

This chapter discusses common terminology used in this EIS/EIR, its organization, the approach taken to define existing conditions and analyze the effects of the permits and action alternatives. Resource discussions in Chapters 4 through 15 focus on those topical areas that have the potential to be significantly affected by the proposed action or action alternatives.

### 3.1 Application of NEPA and CEQA Principles and Terminology

As described in Chapters 1 and 2, NEPA and CEQA require preparation of an environmental analysis to evaluate the potential environmental effects of proposed actions (and alternatives to those actions) that are subject to governmental approval. While many concepts are common to NEPA and CEQA, there are several differences between the two in terminology, procedures, environmental document content, and substantive mandates to protect the environment. For this EIS/EIR, the more rigorous of the two laws was applied in cases in which NEPA and CEQA differ. Table 3-1 compares NEPA and CEQA terminology.

**Table 3-1. Correlated NEPA and CEQA Terminology**

NEPA Term	CEQA Term
Environmental Impact Statement	Environmental Impact Report
Notice of Intent	Notice of Preparation
EPA Filing/Federal Register Notice and Agency/ Public Review (also known as a Notice of Availability)	Notice of Completion/Notice of Availability
Record of Decision	Notice of Determination/Findings/Statement of Overriding Considerations
Cooperating Agency	Responsible Agency
Purpose and Need; Objectives and Constraints	Project Objectives
Proposed Action and Alternatives	Proposed Project and Alternatives
No Action Alternative	No Project Alternative
Environmental Consequences	Environmental Impacts
Affected Environment	Environmental Setting
Although none are specified in NEPA, CEQ regulations require an EIS to identify the direct and indirect effects “and their significance” (40 CFR 1502.16)	Threshold of Significance/Significant Impacts

## 3.2 Resource Topics Considered

Resource considerations in this EIS/EIR were derived from the CEQ regulations for implementing NEPA, Appendix G of the State CEQA Guidelines, and input received from the public during the scoping period. Based on this information, BCAG and USFWS have determined that the proposed action or action alternatives could affect the following resources.

- Chapter 4—Agricultural and Forestry Resources
- Chapter 5—Air Quality and Climate Change
- Chapter 6—Biological Resources
- Chapter 7—Cultural Resources
- Chapter 8—Geology, Soils, and Mineral Resources, and Paleontological Resources
- Chapter 9—Hydrology, Water Resources, and Water Quality
- Chapter 10—Land Use Planning and Consistency
- Chapter 11—Noise
- Chapter 12—Public Services and Public Utilities
- Chapter 13—Recreation, Open Space, and Visual Resources
- Chapter 14—Population and Housing, Socioeconomics, and Environmental Justice
- Chapter 15—Transportation

## 3.3 Resource Chapter Organization and NEPA/CEQA Requirements

Each resource chapter of this EIS/EIR describes the affected environment (existing conditions), explains the methodology and significance criteria considered, and discusses the environmental impacts and mitigation measures. Specifically, Chapters 4 through 15 are organized into three primary sections: Affected Environment, Environmental Consequences, and Cumulative Impacts, as shown below.

- Affected Environment
  - Regulatory Setting
  - Environmental Setting
- Environmental Consequences
  - Methods for Impact Analysis
  - Significance Criteria
  - Impacts and Mitigation
  - Cumulative Impacts

CEQA and NEPA allow incorporation by reference of existing documents used to prepare each resource chapter. This EIS/EIR incorporates by reference information or analysis from several existing plans and supporting environmental documents that were developed concurrently with the BRCP planning process. As stipulated in the State CEQA Guidelines 15150(c), where an EIR uses incorporation by reference, the incorporated part of the referenced document shall be briefly summarized or described. Similar requirements are provided by NEPA (40 CFR 1502.21). The existing plans and supporting environmental documents that are incorporated by reference are listed below. In addition, the impacts and mitigation measures identified in the Local Agencies' general plan EIRs are compiled in Appendix C.

