

Chapter 2

Proposed Action and Alternatives

This chapter describes the proposed action and the implementation of the conservation strategy that is intended to provide for the conservation of the covered species and natural communities addressed by the BRCP. This chapter also describes the requirements of NEPA and CEQA and other regulatory considerations for the development of alternatives to the proposed BRCP, the alternatives selection process, alternatives carried forward for detailed analysis in this EIS/EIR, and alternatives eliminated from further consideration.

2.1 Approach to Developing Alternatives

2.1.1 Regulatory Framework

NEPA and CEQA

Range of Alternatives

NEPA and CEQA require that an EIS/EIR evaluate a reasonable range of alternatives to a proposed action, including a no action alternative. While there is no clear rule for determining a reasonable range, NEPA and CEQA provide guidance that can be used to define a range of alternatives for consideration in an EIR/EIS.

According to NEPA, the range of alternatives required in an EIS is governed by the rule of reason, which requires an EIS to set forth only those alternatives necessary to permit a reasoned choice. The reasonable range of options is to be defined by the specific facts and circumstances of the proposed action. To be considered reasonable, it is generally understood that first, alternatives must fulfill the basic requirements of the statement of purpose and need (described for the BRCP in Chapter 1, *Introduction*). Second, alternatives to be analyzed should not have more significant impacts on the environment than the proposed action or result in impacts that are indistinguishable from those of the proposed action. Finally, alternatives must be able to be feasibly carried out in the context of technical, economic, environmental, and other factors. If alternatives have been eliminated from detailed study, the EIS must briefly discuss the reason for their elimination (40 CFR 1502.14[a]; Forty Questions No. 1[a]).

The range of alternatives under CEQA is governed by the rule of reason. Alternatives under CEQA must meet the basic project objectives, should not result in greater impacts on the environment than those of the proposed project, and must be potentially feasible. In determining whether alternatives are feasible, lead agencies are guided by the general definition of feasibility found in State CEQA Guidelines Section 15364: “capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.” In accordance with State CEQA Guidelines Section 15126.6[f], the lead agency should consider site suitability, economic viability, availability of infrastructure, general plan consistency, other regulatory limitations, jurisdictional boundaries, and the proponent’s control over alternative sites in determining the range of alternatives to be evaluated in an EIR. An EIR must

briefly describe the rationale for selection and rejection of alternatives and the information that the lead agency relied upon in making the selection. It should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reason for their exclusion (State CEQA Guidelines Section 15126[d][2]).

No Action/No Project Alternative

A no action alternative is required to be considered in an EIS and a no project alternative is required to be considered in an EIR. A no action/no project alternative allows decision makers to compare the impacts of approving the project to the impacts of not approving the project. CEQ regulations for implementing NEPA require an EIS to include evaluation of a no action alternative (40 CFR 1502.14). At the lead agencies' discretion under NEPA, the no action alternative may be described as the future circumstances without the proposed action and can also include predictable actions by persons or entities, other than the federal agencies involved in a project action, acting in accordance with current management direction or level of management intensity. When the proposed action involves updating an adopted management plan or program, the no action alternative includes the continuation of the existing management plan or program.

Under CEQA, an EIR is required to analyze the no project alternative. State CEQA Guidelines Section 15126.6, Subdivision (e)(2) indicates that no project conditions may include some reasonably foreseeable changes in existing conditions and changes that would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.

Clean Water Act

Activities that would result in the discharge of dredged or fill material into waters of the United States require authorization from USACE under Section 404 of the CWA. Projects subject to permitting under the CWA must comply with Section 404(b)(1) guidelines (40 CFR, Part 230) for discharge of dredged or fill material into waters of the United States. Section 404(b)(1) guidelines require that

except as provided under Section 404(b)(2), no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.

The guidelines consider an alternative practicable "if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes." Practicable alternatives under the guidelines assume that "alternatives that do not involve special aquatic sites are available, unless clearly demonstrated otherwise." The guidelines also assume that "all practicable alternatives to the proposed discharge which do not involve a discharge into a special aquatic site are presumed to have less adverse impact on the aquatic ecosystem, unless clearly demonstrated otherwise."

The Permit Applicants are seeking a Regional General Permit (RGP) under Section 404 from USACE to accompany the BRCP. If issued, this RGP would authorize BRCP activities that meet the conditions of the RGP and result in no more than minimal individual or cumulative impact on waters of the United States. As part of the evaluation to issue an RGP under Section 404, USACE will issue a public notice, address the public's comments, and address the EPA's Section 404(b)(1) regulations

(analysis of possible alternatives to the RGP and LEDPA determination) in their decision document issued with the RGP.

Endangered Species Act

ESA Section 10(a)(1)(B) requires applicants for ITPs to specify in an HCP what alternative actions to the take of federally listed threatened and endangered species were considered and the reasons that those alternatives were rejected. There is no similar requirement under the NCCPA. This requirement is addressed in Chapter 9 of the BRCP, which considers alternatives to take. Alternatives to take can be similar to EIS/EIR alternatives, but they do not have to be the same because they fulfill different regulatory requirements. Alternatives to take typically include alternatives such as not achieving implementation of the general plan and reducing overall development in certain areas.

2.1.2 Alternatives Considered

Ideas for potential alternatives came from a variety of sources, including the BRCP development process, the public scoping process under CEQA and NEPA, and the lead and cooperating agencies. The following categories of potential alternatives to the BRCP were considered by the lead agencies. All alternatives considered were different types of conservation plans that varied in the ways described below.

- **Variation in permit term.** Permit term of 30 or 40 years (instead of 50 years).
- **Variation in covered species.** Fewer covered species (e.g., only species currently listed as threatened or endangered under ESA or CESA).
- **Variation in Permit Area.** Smaller or larger Permit Area (e.g., all of Butte County, county-only Permit Area [excluding cities]).
- **Variation in covered activities.** Reduced development by each participating jurisdiction consistent with general plan development alternatives.
- **Variation in the conservation strategy.** Changes in the type, location, magnitude, or frequency of implementing certain conservation measures, or considering only an HCP component of the conservation plan.

Additionally, in anticipation of USACE's use of the EIS/EIR to satisfy its requirements under CWA Section 404(b)(1), the following alternatives were also considered for evaluation.

- **No Programmatic General Permit or Letter of Permission Issued by USACE Alternative.** The CWA evaluation would consider effects on wetlands and waters on a project-by-project basis.
- **No Fill Alternative (No Section 404 Action).** Development would be allowed but would avoid all fill of waters and wetlands; USACE would not permit any development that would affect waters or wetlands.
- **Reduced Development/Reduced Fill Alternative.** This alternative would aim to reduce the potential impacts on waters and wetlands.

2.1.3 Alternatives Screening

Once alternatives were selected, they were screened against a set of criteria using a systematic screening process. Screening occurred in three tiers, with separate criteria used in each tier. Potential alternatives that met the screening criteria in one tier were carried forward to the next tier. Only the alternatives that met the criteria for all three tiers were carried forward in this EIS/EIR for detailed analysis.

The screening criteria for the EIS/EIR are based on a number of considerations, including (1) legal requirements for adequate discussions of alternatives in the EIS/EIR, as set forth in CEQA and NEPA and the regulations and case law interpreting those statutes; (2) concepts of “potential feasibility” under CEQA and “reasonableness” under NEPA; and (3) CWA Section 404(b)(1) screening criteria.

Under CEQA, alternatives to be included in an EIR, in addition to a no project alternative, must satisfy the following requirements.

- Are potentially feasible.
- Attain most of the basic objectives of the project.
- Avoid or substantially lessen any of the significant effects of the project.

BCAG, as the CEQA lead agency, may structure its alternatives around a reasonable definition of a fundamental underlying purpose and need not study alternatives that cannot achieve the basic project objectives.

CEQ’s *Forty Most Asked Questions Concerning CEQ’s National Environmental Policy Act Regulations* is used as NEPA guidance by DOI (including USFWS, the NEPA lead agency, and NMFS, the NEPA cooperating agency). The CEQ guidance indicates that the “range of alternatives” should include all reasonable alternatives that must be rigorously explored and objectively evaluated, as well as those other alternatives that are eliminated from detailed study with a brief discussion of the reasons for eliminating them. The reasonable range of alternatives also includes those that are not within the jurisdiction of the lead agencies. The CEQ guidance also states that what constitutes a reasonable range depends on the nature of the action. When there is potentially a very large number of alternatives, a reasonable range of alternatives covering the full spectrum of reasonable alternatives can be identified for detailed analysis in the NEPA document.

DOI has adopted additional regulations (43 CFR Section 46.415[b]) that require, in addition to a no action alternative, an EIS to include alternatives that meet the following requirements.

- Are reasonable.
- Meet the purpose and need of the proposed action.
- Address one or more significant issues related to the proposed action.

Finally, USACE must address certain issues when evaluating alternatives for consideration in NEPA documents and to determine the LEDPA under Section 404(b)(1) of the CWA. These issues include those listed below.

- Availability.
- Overall purpose.
- Costs.

- Logistics.
- Existing technology.
- Direct impacts on waters of the United States.
- Direct impacts on special aquatic sites.

First Tier Screening Criteria

The legal requirements of CEQA and NEPA were considered in the context of the statements of project objectives and purpose (Chapter 1, Section 1.3, *Purpose and Need*) to develop the following first tier screening criteria.

- Could the potential alternative provide for long-term conservation and management of covered species within the Plan Area at a regional scale while allowing for compatible future land uses and development under the general plans of the County and Cities within the Plan Area and the RTP?
- Could the potential alternative provide for a streamlined endangered species permitting process that integrates habitat conservation with long-term general plan implementation to balance planned growth with species protection and to make more predictable and certain that future development will comply with endangered species regulations?
- Could the potential alternative provide a means to implement covered activities in a manner that complies with applicable state and federal laws such as the CWA and fish and wildlife protection laws, including ESA and CESA (through the NCCPA)?
- Could the potential alternative coordinate and standardize mitigation and compensation requirements of ESA, CESA (through the NCCPA), NEPA, CEQA, the CWA, and other applicable laws and regulations related to biological and natural resources within the Plan Area so that public and private actions will be governed equally and consistently, thus reducing delays, expenses, and regulatory duplication?
- Could the potential alternative support issuance of a MSAA from CDFW under Section 1602 of the California Fish and Game Code, a regional general wetlands permit (e.g., RGP) from USACE under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act, and/or a regional water quality certification by the Central Valley Water Board under Section 401 of the CWA?

Under the principles of both CEQA and NEPA, for an alternative to be advanced to the next tier of screening, the answer to most or all of these questions had to be *possibly* or *unknown*. If the answers to most of the questions were *not likely*, the potential alternative was rejected.

Second Tier Screening Criteria

Potential alternatives that advanced to the second tier of screening were evaluated under CEQA using the following question.

- Would the potential alternative avoid or substantially lessen any of the significant environmental effects of the proposed project?

Similarly, potential alternatives that advanced to the second tier of screening were evaluated under NEPA using the following question.

- Would the potential alternative address one or more significant issues related to the proposed action?

If the answer to the first question under CEQA was *possibly* or *unknown*, the potential alternative was carried forward for third tier screening. If the answer under CEQA was *possibly* or *unknown*, and the answer under NEPA was *no*, then the potential alternative was also considered under subsequent screening. If the answers to both questions were *no* or *not likely*, then the potential alternative was rejected.

Third Tier Screening Criteria

The third-tier criteria focus on CEQA's concept of feasibility and NEPA's principle of reasonableness. Under CEQA, alternatives evaluated in an EIR should be feasible. CEQA defines feasible as capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. Under NEPA, an EIS must rigorously explore and objectively evaluate all reasonable alternatives. Reasonable alternatives include those that are practical or feasible from a technical or economic standpoint. Under both NEPA and CEQA, potential alternatives can be developed using economic considerations, social factors, legal feasibility under species protection laws, and technical factors to inform the general concepts of feasibility under CEQA and reasonableness under NEPA. The CWA 404(b)(1) analysis must consider similar issues to those under CEQA and NEPA. These include costs, logistics, existing technology, and overall purpose.

In addition to these CEQA and NEPA considerations, direct impacts on waters of the United States and direct impacts on special aquatic sites must be evaluated under the CWA and USACE must consider; the third-tier criteria includes the following issues.

- Would the marginal costs of the potential alternative, as compared to the cost with the proposed action, be so substantial that a reasonably prudent public agency would not proceed with the alternative?
- Would the marginal costs of the potential alternative, as compared with the cost of the proposed action, be so substantial that it would be impractical to proceed with the alternative?
- Would the potential alternative take so long to implement, as compared with the proposed action, that it would not meet the project purpose or objectives within an acceptable time frame?
- Would the potential alternative require technology or physical components that are clearly technically infeasible based on currently available science and engineering for the scope of the potential alternative?
- Would construction, operation, and/or maintenance of the potential alternative violate any federal or state statutes or regulations?
- Would the potential alternative involve an outcome that is clearly undesirable from a policy standpoint in that the outcome could not reflect a reasonable balancing of relevant economic, environmental, social, and technological factors?

- Would the potential alternative involve a potential increase in direct impacts on waters of the United States?
- Would the potential alternative involve a potential increase in direct impacts on special aquatic sites?

If the answers to all these questions were *not likely* or *unknown*, the potential alternative is considered in this EIS/EIR. If the answers to any of these questions were *likely* or *yes*, the potential alternative failed the third tier screening and, consequently, is not considered in detail in this EIS/EIR.

2.2 Alternatives Eliminated

This section describes the alternatives eliminated from further analysis in this EIS/EIR as they did not satisfy the three-tiered screening process described above. Brief descriptions of the alternatives screened and the primary reason for eliminating the alternatives from consideration are provided below. Appendix B presents three tables that provide additional information regarding the alternative elimination process.

2.2.1 Reduction in Covered Species

Under this alternative, the HCP/NCCP would only include species currently listed as threatened or endangered under ESA or CESA, a reduction to 19 covered species from the 40 covered species proposed in the BRCP. As a result, it is expected that the type and amount of conservation lands would be reduced. The type and number of covered activities as described in the BRCP would remain the same under this alternative.

This alternative was rejected during second tier screening primarily because maintaining covered activities identified in many of the Local Agencies' general plans could result in significant environmental effects on species of special status or concern (which would not be protected under this alternative). These effects would not be offset by the conservation strategy or conservation lands established because they would not include these types of species. Therefore, it is not expected this potential alternative would avoid or substantially lessen any of the significant environmental effects of the proposed action.

2.2.2 Reduction in Permit Area

Permit conditions under this alternative would only include those covered activities in the Plan Area that occur within County jurisdiction, outside of the spheres of influence (SOIs) of the Cities in the county. Conservation measures and the conservation strategy would be limited to areas within the jurisdiction of the County outside of the Cities' SOIs and would not include lands or resources within the Cities' SOIs. Therefore, the Cities would not be Permit Applicants.

This alternative was rejected during first tier screening primarily because it would not include the Cities' covered activities; therefore, it would not provide long-term conservation and management while allowing for land uses and continued growth under the Cities' general plans. Furthermore, Cities would be required to process permits on a project-by-project basis. Therefore, any mitigation to conserve habitat that might occur as a result of individual projects would not be integrated with the county efforts. This would not make the process more predictable for future development in the

cities. It could also create confusion for water and irrigation districts whose service areas are located in both the cities and the county.

