

CHAPTER 6. PLAN IMPLEMENTATION

The Butte Regional Conservation Plan (BRCP) Conservation Strategy will be implemented over a period of 40 years. This chapter describes the schedule of implementation of the BRCP conservation measures; requirements for compliance reporting; the regulatory assurances provided to the BRCP under the ESA and NCCPA; BRCP planned measures to respond to anticipated changed circumstances; unforeseen circumstances; the effect that future species recovery plans could have on the BRCP; and the processes under which BRCP permit authorizations could be amended.

6.1 BRCP IMPLEMENTATION SCHEDULE

This section describes the schedule for implementing the BRCP conservation measures. The schedule for BRCP implementation (Figure 6-1) provides an approximate timeframe and sequence for the completion of actions under the conservation measures described in Section 5.4, *Conservation Measures*. Implementation begins in Year 0, the year in which BRCP regulatory authorizations are issued by USFWS, NMFS, and DFG. Based on currently available information, this schedule describes a reasonable estimate of the timing and sequence for implementation of the various conservation actions over the term of the BRCP. The actual timing of implementation of some conservation actions may vary from the implementation schedule described below. To facilitate successful implementation of the overall BRCP Conservation Strategy, the BRCP Implementing Entity must retain a level of flexibility in the schedule. For example, new information that develops over the term of BRCP regarding conservation opportunities for achieving the biological goals and objectives for a particular covered species could necessitate adjustments in implementation. Substantial variation from the proposed implementation schedule may be addressed through the adaptive management process described in Section 5.9, *Adaptive Management Plan*.

6.1.1 Timing of Mitigation Actions

As described in Section 5.2.3.3, *Conservation Targets*, the protection and restoration of natural communities and covered species habitats for the mitigation component of conservation must be implemented in advance of or concurrent with the commensurate impacts of the covered activities. Consequently, the schedule for implementing the mitigation component of conservation is determined by the timing of when the permanent development and ongoing maintenance activities described in Chapter 2, *Covered Activities*, are implemented. If a covered activity is not implemented, then the mitigation required for that covered activity would not need to be implemented.

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Figure 6-1. BRCP Implementation Schedule

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1 **6.1.2 Timing of Non-Mitigation Conservation Actions**

2 Implementation of actions under the conservation measures that are independent of mitigation
3 will be implemented on the time schedule provided in Figure 6-1 and described in the sections
4 below.

5 **6.1.3 CM1 Protect Natural Communities**

6 The natural communities to be protected under this conservation measure include oak woodland
7 and savanna, grassland, riparian, wetland, and aquatic natural community land cover types. This
8 conservation measure also provides for the maintenance of agricultural crop types that provide
9 habitat for associated covered species. The first time increment is larger than the other two
10 increments to provide time necessary for the Implementing Entity to become established,
11 develop implementation procedures and processes, develop partnerships, and gather information
12 necessary to initiate implementation of the BRCP. The estimated schedule for protection of each
13 natural community land cover type is illustrated in Figure 6-1.

14 The schedule assumes that a two-year period is necessary to identify and bring under protection -
15 through conservation easement, fee title acquisition, or other means - existing natural community
16 lands (Figure 6-1). Specific parcels of land for acquisition must be identified as both available
17 for acquisition and having the necessary physical and biological characteristics that make the
18 lands suitable for achieving habitat protection targets.

19 For some natural community types, the extent to be protected is expressed as a range depending
20 on the level of habitat function for a particular species that is provided by various land cover
21 types that support its habitat. For example, both permanent wetlands¹ and rice land can provide
22 habitat for the giant garter snake. The value of riceland converted to permanent wetlands
23 managed specifically to support giant garter snake habitat is 10 times greater than the value of
24 riceland as giant garter snake habitat. Therefore, for each acre of permanent wetland that is
25 created, 10 fewer acres of rice land would need to be protected to achieve the giant garter snake
26 habitat protection objectives. Based on this sliding scale for achieving the giant garter snake
27 habitat objectives, Figures 6-2 through 6-3 illustrate two possible scenarios for emergent wetland
28 and riceland protection and restoration to achieve giant garter snake objectives.

29 In addition to the protection of existing natural communities and covered species habitat, the
30 BRCP requires that the restoration of natural communities and covered species habitat. The
31 implementation schedule for natural community restoration is described in separate sections
32 below and the cumulative acreage of habitat protection and restoration resulting from
33 implementation of BRCP natural community conservation measures is depicted in Figure 6-4.

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¹ Permanent wetlands encompass BRCP emergent wetland and managed wetland land cover types that also support aquatic and connectivity components that support giant garter snake habitat.

1 **Figure 6-2. Hypothetical Scenario 1 with Minimum Restoration of Emergent Wetland (XXX**
2 **Acres) and Corresponding Maximum Protection of Rice Land (XXX Acres) over the Term**
3 **of the BRCP**

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Figure 6-3. Hypothetical Scenario 2 Including XXX Acres Restoration of Emergent Wetland and Corresponding XXX Protection of Rice Land over the Term of the BRCP

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1 **Figure 6-4. Cumulative Extent of Natural Community Protection and Restoration**

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1 The implementation schedule assumes that monitoring and management of protected and
2 restored natural communities will follow completion of each restoration increment and continue
3 over the term of the BRCP as described in CM9 *Enhance and Manage Protected Natural*
4 *Communities*.

5 **6.1.4 CM2 Develop and Implement an Invasive Species Control** 6 **Program**

7 The Implementing Entity will prepare and initiate implementation of an invasive species control
8 program for BRCP conservation land system within five years of BRCP approvals. The program
9 will be updated on an ongoing basis to address the addition of new conservation lands to the
10 system over the term of the BRCP.

11 **6.1.5 CM3 Improve Urban Stormwater Water Quality**

12 [Text to come.]

13 **6.1.6 CM4 Riparian Habitat Restoration**

14 Restoration of riparian habitat is required to mitigate the effects of covered activities on riparian
15 land cover types and riparian-associated covered species habitats (see Tables 5-4 and 5-5). As
16 described in Section 6.1.1, the schedule for implementing riparian habitat restoration actions is
17 dependent on when covered activities that will affect riparian habitats are implemented and must
18 be implemented at the time or in advance of when impacts are incurred.