- The *Butte County General Plan 2030* (County General Plan 2030) was adopted in 2010 by the Butte County Board of Supervisors. The County GP 2030 was developed in a manner that anticipates the approval and implementation of the BRCP and its incorporation into the general plan's Conservation and Open Space Element. The County GP 2030 is a comprehensive update of the Butte County General Plan. This includes the Land Use Element, Housing Element, Economic Development Element, Agricultural Element, Water Resources Element, Circulation Element, Conservation and Open Space Element, Health and Safety Element, Public Facilities and Services Element, and the Area and Neighborhood Plans Element (Butte County 2012a).
- The *Butte County General Plan 2030 Final EIR* (County General Plan EIR) was certified in October, 2010, by the Butte County Board of Supervisors (SCH No. 2008092062) (Butte County 2010).
- The *Final Supplemental EIR* (SEIR) for a proposed general plan amendment (GPA) to the County GP 2030 and a zoning ordinance update was released in September 2012 (Butte County 2012b).
- The *City of Oroville's 2030 General Plan* was adopted in June 2009 by the Oroville City Council (City of Oroville 2009a). The plan provides the fundamental basis for the City's land use, development, and conservation policy, and represents the basic community values, ideals, and aspirations that will govern the city's growth through 2030 (CEQANet 2013a). This general plan addresses all aspects of development, including: land use, community character, circulation and transportation, open space, natural resources and conservation, public facilities and services, safety, and noise (CEQANet 2013a).
- The *City of Oroville's 2030 Final EIR* was adopted in June 2009 by the Oroville City Council (SCH No. 2008022024) (City of Oroville 2009b).
- The *City of Chico 2030 General Plan* was adopted in April 2011 by the Chico City Council (City of Chico 2011a). The plan is a comprehensive update of the existing 1994 General Plan (CEQANet 2013b). The 2030 General Plan includes the seven state-required elements of a general plan (Land Use, Transportation, Housing, Open Space, Noise, Safety, and Conservation), as well as the following additional elements: Sustainability, Downtown, Community Design, Parks, Public Facilities and Services, Cultural Resources/Historic Preservation, and Economic Development (CEQANet 2013b).
- The *City of Chico 2030 General Plan Final EIR* was adopted in April 2011 by the Chico City Council (SCH No. 2008122038) (City of Chico 2011b).
- The *City of Gridley 2030 General Plan* was adopted in January 2010 by the Gridley City Council (City of Gridley 2010). Full implementation of the general plan could result in: the construction of up to 3,850 to 4,700 housing units; additional population growth of up to 9,000 to 12,000 people; addition of up to 1 to 1.3 million square feet of commercial building space; addition of up to 3.2 to 4 million square feet of building space for industrial, light industrial, and agricultural processing

uses; parks; schools; open space for conservation, buffering and drainage, and recreation; and other land uses (CEQANet 2013c).

- The *City of Gridley 2030 General Plan Final EIR* was adopted in January 2010 by the Gridley City Council (SCH No. 2008072007) (City of Gridley 2009).
- The *City of Biggs 2030 General Plan* was finalized in March 2014. Each general plan element contains a brief discussion of the legal requirements; goals, policies, and actions to address required topics; and narrative text, as necessary, to provide understanding of the issues addressed. Goals state an ideal resolution of the issue under consideration. The plan has four main purposes: (1) to enable the Biggs Planning Commission and City Council to reach agreement on long-range development policies, (2) to provide a basis for judging whether specific private development proposals and public projects are in harmony with City policies, (3) to allow other public agencies and private developers to design projects that are consistent with City policies or to seek changes in those policies through the process of amending the General Plan, and (4) to provide an agreement between the City and outside agencies for development in unincorporated portions of the planning area (City of Biggs 2014a; CEQANet 2013d).
- The *City of Biggs General Plan Draft EIR* was released in October 2013 (SHC No. 2012072025) (CEQANet 2013d). The final EIR was published in March 2014 (City of Biggs 2014b).

A BRCP biological constraints map was used to inform the general plan updates and to develop alternatives that avoided and minimized impacts of general plan actions on sensitive habitats supporting covered species. These preferred alternatives were incorporated into the BRCP covered activities.