2.2.3 Increase in Permit Area

The Plan Area under this alternative would be expanded to apply to all of Butte County. Specifically, it would extend the Permit Area to the east, which goes upslope to elevations over 7,000 feet. In addition to an increase in the unincorporated lands covered under this alternative, it would include the Town of Paradise and conservation of some of the natural communities within and around the town. This alternative would include the same permit conditions for covered activities and same conservation measures and conservation strategy as the BRCP, in addition to a larger conservation strategy that would be applied to all of Butte County. The increased Plan Area would include habitat types not included in the BRCP. Under this alternative, up to six additional wildlife species could be covered and up to seven additional plant species, for a total of 53 potentially covered species.

This alternative was rejected during third tier screening primarily because the expanded Plan Area would bring in numerous additional natural communities, habitats, covered species, and land uses that would add substantial time and costs to the development of the BRCP. Participating jurisdictions are also likely to perceive the costs and delays to be unacceptable and not proceed with the alternative. Therefore, marginal costs compared to those of the proposed action are expected to be substantial such that it would be impractical to proceed with this potential alternative.

2.2.4 Habitat Conservation Plan/2081 Conservation Plan

This alternative would include the same covered activities (i.e., level of development) as the BRCP but the conservation strategy would only identify lands needed for mitigation to satisfy ESA and CESA (i.e., an HCP/2081, not an HCP/NCCP). As a result, the amount of land conserved would be reduced by up to two thirds of the land conserved by the BRCP.

This alternative was rejected during first tier screening primarily because the HCP/2081 would not provide the same level of permit streamlining for ESA compliance because fewer species would be listed in this type of plan (10 instead of 40). Also, effects on the non-listed species would be handled outside of the HCP/2081 process, thus resulting in a non-streamlined permitting process. Furthermore, a reduction of listed species under the HCP/2081, while maintaining the covered activities identified in many of the Local Agencies' general plans, could result in significant environmental effects on listed species that are not covered. These effects would not necessarily be offset by the conservation strategy or conservation lands established because the amount of conservation would be less as the HCP/2081 would be required to mitigate impacts on covered species but not contribute to species recovery.

2.2.5 No Programmatic General Permit or Letter of Permission Issued by USACE

This alternative would include the permit conditions and conservation strategy of the BRCP without the issuance of a Programmatic General Permit (PGP) or letter of permission (LOP) (as was under consideration at the time of alternatives screening) by USACE. Therefore, under this alternative, the effects of covered activities on waters of the United States, including wetlands, would be evaluated

on a project-by-project basis using existing permitting mechanisms (i.e., Nationwide Permit Program, Sacramento District’s Minor Impact Letter of Permission, and standard permit process).

This alternative was rejected during first tier screening primarily because effects on waters of the United States, including wetlands, would be considered on a project-by-project basis. Therefore, any attempt to conserve habitat that might occur as a result of individual projects would not be integrated into the habitat conservation that occurs within the county and would not make the process more predictable for future development in the cities. Furthermore, because effects on waters of the United States, including wetlands, would be considered on a project-by-project basis, coordination and standardization for mitigation and compensation requirements would not occur between applicable laws (i.e., ESA, CESA, NEPA, CEQA, and the CWA).

2.2.6 No Fill/No PGP Alternative

Under this alternative, development consistent with Local Agencies’ general plans would proceed but would be required to avoid the placement of any dredged or fill material into wetlands or other waters of the United States. USACE would not issue any permits (such as the PGP that was under consideration at the time of alternatives screening) that would affect waters or wetlands associated with covered activities under the BRCP. Therefore, development would be limited to upland locations and exempt activities under the CWA. In addition, this alternative would not include conservation measures that could potentially affect waters or wetlands.

This alternative was rejected during the first tier screening as it would not allow for compatible future land uses and development under the Local Agencies’ general plans within the Plan Area and the RTP because USACE would not permit implementation of the general plans within the Plan Area that would affect waters of the United States. In addition, avoiding all jurisdictional waters, including wetlands, would be logistically and cost prohibitive. It would not govern public and private actions equally or consistently because the action would likely need to be modified depending on the type and extent of jurisdictional waters, including wetlands. This would ultimately be expected to result in delays and expenses.

2.3 Alternatives Carried Forward

The alternatives screening process described in Section 2.1.3 resulted in four alternatives to be further analyzed in the EIS/EIR. These alternatives are: Alternative 1—the No Action (No Plan Implementation); Alternative 2—Proposed Action; Alternative 3—Reduced Development/Reduced Fill; and Alternative 4—Greater Conservation.

2.3.1 Alternative 1—No Action (No Plan Implementation)

This EIS/EIR includes an analysis of a no action alternative/no project alternative in accordance with the requirements of NEPA and CEQA, respectively. In this document, the no action/no project alternative is referred to as the No Action Alternative. The analysis of this alternative allows decision makers to compare the impacts of approving or of not approving the proposed action.

Geographic Area

The geographic area for the No Action Alternative is the same as the Plan Area, as described in Chapter 1, Section 1.1.2, *Plan Area Boundary*.

Description

Under the No Action Alternative, permits would not be issued by USFWS, NMFS, or CDFW for incidental take of the proposed covered species through a regional HCP or NCCP. As a result, Permit Applicants and the private developers within their jurisdictions would remain subject to the take prohibition for federally listed species under ESA and state-listed species under CESA. The Permit Applicants and others that have ongoing activities or future actions in the Plan Area that may result in the incidental take of federally listed species would need to apply, on a project-by-project basis, for incidental take authorization from either USFWS or NMFS through ESA Section 7 (when a federal agency is involved) or Section 10 (for nonfederal actions). Similarly, Permit Applicants and others whose ongoing activities or future actions have the potential for incidental take of state-listed species in the Plan Area would apply for incidental take authorization under CESA through a Section 2081(b) permit. In addition, regional wetland permits would not be issued by USACE and, as a result, Permit Applicants and private developers within their jurisdictions would remain subject to the federal wetland regulations for any ongoing activities or future actions.

For this analysis, the No Action Alternative assumes the continuation of existing plans, policies, and operations. Based on this assumption, the No Action Alternative incorporates programs adopted during the early stages of development of this EIS/EIR, facilities that are permitted or under construction during the early stages of development of this EIS/EIR, and projects that are permitted or are assumed to be constructed by 2035, which encompasses the planning horizon for many of the general plans and the RTP in the Plan Area.

Under the No Action Alternative, because the Permit Applicants and private developers would generate environmental documentation and apply for permits on a project-by-project basis, there would be no comprehensive means to coordinate and standardize mitigation and compensation requirements of ESA, NCCPA, CEQA, NEPA, and the CWA within the Plan Area. This is anticipated to result in a more costly, less equitable, less efficient project review process that would reap fewer conservation benefits. Conservation planning and implementation would not happen at a regional scale and, therefore, would not establish an efficient and effective system of conservation lands to meet the needs of the species covered by the BRCP. In addition, it is not expected to integrate species conservation into the existing agricultural working landscape and would allow for compatible multiple uses within specific areas important for habitat conservation. Therefore, the No Action Alternative would not streamline the permitting process or provide local control of the endangered species process. It is not expected to provide species with the benefits of a comprehensive system of conservation lands that would be provided through a coordinated effort to minimize biological impacts throughout the Plan Area.

Typical Activities

Under the No Action Alternative, various types of activities would continue in the Plan Area consistent with current regulatory practices. While regulatory practices are likely to change over the next 50 years, assumptions about future changes to existing regulations (or new regulations) are too speculative. Therefore, it is assumed future regulations would be consistent with existing

regulations. The various types of activities assumed to occur under the No Action Alternative are described below.

- Urban development, including roadway projects, would continue to occur pursuant to the approved general plans of the Local Agencies and the regional plan(s) of BCAG. Urban development would occur within the Urban Permit Areas (UPAs), described in the BRCP as those mapped locations in the Plan Area within which the Local Agencies anticipate urban development will occur under their respective general plans. In addition to residential, commercial, and industrial development, this would also include the construction, maintenance, and use of urban infrastructure (e.g., roads, utilities), parks and recreational facilities, public services, and similar types of urban land uses.
- Public infrastructure projects within and over streams (e.g., replacement or new construction of bridges) would continue to be constructed under the No Action Alternative.
- Infrastructure projects outside of urban areas would continue to be constructed under the No Action Alternative. Such rural capital projects would include infrastructure such as rural transportation projects and new recreational facilities.
- Infrastructure projects outside urban areas would continue to be operated and maintained under the No Action Alternative. This would include activities such as utility line and facility operations and maintenance, vegetation and invasive species management, and road maintenance.

These typical activities would require consideration of environmental effects on a project-by-project basis. However, these projects would lack a comprehensive and streamlined mechanism for ESA and CESA compliance through the regional conservation plan. Therefore, in many cases, these activities would be subject to individual project review under ESA and CESA, which would restrict the activities based on the needs of federally and state-listed species. As previously discussed, these individual regulatory reviews and permit application processes would take considerably longer and would likely be more costly than the comprehensive and streamlined endangered species compliance process proposed in the BRCP.

Typical Species Considered

As described above for the No Action Alternative, compliance with ESA and CESA would continue to be addressed on a project-by-project basis. Projects and activities with a potential to take state-listed species would be required to comply with CESA by applying to CDFW for a 2081(b) ITP. Permit Applicants or private developers within their jurisdictions would be required to prepare the appropriate environmental documents and to comply with any mitigation requirements as identified as part of the project-specific environmental review, as well as any applicable policies contained in the Local Agencies' general plans.

Conservation of species and their habitats through mitigation and compensation under the existing regulatory framework would likely result in a pattern of conservation that is geographically fragmented and managed in a piecemeal fashion. It would be unviable to conserve essential ecological processes under the No Action Alternative because there would not be a coordinated system of conservation areas, and the ability to provide linkages through project-by-project mitigation over time may be precluded by continued development. There would be no mechanism to comprehensively provide for species recovery. In addition, there would be no comprehensive adaptive management and monitoring program to ensure successful conservation at a landscape

scale. Furthermore, project-by-project permit applications would likely be limited to federally and state-listed species, reducing the number of species that would benefit from conservation actions. Of the 40 species proposed for coverage in the BRCP, 20 are either state- or federally listed as threatened, endangered, or rare. Therefore, the project-by-project mitigation approach under the No Action Alternative would greatly reduce conservation benefits for the remaining 20 nonlisted species.

Typical Species Mitigation

As a result of federal and state consultation for impacts on listed species and project-by-project CEQA and NEPA review for impacts on biological resources, various types of mitigation measures are expected to be required under the No Action Alternative. These types of mitigation measures are listed below.

- Avoidance and minimization measures (AMMs) incorporating generally accepted species-specific protocols and/or project-specific measures as negotiated with various wildlife agencies. This could include preservation and management of onsite habitat. Other avoidance and minimization requirements could include preconstruction surveys, construction timing restrictions, setback requirements, use restrictions, or other similar measures.
- Restoration and/or enhancement of onsite habitat.
- Compensatory mitigation in offsite areas. Such mitigation could include purchasing credits at a private conservation bank; purchasing and restoring large areas of habitat and using those areas to mitigate various project impacts in much the same way that a mitigation bank functions; and purchasing and restoring habitat to mitigate individual project impacts.

Mitigation associated with individual project compliance under the No Project Alternative is expected to result in less conservation and to benefit fewer species than would the regional conservation approach under the BRCP.

2.3.2 Alternative 2—Proposed Action

This alternative consists of issuance of ITPs by USFWS, NMFS, and CDFW; approval and execution of the Implementing Agreement (IA) for the BRCP; and implementation of the BRCP by the Permit Applicants. The BRCP is a regional, comprehensive plan that establishes a framework for complying with state and federal endangered species regulations for the Permit Applicants while accommodating compatible future land use and development under the general plan updates of the Local Agencies and the RTP. The BRCP is intended to establish and implement a program to conserve ecologically important resources in the Plan Area. The Permit Applicants preparing this plan are listed below.

- Butte County
- City of Oroville
- City of Chico
- City of Biggs
- City of Gridley
- Butte County Association of Governments (BCAG)

- California Department of Transportation (Caltrans)
- Western Canal Water Districts
- Biggs–West Gridley Water District
- Butte Water District
- Richvale Irrigation District

The BRCP identifies a range of covered activities (discussed below), which are specific projects and activities within the jurisdictions listed above in the Plan Area that may result in the take of listed species or species that may become listed during the 50-year permit term (covered species). These activities and projects are considered when assessing the total amount of take of covered species that would be expected in the Plan Area and in developing the overall BRCP conservation strategy. A summary of the proposed action is presented below, describing the Plan Area, the covered activities, the covered species, the proposed conservation strategy, and the aquatic resources plan. For more details on all of these topics, see the BRCP.

Plan Area

The Permit Area for the proposed action is the Plan Area, as described in Chapter 1, Section 1.1.2, *Plan Area Boundary*. It encompasses 564,219 acres in western Butte County (Figure 1-1). The Plan Area encompasses the western lowlands and foothills of Butte County and is bounded on the west by Tehama, Glenn, and Colusa Counties; on the south by Sutter and Yuba Counties; and on the north by Tehama County. On the east, the Plan Area is defined by the upper extent of landscape dominated by oak woodland natural communities. The elevation below which land cover types dominated by oak trees comprise more than one-half of the land cover present (referred to hereafter as the oak zone), plus a small portion of the City of Chico that extends above the oak zone, marks the oak woodland boundary.

Although the Plan Area includes portions of the Sacramento River within Butte County, the BRCP does not address activities conducted by Permit Applicants and non-Permit Applicants that could affect listed fish species in the Sacramento River. The Sacramento River floodplain in Butte County is included in the BRCP for implementing conservation measures for covered species and natural communities. There are 11 watersheds in the Plan Area: Red Bluff, Butte Basin, Upper Dry Creek, Below Oroville Reservoir, Sutter Bypass, Lower Feather River, South Honcut Creek, Upper Big Chico Creek, Upper Little Chico Creek, Upper Butte Creek, and Bloomer Hill.

There are four major geographic categories in the Plan Area: Urban Permit Areas (UPAs); areas outside UPAs; areas within irrigation and water districts; and areas within conservation lands. UPAs are those mapped locations in the Plan Area within which the Cities and County anticipate concentrated urban and infrastructure development under their respective general plan updates. There are 15 UPAs within the Plan Area (shown in Figure 2-1). The BRCP simplifies the extensive land use categories of each local agency into six major categories: agricultural, commercial, industrial, public, residential, and resource management (Figure 2-2). The Plan Area is dominated by agricultural land use practices with irrigated agriculture accounting for 250,587 acres, or 44%, of the total Plan Area. Rice and orchards (mostly almonds and walnuts) dominate the irrigated agricultural land use. There are also six Conservation Acquisition Areas (CAZs) within the Plan Area (Figure 2-1). The CAZs include lands that can be acquired to support the conservation strategy (detailed in the Section 2.3.2, *Alternative 2—Proposed Action*, of this chapter).

Covered Activities

Covered activities include those existing, planned, and proposed land uses over which the Permit Applicants have land use authority; state and local transportation projects; operation of water delivery systems (e.g., Western Canal Water District [WCWD] canals and similar delivery systems); habitat restoration, enhancement, and management actions; and adaptive management and monitoring activities. The covered activities include the construction and maintenance of facilities and infrastructure, both public and private, which are consistent with local general plans, transportation plans, and local, state, and federal laws. The covered activities are divided into activities that result in permanent development and activities involving maintenance measures that take place periodically over the duration of the permit term. The types of covered activities within the Plan Area for which ITP coverage is requested from USFWS, NMFS, and CDFW in compliance with ESA and the NCCPA are summarized below by the four major geographic categories (i.e., within the UPAs, outside the UPAs, areas within irrigation and water districts; and areas within conservation lands).