19 **6.1.7 CM5 Vernal Pool Complex Restoration**

20 Restoration of vernal pool complex is required to mitigate the effects of covered activities on
21 vernal pools and vernal pool-associated covered species habitats (see Tables 5-4 and 5-5). As
22 described in Section 6.1.1, the schedule for implementing vernal pool habitat restoration actions
23 is dependent on when covered activities that will affect vernal pool complex habitats are
24 implemented and must be implemented at the time or in advance of when impacts are incurred.

25 **6.1.8 CM6 Restore/Create Emergent Wetland**

26 Restoration or creation of emergent wetland is required to mitigate the effects of covered
27 activities on emergent wetland and emergent wetland-associated covered species habitats (see
28 Tables 5-4 and 5-5). As described in Section 6.1.1, the schedule for implementing emergent
29 wetland habitat restoration actions is dependent on when covered activities that will affect
30 emergent wetland habitats are implemented and must be implemented at the time or in advance
31 of when impacts are incurred.

32 As described in Section 6.1.3, emergent wetland may also be restored/created and managed
33 specifically as giant garter snake permanent wetland habitat as an alternate approach from

1 maintaining ricelands as giant garter snake habitat. Potential schedules for restoring/creating
2 emergent wetland for this purpose are presented in Figures 6-2 and 6-3.

3 **6.1.9 CM7 Create Managed Wetland**

4 As described in conservation measure CM1, *Protect Natural Communities*, managed wetlands
5 that are designed and managed to support greater sandhill crane wintering habitat by be created
6 to substitute on an acre-for-acre basis for the acquisition of ricelands that support greater sandhill
7 crane habitat. Creation of managed wetland for this purpose is a discretionary action of the
8 Implementing Entity, and any creation of managed wetland would be in accordance with the
9 schedule of riceland acquisition.

10 **6.1.10 CM8 Enhance and Manage Protected Natural Communities**

11 This conservation measure applies to all natural community lands protected and restored under
12 the BRCP. Implementation begins when each parcel of land is acquired for the BRCP
13 conservation land system. Within two years of acquisition of land parcels for habitat protection
14 or restoration, the Implementing Entity will conduct assessments to collect information on the
15 ecological condition and function of the acquired parcels. These surveys are in addition to the
16 biological and physical surveys conducted prior to site acquisitions. Based on results of the
17 assessments, the Implementing Entity will develop management plans within one year of
18 completing the assessments for individual newly acquired conservation lands or will incorporate
19 into management plans for existing conservation land units. The management plans will
20 describe enhancement and management actions necessary to achieve the biological objectives
21 established for the restored and protected lands. Subsequent habitat enhancement and
22 management actions will be implemented in accordance with the enhancement and management
23 schedule for each plan. Ongoing updates to management plans will be made as new information
24 regarding site conditions and appropriate management prescriptions becomes available over the
25 term of the BRCP.

26 **6.1.11 CM9 Create and Maintain Greater Sandhill Crane Winter** 27 **Roost Sites**

28 The Implementing Entity will create and maintain one greater sandhill crane winter roost site by
29 implementation year 15. The second greater sandhill crane winter roost site will be created by
30 implementation year 25. Both roost sites will be managed over the term of the BRCP following
31 their establishment. The schedule provides for time necessary to acquire land, develop habitat
32 creation and management designs, and implement actions necessary to establish greater sandhill
33 crane winter roost sites.

1 **6.1.12 CM10 Maintain and Enhance Covered Species Habitat on**
2 **Existing Protected Lands**

3 [Text to come.]

4 **6.1.13 CM11-14 [Fish Species Measures]**

5 [Text to come.]

6 **6.1.14 CM15-18 [Butte County Meadowfoam Measures]**

7 [Text to come.]

8 **6.1.15 CM19 Conduct Surveys to Locate and Protect New**
9 **Occurrences of Butte County Checkerbloom**

10 [Text to come.]

11 **6.1.16 CM20 Reestablish Occurrences of Conservancy Fairy**
12 **Shrimp, Ahart’s Dwarf Rush, Hairy Orcutt Grass, Slender**
13 **Orcutt Grass, and Greene’s Tuctoria**

14 [Text to come.]

15 **6.2 COMPLIANCE AND PROGRESS REPORTING REQUIREMENTS**

16 The BRCP Implementing Entity will regularly prepare planning documents and implementation
17 reports to demonstrate compliance with the Plan, Implementation Agreement, and terms and
18 conditions of the ESA section 10 and NCCPA permits. Preparation of these documents and
19 reports will satisfy the USFWS/NMFS Five-Point Policy (65 FR 106, June 1, 2000)
20 recommendation that HCP monitoring plans provide for the reporting of compliance with permit
21 terms and conditions and NCCPA requirements that implementation agreements include
22 “provisions for periodic reporting to wildlife agencies and the public for purposes of information
23 and evaluation of plan progress.” (California Fish and Game Code § 2820(b)(7)). The
24 Implementing Entity will, over the term of the BRCP, submit various documents and reports and
25 plans to USFWS, NMFS, and DFG that do the following:

- 26
- 27 • Provide the data and information necessary to demonstrate that the BRCP is being properly implemented;
 - 28 • Provide monitoring results and analyses demonstrating progress towards achieving the
 - 29 BRCP biological goals and objectives;

- 1 • Document the process and results of adaptive management (decisions, changes, and
2 corrective actions);
- 3 • Disclose issues and challenges concerning plan implementation, and identify potential
4 modifications to the Conservation Strategy that would increase the likelihood of success;
5 and
- 6 • Document impacts and take resulting from covered activities to ensure compliance with
7 permit take limits.

8 Over the term of BRCP implementation, the Implementing Entity will prepare and submit to
9 USFWS, NMFS, and DFG the following documents:

- 10 • Annual workplans and budgets,
- 11 • Annual progress reports, and
- 12 • Five-year comprehensive review reports.