### 3.3.1 Affected Environment

The affected environment section in Chapters 4 through 15 establishes the baseline for that resource. Under CEQA, the baseline for assessing significance of impacts of the proposed or alternative actions is normally the environmental setting, or existing conditions, at the time an NOP is issued (State CEQA Guidelines Section 15125[a]). The word *normally* in this context indicates that CEQA lead agencies have the discretion, where appropriate, to fully or partially update baseline conditions beyond the time of issuance of the NOP up until the time of project approval. The baseline is developed to assess the significance of impacts of the proposed or alternative actions in relation to the existing conditions at the time of the NOP. Neither NEPA nor the CEQ Regulations for implementing NEPA contain a specific directive for using a baseline for determining an action's significant effects on the quality of the human environment. However, the alternatives should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options for the decision maker and the public (40 CFR 1502.14). Therefore, the point of measurement for determining impacts under NEPA for the proposed action and action alternatives is the same as the CEQA baseline.

For the purposes of this EIS/EIR, one baseline is used, and the assumptions include facilities and ongoing programs that existed as of January 9, 2013 (publication date of the most recent NOP and NOI to prepare this EIS/EIR) that could affect or could be affected by implementation of the proposed action or alternatives.

The No Action Alternative differs from the baseline in that, as described in Chapter 2, *Proposed Action and Alternatives*, the No Action Alternative assumes continuation of existing plans, policies, and

operations, meaning, for instance, that all general plans would be fully implemented as described in the EIRs for those plans incorporated by reference in this EIS/EIR. 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.

## Regulatory Setting

The regulatory setting section in Chapters 4 through 15 describes the laws, regulations, and policies that affect the resource or the assessment of impacts on the specific resource. The section establishes the regulatory framework for the analysis of each resource. Regulations that apply to all resource topics, including the ESA, NCCPA, NEPA, and CEQA, are described in Chapters 1 and 2.

## Environmental Setting

The environmental setting section in Chapters 4 through 15 characterizes the existing physical environment for the specific resource and describes historic changes and trends affecting it. Existing information is used, when available, to describe baseline for each resource. Where possible, this information is supplemented through site-specific assessment(s). In addition, this section may define resource-specific study areas that are within the overall Plan Area.

### 3.3.2 Environmental Consequences

#### Methods for Impact Analysis

Chapters 4 through 15 each include a description of the resource-specific methodology used to identify and assess the potential environmental impacts that would result from implementation of the proposed action or alternative actions.

#### Significance Criteria

The significance criteria section in Chapters 4 through 15 describes thresholds of significance and other criteria to determine the significance of impacts. The thresholds and criteria for determining the significance of impacts for this analysis are based on the Environmental Checklist in Appendix G of the State CEQA Guidelines and other resource-specific sources as described in each chapter. The thresholds and criteria derived from the checklist have been modified as appropriate to meet the circumstances of the alternatives (Cal. Code Regs., tit. 23, Section 3777, subd. [a][2]).

#### Impacts and Mitigation

##### Impact Analysis and Determination

Chapters 4 through 15 each include an evaluation of the direct and reasonably foreseeable indirect impacts associated with implementation of the proposed action or action alternatives. Under NEPA, the purpose of an EIS is to describe and disclose the impacts of the alternatives. Under CEQA, however, the significance of the impact needs to be described. A significant impact on the environment is defined as a substantial, or potentially substantial, adverse change in the environment (PRC Section 21068). Therefore, to facilitate both CEQA and NEPA reviews, the

Environmental Consequences sections in Chapters 4 through 15 document and describe potential resource-specific impacts, including a threshold of significance (to satisfy CEQA), mitigation that would reduce significant impacts, and a statement of each impact's significance before and after mitigation. The potential impact findings used in this document are defined below.

- **No Impact.** This impact would cause no discernible change in the environment as measured by the applicable significance criteria; therefore, no mitigation would be required.
- **Less than Significant.** This impact would cause no substantial adverse change in the environment as measured by the applicable significance criteria; therefore, no mitigation would be required.
- **Significant.** This impact would cause a substantial adverse change in the physical conditions of the environment. Impacts determined to be significant based on the applicable significance criteria fall into two categories: (1) those impacts for which there is feasible mitigation available that would avoid or reduce the environmental impacts to less-than-significant levels, and (2) those impacts for which there is either no feasible mitigation available or for which, even with implementation of feasible mitigation measures, there would remain a significant impact on the environment. Those impacts that cannot be reduced to a less-than-significant level by mitigation are identified as significant and unavoidable.
- **Significant and Unavoidable.** This impact would cause a substantial adverse change in the environment and cannot be avoided or mitigated to a less-than-significant level if the proposed action is implemented. Even if the impact finding is still considered significant with the application of mitigation, the applicant is obligated to incorporate all feasible measures to reduce the severity of the impact.