Covered Activities within UPAs

Covered activities implemented in the 15 Plan Area UPAs include all new public and private sector construction, improvements to existing facilities, and maintenance of existing and new facilities consistent with the Local Agencies' general plans and local, state, and federal laws. The intent of the BRCP is to cover all land use designations from all Local Agencies' general plans that could affect covered species. Therefore, the UPAs encompass all such land use designations from the Local Agencies' general plans.¹ Additional details regarding descriptions of the covered activities are in Chapter 2 and Tables 4-1 and 4-2 of the BRCP.

Permanent Development Projects within UPAs

Permanent development projects within the UPAs that would be covered activities under the BRCP include new construction and improvements, expansions to existing facilities, and other urban-related projects. The list below summarizes the potential permanent development projects within the 15 UPAs. Additional details regarding descriptions of these covered activities are in Chapter 2 and Tables 4-1 and 4-2 of the BRCP.

- **Residential, Commercial, Public, or Industrial Facilities.** Covered new development projects would include any new construction, expansion, and repair/restoration of residential, commercial, public, or industrial facilities. This category also includes the construction of new appurtenant structures such as roads, sidewalks, utilities, and sewer lines. The projects in this category are primarily those undertaken by the Local Agencies.
- **Recreation Facilities.** Covered recreation facility development projects include construction of trails and associated pedestrian/bike bridges, interpretive trails, new parks, playgrounds, sports complexes, golf courses, ball fields, bike paths, restrooms, racetracks, campgrounds, equestrian facilities, whitewater parks, and recreational facilities associated with education and interpretation. This category also includes appurtenant infrastructure such as utilities and pipelines (sewer/water) for education and interpretation recreational infrastructure. Recreation facility development projects that may require actions in stream channels include

¹ Except for several isolated parcels designated by the County as *Agricultural Services*, which occur outside UPAs (see the *Covered Activities outside UPAs* section below).

the construction of new or replacement pedestrian bridges. The projects in this category primarily include those undertaken by Local Agencies.

- **Transportation Facilities.** Covered transportation facility development projects include construction of new roadways and bridges and associated infrastructure; road and bridge widening and capacity improvements; freeway interchange improvements; roadway safety improvements; bike lane and bike path projects; park-and-ride lots; transit facilities (e.g., transit stops, shelters, signs, transit centers, transit maintenance yards, transit vehicle refueling stations); rail and light rail facilities; and airport expansions. Construction of these facilities could include activities such as grading, excavation, and placement of fill material. Covered transportation projects that require implementing actions in waterways include constructing new or replacing existing bridges and their associated infrastructure. Projects in this category include those undertaken by Caltrans, BCAG, and the Local Agencies.
- **Pipeline Facilities.** Covered pipeline facility development projects include all activities associated with accessing, surveying, excavating, trenching, and constructing underground pipeline infrastructure; backfilling and compaction and any windrowing or storage of overburden material; and restoration of the construction site. Examples of new pipeline construction covered activities include underground mainline water and sewer lines. At-stream crossings, new pipelines are expected to be bored under or placed above stream channels and thus are not expected to require activities within stream channels. Projects in this category are primarily those undertaken primarily by the Local Agencies, BCAG, and water districts.
- **Utility Service Facilities.** Covered utility services facility projects include activities associated with construction and installation of electrical utilities (e.g., above- and belowground electrical transmission lines), telecommunication lines, and natural gas transmission lines (e.g., underground mainlines). New utility lines are expected to be bored under or placed above stream channels and thus are not expected to require activities within stream channels. Projects in this category primarily include those undertaken by the Local Agencies.
- **Waste Management Facilities.** Covered waste management facility development projects include construction and expansion of waste management facilities, including landfills, recycling centers, and recycling facilities. These covered activities are associated with development of the Neal Road Recycling and Waste Facility UPA, including a planned landfill expansion project that would expand the Neal Road Recycling and Waste Facility in the town of Paradise. The projects in this category primarily include those undertaken by the Local Agencies.
- **Wastewater Management Facilities.** Covered wastewater management facility development projects include construction or expansion of wastewater treatment plants (WWTPs), temporary WWTPs, pretreatment wastewater facilities, water recycling facilities, and pump stations. They also include construction and installation of force mains, effluent lines, sewer lines, discharge lines, reclamation lines, and mainlines, and all appurtenant infrastructure. These covered activities are associated with but are not limited to the Chico, Gridley, Biggs, and Oroville wastewater management facilities. With the exception of culverts placed in small intermittent drainages along roads within the project footprint of new facilities, activities associated with the construction of waste and wastewater management facility projects are not expected to include development of in-water structures. Projects in this category primarily include those undertaken by the Local Agencies or water and irrigation districts.

- **Flood Control and Stormwater Management Facilities.** Covered flood control and stormwater management facility development projects include the construction of new channels, levees/dikes, flood walls, retention/detention basins, stormwater channel lining, and water quality control facilities for mitigating stormwater runoff (e.g., sediment barriers, filters, berms) to provide flood control and stormwater management. Covered activities associated with the construction of flood control and stormwater management facility projects are not expected to include development of in-water structures in natural channels. Projects in this category primarily include those undertaken by the Local Agencies.

Maintenance Activities within UPAs

Maintenance activities involving existing and new facilities in the 15 UPAs are covered activities under the BRCP. Covered maintenance activities are intended to be as inclusive as possible to accommodate all ground-disturbing maintenance activities that are likely to occur within the UPAs over the term of the BRCP. The list below summarizes the potential recurring maintenance activities at certain facilities within the 15 UPAs. Additional details regarding descriptions of the covered activities are in Chapter 2 and Tables 4-1 and 4-2 of the BRCP.

- **Recreation Facilities.** Covered activities include maintenance of the recreational facilities described in the *Permanent Development Projects within UPAs* section above. The maintenance (e.g., silt, gravel, and debris removal) and operation of Sycamore Pool in Big Chico Creek and maintenance of the associated bladder dam at Bidwell Park are also covered activities. The bladder dam is raised annually from Memorial Day through Labor Day and lowered during winter to allow gravel to clear the pool and to minimize impacts on migrating fish.
- **Transportation Facilities.** Covered activities include rehabilitation and minor improvement (i.e., within the footprint of existing roadways and facilities) of transportation facilities (e.g., bridges, highways). Covered activities include: patching, striping, guardrail and shoulder repair; cleaning of curbs, gutters, ditches, and sidewalks; grading and mowing of existing roadways and shoulders; bridge and culvert repair; and erosion and dust control. Recurring maintenance of bridges and associated drainage structures includes in-stream operation of equipment to repair and prevent scour of the streambed beneath and adjacent to bridge structures; debris and woody debris removal from bridge piers and pilings; vegetation management beneath and adjacent to bridge structures; and erosion/sediment control for bridges and drainage infrastructure beneath and adjacent to bridge structures.
- **Pipeline Facilities.** Covered activities include all maintenance activities associated with the monitoring, accessing, surveying, excavation/trenching, and installation or replacement of underground pipeline infrastructure. These covered activities are not expected to include in-water maintenance activities.
- **Utility Service Facilities.** Covered activities include the maintenance of utilities described in *Permanent Development Projects within UPAs* section above. Maintenance activities include surveying, excavation and trenching, replacement of above- and below ground infrastructure, storage of overburden material, and restoration of disturbed ground at maintenance sites. These covered activities are not expected to include in-water maintenance activities.

- **Waste and Wastewater Facilities.** Covered activities include maintenance of landfills and recycling stations; existing, temporary, or new WWTPs and water recycling facilities; force mains and effluent, sewer, discharge, and reclamation lines; pump stations; and sewerage ponds. These covered activities are associated with, but not limited to, all such activities at the Chico, Gridley, Biggs, and Oroville wastewater management facilities and the Neal Road Recycling and Waste Facility. These covered activities are not expected to include in-water maintenance activities.
- **Flood Control and Stormwater Management Facilities.** Covered activities include maintenance activities on channels, levees, dikes, and retention/detention basins; removal of vegetation and debris from flood control and stormwater management facilities; repair and installation of replacement of these facilities (e.g., culverts, stormwater conveyance facilities, local detention/retention facilities); maintenance of water retention facilities; floodplain enhancement; ditch cleaning; culvert replacements; and vegetation control. Recurring maintenance to remove vegetation and debris from streambeds, channels, ponds, flood control facilities, retention basins, and detention basins includes: the in-water operation of equipment to perform the maintenance of levees, ditches, canals, drains, and retention or sewerage ponds in different County Service Areas within the UPAs. Vegetation removal and maintenance of stormwater conveyance canals occurs annually and requires the in-water operation of equipment to mechanically remove emergent and aquatic vegetation and to trim trees in channels and canals that transport stormwater runoff from urban areas throughout portions of Chico and other Local Agency jurisdictions.
- **Vegetation Management.** Covered activities include vegetation clearing for fire control/fuel breaks and the trimming and removal of trees, if necessary, to maintain infrastructure and other facilities that are not associated with transportation facility maintenance and flood control and stormwater management maintenance.

Covered Activities outside UPAs

Covered activities implemented within the Plan Area but outside the UPAs include development projects and maintenance activities, primarily of linear infrastructure projects that cross undeveloped lands between urban areas. As described in this section, this category includes covered activities such as utilities, transportation construction and maintenance projects, and agricultural services; it does not include areas that would become part of the BRCP conservation land system. Additional details regarding descriptions of the covered activities are in Chapter 2 and Tables 4-1 and 4-2 of the BRCP.

Permanent Development Projects outside UPAs

Permanent development projects outside the UPAs that would be covered activities under the BRCP would include new construction and improvements, expansions to existing facilities, and other urban-related projects. The list below summarizes the potential development projects at certain facilities outside the 15 UPAs. Additional details regarding descriptions of the covered activities are in Chapter 2 and Tables 4-1 and 4-2 of the BRCP.

- **Wastewater Management Facilities.** Covered projects include force main and effluent line construction, discharge and reclamation line installation, and trunk sewer line construction. These activities could include up to 5 miles of new trunk sewer line associated with the Chico WWTP and up to 3 miles of new mainline from Gridley to the Gridley WWTP. The new trunk sewer line and new mainline are assumed to include a 100-foot-wide right-of-way (ROW). These projects are not expected to include development of in-water structures as facilities are expected to be bored under or placed above stream channels and thus are not expected to require activities within stream channels.
- **Transportation Facilities.** Covered projects outside the UPAs include construction of new roads and bridges; widening and capacity improvements on existing roads and bridges; construction of new roadside parking and viewing facilities, transit facilities, and rail facilities; and safety improvements on existing transportation facilities. Such transportation projects for which the specific location and type of project are currently known are described in Table 2-1.
- **Agricultural Service Projects.** Covered agricultural services² projects outside the UPAs include construction of agriculture-related service facilities that are complementary to existing agricultural uses, including industrial uses such as processing facilities, commercial uses such as agricultural equipment sales, and technologies that use agricultural byproducts. The construction of alternative energy facilities (e.g., solar panel arrays, biofuel facilities, wind turbine towers) is also included in the agricultural services category as a covered activity; however, the operation of wind turbines/wind energy facilities is not a covered activity. Figure 2-3 shows locations of individual areas within the Plan Area designated by the Butte County General Plan as agricultural services and that are covered activities under the BRCP. The development footprint for all agricultural services covered activities is assumed to be the entire parcel.

² *Agricultural Services* is a land use designation identified in the Butte County General Plan that occurs only on single, isolated parcels that are primarily surrounded by agricultural land. Because this land use designation was only applied to individual isolated parcels, they were deemed too small and isolated to be designated as UPAs. Alternatively, they are being included as a covered activity outside the UPAs and represent the only land development activity that is covered under the BRCP outside the UPAs.

Table 2-1. Covered Transportation Projects outside UPAs

Activity	Location/Road	Description
BCAG and Caltrans		
Improve Corridor Passing Lanes	SR 70	Covered activities would include corridor passing lane projects involving four segments that would produce a 5-lane facility (four lanes with a center turn lane). Width of new road ROW is assumed to be 150 feet requiring four 20-acre borrow sites within 1 mile of the project site.
Intersection Improvements	SR 99	Covered activities would include intersection improvements and traffic capacity enhancements.
Butte County		
Rural Bridge Replacement	Entire BRCP Plan Area	Covered activities include replacement of up to 87 bridges (Figure 2-3). It is likely that only a portion of the 87 bridges would be replaced during the 50-year term of the BRCP because of a current lack of available funding for bridge replacement projects. If additional bridge replacement projects that are not included in Figure 2-3 are identified during BRCP implementation, they would also be covered activities, as long as the 87-bridge limit is not exceeded and the bridge replacement projects are similar in size and scope.
New Bridge Construction	Ord Ferry Road and Mud Creek	Covered activities include construction of new bridges along Ord Ferry Road at “the dips” and a new bridge across Mud Creek. Each of the new bridges is assumed to require a 2-acre construction footprint, including a 1-acre staging area. The footprint area, within which equipment would be operated in stream channels for replacement of bridges across water courses, is assumed to encompass 0.26 acre of channel bed below the centerline of each bridge. Each new bridge is assumed to remove 100 feet of channel bank habitat along each side of the channel associated with placement of bridge revetment material.
Rural Intersection Improvements	SR 99 at Township Road Pentz Road at Durham-Pentz Road Dayton Road at Durham Dayton Hwy Dayton Road at Hegan Lane East Gridley Road at Larkin Road	Covered activities include installation of traffic signals and widening of the roadway to accommodate the creation and/or extension of intersection turn lanes and through lanes as well as bicycle and pedestrian facilities (e.g., bike lanes, crosswalks, islands). Each of the roadway intersection improvement projects is assumed to require a 3-acre construction footprint, including a staging area.
Rural Roadway Improvements	Southgate Avenue La Porte Road East Gridley Road Oroville-Bangor Highway Oroville-Chico Highway Neal Road Los Verjeles Road Eaton Road	Covered activities include projects to extend and widen existing roads, improve their structural integrity, add bike lanes, and other improvements. The width of project ROWs, within which all construction activity would occur, is assumed to average 150 feet (the approximate length of each road improvement is provided in each project description). Project equipment staging areas would be located within the 150-foot ROW work areas.

Maintenance Activities outside UPAs

Maintenance activities outside the 15 UPAs involving existing and new facilities are covered activities. These activities include the maintenance of wastewater management facilities and transportation facilities, as well as flood control, stormwater, and vegetation management. The list below summarizes the potential maintenance projects at certain facilities outside the 15 UPAs. Additional details regarding descriptions of the covered activities are in Chapter 2 and Tables 4-1 and 4-2 of the BRCP.

- **Wastewater Management Facilities.** Covered activities include the maintenance facilities described in the *Permanent Development Projects outside the UPAs* section above. Activities include accessing, surveying, excavating, trenching, removing or storing of overburden materials, and replacement of force mains, effluent lines, trunk/sewer lines, discharge lines, reclamation lines, and mainlines and all related appurtenant infrastructure. Approximately 4 miles of existing sewer force mainline east of Gridley and 3 additional miles of a new mainline that would be built on a new alignment associated with the Gridley WWTP would be maintained (Figure 2-3). All the existing wastewater treatment lines associated with the Chico WWTP outside the UPAs (up to 7 miles in length), and an additional 5 miles of new line that would be constructed over the term of the BRCP on a new alignment would be maintained (Figure 2-3). Maintenance of these wastewater treatment lines is assumed to occur within a 100-foot ROW extending 50 feet on each side of the centerlines
- **Transportation Facilities.** Covered activities include rehabilitation and minor improvement (i.e., within the footprint of existing roadways and facilities) of existing roadways, bike paths, roadside parking and viewing facilities; transit facilities, rail and light rail facilities, airports, charging stations for electric vehicles, and park-and-ride lots; and maintenance of bridge structures and associated drainage. These covered activities include the in-stream operation of equipment to repair bridges and remove debris, manage vegetation, and maintain erosion/sediment control for bridges and drainage infrastructure beneath and adjacent to existing bridge structures.
- **Flood Control and Stormwater Management.** Covered activities outside the UPAs are limited to vegetation control on the top and outer side of levees (i.e., they do not include in-stream maintenance or repair of levees) on the Sycamore–Mud Creek system. All other flood control levee and canal maintenance activities within the Plan Area outside UPAs are conducted by DWR. DWR is not a Permit Applicant and its activities are not covered under the BRCP.
- **Vegetation Management.** This is the same as described above for maintenance activities within the UPAs.

