/ Maintained</u>	<u>Percent of Total</u>	<u>Protected/ Maintained</u>	<u>Percent of Total</u>	<u>Protected/ Maintained</u>	<u>Percent of Total</u>	
<u>Oak woodland and savanna</u>	<u>460</u>	<u>5%</u>	<u>2,380</u>	<u>26%</u>	<u>2,660</u>	<u>29%</u>	<u>2,660</u>	<u>29%</u>	<u>1,007</u>	<u>11%</u>	<u>9,167</u>
<u>Grassland</u>	<u>190</u>	<u>3%</u>	<u>1,430</u>	<u>25%</u>	<u>1,950</u>	<u>34%</u>	<u>1,550</u>	<u>27%</u>	<u>627</u>	<u>11%</u>	<u>5,747</u>
<u>Grassland with vernal swale complex</u>	<u>3,962</u>	<u>23%</u>	<u>2,929</u>	<u>17%</u>	<u>4,824</u>	<u>28%</u>	<u>3,790</u>	<u>22%</u>	<u>1,723</u>	<u>10%</u>	<u>17,228</u>
<u>Riparian²</u>	<u>880</u>	<u>15%</u>	<u>1,170</u>	<u>20%</u>	<u>1,875</u>	<u>32%</u>	<u>1,290</u>	<u>22%</u>	<u>639</u>	<u>11%</u>	<u>5,854</u>
<u>Wetland³</u>	<u>100</u>	<u>15%</u>	<u>170</u>	<u>26%</u>	<u>170</u>	<u>26%</u>	<u>150</u>	<u>23%</u>	<u>70</u>	<u>10%</u>	<u>660</u>
<u>Perennial stream channel⁴</u>	<u>30</u>	<u>12%</u>	<u>55</u>	<u>23%</u>	<u>60</u>	<u>25%</u>	<u>60</u>	<u>25%</u>	<u>37</u>	<u>15%</u>	<u>242</u>
<u>Rice</u>	<u>2,000</u>	<u>10%</u>	<u>5,000</u>	<u>25%</u>	<u>6,000</u>	<u>30%</u>	<u>5,000</u>	<u>25%</u>	<u>2,000</u>	<u>10%</u>	<u>20,000</u>
<u>Total</u>	<u>7,622</u>	<u>13%</u>	<u>13,134</u>	<u>22%</u>	<u>17,539</u>	<u>30%</u>	<u>14,500</u>	<u>25%</u>	<u>6,103</u>	<u>10%</u>	<u>58,898</u>

¹Land acquisition may be through fee title or conservation easement. Acreages provided are for measures to contribute to species recovery and natural community conservation ("conservation component") and do not include land acquisition to address the mitigation of impacts of covered activities ("mitigation component").

²Includes cottonwood-willow riparian forest, valley oak riparian forest, dredger tailings riparian forest and scrub (stream associated), and willow scrub.

³Includes emergent wetland.

⁴50 percent of channels are assumed to be in grassland and 50 percent in orchard lands.

Formatted Table

Table 8-2. Schedule for Species Conservation Actions (Not Mitigation) of Specified Biological Resources

Conservation Action (unit)	Applicable Conservation Measure ¹	Target by Implementation Period					Total
		Years 1-10	Years 11-20	Years 21-30	Years 31-40	Years 41-50	
Protect seeps supporting emergent wetland (number)	CM1	2	2	2	2	2	10
Protect perennial stream channel (miles) ²	CM1	3	4	5	5	3	20
Protect intermittent stream channel (miles)	CM1	3	3	3	3	0	12
Protect ponds (number) ³	CM1	6	6	6	6	5	29
Protect tricolored blackbird nesting sites (number)	CM1	— ⁴	— ⁴	— ⁴	— ⁴	— ⁴	3
Protect occupied California black rail habitat (no. of protected seeps)	CM1	— ⁴	— ⁴	— ⁴	— ⁴	— ⁴	10
Protect Conservancy fairy shrimp habitat in the Vina Plains Core Recovery Area (acres)	CM1	40	40	40	30	0	150
Protect Conservancy fairy shrimp occurrences (number)	CM1	0	5	0	0	0	5
Protect Hoover spurge occurrences (number)	CM1	1	0	0	0	0	1
Protect slender Orcutt grass occurrences (number)	CM1	0	2	0	0	0	2
Protect Greene's tuctoria occurrences (number)	CM1	0	2	0	0	0	2
Place salmonid spawning gravels in stream channels (thousands of yds ³)	CM9	8	8	7	7	0	30
Remove impediments to passage of covered fish species (number)	CM10	0	2	3	0	0	5
Remove, modify, or screen diversions (number)	CM11	5	5	5	5	5	25
Protect Butte County meadowfoam suitable habitat (acres)	CM12	748	747	747	747	0	2,989
Protect Butte County meadowfoam occupied habitat (acres)	CM12	6	6	6	6	0	24
Translocate Conservancy fairy shrimp (number of sites)	CM14	0	1	1	0	0	2
Translocate Hoover's spurge (number of sites)	CM14	0	1	1	0	0	2
Translocate hairy Orcutt grass (number of sites)	CM14	0	1	1	0	0	2
Translocate slender Orcutt grass (number of sites)	CM14	0	1	1	0	0	2
Reintroduce Greene's tuctoria (number of sites)	CM14	0	1	1	0	0	2