Throughout this EIS/EIR, impacts are identified as *temporary* or *permanent* direct effects. These terms apply differently to different resources and are defined, where relevant, in each individual resource chapter. In some cases, impacts are treated as direct and permanent even though the impact mechanism would end following construction. For example, impacts on terrestrial biological resources that would end following construction activities are nonetheless treated as direct and permanent impacts for the purposes of impact analysis. Such a definition represents a conservative characterization of the impact. For other resources, however, such as noise, when construction ceases, so do related impacts associated with construction. In these cases, impacts are characterized as direct and temporary.

Impacts are also characterized as *indirect*. Indirect impacts are a secondary consequence of activities that may occur later in time or are farther removed in distance from the direct effects of the activities.

Chapter 16, *Other NEPA and CEQA Required Analyses*, addresses significant irreversible and irretrievable changes, short-term uses versus long-term productivity, selection of the environmentally superior/preferable alternatives, and a summary of significant and unavoidable impacts under CEQA.

## Mitigation Measures

Specific measures are proposed in this EIS/EIR, when necessary, to avoid, reduce, minimize, or compensate for adverse environmental effects of the proposed action or action alternatives. The term *mitigation* is described for each resource and designates measures required to reduce residual environmental impacts after considering the application of all conservation measures and avoidance

and minimization measures included in the BRCP. Because future development under the Local Agencies' general plans is a component of the covered activities, the indirect effects of each covered activity are assessed using the EIRs for those general plans. As described above, the Local Agencies' general plan EIRs are incorporated by reference in this document, including mitigation measures identified in the general plan EIRs to reduce impacts identified in those EIRs. These mitigation measures are expected to apply to all covered activities unless otherwise noted. Activities performed by Caltrans or the water and irrigation districts would not be subject to the general plan EIR mitigation measures.

Mitigation is also presented to meet CEQA's specific requirement that, whenever possible, agency decision makers adopt feasible mitigation to reduce a project's significant impacts to a less-than-significant level. Although NEPA does not impose a similar procedural obligation on federal agencies as CEQA requires, the practice to adopt feasible mitigation whenever possible to reduce a project's significant impact, is consistent with NEPA's intent that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.

Mitigation measures included in this EIS/EIR are considered to be potentially feasible by the authors of the document; however, the ultimate determination of feasibility can be made only by agency decision makers. This EIS/EIR addresses whether mitigation presented would reduce an impact to a less-than-significant level, based on the thresholds of significance presented in each resource chapter.

## Cumulative Impacts

Under CEQA, cumulative impacts are "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (State CEQA Guidelines Section 15355; Public Res. Code Section 21083[b]). CEQ's regulations for implementing NEPA define a cumulative effect as

the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or nonfederal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. (40 CFR Section 1508.7.)

The focus of the cumulative impacts section for each resource in this EIS/EIR is whether the proposed action's incremental contribution to any significant cumulative impact is cumulatively considerable and, thus, significant in and of itself (State CEQA Guidelines Section 15065[a][3]).

For this EIS/EIR, cumulative impacts were identified based on: (1) information extracted from existing environmental documents or studies for the resource categories potentially affected by each project, (2) investigation of future project plans by other state and federal agencies and private entities, and (3) knowledge of expected effects of similar projects (State CEQA Guidelines Section 15130, subd. [a][1]).

## Past and Present Actions in the Plan Area

The description of the affected environment in Chapters 4 through 15 is a product of past and ongoing actions that have shaped environmental conditions in the region. This section provides a brief summary of these past and ongoing actions that have contributed to (and continue to contribute to) cumulative impacts. Because some ongoing actions are covered activities under the proposed

action, only reasonably foreseeable future actions not included as part of the proposed action are described below.