Covered Activities within Water and Irrigation Districts

This section describes BRCP covered activities related to development and maintenance within the WCWD, Biggs–West Gridley Water District, Butte Water District, and Richvale Irrigation District. All these activities are covered under the BRCP for WCWD, Biggs–West Gridley Water District, Butte Water District, and Richvale Irrigation District. Additional details regarding descriptions of the covered activities are in Chapter 2 and Tables 4-1 and 4-2 of the BRCP.

- **Permanent rerouting of up to 12 miles of existing canals (averaging 55 feet in width).** These facilities are operated by the water and irrigation districts over the term of the BRCP to better meet water delivery objectives of the water and irrigation districts.

- **Replacement of water delivery structures, such as underground pipe and concrete supports.** These projects are typically undertaken in already disturbed areas and typically entail a disturbance area, including the construction zone, of approximately 20 feet by 30 feet per project. Approximately 15 of these smaller projects may be completed per year in each district (up to 60 total annually for four districts); they are typically carried out when the water conveyance structures are dewatered (September–December; late January–early April).
- **Replacement of larger structures (e.g., large weirs).** These projects would typically entail a disturbance area, including the construction zone, of approximately 200 feet by 200 feet, all within already disturbed areas. Typically one large project may be completed every 4–5 years per district (i.e., four total projects every 4–5 years for four districts).
- **Mowing and trimming of vegetation along district service roads.** These activities would be conducted to maintain accessibility. Machinery would be used to maintain and repair the shape, slope, and integrity of canals and canal beds.
- **Maintenance activities to remove aquatic vegetation from canals.** These activities would be conducted to maintain the canals. A portion of the canals is maintained annually, while other portions are maintained less frequently. Habitat does not typically reestablish between maintenance events. Typically, approximately 5 miles of WCWD canals are repaired and resloped each year. Every 5 years, approximately 25 miles of WCWD canals are maintained, and every 10 years, approximately 49 miles are maintained. Within the permit term, maintenance activities would have been conducted at least once for all approximately 49 miles of WCWD canals and ditches likely to be maintained.

Covered Activities within Conservation Lands

Activities that occur within the BRCP conservation lands would be covered by the BRCP. These activities would be associated with implementing the conservation actions described in Chapter 5, *Conservation Strategy*, of the BRCP and in Section 2.3.2, *Alternative 2—Proposed Action*, of this chapter. These activities would include habitat and species surveys and monitoring, directed studies, public education and access control facilities, as well as the following activities. Additional details regarding descriptions of the covered activities are in Chapter 2 and Tables 4-1 and 4-2 of the BRCP.

- **Habitat Management and Enhancement.** These are actions necessary to maintain and enhance the functions of BRCP conservation lands as habitat for covered and other native species. Examples of habitat management and enhancement actions include vegetation management and control of nonnative species using a variety of tools, such as livestock grazing, controlled fire, manual labor, water management, and mechanical vegetation removal.
- **Habitat Restoration.** These are actions necessary to restore natural communities and covered species habitat. Examples of habitat restoration actions include ground surface grading and recontouring, vegetation removal, installation of plantings, installation and operation of irrigation systems, and other activities necessary to establish restored physical and biological conditions that support native species habitats.
- **General Maintenance.** These are actions necessary to maintain access roads, fences, and fire/fuel breaks; travel through the preserve by foot, all-terrain vehicle, truck, or off-road vehicle; and construction and maintenance of facilities needed to manage conservation lands, including reserve field offices, maintenance sheds, carports, restrooms, service roads, bridges,

fences, gates, wells, stock tanks, and stock ponds. All such structures would be constructed to minimize impacts on covered species and vegetation communities.

- **Avoidance and Minimization Measures.** These are actions to avoid and minimize adverse effects of conservation activities on natural communities and covered species (e.g., preconstruction surveys, capturing, and translocating covered species from construction sites).
- **Species Population Enhancement.** These are actions to benefit covered species' populations (e.g., seeding of native species; removal of riprap; replenishment of spawning gravels; and, targeted control of introduced predators such as feral cats and dogs, pigs, nonnative fish, and bullfrogs).

Some of these activities could require in-water operation of equipment or other activities that could result in the disturbance of aquatic environments. Examples of in-water activities include removal of vegetation from water conveyance ditches and ponds to maintain capacity, resculpting of channel banks to restore and enhance aquatic and riparian habitat conditions, removal of riprap, placement of spawning gravels and modification diversions, in-stream monitoring and research activities, maintenance of stream crossings, control of nonnative aquatic species, and capture and translocation of covered amphibian species. In addition, ongoing land uses and activities (e.g., agricultural and grazing practices, infrastructure maintenance activities, use of public roads) as approved in BRCP Conservation Lands Management Plans and BRCP conservation easements are covered activities. These allowable uses are described in Section 8.8 of the BRCP.

Covered Species

Covered species are species that would be authorized for take and conserved and protected by the BRCP. The BRCP proposes 38 special-status species for coverage under the ITPs (Table 2-2).

Table 2-2. Species Proposed for Coverage under the BRCP

Common Name	Scientific Name	Status ^a (Federal/State/ CNPS)
Birds		
1 Tricolored blackbird	<i>Agelaius tricolor</i>	-/SSC/-
2 Yellow-breasted chat	<i>Icteria virens</i>	-/SSC/-
3 Bank swallow	<i>Riparia riparia</i>	-/T/-
4 Western burrowing owl	<i>Athene cunicularia hypugea</i>	-/SSC/-
5 Western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	C/E/-
6 Greater sandhill crane	<i>Grus canadensis tabida</i>	-/T,FP/-
7 California black rail	<i>Laterallus jamaicensis coturniculus</i>	-/T,FP/-
8 American peregrine falcon	<i>Falco peregrinus anatum</i>	D/D,FP/-
9 Swainson's hawk	<i>Buteo swainsoni</i>	-/T/-
10 White-tailed kite	<i>Elanus leucurus</i>	-/FP/-
11 Bald eagle	<i>Haliaeetus leucocephalus</i>	D/E,FP/-
Reptiles		
12 Giant garter snake	<i>Thamnophis gigas</i>	T/T/-
13 Blainville's horned lizard	<i>Phrynosoma blainvillii^b</i>	-/SSC/-
14 Western pond turtle	<i>Actinemys marmorata</i>	-/SSC/-

Common Name	Scientific Name	Status ^a (Federal/State/ CNPS)
Amphibians		
15 Foothill yellow-legged frog	<i>Rana boylei</i>	-/SSC/-
16 Western spadefoot	<i>Spea hammondi</i>	-/SSC/-
Fish		
17 Central Valley steelhead	<i>Oncorhynchus mykiss</i>	T/-/-
18 Central Valley spring-run Chinook salmon	<i>Oncorhynchus tshawytscha</i>	T/T/-
19 Central Valley fall-/late fall-run Chinook salmon	<i>Oncorhynchus tshawytscha</i>	-/SSC/-
20 Green sturgeon	<i>Acipenser medirostris</i>	T/SSC/-
Invertebrates		
21 Valley elderberry longhorn beetle ^c	<i>Desmocerus californicus dimorphus</i>	T/-/-
22 Vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	E/-/-
23 Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	E/-/-
24 Vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	T/-/-
Plants		
25 Ferris' milkvetch	<i>Astragalus tener</i> var. <i>ferrisiae</i>	-/-/1B
26 Lesser saltscale	<i>Atriplex minuscula</i>	-/-/1B
27 Hoover's spurge	<i>Chamaesyce hooveri</i>	T/-/1B
28 Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	-/-/1B
29 Red Bluff dwarf rush	<i>Juncus leiospermus</i> var. <i>leiospermus</i>	-/-/1B
30 Butte County meadowfoam	<i>Limnanthes floccosa</i> ssp. <i>californica</i>	E/E/1B
31 Veiny Monardella	<i>Monardella douglasii</i> ssp. <i>venosa</i>	-/-/1B
32 Hairy Orcutt grass	<i>Orcuttia pilosa</i>	E/E/1B
33 Slender Orcutt grass	<i>Orcuttia tenuis</i>	T/E/1B
34 Ahart's paronychia	<i>Paronychia ahartii</i>	-/-/1B
35 California beaked-rush	<i>Rhynchospora californica</i>	-/-/1B
36 Butte County checkerbloom	<i>Sidalcea robusta</i>	-/-/1B
37 Butte County golden clover	<i>Trifolium jokerstii</i>	-/-/1B
38 Greene's tuctoria	<i>Tuctoria greenei</i>	E/R/1B

^a Status:

Federal

- E = Listed as endangered under ESA.
- T = Listed as threatened under ESA.
- C = Candidate for listing under ESA.
- D = Delisted under ESA.

State

- E = Listed as endangered under CESA.
- T = Listed as threatened under CESA.
- D = Delisted under CESA.
- R = Listed as rare under the California Native Plant Protection Act.
- SSC = California species of special concern.
- FP = Fully protected under the California Fish and Game Code.

California Native Plant Society (CNPS) California Rare Plant Rank

- 1B = rare or endangered in California and elsewhere.

^b Formerly California horned lizard (*Phrynosoma coronatum frontale*).

^c Valley elderberry longhorn beetle was proposed for de-listing by USFWS in October 2006. If it is removed from federal protection status, it may no longer meet the criteria for coverage under the BRCP.

Conservation Strategy

The BRCP conservation strategy and its components are part of the proposed action. The conservation strategy is designed to meet the regulatory requirements of ESA and the NCCPA and to streamline compliance with CEQA, NEPA, and other applicable environmental regulations. To meet the NCCPA permit standards, the conservation strategy provides for the conservation of covered species by protecting, enhancing, restoring, and managing natural communities and species habitat through a suite of conservation measures. The conservation strategy, detailed in Chapter 5 of the BRCP, consists of biological goals and objectives, conservation measures, a monitoring program, and an adaptive management plan.

The conservation strategy is designed to achieve the objectives listed below, pursuant to the NCCPA (Section 2820).

- Conserve, restore, and provide for the management of representative natural and semi-natural³ landscapes.
- Establish reserves that provide for the conservation of covered species within the BRCP geographic area and linkages to adjacent habitat outside the Plan Area.
- Protect and maintain habitat areas that are large enough to support sustainable populations of covered species.
- Incorporate in the reserves (BRCP conservation lands) a range of environmental gradients and high habitat diversity to provide for shifting species distributions in response to changing circumstances.
- Sustain the effective movement and interchange of organisms between habitat areas in a manner that maintains the ecological integrity of the reserve system (BRCP conservation lands).

Conservation Measures

The conservation measures are designed to protect, enhance, and restore natural communities and the covered species habitats they support; improve the ecological function of natural communities; avoid, minimize, and compensate for impacts on covered species associated with implementation of covered activities; and provide for the conservation of covered species in the Plan Area. The conservation measures would collectively achieve the BRCP biological goals and objectives. Because of the large scale and long timeframe over which the BRCP would be implemented, the conservation measures are also designed to be flexible to allow for adaptive management with increasing knowledge over time. The conservation measures are divided into landscape-level measures, natural community-level measures, and species-specific measures. Table 2-3 and Table 2-4 summarize the conservation measures, the magnitude of their application (typically in acres), their general locations, and the physical actions expected under each conservation measure. For more detail regarding the physical actions expected under the conservation measures see Tables 4-1 and 4-2 of the BRCP. Table 2-5 summarizes the required acreage of protection of existing natural communities within each CAZ to achieve the objectives of Conservation Measure (CM) 1. The information summarized in Table 2-5 and information discussing species recovery plans is detailed in Sections 5.3 and 5.4 of the BRCP.

³ A *semi-natural landscape* is defined as one that is disturbed by human activity but still provides important habitat for a variety of native species.

Table 2-3. BRCP Conservation Measures

CM Number: Title	Description	Extent	General Location
Landscape-Level Conservation Measures (CMs)			
CM1: Acquire Lands	<p>This CM provides the mechanism and guidance for the acquisition of lands and the establishment of the BRCP conservation lands system to meet the natural community and covered species habitat protection biological objectives. The conservation lands system will be assembled over the term of the BRCP permit in accordance with the implementation schedule described in the BRCP Section 8.1 to accomplish the following.</p> <ul style="list-style-type: none"> • Protect and enhance areas of existing natural communities and covered species habitat. • Protect and maintain occurrences of covered plant species with limited distributions and habitat areas occupied by specified covered wildlife species (see BRCP Section 5.4.3). • Provide sites for restoring natural communities and covered species habitat. • Provide habitat connectivity among the various land units within the conservation land system. <p>This CM describes the land acquisition procedures, including pre-acquisition survey requirements, land acquisition methods, and land selection criteria that will be applied to ensure that the ecological attributes of the acquired lands will serve to achieve the biological goals and objectives.</p>	• (see Table 2-5)	• Entire Plan Area
CM2: Develop an Invasive Species Control Program	<p>This CM establishes methods and procedures to control invasive animal and plant species that could substantially degrade the functions of protected natural communities as habitat for covered and other native species on BRCP conservation lands. It would require the development of a plan that would include the following.</p> <ul style="list-style-type: none"> • Protocols for periodically surveying for and assessing the abundance of nonnative predators and competitors on BRCP lands. • Protocols for periodically surveying for and assessing the occurrence and abundance of invasive nonnative plants on BRCP lands. • A brown-headed cowbird monitoring and control program. • Methods for assessing degree of biological effect nonnative species have on covered and other native species within BRCP lands. • Methods for assessing threats for establishment of nonnative animals and plants adjacent to lands onto BRCP lands. 	• Unknown	• Entire Plan Area

CM Number: Title	Description	Extent	General Location
	<ul style="list-style-type: none"> • Methods for assessing threats for the spread of nonnative plants from BRCP lands onto adjacent lands. • A decision-making process for determining the need for implementing management actions to control nonnative species. • A description of potential nonnative species control methods. • A process for developing and implementing monitoring necessary to assess the effectiveness of implemented control methods 		
<p>CM3: Identify High Priority Locations for Wildlife Passage Structures and Secure Funding</p>	<p>This CM would require an assessment of the permeability for movement of small mammals, amphibians, and reptiles across linear anthropogenic structures (e.g., roads, railroads, utilities) in BRCP-established ecological corridors. To conduct the assessment, the BRCP Implementing Entity⁴ will review CDFW, Caltrans, and other relevant wildlife roadkill records for roads within BRCP ecological corridors and will coordinate with USFWS and CDFW to identify locations in the corridors where movement and migration of covered and other native wildlife may be substantially impeded by roads and other anthropogenic barriers. Based on results of the assessment, the BRCP Implementing Entity will identify high-priority areas for implementing actions to improve wildlife passage across structures.</p>	<ul style="list-style-type: none"> • Unknown 	<ul style="list-style-type: none"> • Entire Plan Area
<p>Natural Community–Level Conservation Measures</p>			
<p>CM4: Develop and Implement Site Specific Wetland and Riparian Restoration Plans</p>	<p>This CM would restore different acreages of wetland and riparian habitat across all CAZs to support habitat for covered species and to be dominated by native plant species that are typical of these riparian and wetland habitat types in the Plan Area.</p>	<ul style="list-style-type: none"> • 179 acres of riparian forest habitats • 11 acres of riparian willow scrub • 126 acres of emergent wetlands • 306 acres of vernal pool and other seasonal wetlands 	<ul style="list-style-type: none"> • Cascade Foothills CAZ • Sierra Foothills CAZ • Northern Orchards CAZ • Southern Orchards CAZ • Basin CAZ • Sacramento River CAZ

⁴ BCAG would be the BRCP Implementing Entity and would be the agency responsible for implementing the BRCP.