Formatted Table

Formatted Table

¹ CM1, Acquire Lands; CM9, Replenish Spawning Gravels for Salmonids; CM10, Remove Impediments to Upstream and Downstream Fish Passage; CM11, Remove, Modify, or Screen Unscreened Diversions; CM12, Conserve Butte County Meadowfoam; CM14, Translocate Conservancy Fairy Shrimp, Hoover's Spurge, Butte County Meadowfoam, Hairy Orcutt Grass, Slender Orcutt Grass, and Greene's Tuctoria.

² Includes protection of 15 miles of salmonid habitat along Butte Creek and 5 miles along Little Chico Creek.

³ At least 19 ponds must support western pond turtle habitat and at least 9 ponds must support western spadefoot toad habitat.

⁴ The overall target may be achieved in any combination of implementation periods.

Formatted Table

Table 8-3. Schedule for Restoration for Giant Garter Snake and Greater Sandhill Crane for Conservation Component (Not Mitigation)¹

Restored Habitat Type	Habitat Restoration by Implementation Period (acres)										
	Years 1-10		Years 11-20		Years 21-30		Years 31-40		Years 41-50		Total
	Restored	Percent of Total	Restored	Percent of Total	Restored	Percent of Total	Restored	Percent of Total	Restored	Percent of Total	
Giant garter snake habitat (mosaic of emergent wetland, open water, and upland)	75	15%	130	26%	145	29%	100	20%	50	10%	
Greater sandhill crane roosting habitat (managed wetland)	0	0%	80	50%	0	0%	80	50%	0	0%	160
Total	<u>75</u>	<u>11%</u>	<u>210</u>	<u>32%</u>	<u>145</u>	<u>22%</u>	<u>180</u>	<u>27%</u>	<u>50</u>	<u>8%</u>	<u>660</u>

¹Habitat restoration acreages provided are for measures to contribute to species recovery and natural community conservation (“conservation”) and do not include habitat restoration acreage to address the mitigation of impacts of covered activities on natural communities and covered species (“mitigation”).