13 These documents will provide the information necessary to enable USFWS, NMFS, and DFG,
14 stakeholders, other state and federal agencies, and the general public to assess on an ongoing
15 basis the progress and performance of the BRCP toward meeting the BRCP biological goals and
16 objectives, and to make informed recommendations to the Implementing Entity regarding Plan
17 implementation.

18 **6.2.1 Annual Workplans and Budgets**

19 On an annual basis, the BRCP Executive Director² of the Implementing Entity will prepare a
20 workplan and budget for the upcoming implementation year through the term of the BRCP. The
21 workplan will identify planned actions for the implementation of conservation measures and the
22 monitoring and adaptive management plans in the coming year. The budget will identify
23 planned expenditures and sources of funding for those expenditures. A Draft Annual Workplan
24 and Budget will be provided to USFWS, NMFS, DFG, Permittees, JPA Board of Directors, and
25 the BRCP Stakeholder Committee³ for review and comment no later than 30 days prior to the
26 annual due date for the Final Annual Workplan and Budget. The Final Workplan and Budget
27 will be completed and approved by the JPA Board of Directors no later than one month prior to
28 the beginning of the upcoming implementation year. If no comments are received from one or
29 more of the entities receiving the Draft Workplan and Budget within their 30-day review period,
30 the BRCP JPA Board of Directors may proceed with approving it.

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

² See Chapter 7, *Implementation Structure*, for descriptions of BRCP Executive Director.

³ See Chapter 7, *Implementation Structure*, for descriptions of these various entities involved in BRCP implementation.

- 1 1. A description of the planned actions to implement conservation measures, including
2 acquisition of conservation lands, and the entities that will carry out the actions;
- 3 2. A description of the planned monitoring actions and any anticipated research studies to
4 be undertaken, and the entities that will conduct the monitoring and research;
- 5 3. A budget reflecting the costs of implementing the planned conservation actions and
6 monitoring along with all other costs for operating the Implementing Entity in the
7 workplan year, and a summary of the projected and actual budgets for all prior
8 implementation years; and
- 9 4. A description of the sources of funding to support the budget.

10 6.2.2 Annual Progress Reports

11 At the end of each implementation year, the Implementing Entity will prepare an Annual
12 Progress Report. These reports will provide a summary of the activities carried out during the
13 previous implementation year. Annual progress reports will be completed within 3 months of
14 the close of each reporting year to provide sufficient time to compile data and complete analyses
15 of monitoring data.

16 Each annual progress report will provide the following information.

- 17 1. Documentation of the implementation of habitat conservation measures
18 (protection/enhancement/creation/restoration) in relationship to the implementation
19 schedule described in Section 6.1, *Plan Implementation Schedule*, including the
20 following information:
 - 21 • A summary of the completed or in-progress habitat conservation actions, including
22 information related to type, extent, and location of restored, enhanced, and existing
23 protected habitats and natural communities. The report will document, on an annual
24 and cumulative basis, the habitat conservation actions that have been carried out.
 - 25 • A summary of all land management activities undertaken on BRCP conservation
26 lands and a discussion of overall and site-specific management issues encountered by
27 the Implementing Entity.
 - 28 • Identification of habitat protection, restoration, or enhancement actions that have not
29 been implemented in accordance with the implementation schedule (i.e., behind or
30 ahead of schedule) and an explanation for the deviation from the schedule.
- 31 2. An assessment of the nature and extent of the impacts of covered activities on natural
32 communities and covered species, including the following information:
 - 33 • A description of each covered activity conducted, the entity responsible for the
34 covered activity, and the location of habitat permanently or temporarily removed or
35 disturbed by the covered activity;

- 1 • A cumulative summary of all impacts of BRCP covered activities on covered natural
2 communities and covered species habitats, habitat mitigation implemented to address
3 these impacts, and a description of how implementation of conservation measures is
4 roughly proportional in time and extent to the impacts on covered species and their
5 habitats;
- 6 • Amount of authorized take of species habitat and reporting of any harassment or
7 mortality of covered species observed; and
- 8 • The status of the BRCP conservation lands system assembly with respect to
9 authorized take/habitat loss.
- 10 3. An evaluation of the results of monitoring and research activities, including the
11 following:
 - 12 • A description of monitoring activities undertaken during the reporting period and a
13 summary of monitoring results, data analysis results, and the knowledge gained from
14 monitoring that is valuable to adaptive management.
 - 15 • A description of all BRCP directed studies conducted during the reporting period, a
16 summary of study results to date, and a description of how these results were or will
17 be integrated into implementation.
- 18 4. A description of adaptive management activities, including the following:
 - 19 • A description of the adaptive management decisions made during the reporting
20 period, including how existing information was used to guide these decisions and the
21 rationale for the actions.
 - 22 • A description of the use of independent scientists or other experts in the adaptive
23 management decision-making processes.
 - 24 • A description of adopted and recommended changes to the conservation measures
25 through the adaptive management process based on interpretation of monitoring
26 results and research findings.
- 27 5. A financial report describing the following:
 - 28 • Funds provided to the Implementing Entity by source.
 - 29 • Annual and cumulative expenditures by cost category.
 - 30 • Deviations in expenditures from the annual budget and other relevant information as
31 appropriate.
- 32 6. A description of implemented actions or actions to respond to changed circumstances,
33 including the following:
 - 34 • A description of the changed circumstance and its effects on covered species and
35 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.

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

6.2.3 Five-Year Comprehensive Review Report

As described in Section 5.9.6, *Program Status Reviews*, the BRCP adaptive management plan provides for five-year reviews of BRCP implementation to provide the Implementing Entity with a longer term and methodical process to periodically evaluate its progress and implementation procedures. The Implementing Entity will prepare a report for submittal to USFWS, NMFS, DFG, and the Stakeholder Advisory Committee describing findings of each review within 6 months following the completion of each BRCP five-year implementation period.

6.3 REGULATORY ASSURANCES

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6.4 CHANGED CIRCUMSTANCES AND UNFORESEEN CIRCUMSTANCES

6.4.1 Definitions

USFWS/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...” (50 CFR §17.3) and the NCCPA defines changed circumstances as “...reasonably foreseeable circumstances that could affect a covered species or geographic area covered by the plan.” (Fish and Game Code §2805(c)). To ensure successful implementation of the Conservation Strategy, the BRCP identifies measures designed to respond to these anticipated changed circumstances. The BRCP changed circumstances and responses to those circumstances, should they occur, are described in Section 6.4.2, *Changed Circumstances*.