CM Number: Title	Description	Extent	General Location
<p>CM5: Enhance Protected Natural Communities for Covered Species</p>	<p>This CM would require the preparation and implementation of management plans for protected natural communities and covered species habitats supported by those communities and would implement management activities for specific natural communities, including oak woodland and savanna, grassland, riparian, wetlands, aquatic, and agricultural. Management plans would provide the information necessary to guide habitat enhancement and management actions to achieve the biological objectives established for the conserved lands addressed by each plan. The content of management plans will include a description of the following.</p> <ul style="list-style-type: none"> • The biological goals and objectives to be achieved with the protection and management of the parcels. • Base ecological conditions (e.g., habitat maps, assessment of covered species habitat functions, occurrence of covered and other native wildlife species, vegetation structure and composition, assessment of nonnative species abundance and their effects on habitat functions, occurrence and extent of nonnative species). • Vegetation management actions that benefit covered communities, habitats, and species and reduce fuel loads as appropriate and that are necessary for implementing species-specific conservation measures. • Current and historical livestock grazing management practices. • Incorporation of a fire management plan developed in coordination with the appropriate agencies and, to the extent practicable, consistent with achieving the biological objectives of the BRCP. • Infrastructure, hazards, and easements. • Existing land uses and management practices and their relationship to covered species habitat functions. • Applicable permit terms and conditions. • Applicable terms and conditions of conservation easements. • Management actions and schedules. • Monitoring requirements and schedules. • Established data acquisition and analysis protocols. • Established data and report preservation, indexing, and repository protocols. • The adaptive management approach. • Any other information relevant to management of the protected parcels. 	<ul style="list-style-type: none"> • Same as CM1 and CM4 	<ul style="list-style-type: none"> • Specific parcels or multiple parcels within each CAZ in the entire Plan Area

CM Number: Title	Description	Extent	General Location
<p>CM6: Maintain and Enhance Public and Easement Habitat Lands for Covered Species</p>	<p>This CM would require coordination with federal, state, and local government agencies and other organizations and entities responsible for public and easement habitat lands (PEHL) in the Plan Area to implement actions to maintain or enhance conservation of certain species. The BRCP Implementing Entity would coordinate and enter into agreements with various agencies and Permit Applicants to enhance the conservation provided for the following species: active Swainson’s hawk, white-tailed kite, and peregrine falcon nest sites; active bald eagle nest and roost sites; active bank swallow nesting colonies; occupied western burrowing owl nesting burrows; giant garter snake and western pond turtle; occurrences of Ferris’ milkvetch, Ahart’s dwarf rush, Greene’s tuctoria, Hoover’s spurge, Butte County checkerbloom, California beaked-rush, Ahart’s paronychia, Butte County meadowfoam, lesser saltscare, Butte County golden clover, and Red Bluff dwarf rush.</p>	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Sacramento River CAZ
<p>Species-Specific Conservation Measures</p>			
<p>CM7: Create and Maintain Greater Sandhill Crane Winter Roosting Habitat</p>	<p>This CM would require the creation and maintenance of greater sandhill crane winter roosting habitat within the Basin CAZ in proximity to traditional greater sandhill crane winter upland use areas.</p>	<ul style="list-style-type: none"> • 160 acres 	<ul style="list-style-type: none"> • Basin CAZ
<p>CM8: Restore Giant Garter Snake Habitat</p>	<p>This CM would restore giant garter snake habitat and would include a mosaic of emergent wetland, open water, and upland habitat. Restored giant garter snake habitat will be a minimum of 20 acres; where rice agricultural fields are converted to habitat for giant garter snake, minimum acreage and geometry of restored wetlands will be prescribed by the size of rice fields. All restored emergent wetland in giant garter snake habitat sites must have a secure source of water for maintaining the intended restored habitat functions. To minimize the potential for injury or mortality of giant garter snake, habitat restoration and management activities would be conducted during the giant garter snake active period. Restored giant garter snake habitat would be designed to support a mix of native emergent vegetation and open water and upland edge configuration that provide maximum function, within site constraints.</p>	<ul style="list-style-type: none"> • 500 acres 	<ul style="list-style-type: none"> • Basin CAZ

CM Number: Title	Description	Extent	General Location
CM9: Replenish Spawning Gravels for Salmonids	This CM would place 30,000 cubic yards of spawning gravels of a suitable size for use by Chinook salmon and steelhead in suitable spawning locations to increase the extent of salmonid spawning habitat. Anticipated actions to implement this conservation measure include mapping, assessing and prioritizing locations of existing and suitable spawning habitat. BCAG will monitor enhanced and restored spawning habitat to determine if they support salmonid spawning and to determine if additional replenishment may be required to maintain the habitats over time.	<ul style="list-style-type: none"> • 30,000 cubic yards 	<ul style="list-style-type: none"> • Big Chico Creek • Little Chico Creek • Butte Creek • Little Dry Creek • Rock Creek • Mud Creek
CM10: Remove Impediments to Upstream and Downstream Fish Passage	This CM would require the assessment of specified stream channels to identify locations where passage of covered fish species is physically impeded. Impediments could include, but are not limited to, debris build-up, large boulders that have shifted, and existing non-functional fish ladders. BCAG would coordinate with NMFS, USFWS, and DFW to prioritize each of the identified locations for implementing actions to improve fish passage based on the likely magnitude of benefits for the covered fish species. Based on priority, BCAG would contact landowners where the impediments are located to enter into cooperative agreements to implement actions necessary to modify stream channels to improve conditions for fish passage.	<ul style="list-style-type: none"> • Unknown 	<ul style="list-style-type: none"> • Pine Creek • Rock Creek • Mud Creek • Big Chico Creek • Lindo Channel • Little Chico Creek • Butte Creek • Little Dry Creek
CM11: Remove, Modify, or Screen Unscreened Diversions	This CM would install fish screens or move, consolidate, or otherwise modify diversions that do not have fish screens to reduce entrainment loss of juvenile salmonids along Big Chico Creek and Butte Creek.	<ul style="list-style-type: none"> • Up to 42 known diversions 	<ul style="list-style-type: none"> • Cascade Foothills CAZ • Northern Orchards CAZ • Basin CAZ

CM Number: Title	Description	Extent	General Location
CM12: Conserve Butte County Meadowfoam	<p>This CM would protect in perpetuity self-sustaining populations of Butte County meadowfoam throughout its full ecological, geographical, and genetic range and ameliorate or eliminate the threats that caused it to be listed. It would establish the Chico Butte County Meadowfoam Preserve (Chico BCMP), with specifically identified boundaries, to protect Butte County meadowfoam known occurrences, primary habitat, and secondary habitat. In addition, all known currently unprotected occurrences of Butte County meadowfoam in the Rock Creek, Chico D, Gold Run Creek, and Table Mountain population groupings would be protected. CM10 would require that all previously unknown and new occurrences of Butte County meadowfoam in Rock Creek, Chico A–D, Gold Run Creek, and Table Mountain be detected and protected. CM10 would require the preparation of management plans, which would be periodically updated to incorporate changes in maintenance, management, and monitoring requirements as they may occur over the term of the BRCP. The content of the management plans could include the following.</p> <ul style="list-style-type: none"> • The biological goals and objectives to be achieved with the management of the parcels. • The baseline ecological conditions. • Existing land uses and management practices and their relationship to Butte County meadowfoam habitat functions. • Management actions (e.g., vegetation management) and schedules, including appropriate grazing regime. • Monitoring requirements and schedules. • The adaptive management approach. • Any other information relevant to management of the protected parcels. 	<ul style="list-style-type: none"> • 6,002 acres of primary habitat • 1,202 acres of secondary habitat 	<ul style="list-style-type: none"> • Entire Plan Area
CM13: Conduct Surveys to Locate and Protect New Occurrences of Butte County Checkerbloom	<p>This CM would require conducting surveys to locate new occurrences of Butte County checkerbloom during the appropriate time of year in suitable habitat in the Plan Area north of upper Bidwell Park. Surveys would be conducted on public lands and on private lands with permission of land owner. BCAG would also seek out occurrences that have been previously identified but not reported. Based on the results of the surveys, BCAG would distribute the acquisition of natural communities in the Cascade Foothills CAZ to protect up to 20 newly discovered occurrences.</p>	<ul style="list-style-type: none"> • Unknown • Protect up to 20 newly discovered occurrences 	<ul style="list-style-type: none"> • Cascade Foothill CAZ north of Bidwell Park

CM Number: Title	Description	Extent	General Location
CM14: Translocate Conservancy Fairy Shrimp, Hoover’s Spurge, Ahart’s Dwarf Rush, Hairy Orcutt Grass, Slender Orcutt Grass, and Greene’s Tuctoria	<p>This CM would require implementation actions to establish or reestablish occurrences of Conservancy fairy shrimp, Ahart’s dwarf rush, Hoover’s spurge, hairy Orcutt grass, slender Orcutt grass, and Greene’s tuctoria in at least two BRCP protected vernal pools for each species. One or more species may be established in the same vernal pool. The CM would require the following.</p> <ul style="list-style-type: none"> • Evaluate protected vernal pools to determine their suitability (e.g., hydrology and soil conditions) for establishing Conservancy fairy shrimp, Ahart’s dwarf rush, Hoover’s spurge, hairy Orcutt grass, slender Orcutt grass, and Greene’s tuctoria. • Adopt techniques for establishing Conservancy fairy shrimp, Ahart’s dwarf rush, Hoover’s spurge, hairy Orcutt grass, slender Orcutt grass, and Greene’s tuctoria. • Harvest seed of Ahart’s dwarf rush, Hoover’s spurge, hairy Orcutt grass, slender Orcutt grass, and Greene’s tuctoria and cysts of Conservancy fairy shrimp from extant occurrences within or adjacent to the Plan Area. Propagule sources will be from the closest populations of each species without adversely affecting the source populations. • Manage established occurrences to ensure their persistence over time. • Monitor the effectiveness of Ahart’s dwarf rush, Hoover’s spurge, hairy Orcutt grass, slender Orcutt grass, and Greene’s tuctoria establishment and management techniques to gather information necessary to improve establishment of new occurrences over time. • Monitor propagule sources to ensure that occurrences from which fairy shrimp or plant material is harvested to ensure that the occurrences remain viable. 	<ul style="list-style-type: none"> • Unknown 	<ul style="list-style-type: none"> • All CAZs

Source: Butte County Association of Governments 2015: Chapter 5.

^a No extant occurrences are known in the Plan Area, but new or unknown occurrences provide for a variety of actions that improve habitat and survival of covered fish species occurrences could be discovered on PEHL over the permit term of the BRCP.

Table 2-4. Physical Actions Needed to Implement BRCP Conservation Measures

Conservation Measure	Physical Actions Required to Implement Measure
CM1: Acquire Lands	<ul style="list-style-type: none"> • Land acquisition.
CM2: Develop an Invasive Species Control Program	<ul style="list-style-type: none"> • Monitoring. • Surveying.
CM3: Identify High Priority Locations for Wildlife Passage Structures and Secure Funding	<ul style="list-style-type: none"> • None.
CM4: Develop and Implement Site Specific Wetland and Riparian Restoration Plans	<p>Activities necessary to restore riparian habitats depend on site-specific conditions, but could include the following.</p> <ul style="list-style-type: none"> • Site clearing of debris and existing vegetation. • Site grading to improve microhabitat conditions, hydrology, and planting/seeding conditions. • Planting and seeding of native plants. • Irrigation of sufficient duration to establish riparian vegetation. • Control of weeds and herbivory for sufficient duration to establish riparian vegetation. <p>Actions necessary to restore vernal pool complex depend on site-specific conditions, but could include the following.</p> <ul style="list-style-type: none"> • Site clearing of debris and existing vegetation. • Site grading to improve microhabitat conditions, hydrology, and planting/seeding conditions. • Collection of native vernal pool plant species seeds and soil containing seeds and vernal pool shrimp cysts for inoculating restored vernal pools. • Planting and seeding of native plants in restored vernal pool complex uplands. • Control of weeds and herbivory for sufficient duration to establish native vernal pool plant species. • Restoration of vernal pools may be conducted at sites that currently support grasslands or at sites that have been cleared for agriculture. <p>Activities necessary to restore emergent wetland depend on site-specific conditions, but could include the following.</p> <ul style="list-style-type: none"> • Site clearing of debris and existing vegetation. • Site grading to improve microhabitat conditions, hydrology, and planting/seeding conditions. • Erosion control measures. • Collection of native emergent plant species rhizomes and other propagules for establishment in

Conservation Measure	Physical Actions Required to Implement Measure
CM5: Enhance Protected Natural Communities for Covered Species	<p>restoration sites.</p> <ul style="list-style-type: none"> • Planting and seeding of native emergent wetland and aquatic plants. • Plant protection and ground cover manipulation. • Installation or modification of water irrigation and drainage infrastructure, including wells, pumps, water control structures and irrigation ditches. <hr/> <p>Management actions for oak woodland and savanna may include the following.</p> <ul style="list-style-type: none"> • Grading, Planting and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Retention of snags and downed wood. • Prohibiting tree harvest for firewood and other uses unless tree harvest is identified in the management plan as a method for achieving habitat enhancement objectives. • Managing grazing to enhance tree survival and recruitment. • Protecting seedlings from herbivory. <p>Management actions for the grassland natural community may include the following.</p> <ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Prohibiting rodent control activities on preserves. • Creating debris piles to create habitat for small mammals and birds. • Managing grazing to improve the abundance of fossorial mammals. • Installation of artificial nesting burrows for western burrowing owl to facilitate use of unoccupied areas. • Installation of perching structures to facilitate use of protected habitats by western burrowing owl, Swainson’s hawk, and white-tailed kite. • Use of fire, managed grazing, or other vegetation management techniques to influence vegetation structure or composition, increase the absolute cover and diversity of native plant species, and control undesirable nonnative plant species. • Application of herbicides to remove heavy infestations of nonnative plants. • Reseeding of native plant species. • Managing livestock grazing to improve the function of vernal pools and grassland swale complex as habitat for covered vernal pool shrimp and plant species

Conservation Measure	Physical Actions Required to Implement Measure
	<p>Management actions for the riparian natural community may include the following.</p> <ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Managing livestock grazing to maintain favorable habitat conditions for covered species. • Controlling nonnative predators and invasive plant species. • Planting native species to improve habitat structure and species composition. • Installing or maintaining woody debris in stream channels to create pools to increase the diversity of microhabitats. <p>Management actions for protected emergent wetlands in the wetland natural community may include the following.</p> <ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Controlling nonnative species. • Managing livestock grazing to maintain favorable habitat conditions for covered species. • Increasing extent of native vegetation. • Controlling human access and activities. • Managing water sources supporting wetlands. • Increasing or decreasing ponding capacity. • Erosion control. • Maintaining or enhancing adjacent upland habitats to support habitat transitions and ecotones and to protect watersheds. • Maintaining appropriate water depth. • Establishing emergent vegetation. • Installing fencing to manage access by livestock. • Controlling nonnative predators. <p>Management actions for restored and natural emergent wetlands in the wetland natural community may include the following.</p> <ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Maintaining sufficient water levels and water quality throughout the year to support emergent vegetation, aquatic food webs, and diverse aquatic habitat structure.