8.12 Figures

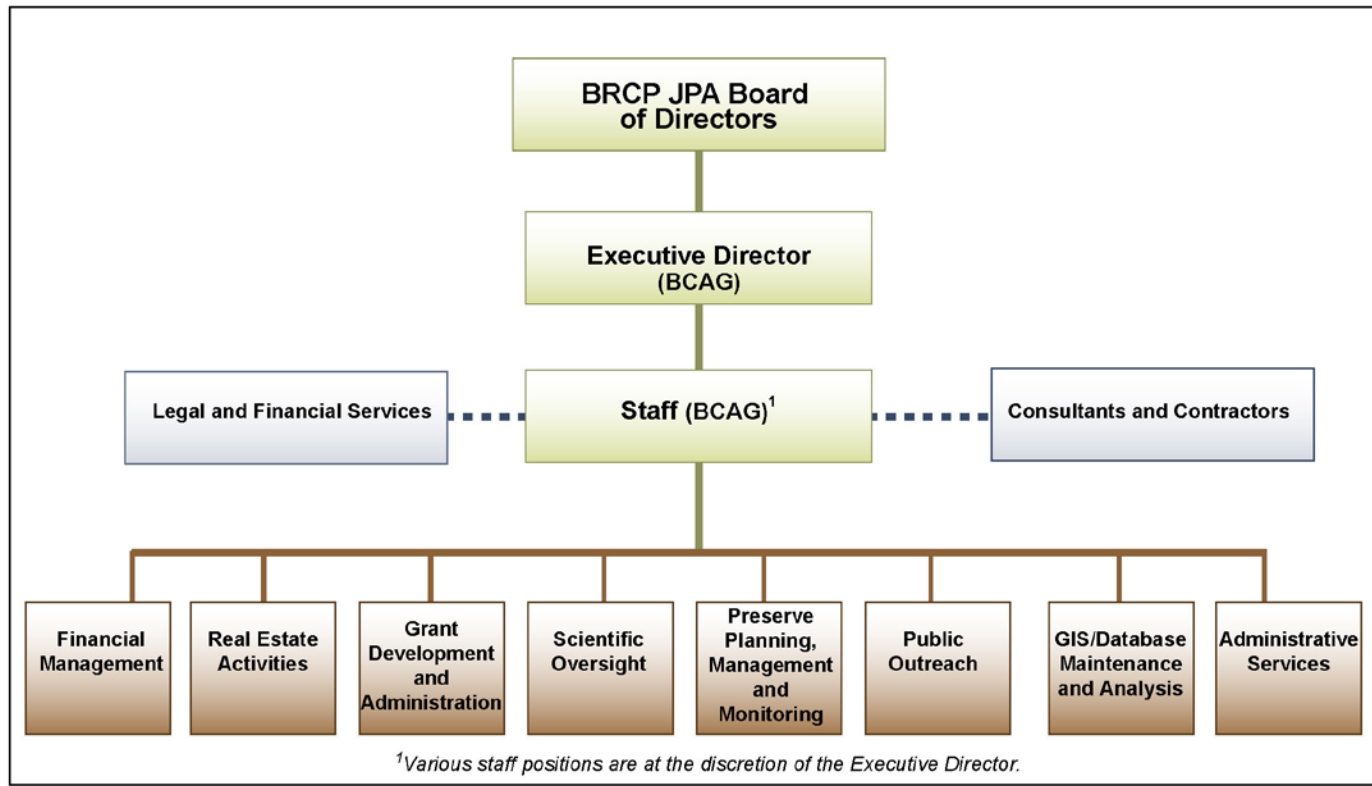


Figure 8-1. Organizational Structure for the BRCP Implementing Entity

Formatted Table

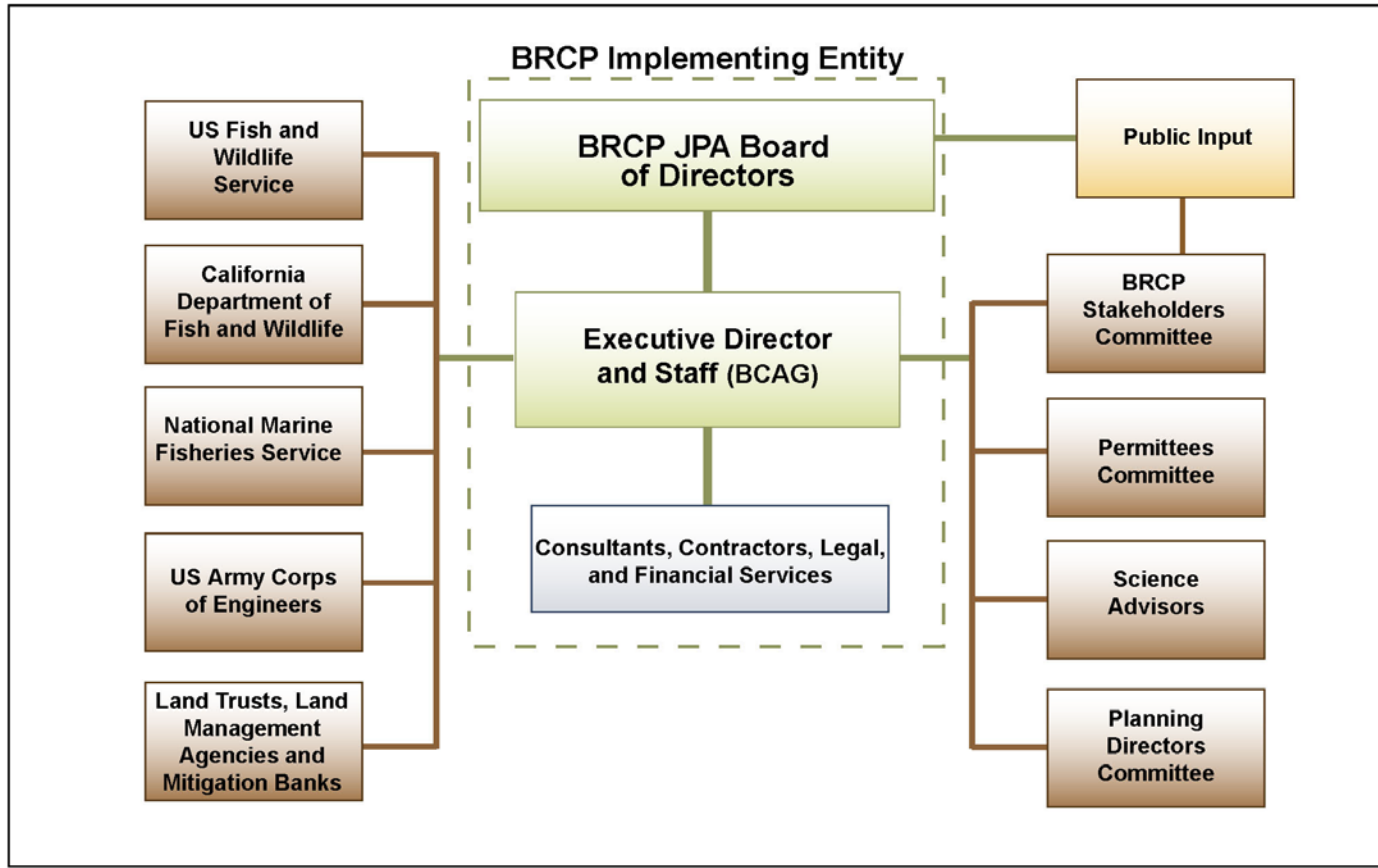


Figure 8-2. Implementation Structure for Coordination and Consultation

Formatted: Caption - Figures