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” (50 CFR §17.3, 50 CFR §222.102). 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

1 otherwise agreed upon for the species covered by the conservation plan” unless the BRCP
2 Permittees consent (50 CFR §17.22(b)(1)(5)(iii); 50 CFR §222.307(g)(3)(iii)).

3 Within these constraints, USFWS and/or NMFS may require additional measures, but only if (1)
4 the USFWS and/or NMFS proves an unforeseen circumstance exists; (2) such measures are
5 limited to modifications of the BRCP’s operating conservation program for the affected species;
6 (3) the original terms of the Plan are maintained to the maximum extent practicable; and (4) the
7 overall cost of implementing the BRCP is not increased by the modification. USFWS and
8 NMFS bear the burden of demonstrating that unforeseen circumstances exist. A finding of
9 unforeseen circumstances must be clearly documented, based upon the best available scientific
10 and commercial information, and made considering certain specific factors (50 CFR
11 §17.22(b)(5)(iii)(C), 50 CFR §222.307(g)(3)(iii)). If such a finding is made and additional
12 measures are required, the BRCP permitted entities will work with USFWS and/or NMFS to
13 appropriately redirect resources to address the unforeseen circumstances.

14 Similarly, unforeseen circumstances are defined in the NCCPA as “changes affecting one or
15 more species, habitat, natural community, or the geographic area covered by a conservation plan
16 that could not reasonably have been anticipated at the time of plan development, and that result
17 in a substantial adverse change in the status of one or more covered species” (Fish and Game
18 Code §2805(k)). The NCCPA further provides that, in the event of unforeseen circumstances,
19 DFG shall not require “additional land, water, or financial compensation or additional
20 restrictions on the use of land, water, or other natural resources...without the consent of the plan
21 participants for a period of time specified in the implementation agreement.” However, such
22 assurances are not applicable in those circumstances in which DFG determines that the plan “is
23 not being implemented consistent with the substantive terms of the implementation agreement”
24 (Fish and Game Code §2820(f)(2)).

25 **6.4.2 Changed Circumstances**

26 Ecological conditions in the Plan Area may change as a result of future events and circumstances
27 that may occur over the term of BRCP implementation. This section identifies changes in
28 circumstances that are reasonably foreseeable and that could adversely affect BRCP covered
29 species and natural communities, consistent with the “changed circumstances” provisions of
30 ESA regulations and in the NCCPA described in Section 6.4.1, *Definitions*. The changed
31 circumstances provisions of the BRCP are intended to address reasonably foreseeable events,
32 both inside and outside of the Plan Area, that may impede or prevent the BRCP from achieving
33 its biological goals and objectives within the Plan Area. The BRCP identifies a range of
34 potential changed circumstances, including events or conditions that may cause population-level
35 declines in covered species, such as new invasive species, or that may substantially degrade
36 habitat functions, such as flooding, fire, and climate change.

37 To address the potential for changed circumstances, the BRCP identifies specific funding
38 commitments for remedial measures (see Chapter 8, *Implementation Costs and Funding*

1 *Sources*). In the event that changed circumstances occur, the Implementing Entity will
2 implement the remedial measures identified in this section within the levels of funding set out in
3 the BRCP for these purposes.

4 The following sections describe the process for identifying the occurrence of changed
5 circumstances, the changed circumstances that will be addressed by the BRCP, and the remedial
6 measures that would be implemented in response to such occurrences.

7 **6.4.2.1 Process to Identify Changed Circumstances**

8 The occurrence of a changed circumstance will generally become apparent to the Implementing
9 Entity through information gained from system-wide or effectiveness monitoring, scientific
10 study, or by notification received from another party (e.g., a reported wildfire on BRCP
11 conservation lands). With indication that a changed circumstance has occurred or is likely to
12 occur, the Implementing Entity will immediately investigate and confirm the occurrence of the
13 event. The Implementing Entity will notify the BRCP JPA Board of Directors, Permittees, and
14 other appropriate entities of the changed circumstance.

15 After establishing an occurrence of a changed circumstance identified in this section, the
16 Implementing Entity will notify USFWS, NMFS, and DFG. The Implementing Entity will
17 determine specific remedial actions that are consistent with the responses described below for the
18 particular changed circumstance and develop a schedule for implementation. The Implementing
19 Entity will provide the remedial action plan and schedule to USFWS, NMFS, and DFG for
20 review prior to implementation. After implementing remedial actions, the Implementing Entity
21 will monitor the effectiveness of the measures. The occurrence of a changed circumstance and a
22 description of implemented (or the action plan for) remedial measures and their effectiveness
23 will be described in the BRCP Annual Progress Report for that year (see Section 6.2,
24 *Compliance and Progress Reporting Requirements*).

25 **6.4.2.2 Changed Circumstances Addressed by the BRCP**

26 **1. Floods**

27 *Nature of the Changed Circumstance*

28 The effects of floods on BRCP conservation lands and covered species depend on several
29 factors, including the severity of the flood event, its duration, and the type of habitat affected.
30 Flood events are a natural process that maintain aquatic, riparian, and wetland ecosystems and
31 small flood events are expected have relatively minor effects on protected natural communities
32 and covered species. Furthermore, many of the covered species are either adapted to flooding
33 (e.g., the giant garter snake and western pond turtle), would likely not be present or nesting
34 during winter flood events (e.g., Swainson's hawk, western burrowing owl), or are capable of
35 fleeing flooded areas (e.g., bank swallow, tricolored blackbird). Generally, flood events will
36 have beneficial effects on the riparian natural community and the covered species and other

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

5 Flood damage to natural communities and species habitats within BRCP conservation lands
6 caused by storms at or below a 50-year flood event on a given stream are considered to be a
7 changed circumstance that are reasonably foreseeable over the term of the BRCP.