Conservation Measure	Physical Actions Required to Implement Measure
<p>CM6: Maintain and Enhance Public and Easement Habitat Lands for Covered Species</p>	<ul style="list-style-type: none"> • Protecting upland basking and overwinter/hibernation sites, including rodent burrows. • Managing exotic species that may compete with or prey on covered species (e.g., bullfrogs, predatory fish). • Regulating human recreational activities (e.g., fishing) to prevent disturbance. • Enhancing the habitat structure within the water column to provide underwater refugia for prey species for giant garter snakes and for juvenile western pond turtles. <p>Management actions for the aquatic natural community may include the following.</p> <ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Planting emergent vegetation along pond margins to increase habitat functions for western pond turtle and western spadefoot. • Maintaining and improving pond water control structures and water supplies. • Controlling nonnative predators in ponds (e.g., bullfrogs). • Removing riprap along stream channels to improve habitat functions for covered fish, reptile, and amphibian species and to rehabilitate aquatic ecosystem processes. • Installing large woody debris along stream channels and channel banks to improve instream cover conditions for covered fish species. • Coordinating with flood control entities to modify channel maintenance practices to maintain woody debris in channels supporting anadromous fisheries. <p>Management actions for agricultural habitats may include the following.</p> <ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Reducing the use of herbicides and pesticides. • Altering cultivation and harvest practices to increase forage and prey availability for covered and other native wildlife species. • Planting of hedgerows to provide rodent habitat to increase prey abundance for covered and other raptors. • Maintaining water in canals and ditches during the activity period (early spring through mid-fall) for giant garter snake, western pond turtle, and other native wildlife species. <p>• None</p>

Conservation Measure	Physical Actions Required to Implement Measure
CM7: Create and Maintain Greater Sandhill Crane Winter Roosting Habitat	<ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Irrigation management to maintain the required wetted surface and water depths to support crane roosting (i.e., wetted pool area of at least 20 acres with water depths averaging 4 inches). • Construction of berms or other infrastructure as needed to maintain suitable roost site conditions. • Farming and vegetation management practices that maintain upland vegetation adjacent to the wetted roosting area in an open condition that is suitable for supporting crane use of roost sites. • Roosting habitat would be annually flooded from October 1 through March 15 or before March 15 if cranes have abandoned use of a site
CM8: Restore Giant Garter Snake Habitat	<p>Activities necessary to restore emergent wetland depend on site-specific conditions, but could include the following.</p> <ul style="list-style-type: none"> • Site clearing of debris and existing vegetation. • Site grading to improve microhabitat conditions, hydrology, and planting/seeding conditions. • Erosion control measures. • Collection of native emergent plant species rhizomes and other propagules for establishment in restoration sites. • Planting and seeding of native emergent wetland and aquatic plants. • Plant protection and ground cover manipulation. • Installation or modification of water irrigation and drainage infrastructure, including wells, pumps, water control structures and irrigation ditches.
CM9: Replenish Spawning Gravels for Salmonids	<ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Placement of spawning gravel in the highest priority channel locations.
CM10: Remove Impediments to Upstream and Downstream Fish Passage	<ul style="list-style-type: none"> • Remove barriers to fish passage, depending on the type of impediment to fish passage, through use of hand tools and machinery (e.g., backhoes) in stream channels to dislodge and remove debris.
CM11: Remove, Modify, or Screen Unscreened Diversions	<ul style="list-style-type: none"> • Install fish screens; move, consolidate, or otherwise modify up to up to 25 diversions that do not have fish screens to reduce entrainment loss of juvenile salmonids along Big Chico Creek and Butte Creek.
CM12: Conserve Butte County Meadowfoam	<ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment.

Conservation Measure	Physical Actions Required to Implement Measure
CM13: Conduct Surveys to Locate and Protect New Occurrences of Butte County Checkerbloom	<ul style="list-style-type: none"> • Surveys.
CM14: Translocate Conservancy Fairy Shrimp, Hoover’s Spurge, Ahart’s Dwarf Rush, Hairy Orcutt Grass, Slender Orcutt Grass, and Greene’s Tuctoria	<ul style="list-style-type: none"> • Grading, planting, and other ground disturbing restoration-related actions. • Operation of habitat enhancement, restoration, and management-related equipment. • Surveys to determine suitable site conditions. • Limited ground disturbance to establish species in at least two protected vernal pools that support site conditions. • Limited ground disturbance to harvest species from other areas.
Sources: Butte County Association of Governments 2015: Chapter 5, and Table 4-1.	

Table 2-5. Natural Community Protection Targets (acres unless otherwise noted)^a

Natural Community and Land Cover Type	Total Existing in Plan Area	Conservation Acquisition Zone (CAZ) Habitat Protection Targets ^a						Total Protection Target
		Sierra Foothills	Cascade Foothills	Northern Orchards	Southern Orchards	Basin	Sacramento River	
Oak Woodland and Savanna								
Blue oak savanna	10,581	2,009	853	0	0	0	0	2,862
Blue oak woodland	34,735	2,177	3,696	0	0	0	0	5,873
Live oak woodland and mixed oak woodland	47,274	9,868	1,888	0	0	0	0	11,756
<i>Subtotal</i>	92,590	14,054	6,437	0	0	0	0	20,491
Grassland								
Grassland	68,124	7,041	4,105	1,565	430	300	0	13,441
Grassland with vernal swale complex	34,110	4,820	14,960	990	0	630	0	21,400
<i>Subtotal</i>	102,234	11,861	19,065	2,555	430	930	0	34,841
Riparian								
Cottonwood-willow and valley oak riparian forest ^b	11,840	1,035	1,560	1,410	635	335	675	5,650
Willow scrub ^b	2,995	165	170	85	0	300	0	720
<i>Subtotal</i>	14,835	1,200	1,730	1,495	635	635	675	6,370
Wetland								
Emergent wetland	4,440	495	0	100	0	100	0	695
Managed wetland	25,486	0	0	0	0	0	0	0
<i>Subtotal</i>	29,927	495	0	100	0	100	0	695

Natural Community and Land Cover Type	Total Existing in Plan Area	Conservation Acquisition Zone (CAZ) Habitat Protection Targets ^a						Total Protection Target
		Sierra Foothills	Cascade Foothills	Northern Orchards	Southern Orchards	Basin	Sacramento River	
Aquatic								
Open water–perennial stream channel (linear miles)	457	Not applicable ^c	Not applicable ^c	Not applicable ^c	0	Not applicable ^c	Not applicable ^c	45
Open water–intermittent stream channel (linear miles)	979	Not applicable ^d	Not applicable ^d	0	0	0	0	12
<i>Subtotal (linear miles)</i>	1,436	0	0	0	0	0	0	57
Pond (number)	465	Not applicable ^e	Not applicable ^e	Not applicable ^e	Not applicable ^e	Not applicable ^e	Not applicable ^e	80
Agricultural Lands								
Rice ^f	120,316	0	0	1,317	0	21,660	205	23,182
Irrigated pasture and irrigated cropland ^g	21,572	1,240	0	796	2,534	250	200	3,780
<i>Subtotal (acreage)</i>	141,889	1,240	0	2,113	2,534	21,910	405	26,962
Total Acres ^h	381,474	27,610	27,232	6,263	3,599	23,575	1,080	89,601

Source: Butte County Association of Governments 2015:Table 5-5.

- ^a Targets include land cover types to be protected both for conservation of natural communities and as mitigation for covered activities that remove natural communities. Consequently, the amount of each natural community that is protected may be less than shown if all the permanent development covered activities and the habitat protection that is required to mitigate impacts are not implemented. Segregated natural community protection conservation and mitigation targets are presented in Table 5-9 of the BRCP.
- ^b These land cover types may be protected as mitigation for impacts on non–stream-associated dredger tailings with riparian forest/scrub-stream.
- ^c Targets are not established by CAZ. Perennial stream channel may be protected in any of the five CAZs indicated that are consistent with achieving stream channel habitat biological objectives for the covered fish species and foothill yellow-legged frog.
- ^d Intermittent stream channel may be protected in either of the two CAZs indicated that are consistent with achieving intermittent stream channel habitat biological objectives for foothill yellow-legged frog.
- ^e Targets are not established by CAZ. Ponds may be protected in any CAZ that are consistent with achieving pond habitat protection biological objectives for western pond turtle and/or western spadefoot.
- ^f The acreage targets in these CAZs are for planning purposes only. The combined target acreage of rice can be achieved through any combination of acreage between these three CAZs that are consistent with achieving the applicable biological goals and objective.
- ^g The acreage targets in these CAZs are for planning purposes only. The combined target acreage of irrigated pasture and irrigated cropland can be achieved through any combination of acreage between these four CAZs that are consistent with achieving the applicable biological goals and objectives.
- ^h Does not include stream channel and pond protection targets because these targets are not expressed in acres.

Other Conservation Actions

In addition to the Conservation Measures described above, BCAG will implement activities to improve urban stormwater quality in support of those conservation measures identified for covered aquatic species (BRCP Section 5.4.4). These actions will support the cities of Chico, Oroville, Gridley, and Biggs in obtaining funding through federal and state grants and other sources to implement programs to support compliance with National Pollutant Discharge Elimination System (NPDES) stormwater permits for municipal separate storm sewer systems (MS4s). Funding different types of water quality control actions under this measure aims to reduce the load or concentrations of contaminants that are toxic to covered fish species and other native fish and amphibians in urban runoff entering Big Chico Creek, Lindo Channel, Little Chico Creek, Sycamore/Mud Creek, Butte Creek, and the Feather River. Actions could be physical changes to the stormwater system or planning and documentation, and can include:

- Construction of stormwater retention ponds for the capture of stormwater.
- Construction of stormwater retention irrigation holding ponds for the capture and irrigation use of stormwater.
- Design and establishment of vegetated buffer strips to slow runoff velocities and capture sediments and other pollutants.
- Design and construction of bioretention systems (grass buffer strips, sand bed, ponding area, mulch layer, planting soil, and plants) to slow runoff velocities and for removal of pollutants from stormwater.
- Construction of stormwater curb extensions adjacent to existing commercial businesses that are likely to contribute oil and grease runoff.
- Establishment of stormwater media filters to remove particulates and pollutants.
- Providing support for establishment of onsite infiltration systems in lieu of new storm drain connections for new construction, such as pervious pavement in place of asphalt and concrete in parking lots and along roadways, and downspout disconnections to redirect roof water to cisterns on existing developed properties, including residential properties.

Ecological Corridors

Because urban and agricultural development can disrupt the continuity and permeability of habitat for wildlife, the BRCP includes established ecological corridors between the CAZs (Figure 2-4). The permeability for safe movement of small mammals, amphibians, and reptiles across linear anthropogenic structures (i.e., roads, railroads, and utilities) is an important component of the conservation strategy. Especially for giant garter snake and other snakes, roads pose a threat because snakes are attracted to roads for thermoregulation (i.e., basking). Given the large size of the planned ecological corridors under the BRCP, it is likely that some lands that do not meet conservation land criteria but are suitable as movement habitat would need to be acquired. On such lands, the BRCP Implementing Entity would undertake enhancements to minimize effects of barriers and habitat gaps that adversely affect the movement of covered and other native wildlife species (see CM4, Improve the Permeability of Linear Structures for Native Wildlife). The four ecological corridors are described below.

- **Ecological Corridor 1, North Plan Area Corridor.** Maintain an ecological corridor at least 1.2 miles wide comprising contiguous patches of oak woodland and savanna, grassland, riparian, wetland, and aquatic natural communities and agricultural lands north of the city of Chico that protect the elevation gradient extending from the foothills at the eastern Plan Area boundary in the Cascade Foothills CAZ across the valley floor in the Northern Orchards CAZ and connecting to the Sacramento River.
- **Ecological Corridor 2, Central Plan Area Corridor.** Maintain an ecological corridor at least 1.2 miles wide comprising of contiguous patches of oak woodland and savanna, grassland, riparian, wetland, and aquatic natural communities between the cities of Chico and Oroville that protect the elevation gradient extending from the foothills at the eastern Plan Area boundary in the Cascade Foothills CAZ across the valley floor in the Basin CAZ and connecting to Butte Creek along the western boundary of the Plan Area.
- **Ecological Corridor 3, South Plan Area Corridor.** Maintain an ecological corridor at least 1.2 miles wide comprising contiguous patches of oak woodland and savanna, grassland, riparian, wetland, and aquatic natural communities and agricultural lands south of the city of Oroville that protect the elevation gradient extending from the foothills at the eastern Plan Area boundary in the Sierra Foothills CAZ across the valley floor and connecting to the Feather River in the Southern Orchards CAZ.
- **Ecological Corridor 4, Giant Garter Snake Corridor.** Maintain a corridor at least 0.6 mile wide comprising contiguous patches of riparian, wetland, and aquatic natural communities and agricultural lands that support giant garter snake movement habitat and connect the Llano Seco Unit of the Upper Butte Basin Wildlife Area in the Sacramento River CAZ to the Little Dry Creek Unit of the Upper Butte Basin Wildlife Area and to Gray Lodge Wildlife Area in the Basin CAZ. The corridor will be configured such that there is contiguous giant garter snake movement habitat connecting the three Wildlife Areas.
- **Ecological Corridor 5, Sacramento River Corridor.** Maintain a corridor comprised of existing remaining patches of riparian, wetland, and aquatic natural communities along the Sacramento River in the Sacramento River and Northern Orchards CAZs. The corridor is meant to protect the connectivity of riparian and wetland wildlife habitats that border the Sacramento River to provide for the movement and migration of covered and other native wildlife species (e.g., deer, skunk, raccoon, and neotropical migrant birds). No specific width is identified for this corridor because of the active nature of portions of the river in this reach and because the width of natural communities adjacent to the Sacramento River is highly variable, being constrained by agricultural lands, mainly orchards.

Jurisdictional Waters of the United States

The BRCP evaluates the effects of implementing the combined buildout of the preferred alternatives of the Local Agencies' general plan EIRs as part of the BRCP covered activities. The extent of riparian and wetland land cover types that could be removed by the covered activities is reduced in the BRCP to avoid impacts in specified UPAs. In addition, the conservation strategy includes AMMs (BRCP Section 6.2) that are required to be implemented at the time each of the covered activities is implemented. These measures are designed to avoid or further minimize direct and indirect impacts on wetlands, streams, and other waters that would otherwise be incurred under the covered activities. The BRCP provides additional limits on impacts and specific impact AMMs that further reduce impacts on aquatic resources that would result from activities identified in the various

general plans' preferred alternatives. Approximately 797 acres of waters of the United States (including potential vernal pools, seasonal wetlands, riparian habitat, and perennial emergent) are anticipated to be affected by the BRCP. Table 2-6 summarizes the existing and potentially affected acres of wetlands by CAZ and Table 2-7 identifies the types of wetlands or other waters expected to be impacted by the BRCP. Figure 2-5 identifies the general locations of these types of wetlands or other waters. It is anticipated no acres or linear miles of other waters of the United States (e.g., open waters, major canals) would be affected by the BRCP because of the location of activities and because the BRCP does not allow for impacts to these types of habitats.