8 *Unforeseen Circumstance*

9 Flood events causing damage to BRCP conservation lands that are greater than a 50-year flood
10 event or that result in substantial soil erosion from unnatural conditions (e.g., narrow breaches
11 that focus hydraulic energy) are unforeseen circumstances.

12 *Planned Response*

13 Following a flood event, affected conservation lands will be inspected within 30 days of the end
14 of the event (e.g., recession of all flood waters) or as soon thereafter as conditions permit access
15 by the Implementing Entity to evaluate the extent of damage to the protected habitats and
16 evaluate the need for implementing actions to rehabilitate affected habitat functions. If natural
17 processes are unlikely to reestablish covered species habitat functions at a rate sufficient to meet
18 species and natural community conservation standards described in the BRCP biological goals
19 and objectives, the Implementing Entity will identify and implement management actions, within
20 1 year of the flood event, necessary to restore affected habitat functions for covered species and
21 natural communities. Very large flood events may require more than one year to plan and
22 implement a response.

23 **2. Drought**

24 *Nature of the Changed Circumstance*

25 The Plan Area is characterized by a Mediterranean climate, with cool, wet winters and warm, dry
26 summers. El Niño and La Niña climatic events typically cause large annual fluctuations in
27 precipitation levels (Minnich 2007, Reeve-Morghen et al. 2007). Precipitation is almost
28 exclusively received in the form of rain, approximately 90 percent of which is received from
29 October through April. Drought is a natural part of Mediterranean climates and drought
30 conditions experienced over the term of the BRCP could result in the loss of restored riparian
31 and wetland habitats and BRCP maintained agricultural habitats. Drought is defined here for
32 non-agricultural habitats as less than 75 percent of the 25-year median of the three-month total
33 precipitation from November 1 through January 31 and a continuous positive ratio of cumulative
34 precipitation minus cumulative potential evapotranspiration from February 1 through April 15 as
35 reported by the DWR California Irrigation Management Information System (CIMIS) weather
36 station closest to the City of Chico (See Gerlach 2004 and Reeve-Morghen et al. 2007 for

1 methodology). For agricultural habitats, drought is defined using the irrigation schedule
2 calculations provided by the CIMIS weather station closest to the City of Chico and the irrigation
3 requirements calculations for the particular crop (See Snyder and Sheradin 1993 for
4 methodology).

5 *Unforeseen Circumstance*

6 Drought conditions as defined above lasting more than three years is an unforeseen
7 circumstance.

8 *Planned Response*

9 BRCP conservation land management plans (see Conservation Measure *CM9: Enhance and*
10 *Manage Protected Natural Communities* in Section 5.4, *Conservation Measures*) include drought
11 monitoring and protection measures to minimize the risk of losing BRCP restored natural
12 habitats and conserved agricultural habitats to drought. Preventative measures include the
13 following actions:

- 14 • Monitoring the CIMIS weather station closest to the City of Chico to determine if a
15 drought is occurring as described above.
- 16 • Monitoring habitat restoration sites that are beyond their establishment periods (i.e., no
17 longer sustained by irrigation) for stress due to low soil moisture or high
18 evapotranspiration rates (See Gerlach 2004 and Reever-Morghan et al. 2007 for
19 methodology).

20 In the event of drought conditions, the Implementing Entity will evaluate habitat restoration sites
21 to assess the degree of effect on habitat development and functions. Following the evaluation,
22 the Implementing Entity will prepare a report that documents the effects of drought on
23 restoration sites and identifies management actions that will be implemented through the
24 adaptive management process (see Section 5.9, *Adaptive Management Plan*) to alleviate the
25 effects of drought (e.g., providing supplemental irrigation of riparian plantings). For droughts
26 that affect the availability of water for irrigation of BRCP agricultural habitats, the Implementing
27 Entity will purchase additional water supplies necessary to maintain crop types that support the
28 target habitat functions of the agricultural land or acquire natural habitat areas to replace the
29 habitat functions provided by the affected agricultural habitat.

30 **3. Water Availability**

31 *Nature of Changed Circumstance*

32 Artificial application of water to create ricelands and managed wetlands provides habitat for a
33 number of covered species, most notably giant garter snake and greater sandhill crane. Water
34 may not be available for such habitat should a decision be made, typically for economic reasons,
35 to transfer water to another location away from use in the ricelands or managed wetlands in the

1 Plan Area. The lack of available water to maintain rice farming or managed wetlands is a
2 changed circumstance.

3 Ricelands protected through acquisition under the BRCP and restored/managed wetlands under
4 the BRCP will be acquired with the water rights or contracts available with title to or easement
5 on the property and therefore other uses of the water, including transfers, would be precluded.
6 So the changed circumstance of water becoming unavailable could only occur in the ricelands
7 and managed wetlands outside of BRCP conservation lands. There is a risk that giant garter
8 snake habitat could decline as a result of water transfers before the BRCP Implementing Entity
9 has had the time to build the conservation land system with secured water availability to support
10 giant garter snake.

11 *Unforeseen Circumstance*

12 A substantial reduction in rice production as a result of the unavailability of water occurring
13 early in the BRCP implementation, prior to the Implementing Entity securing short term
14 easements or outstripping funds available for market incentives, is an unforeseen circumstance.

15 *Planned Response*

16 The BRCP includes a conservation measure that allows the Implementing Entity to enter into
17 short term conservation easements that would allow for the protection of sufficient rice
18 producing lands to support giant garter snake and other covered wildlife species early in BRCP
19 implementation, providing time for the acquisition of permanent easements and fee title over the
20 longer term of implementation.

21 The BRCP includes a conservation measure that allows the Implementing Entity to use market
22 incentives to farmers to keep ricelands in rice production when faced with competing interests
23 for the water or high prices for competing crops. Providing market incentives allows the short
24 term protection of habitat for giant garter snake and other covered wildlife species early in BRCP
25 implementation, providing time for the acquisition of permanent easements and fee title to
26 protect habitat over the longer term of BRCP implementation.

27 **4. Fire**

28 *Nature of Changed Circumstance*

29 Fire is defined as any fire on BRCP conservation lands not prescribed by the Implementing
30 Entity that removes a sufficient extent of vegetation such that the intended habitat functions of
31 the conservation land for covered species are substantially degraded (would not naturally recover
32 habitat functions within a sufficient time to meet BRCP goals and objectives), as jointly
33 determined by the Implementing Entity, or that destroys infrastructure that is necessary to
34 maintain conservation benefits of the affected conservation lands over time.

35

1 *Unforeseen Circumstance*

2 Any area in excess of a cumulative total of █ acres (representing 10 percent of the existing
3 natural community area to be protected by BRCP) burned by non-BRCP prescribed fires over the
4 term of BRCP implementation that result in the loss of intended habitat functions for the target
5 covered species is an unforeseen circumstance.

6 *Planned Response*

7 In the event of a fire that constitutes a changed circumstance, the Implementing Entity will assess
8 the proportion of the species habitat area within the conservation lands that has burned and its
9 likely effect on covered species. The Implementing Entity will make an initial determination of
10 whether or not a changed circumstance exists. If a changed circumstance is determined to exist,
11 the Implementing Entity will implement the appropriate post-fire monitoring plan for a two-year
12 period following the fire. If over the course of the monitoring period it is determined that
13 vegetation is not recovering sufficiently in the burned area to reestablish the original functions of
14 the affected habitat, the Implementing Entity will develop and implement through the adaptive
15 management process a habitat restoration plan to enhance recovery of the affected habitat area.
16 Elements of habitat restoration plans may include provisions for planting and caring for native
17 vegetation and controlling the establishment of invasive plant species.

18 **6. Invasive Species and Diseases**

19 *Nature of Changed Circumstance*

20 A changed circumstance that involves a new infestation or substantial increase in an existing
21 infestation of nonnative animals, plants, or diseases affecting native wildlife, fish, and plant
22 species will be considered to have occurred if the Implementing Entity, USFWS, NMFS, and
23 DFG jointly determine that such species or diseases are established within the Plan Area, and
24 that the presence of the species or disease will substantially diminish the benefits to covered
25 species provided by the BRCP conservation measures and achievement of BRCP biological
26 goals and objectives. It is highly unlikely that large infestations of a new or existing nonnative
27 animal, plant, or disease within BRCP conservation lands can be addressed within the operating
28 budget of the BRCP or the authority of the Implementing Entity.

29 *Unforeseen Circumstances*

30 Any new infestation or substantial increase in an existing infestation of a species or disease that
31 requires development and implementation of actions by the Implementing Entity beyond those
32 described in the planned response below is an unforeseen circumstance.

33 *Planned Response*

34 As described in Section 5.8, Monitoring Plan, the Implementing Entity will take steps to detect,
35 through the monitoring program and through collaboration with other responsible entities, new

1 infestations or substantial increase in existing infestations of nonnative animal, plant, or disease
2 in the Plan Area. If an infestation of a nonnative animal, plant, or disease is discovered, the
3 Implementing Entity in coordination with USFWS, NMFS, and DFG will conduct an assessment
4 to determine the possible threats of the species or disease to covered species and the Plan Area
5 ecosystems. The BRCP Implementing Entity, through the adaptive management process, will
6 identify and implement measures to reduce and/or control the adverse effects of the species or
7 disease on the functions provided by habitat restored and protected under the Plan (e.g., control
8 of invasive nonnative plant species in BRCP conservation lands). If methods to adequately
9 reduce and/or control adverse effects of the species or disease are not available or practicable, the
10 Implementing Entity will identify alternative design, implementation, and management
11 approaches to future habitat restoration and management actions to avoid or minimize potential
12 adverse effects of the disease on covered species. If such modifications are not practicable, the
13 Implementing Entity, through the adaptive management process, will identify and implement
14 alternative conservation measures, if practicable, that provide equivalent levels of benefit to
15 applicable covered species.

16 Infestations of conservation lands held in short-term easements may not be renewed to avoid the
17 effects of the infestation on benefits to covered species. In such an event, the Implementing
18 Entity will acquire other lands that are not subject to the infestation to provide the intended
19 benefits of the affected lands.

20 If an agricultural pest or disease establishes such that crop types that are anticipated to be
21 cultivated on BRCP conservation lands to provide habitat for covered wildlife species can no
22 longer be grown, the Implementing Entity in coordination with USFWS and DFG through the
23 adaptive management process will identify and provide alternative crop types that can be
24 practicably cultivated, that are not affected by the pest or disease, and that provide the same or
25 higher habitat values of the affected crop type(s) for target covered species. If suitable
26 replacement crop types that provide the same or higher values are not available, the
27 Implementing Entity will provide available crop types that can be practicably cultivated that
28 provide the highest possible values for the target covered wildlife species.

29 **7. Long-Term Changes in Precipitation and Temperature**

30 *Nature of Changed Circumstance*

31 Long-term changes in precipitation and temperature are considered a changed circumstance in
32 the event that such changes in the timing and amount of rainfall and ambient air temperature in
33 the Plan Area as a result of climate change are of a magnitude sufficient as determined by the
34 Implementing Entity to diminish the benefit to covered species provided by BRCP restored and
35 protected natural communities.

36

37

1 ***Unforeseen Circumstance***

2 Any changes in precipitation and temperature that diminish the intended benefits of conservation
3 lands for the target covered species that cannot be addressed through the BRCP adaptive
4 management program are unforeseen circumstances.

5 ***Planned Response***

6 Changes in precipitation and temperature patterns may affect vegetation composition and
7 structure of BRCP conservation lands and may result in distributional changes of covered species
8 and other native species. The design principles used to assemble the system of BRCP
9 conservation lands are such that the resulting system of conservation lands will include
10 ecological features that address climate change effects on covered species and natural
11 communities, including connectivity among conservation lands within and outside the plan area;
12 protection of corridors supporting complete elevation range within the northern, central and
13 southern Plan Area; latitudinal connectivity of conservation lands; large patch size of
14 conservation lands; and mosaic mix of natural communities within conservation lands.