Table 2-6. Existing and Affected Wetlands by CAZ (acres)

	Existing	Potentially Affected
Cascades		
Outside UPAs	4,67	13
Inside UPAs	2,155	129
<i>Subtotal</i>	6,772	142
Sierras		
Outside UPAs	6,512	21
Inside UPAs	3,900	373
<i>Subtotal</i>	10,412	394
Northern Orchards		
Outside UPAs	3,442	25
Inside UPAs	456	112
<i>Subtotal</i>	3,898	137
Southern Orchards		
Outside UPAs	2,670	20
Inside UPAs	122	67
<i>Subtotal</i>	2,792	87
Basin		
Outside UPAs	27,078	29
Inside UPAs	5	3
<i>Subtotal</i>	27,084	32
Sacramento River		
Outside UPAs	13,445	4
Total	64,403	796

Source: Butte County Association of Governments 2015:Table 4-12.

Table 2-7. Existing and Affected Waters of the United States under the Proposed Action in the Plan Area

Type of Wetland or Other Water	Total in the Plan Area	Total Impact Allowable under the Proposed Action ^a	Estimated Development Impact ^b
Potential Wetlands – Vernal Pools and Other Seasonal Wetlands (acres) ^c	3,999	303	327
Potential Wetlands – Riparian Habitats (acres) ^d	22,149	345	1,413
Potential Wetlands – Perennial Emergent (acres) ^e	4,440	35	81
Potential Wetlands – Artificial Types (acres) ^f	33,815	113	113
Non-Wetland Waters (number of ponds) ^g	465	25	25
Total Waters of U.S. (acres)	64,868	796	3,813

^a The BRCP established these limits in Table 4-11 of the BRCP based on the estimated development impact. These limits are a result of review and adjustment to provide for additional avoidance.

^b This is the estimated impact using the development footprints from general plans and other regional plans.

^c Acreages are based on BRCP's density assumptions detailed in Chapter 6 of the BRCP and include the following habitat types: Vernal Pools and Other Seasonal Wetlands in Grasslands with Swale Complexes, Vernal Pools and Other Seasonal Wetlands in Grasslands, Vernal Pools and Other Seasonal Wetlands associated with Streams.

^d Only portions of riparian habitats meet jurisdictional criteria under CWA Section 404, but all areas meet jurisdictional criteria under Section 1602 and include the following habitat types: Cottonwood-Willow Riparian Forest, Valley Oak Riparian Forest, Willow Scrub, Herbaceous Riparian and River Bar, Dredger Tailings with Riparian Forest and Scrub-Stream, Dredger Tailings with Riparian Forest and Scrub-Non-Stream.

^e Includes the habitat type: Emergent Wetland.

^f Based on BRCP assumptions detailed in Chapter 6 and includes the habitat types: Managed Wetland, Managed Seasonal Wetland, Rice-jurisdictional portion, and Irrigated pasture, cropland-jurisdictional portion.

^g Includes the habitat types: stock ponds. Open Waters, Major Canals and Rivers, Streams and Agricultural Channels have zero acres and linear miles impacted.

Avoidance of direct and indirect impacts on jurisdictional wetlands, where practicable, is the preferred conservation action under the BRCP. If avoidance of direct and indirect impacts cannot be achieved, impacts would be compensated through protection and restoration of like or similar wetland types of equal or higher function at the ratios described in BRCP (Table 5-11 of the BRCP). Where nonnatural wetlands are filled, compensatory mitigation is provided through protection and restoration of natural wetlands types. The impact acreages presented in the BRCP and in the resource chapters of this EIS/EIR are for the purpose of assessing the regional impacts and conservation of wetlands and other waters under full implementation of the BRCP over its 50-year permit term. The BRCP requires jurisdictional delineation of all proposed projects to assess actual impacts, and actual impacts would be calculated during BRCP implementation when specific projects are proposed. The BRCP includes measures that go beyond the mitigation of impacts on wetlands and riparian habitats and contribute to the conservation of these natural communities. These conservation measures include the protection of existing wetland and riparian habitats in excess of compensatory protection mitigation ratios and, for riparian forest, additional restoration

acreage in excess of the restoration mitigation ratio. These measures that contribute to the conservation of wetlands and riparian habitats are required elements of the BRCP.

Avoidance and Minimization Measures

AMMs are designed to avoid or minimize the take of covered species and to reduce impacts on natural communities and covered species and their habitats (including designated critical habitat). These measures include such actions as avoidance of species occurrences and habitat through project design, timing of construction activities in the vicinity of occupied habitat to avoid times when a covered species is present, and avoiding habitat removal during breeding periods. These measures may also avoid or minimize the potential for take by reducing effects on covered and other native species by altering construction plans or activities (e.g., modifying construction footprints, covering open trenches, using materials to reduce runoff from construction sites) or by modifying design elements of projects to reduce operational effects (e.g., noise, lighting, urban runoff).

Table 2-8 and Table 2-9 summarize the BRCP AMMs.

Table 2-8. BRCP Avoidance and Minimization Measures for Permanent Development Projects inside and outside the UPAs

Biological Surveys and Evaluations

AMM1: Conduct Planning Surveys

AMM2: Conduct Preconstruction Surveys

Project Design

AMM3: Avoid and Minimize Impacts on Covered Species

AMM4: Avoid and Minimize Impacts on Sensitive Wetland and Riparian Habitats

AMM5: Avoid Siting of Construction Staging Areas and Temporary Work Areas in Occupied Covered Species Habitat

AMM6: Establish Permanent Habitat Buffers along Stream and Riparian Corridors

AMM7: Design Developments to Minimize Indirect Impacts at Urban-Habitat Interfaces

AMM8: Implement Standard Urban Stormwater Management Plans

Construction

AMM9: Establish Activity Exclusion Zones for Nesting/Breeding Birds

AMM10: Establish Activity Exclusion Zones for Covered Plant Species

AMM11: Minimize Impacts on Covered Fish Species

AMM12: Confine and Delineate Work Area

AMM13: Cover Trenches and Holes during Construction

AMM14: Control Fugitive Dust

AMM15: Conduct Worker Training

AMM16: Install Erosion Control Barriers

AMM17: Night-Time Lighting of Project Construction Sites

AMM18: Implement Spill Prevention, Control, and Counter Measure Plan to Eliminate or Minimize Sources of Contaminants

AMM19: Implement Wet Weather Erosion Control Plan

AMM20: Implement Stormwater Pollution Prevention Plan

AMM21: Implement Additional Avoidance and Minimization Measures and Best Management Practices

Table 2-9. BRCP Avoidance and Minimization Measures for Species-Specific Effects, Transportation Facility Permanent Development Projects, and Recurring Maintenance Activities

Species-Specific
AMM22: Exclusion of Wintering Western Burrowing Owls
AMM23: Install Wire Markers on New or Modified Power Transmission Lines within Greater Sandhill Crane Habitat
AMM24: Prevent Raptor Electrocutations
AMM25: Minimize Take and Impacts on Habitat of Giant Garter Snake
Transportation Facility Permanent Development Projects
AMM26: Implement Caltrans Construction Site Best Management Practices to Maintain Water Quality
AMM27: Avoid and Minimize Noise and Other Disturbances from Bridge Construction Activities
AMM28: Avoid and Minimize Impacts on Bat Roosting on Bridges
Recurring Maintenance Activities
AMM29: Cover Trenches and Holes Excavated for Maintenance
AMM30: Conduct Swainson's Hawk and White-Tailed Kite Nest Surveys
AMM31: Minimize Impacts of Water Conveyance Channel Maintenance on Giant Garter Snake

Monitoring Program and Adaptive Management

The BRCP monitoring program is designed to guide the collection and compilation of relevant data and information necessary to (1) demonstrate compliance with permit terms and conditions, (2) assess the effectiveness of BRCP implementation over time, and (3) ensure that the adaptive management decision-making process is informed by the best available science. The purpose of the monitoring program is to periodically assess the status of species and natural communities on BRCP conservation lands as the basis for their ongoing conservation and recovery (BRCP, Section 7.2). The monitoring process and adaptive management process are described below. For more information, see Section 7.2.2 and Section 7.3 of the BRCP, respectively.

Monitoring Requirements

Monitoring and survey information is required to demonstrate compliance with BRCP permits and to assess the effectiveness of BRCP implementation in achieving the BRCP's biological goals and objectives. The two primary types of monitoring expected are compliance monitoring and effectiveness monitoring.

Compliance monitoring ensures compliance with the terms and conditions of the BRCP and its associated permits during implementation of the covered activities. Table 5-30 of the BRCP summarizes 13 compliance monitoring actions, the responsible entity for each of these actions, the purpose of the monitoring action, and the methods and procedures for monitoring. Results of compliance monitoring may also serve toward monitoring for effectiveness. Results of compliance monitoring would be used by the BRCP Implementing Entity to determine if BRCP implementation should be adjusted under BRCP adaptive management.

Effectiveness monitoring would be conducted to assess the effectiveness of habitat restoration, enhancement, and management techniques in achieving the desired habitat conditions; to assess covered species responses; and to document progress made toward achieving the BRCP biological goals and objectives. These monitoring actions would provide the data necessary to assess the status

and trend of covered species populations at Plan Area-wide and BRCP conservation land unit-wide scales and would provide the basis for tracking progress toward achieving the biological goals and objectives. In addition, initial baseline ecological surveys would be conducted on all BRCP conservation lands; these surveys would form the basis against which the effectiveness of BRCP habitat enhancement and management actions would be measured.

Adaptive Management Purpose and Framework

The adaptive management process incorporated by the BRCP, and detailed in Section 7.3 of the BRCP, is consistent with the guidance for adaptive management provided in USFWS's and NMFS's Five-Point Policy for HCPs,⁵ the NCCPA,⁶ and DOI's Applications Guide for Adaptive Management. The USFWS and NMFS Five-Point Policy broadly defines adaptive management "...as a method for examining alternative strategies for meeting measurable biological goals and objectives, and then if necessary, adjusting future conservation management actions according to what is learned." The NCCPA defines adaptive management as "...to use the results of new information gathered through the monitoring program of the plan and from other sources to adjust management strategies and practices to assist in providing for the conservation of covered species." NCCPs must include both a monitoring program and an adaptive management program⁷ and must also provide for periodically reviewed adaptive management strategies subject to the results of monitoring efforts and other sources of new information.⁸

The BRCP adaptive management framework provides a learning-based decision-making process to ensure that progress is made toward achieving BRCP biological goals and objectives. It is anticipated that ongoing modifications to implementation of the conservation strategy will be needed as new information is developed that addresses the uncertainties regarding the nature and magnitude of the response of covered species to habitat enhancement, restoration, and management techniques. Additionally, substantially altered future conditions that may result from climate change (e.g., change in the hydrology of Plan Area watersheds, temporal shifts in the wet season, change in wildfire risk) may modify implementation needs. Therefore, adaptive management provides the BRCP Implementing Entity with the flexibility necessary to modify implementation to address uncertainties as the knowledge base regarding ecological processes, natural communities, and covered species is expanded. Consequently, the adaptive management process provides the BRCP Implementing Entity with the ability to modify conservation measures, implementation techniques, and monitoring elements (e.g., monitoring protocols, attributes and attribute criteria, metrics) of the conservation strategy as indicated by new information that will be gathered over the term of the BRCP to improve their effectiveness.

Plan Implementation

The BRCP conservation strategy would be implemented over a period of 50 years. Implementation of the BRCP would begin after the Implementing Agreement is executed and the Section 10(a)(1)(B) ITPs and NCCPA Section 2835 permit are issued. BRCP conservation measures that are independent of mitigation would be implemented throughout the 50 years. The implementation schedule, described in detail in Chapter 6, *Plan Implementation*, of the BRCP, describes a reasonable estimate

⁵ 65 FR 106, June 1, 2000.

⁶ California Fish and Game Code Sections 2800–2835.

⁷ California Fish and Game Code Section 2820[7] and [8].

⁸ California Fish and Game Code Section 2820[a][2].

of the timing and sequence for implementation of the conservation actions over the term of the BRCP.

It is expected that ecological conditions in the Plan Area may change as a result of future events and circumstances, since the implementation timeframe for the BRCP conservation strategy would be over 50 years. Chapter 6 of the BRCP details changes in circumstances that are reasonably foreseeable, outlines a process for identifying changed circumstances, and provides planned responses intended to address these events. Changed circumstances addressed by the BRCP include: floods, drought, water availability, fire, invasive species and disease, long-term changes in precipitation and temperature, toxic or hazardous substance spills, new species listing, and new designation of critical habitat. The planned responses to these events, if needed, would be covered actions by the BRCP. Examples of planned responses include: inspections of affected conservation lands within a specific time from the end of the event (e.g., 30 days); evaluation of the extent of the damage; purchasing of additional water supplies, if necessary, to maintain crops supporting habitat functions; and habitat restoration and enhanced recovery of affected habitat area.

Responsibility for implementing the BRCP would rest with the Permit Applicants. BRCP implementation would be directed by the BRCP JPA, a BRCP Implementing Entity that would be created as a new JPA among the Local Agencies specifically for BRCP implementation. The BRCP JPA would be led by a Board of Directors derived from elected officials of the member Local Agencies and would oversee implementation of the BRCP through the Executive Director of BCAG, who will serve as the Executive Director of the BRCP JPA (see BRCP Chapter 7, *Implementation Structure*, for additional detail on the organizational structure that will be established to implement the BRCP).

Costs and Funding

The cost for implementing the BRCP has been estimated for both the mitigation and conservation components of the plan (BRCP Chapter 10, *Implementation Costs and Funding Sources*). The mitigation cost component includes the costs to implement mitigation measures that address the impacts of BRCP covered activities. These costs include administration, land maintenance and management, monitoring, and adaptive management necessary to implement the mitigation measures. Total mitigation costs under the BRCP are estimated to be \$138.9 million. The conservation cost component includes the costs of all actions under the conservation strategy that are implemented to conserve natural communities and contribute to the recovery of covered species above and beyond the mitigation measures. Total conservation component costs for BRCP implementation over the 50-year BRCP term are estimated to be \$238.1 million.

Funding for BRCP implementation would come from both “local share” and “public share” sources.

- **Local Share of Funding.** The local share of implementation funding sources comprises the mitigation component of the BRCP, a portion of the land acquisition and plan administration under the conservation component of the BRCP, and part of the post-permit administration and management. The local share funding would be derived from impact fees assessed as individual projects are implemented in the Plan Area and additional monies sought from various sources to fund a portion of the conservation component.
- **Public Share of Funding.** The public share of implementation funding sources comprises all remaining actions to implement the conservation component of the BRCP not addressed by the local share. Public share funding will be derived from various federal, state, and private sources.

Aquatic Resources Permitting Strategy

BCAG is seeking a Regional General Permit (RGP), programmatic water quality certification, master lake and streambed alteration agreement, and a BRCP specific in-lieu fee (ILF) Program to satisfy federal and state regulations and conserve and preserve aquatic resources in the Plan Area. This permitting, mitigation and conservation strategy is a component of the BRCP and will address impacts to waters of the U.S. and state, including all wetlands, riparian habitat, and other waters regulated by the Central Valley Regional Water Quality Control Board (CVRWQCB), California Department of Fish and Wildlife (CDFW), the U.S. Army Corps of Engineers (USACE) for compliance with the Clean Water Act, Porter-Cologne Water Quality Act, and state Fish and Game Code.