15 In the event of this changed circumstance, the Implementing Entity will identify and implement
16 actions through the adaptive management plan to the extent such actions would help to moderate
17 the ecological effects of changes in precipitation and temperature. Such adaptive management
18 responses may include adjusting the natural community objectives to provide for protection of an
19 altered mix of habitats to accommodate changes in the distribution of species that may be caused
20 by altered conditions. Measures beyond those contemplated by the adaptive management plan
21 may be impracticable and ineffective given the potential magnitude and extent of such changes
22 within the Plan Area and, as such, are not provided for under the BRCP.

23 **8. Toxic or Hazardous Substance Spills**

24 ***Nature of Changed Circumstance***

25 Toxic or hazardous substance spills are a changed circumstance if the spills of chemicals in
26 BRCP conservation lands directly or indirectly affect covered species occurrences or
27 significantly reduce the ecosystem and habitat functions of natural communities as determined
28 by the Implementing Entity, USFWS, NMFS, and DFG.

29 ***Unforeseen Circumstance***

30 An effect of any toxic or hazardous substance spill, or other form of release, on the benefits of
31 conservation lands to the covered species that is chronic or ongoing and caused by an entity or
32 entities not under the jurisdictional control of the Permittees is an unforeseen circumstance.

33

34

1 *Planned Responses*

2 The Implementing Entity will respond to toxic or hazardous spill events that occur in BRCP
3 conservation lands. To minimize the potential effects of a toxic or hazardous substance spill, the
4 Implementing Entity will develop a toxic and hazardous spill response plan in coordination with
5 responsible regulatory entities (e.g., local, state and federal specialized response teams) to guide
6 its initial responses on detection of a spill event.

7 For a spill event caused by a BRCP action, the Implementing Entity will coordinate its response
8 with DFG's Office for Oil Spill Prevention, the Regional Water Quality Control Board, and other
9 state or federal regulatory entities as appropriate to the nature of the spill event to curtail the
10 immediate spread and minimize the effects of the spill. The Implementing Entity will also
11 identify and undertake management measures sufficient to remediate the effects of the toxic
12 substance on covered species and affected habitats (i.e., removal or isolation of the material) and
13 restore the ecological functions of the degraded habitat. If the affected habitat areas cannot be
14 feasibly and effectively restored, the Implementing Entity, through the adaptive management
15 process, will identify and implement measures to contain the ecological effects of the spill and
16 compensate for the loss of habitat functions at other locations that provide equivalent or greater
17 ecological benefits to the affected covered species.

18 If the spill event is not caused by a BRCP action, the Implementing Entity will coordinate with
19 responsible regulatory agencies and the party or parties responsible for the spill event to identify
20 the measures that will need to be funded and/or undertaken to adequately remediate the effects of
21 the spill and restore the ecological functions of the affected habitat.

22 **9. New Species Listings**

23 *Nature of the Changed Circumstance*

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

29 *Unforeseen Circumstance*

30 The listing of new species that precludes the ability to implement the conservation provisions of
31 the BRCP with or without amendments to the BRCP and/or the ESA and NCCPA permits is an
32 unforeseen circumstance.

33

34

1 *Planned Response*

2 The Implementing Entity will undertake the following measures in the event of the listing of a
3 new species under state or federal endangered species laws that is present in the BRCP Plan
4 Area:

- 5 • Evaluate the potential impacts of covered activities on the newly listed or candidate
6 species and conduct an assessment of the presence of suitable habitat in areas of potential
7 effect.
- 8 • Implement measures to avoid impacts to the newly listed species until such time as the
9 BRCP has been amended to include the newly listed species as a covered species.

10 In the event that a species not covered by the BRCP becomes listed as threatened or endangered
11 or designated as a candidate species, or is proposed or petitioned for listing, the Implementing
12 Entity may request that USFWS, NMFS, and DFG add the species to the relevant ESA, NCCPA
13 or CESA take authorizations issued pursuant to the BRCP. In determining whether to seek take
14 coverage for the species, the Implementing Entity will consider, among other things, whether the
15 species is present in the Plan Area and if the covered activities could result in take of the species.
16 If such take coverage is sought, the BRCP and its authorizations will be amended. Alternatively,
17 the Implementing Entity, on behalf of the Permittees, could seek new and separate take
18 authorizations.

19 **10. New Designation of Critical Habitat**

20 *Nature of the Changed Circumstance*

21 The USFWS or NMFS may designate new areas of critical habitat within the Plan Area for
22 species that are covered or not covered under the BRCP. In the event that USFWS or NMFS
23 designates new critical habitat areas, the provisions of this changed circumstance will be
24 automatically triggered.

25 *Unforeseen Circumstance*

26 The designation of new critical habitat areas that precludes the ability to implement the
27 conservation provisions of the BRCP with or without amendments to the BRCP and/or the ESA
28 permits is an unforeseen circumstance.

29 *Planned Response*

30 The Implementing Entity will undertake the following measures in the event of the designation
31 of new critical habitat areas under federal endangered species laws in the BRCP Plan Area:

- 32 • Evaluate the potential impacts of covered activities on the constituent elements of newly
33 designated critical habitat.

- 1 • If the designated critical habitat is for a BRCP covered species, implement measures to
2 avoid impacts on the constituent elements of newly designated critical habitat until such
3 time as the BRCP has been amended, if needed, to address any such impacts on the
4 designated critical habitat.
- 5 • If the designated critical habitat for a newly listed species is not covered under the BRCP,
6 implement measures to avoid impacts on the constituent elements of newly designated
7 critical habitat until such time as the BRCP has been amended to include the newly listed
8 species as a covered species.

9 **6.5 FUTURE RECOVERY PLANS**

10 Recovery plans under the ESA describe actions necessary to recover and protect federally listed
11 species. Recovery plans, however, do not constitute obligations for Permittees to implement
12 recovery plan actions. Consequently, ESA recovery plans will not affect BRCP implementation
13 except to the extent that they provide new information that may improve BRCP implementation
14 effectiveness. Any recovery plan addressing any covered species within the Plan Area that is
15 developed after the approval of the BRCP will have the following characteristics:

- 16 • It will not require any additional water, land, or financial compensation to be provided by
17 the Permittees;
- 18 • It will be finalized only after the USFWS or NMFS has conferred with and requested
19 input from the Implementing Entity on the preparation of the recovery plan; and
- 20 • It will in no way diminish the take authorizations provided pursuant to the BRCP, ESA
21 section 10 permits, and the IA.

22 **6.6 PERMIT DURATION AND RENEWAL, PLAN AMENDMENTS, AND** 23 **SUSPENSION AND REVOCATION**

24 **6.6.1 Permit Duration and Extension**

25 The Permittees are seeking permits from USFWS, NMFS, and DFG to implement the BRCP and
26 retain incidental take coverage under those permits for a term of 40 years. The term of the take
27 authorizations issued under the BRCP would begin from the date of their issuance. The
28 Permittees may apply to USFWS, NMFS, and DFG to renew their permits prior to their
29 expiration.

30 **6.6.2 Administrative Changes without Modification, Revision, or** 31 **Amendment**

32 Over the course of BRCP implementation, there will be a need for ongoing interpretation of
33 components of the BRCP. Changes to the BRCP that do not substantively change BRCP

1 requirements will not require an amendment of the BRCP or its authorizations. Examples of
2 administrative revisions that may be implemented by the Implementing Entity include, but are
3 not limited to, the following:

- 4 • Clerical corrections to edit errors in text (e.g., typographical errors), maps, and other
5 portions of the BRCP and its authorizations that do not change their intended meanings;
- 6 • Changes to conservation measures or habitat management actions developed through an
7 adaptive management process described in Section 5.9, *Adaptive Management Plan*.
- 8 • Variations in common conservation land management practices, such as adjusting
9 irrigation schedules for created or restored habitat on the basis of observed water needs of
10 planted vegetation;
- 11 • Adjustments to the design of directed studies;
- 12 • Adjustments to monitoring methods to incorporate new USFWS, NMFS, and DFG
13 monitoring protocols;
- 14 • Changes in JPA members and Implementing Entity staff and functions; and
- 15 • Changes in the membership of BRCP advisory committees.

16 **6.6.3 Minor Modifications and Revisions**

17 To respond appropriately to new information, scientific understanding, technological advances,
18 and other such circumstances, the Implementing Entity may need to make minor adjustments to
19 the BRCP. Minor modifications or revisions are primarily expected to address the need for
20 technical updates that will involve changes that would not adversely affect covered species, the
21 level of take, or the obligations of Permittees. Minor modification or revision may include, but
22 is not limited to, the following:

- 23 • Minor corrections to land ownership descriptions;
- 24 • Changes to survey, monitoring, reporting and/or management protocols approved through
25 the adaptive management process described in Section 5.9, *Adaptive Management Plan*,
26 that do not adversely affect covered species or habitat functions and values;
- 27 • Transfers of habitat protection and restoration targets among the CAZs that do not affect
28 the level of conservation benefits provided to the targeted covered species or preclude
29 achieving the biological goals and objectives described in Section 5.3, *Biological Goals
30 and Objectives*;
- 31 • Updates/corrections to the vegetation or other resource maps, species occurrence data,
32 and other biological data; and
- 33 • Other proposed changes to the BRCP that USFWS, NMFS, and DFG have determined to
34 be appropriate for implementation as a minor amendment.

1 **6.6.3.1 Procedures for Minor Modifications and Revisions**

2 The Implementation Entity, Permittees, or USFWS, NMFS, and DFG may propose minor
3 modification or revision by providing a written request to each of these parties. Requests will
4 include a description of the proposed changes, an explanation of the reason for the proposed
5 changes, an analysis of the effects of the change on impacts to covered species and natural
6 communities, and a description of why the proposed changes would not differ from the
7 biological effects described in the original BRCP, conflict with the terms and conditions of the
8 original BRCP, and substantially affect BRCP implementation.

9 The Permittees and USFWS, NMFS, and DFG may submit comments on the proposed minor
10 modification or revision in writing within sixty (60) days of receipt of notice. If any Permittee
11 disagrees with the proposed changes, the revisions or minor modifications will not be
12 incorporated into the BRCP. If USFWS, NMFS, and/or DFG do not concur that the proposed
13 changes meet the requirements for a minor modification or revision, the proposal must be
14 approved according to the Formal Amendment process describe in section 6.6.4 *Formal*
15 *Amendment*.

16 If the Permittees agree to the proposed minor modification or revision, and USFWS, NMFS, and
17 DFG find that the requirements for a minor modification or revision have been met and the
18 modification or revision should be incorporated into the BRCP, the BRCP will be appropriately
19 modified. If USFWS, NMFS, or DFG do not respond within the 60-day period to the written
20 request for minor modification or revision, the agency will be considered to have approved the
21 proposed minor modification or revision.

22 **6.6.4 Formal Amendment**

23 Over the term of the BRCP, it may be necessary to substantially amend the BRCP to address new
24 conditions not envisioned during the BRCP planning process. Such instances are expected to be
25 infrequent or may not occur over the term of the BRCP. Any proposed changes to the BRCP
26 that are not considered to be administrative changes or a minor amendment or revision will
27 require a formal amendment. Formal amendments will also require corresponding amendments
28 to the BRCP authorizations and permits, in accordance with applicable laws and regulations
29 regarding permit amendments. The Implementing Entity will be responsible for submitting any
30 proposed amendments to USFWS, NMFS, and DFG.

31 Formal amendments include but are not limited to the following:

- 32 • Substantive changes to the boundary of the Plan Area;
- 33 • The addition of species covered under the BRCP;
- 34 • Adjustments to BRCP implementation schedules that would have substantial adverse
35 effects on the covered species; and

- 1 • Changes in the extent of natural community types to be protected or restored under the
2 BRCPP that substantially reduce the level of conservation benefits provided to the covered
3 species.

4 **6.6.4.1 Process for Formal Amendment**

5 Formal amendments will involve the same process that was required for the original approval of
6 the BRCPP section 10 and section 2835 permits. In most cases, an amendment will require public
7 review and comment, CEQA/NEPA compliance, and intra-Service section 7 consultation.
8 Amendments will require approval of the Permittees. USFWS, NMFS, and DFG will use
9 reasonable efforts to process proposed amendments within 180 days following receipt of a
10 proposed amendment.

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