2.3.3 Alternative 3—Reduced Development/Reduced Fill

As with Alternative 2, this alternative consists of issuance of ITPs by USFWS, NMFS, and CDFW; approval and execution of the Implementing Agreement (IA) for the BRCP; and implementation of the BRCP by the Permit Applicants, although the BRCP would differ as described below. The Reduced Development/Reduced Fill Alternative combines the reduced development alternatives described in the Local Agencies' general plan EIRs to create a single reduced development/reduced fill footprint. Under the Local Agencies' general plan alternatives, there would be either a reduction in the development footprint for the respective jurisdiction such that the development would be concentrated closer to urban centers or a reduction in the total dwelling units and commercial/industrial square footage such that less development would occur. Summaries of each of these general plan alternatives are provided below.

- **Butte County: Concentrated Growth Alternative.** The Concentrated Growth Alternative would provide for approximately 500 more new residential units than the Butte County General Plan 2030 preferred alternative for a total of 14,200 dwelling units. This alternative includes the same amount of new industrial space and 200,000 more square feet of new commercial space. However, development would be directed toward the existing urban areas. Outlying areas are instead designated for very low-density residential, agriculture, and resource conservation. Higher density development would occur in and around the existing urban areas. Following is the approximate projected 2030 buildout of the Concentrated Growth Alternative.
 - 14,200 dwelling units.
 - 2 million square feet commercial.
 - 1.1 million square feet industrial space.
- **City of Chico: Increased Density Alternative.** The Increased Density Alternative has less development than General Plan 2030 and would not include the Bell Muir and Doe Mill/Honey Run developments (referred to as "Special Planning Area 3" in General Plan 2030). Higher density development would occur through infill and redevelopment of the 17 Opportunity Sites, and limited expansion would occur north and south in three special planning areas, with no expansion to the east or west. The Increased Density Alternative would provide for fewer new residential units (approximately 4,000) than General Plan 2030. This alternative also includes 1.0 million fewer square feet of industrial uses and a similar number of square feet of commercial uses as General Plan 2030. This alternative focuses development in targeted locations within the city. Following is the approximate projected 2030 buildout of the Increased Density Alternative.

- 59,344 dwelling units.
- 20.1 million square feet of industrial space.
- 17.8 million square feet of commercial space.
- **City of Oroville: Neighborhood Focused Growth Alternative.** The Neighborhood Focused Growth Alternative would provide for approximately 3,300 fewer new residential units than General Plan 2030. This alternative also includes 200,000 fewer square feet of industrial uses and 4.6 million fewer square feet of commercial uses. This alternative focuses development in targeted locations within the city. Land use designations in most of these areas would be modified to better improve the viability of the commercial centers by placing more people within shorter distances of retail establishments or office uses. Following is the approximate projected 2030 buildout of the Neighborhood Focused Growth Alternative.
 - 24,300 dwelling units.
 - 8.4 million square feet of industrial space.
 - 17.6 million square feet of commercial space.
- **City of Gridley: Centralized Development Alternative.** The Centralized Development Alternative assumes a reduced footprint of only 563 acres as compared to the 2030 General Plan (i.e., approximately half the acreage) and would provide for fewer new residential units (between approximately 2,600 and 3,200) than General Plan 2030. This alternative would provide for similar amounts of land available for future commercial development and industrial development as compared to the 2030 General Plan. This alternative focuses development in targeted locations within the city. Following is the approximate projected 2030 buildout of the Centralized Development Alternative.
 - 2,600–3,200 dwelling units.
 - 427 acres of industrial space.
 - 240 acres of commercial space.
- **City of Biggs: Alternative 3 – Reduced Western Expansion Alternative.** Under this alternative, the city would modify the proposed General Plan Land Use Map to preclude the inclusion of any additional lands west of the Union Pacific railroad tracks that traverse through Biggs between Seventh and Eighth Streets. This alternative would have the effect of omitting approximately 933 acres of land from the Planning Area proposed for Heavy Industrial, Light Industrial, Low Density Residential, and Agricultural Industrial land use designations.

Covered activities under this alternative would be similar to those described in the BRCP but would be limited to the reduced development footprint and to a permit term of 30 years. The conservation strategy would be similar to that of the BRCP because it would apply similar natural community acreage limitations. Alternative 3 would also reduce impacts on waters of the United States. It would aim to reduce the potential impacts on jurisdictional waters, including wetlands, by reducing the amount of overall development anticipated to occur within the Plan Area and by applying the acreage limitations to jurisdictional waters as described in the BRCP. This also includes reduced dredge or fill of jurisdictional waters of the United States, including wetlands, by reducing or eliminating the types of covered activities identified in the BRCP associated with bridges and transportation projects. However, though the conservation measures (and any activities undertaken by the water districts or irrigation districts) would be the same as under the proposed action, there

would be an overall reduced amount and extent of conserved lands under this alternative because less development would occur over a shorter time period. Table 2-10 quantifies the natural communities affected by Alternative 3 and Table 2-11 quantifies the waters of the United States affected by the alternative. Figure 2-6 identifies the general locations of these types of wetlands or other waters.

Table 2-10. Potential Natural Communities Affected by the Reduced Development/Reduced Fill Alternative (acres)

Natural Community/ Land Cover Type	Land Use Categories						Total
	Commercial	Industrial	Residential	Resource Management	Other	Public	
Oak Woodland and Savanna ^a	158	343	3,830	2	87	165	4,585
Grassland ^b	653	1,259	4,072	11	232	202	6,429
Riparian ^c	28	157	353	1	39	175	754
Wetland ^d	2	4	38	0	5	0	49
Aquatic ^e	2	0	8	0	4	55	69
Agricultural Lands ^f	24	166	643	46	293	28	1,201
Total	867	1,929	8,944	60	660	625	13,087

Assumptions:

1. If county and city land use areas overlapped, city information was selected.
 2. The Other land use category includes all land uses that did not fit within the description of the six general land use categories (i.e., agriculture, commercial, industrial, public, residential, and resource management) or were described in Table 2-1 of the BRCP.
 3. Areas from the City of Chico that were attributed as outside the sphere of influence, but within the planning area of Chico, were removed.
 4. There are a total of approximately 629 acres designated as “blank” for Butte County and the City of Chico, and this means that these acres do not have general plan land uses included in the datasets. Therefore, they are left out of the analysis. Butte County and the City of Chico are the only two general plans that have land uses that fit within the general land use category of resource management.
 5. The City of Gridley was not included in the footprint of the reduced development because GIS information was unavailable for this city. Therefore, it is incorporated qualitatively into the analysis of Alternative 3 in this EIS/EIR.
 6. In general, the Local Agencies’ general plans and Table 2-1 in the BRCP were used to match GIS data with the six general categories of land uses (i.e., agriculture, commercial, industrial, public, residential, and resource management). However, there were individual circumstances where the general plans or Table 2-1 did not describe a land use identified in the GIS data; therefore, assumptions were made on a case-by-case basis as to what one of the six general land use categories to assign the GIS data.
- ^a Includes: Blue oak savanna, Blue oak woodland, Live oak woodland, and mixed oak woodland.
- ^b Includes: Grassland and Grassland with vernal swale complex.
- ^c Includes: Cottonwood-willow and valley oak riparian forest, Willow scrub, Herbaceous riparian river bar, Dredger tailings with riparian.
- ^d Includes: Emergent wetland, Managed seasonal wetland, and Managed wetland.
- ^e Includes: Open water—all, Open water—stream channel (linear miles), Major canal, Ponds.
- ^f Includes: Rice and Irrigated pasture and irrigated cropland.

Table 2-11. Existing and Affected Waters of the United States under the Reduced Development/Reduced Fill Alternative in the Plan Area

Type of Wetland or Other Water	Total in the Plan Area	Alternative 3
Potential Wetlands – Vernal Pools and Other Seasonal Wetlands (acres) ^a	3,999	298
Potential Wetlands – Riparian Habitats (acres) ^b	22,149	345
Potential Wetlands – Perennial Emergent ^c	4,440	35
Potential Wetlands – Artificial Types ^d	33,815	57
Non-Wetland Waters (number of ponds) ^e	465	45
Total Waters of the United States (acres)	64,868	735

^a Acreages are based on BRCP's density assumptions detailed in Chapter 6 of the BRCP and include the following habitat types: Vernal Pools and Other Seasonal Wetlands in Grasslands with Swale Complexes, Vernal Pools and Other Seasonal Wetlands in Grasslands, Vernal Pools and Other Seasonal Wetlands associated with Streams.

^b Only portions of riparian habitats meet jurisdictional criteria under CWA Section 404, but all areas meet jurisdictional criteria under Section 1602 and include the following habitat types: Cottonwood-Willow Riparian Forest, Valley Oak Riparian Forest, Willow Scrub, Herbaceous Riparian and River Bar, Dredger Tailings with Riparian Forest and Scrub-Stream, Dredger Tailings with Riparian Forest and Scrub-Non-Stream.

^c Includes the habitat type: Emergent Wetland.

^d Based on BRCP assumptions detailed in Chapter 6 of the BRCP and includes the habitat types: Managed Wetland, Managed Seasonal Wetland, Rice –jurisdictional portion, and Irrigated pasture, cropland–jurisdictional portion.

^e Includes the habitat types: stock ponds. Open Waters, Major Canals and Rivers, Streams and Agricultural Channels have zero acres and linear miles impacted.

Alternative 3 is expected to result in a reduction of approximately 11,000 acres (50%) of potential natural communities affected as compared to the proposed action. It is expected to result in a reduction of approximately 61 acres (approximately 8%) of waters of the United States as compared to the proposed action. Table 2-12a compares the differences between the two alternatives by natural community, and Table 2-12b compares the differences between the two alternatives by waters of the United States.

Table 2-12a. Differences between the Reduced Development/Reduced Fill Alternative and the Proposed Action (acres)

	Proposed Action ^a	Alternative 3	Difference ^b
Oak Woodland and Savanna ^c	11,324	4,585	6,739
Grassland ^d	9,084	6,429	2,655
Riparian ^e	346	754	-408
Wetland ^f	48	49	-1
Aquatic ^g	0	69	-69
Agriculture ^h	3,822	1,201	2,621
Total	24,624	13,087	11,537

^a Information was taken from Table 4-5 in the BRCP.

^b Note that a negative number means an increase in acreage of impacted habitat under Alternative 3–Reduced Development/Reduced Fill.

^c Includes: Blue oak savanna, Blue oak woodland, Live oak woodland, and mixed oak woodland.

^d Includes: Grassland and Grassland with vernal swale complex.

^e Includes: Cottonwood-willow and valley oak riparian forest, Willow scrub, Herbaceous riparian river bar, Dredger tailings with riparian habitat (e.g., Forest/Scrub, Forest Scrub NSA, Sparse Herbaceous Vegetation).

^f Includes: Emergent wetland, Managed seasonal wetland, and Managed wetland.

^g Includes: Open water – all, Open water – stream channel (linear miles), Major canal, Ponds.

^h Includes: Rice and Irrigated pasture and irrigated cropland.

Table 2-12b. Differences between the Reduced Development/Reduced Fill Alternative and the Proposed Action for Waters of the United States (acres)

Type of Wetland or Other Water	Proposed Action	Alternative 3	Difference
Potential Wetlands – Vernal Pools and Other Seasonal Wetlands (acres) ^a	303	298	5
Potential Wetlands – Riparian Habitats (acres) ^b	345	345	0
Potential Wetlands – Perennial Emergent (acres) ^c	35	35	0
Potential Wetlands – Artificial Types (acres) ^d	113	57	56
Non-Wetland Waters (number of ponds) ^e	25	45	-20
Total Waters of the United States (acres)^f	796	735	61

^a Acreages are based on BRCP's density assumptions detailed in Chapter 6 of the BRCP and include the following habitat types: Vernal Pools and Other Seasonal Wetlands in Grasslands with Swale Complexes, Vernal Pools and Other Seasonal Wetlands in Grasslands, Vernal Pools and Other Seasonal Wetlands associated with Streams.

^b Only portions of riparian habitats meet jurisdictional criteria under CWA Section 404, but all areas meet jurisdictional criteria under Section 1602 and include the following habitat types: Cottonwood-Willow Riparian Forest, Valley Oak Riparian Forest, Willow Scrub, Herbaceous Riparian and River Bar, Dredger Tailings with Riparian Forest and Scrub–Stream, Dredger Tailings with Riparian Forest and Scrub–Non-Stream.

^c Includes the habitat type: Emergent Wetland.

^d Based on BRCP assumptions detailed in Chapter 6 of the BRCP and includes the habitat types: Managed Wetland, Managed Seasonal Wetland, Rice –jurisdictional portion, and Irrigated pasture, cropland–jurisdictional portion.

^e Includes the habitat types: stock ponds. Open Waters, Major Canals and Rivers, Streams and Agricultural Channels have zero acres and linear miles impacted.

^f Note that the Total Waters of the United States are presented in acres and, therefore, the Non-Wetland Waters (number of ponds) are not included in this total.

2.3.4 Alternative 4—Greater Conservation

As with Alternative 2, this alternative consists of issuance of ITPs by USFWS, NMFS, and CDFW; approval and execution of the Implementing Agreement (IA) for the BRCP; and implementation of the BRCP by the Permit Applicants, although the BRCP would differ as described below. The Greater Conservation Alternative would increase the target amount of certain natural community types to be conserved under the conservation strategy. This alternative would maintain the same Plan Area, covered species, covered activities, and conservation measures as the BRCP, but would modify the proposed conservation strategy to increase conservation of two land cover types: grasslands and rice. The increase in these land cover types, as compared to the BRCP, is expected to provide additional habitat and protection expected to exceed the needs of certain covered species (e.g., Swainson’s hawk, white-tailed kite, and giant garter snake). This alternative would increase grasslands conserved by 9,850 acres (an approximately 20% increase) and increase rice conservation by 35,310 acres (an approximately 90% increase) as compared to the proposed action. The Greater Conservation Alternative would result in approximately 51,955 and up to 78,140 total acres of grasslands and rice conservation, respectively. Table 2-13 below identifies the projected acreages for natural community acquisition targets for this alternative and the proposed action.

Table 2-13. Natural Community Acquisition Targets (Greater Conservation Alternative acres/Proposed Action acres)

Natural Community and Land Cover Type	Total Existing in Plan Area	Conservation Acquisition Zone (CAZ) Protection Targets						Total Protection Target
		Sierra Foothills	Cascade Foothills	Northern Orchards	Southern Orchards	Basin	Sacramento River	
Grassland								
Grassland	68,124	15,745/ 10,260	12,515/ 8,150	1,565	430	300	0	30,555/ 20,705
Grassland with vernal swale complex	34,110	4,820	14,960	990	0	630	0	21,400/ 21,400
<i>Subtotal</i>	102,234	20,565/ 15,080	27,475/ 23,110	2,555	430	930	0	51,955/ 42,105
Agricultural Lands								
Rice	120,316	0	0	0–2,050/ 1,865	0–1,230/ 0	0–74,655/ 35,920	0–205/ 205	0–78,140/ 37,990
Irrigated pasture and irrigated cropland	21,572	2,370/ 1,240	0	2,120/ 1,160	4,270/ 2,440	0/0	0	8,760/ 4,840
<i>Subtotal (acreage)</i>	141,889	2,370/ 1,240	0	2,120–4,170/ 3,025	4,270–5,500/ 2,440	0–74,655/ 35,920	0–205/ 205	8,760–86,900/ 42,830

Note: Only one number is shown when it is the same for both alternatives.

2.4 References

Butte County Association of Governments. 2015. *Butte Regional Conservation Plan: Balancing Growth and Conservation*. February. Chico, CA. Prepared by Science Applications International Corporation (SAIC), Sacramento, CA.