### **Agriculture and Urban Development**

Land conversion in the Plan Area includes the conversion of natural lands to farmland, the subsequent conversion of farmland to urban and rural residential uses, and the direct conversion of natural lands to urban and rural residential uses. Land conversion can also include conversion of farmland back into natural lands, although this is less common. Rice production dominates the southwestern section of the Plan Area. To the north, rice production ceases, and orchards become the dominant land cover type.

Agricultural lands in the Central Valley represent an altered landscape that retains little resemblance to the historical (pre-European settlement) condition. Formerly consisting of extensive wetlands, open grasslands, broad riparian systems, and oak woodlands, the conversion to agriculture has removed most of these native habitats. However, while generally supporting a less diverse community of wildlife compared with most native habitats, some agricultural systems, if managed properly, can continue to support abundant wildlife and provide essential breeding, foraging, and roosting habitat for many resident and migrant wildlife species. The development of orchards and row crops has reduced or eliminated habitat for many species (especially plant species) whose habitat requirements are not compatible with these agricultural landscapes. In addition, the land disturbances associated with farming have contributed to sedimentation of waterways, and use of fertilizers and pesticides (including rodenticides) also have contributed to water pollution and may have contributed (directly and indirectly) to species mortality.

Although farming has resulted in adverse effects on natural conditions in the Central Valley, farmland and cropland is used as habitat for various species. These species include giant garter snake (rice and agricultural ditches), western pond turtle (agricultural ditches and canals), Swainson's hawk (foraging in hay, grain, and row crops), burrowing owl (various agricultural types with ground squirrel burrows), white-tailed kite (foraging in hay and grain), and tricolored black-bird (foraging in hay and grain). Similarly, grazing has altered habitat conditions for many species and has contributed to water pollution, but appropriately managed grazing and rangeland can be compatible with the habitat needs of these species and several vernal pool species. Farming and grazing are expected to continue in and around portions of the Plan Area currently used for agriculture. Farmlands are subject to continuing shifts in crop types depending on various factors, including local, national, and global economic conditions. Shifts in farmland uses are not proposed as covered activities but are reasonably expected to occur in the future. It is not possible, however, to predict how crops may change over the 50-year permit term.

A substantial amount of farmland and grazing land in the Plan Area has been converted to urban development and rural residential development over the past several decades. This has resulted in a further decrease in habitat because the habitat conditions provided by farmlands and grazing lands have been lost. Urbanization affected plants and wildlife through nitrogen deposition, erosion and sedimentation, pollution of waterways, and disruption of movement habitat linkages.

### **Infrastructure Development and Operation**

Agricultural and urban development in the Plan Area has been accompanied by the development of infrastructure to support these land uses. Some of the major infrastructure development activities and general effects on species and their habitats are described below.

- **Water Supply Development.** There are numerous surface water diversions in the Plan Area from the major rivers and creeks, such as the Sacramento and Feather Rivers. The majority of the surface water supply used by Butte County residents and businesses originates in the Feather River watershed and is stored in Lake Oroville as part of the State Water Project (SWP). Surface water diversions serve approximately 69% of the county's water needs; the remainder is supplemented by groundwater. Approximately 75% of the county's residential water supply is extracted from groundwater (Butte County 2010). Past and present projects have also transferred water out of the county. For example, both the Butte County-Westside Districts Multi-Year State Water Project Table A Water Transfer (NorthStar Environmental 2012) and the Butte Water District 2012 Water Transfer Program (Butte Water District 2012) committed to transfer a certain amount of either surface water or groundwater out of Butte County to other counties and water purveyors in California. It is anticipated these types of water transfers would continue in the future.

There are several major dams within and upstream of the Plan Area that allow for storage of upstream runoff for release during the summer season in and downstream of the Plan Area. These include Paradise Dam and Oroville Dam on the Feather River, both outside of the Plan Area to the east, and Thermalito Diversion Dam, also on the Feather River, within the Plan Area. The offstream reservoirs, Thermalito Forebay, and Thermalito Afterbay serve hydroelectric power needs and agricultural irrigation and recreation purposes, respectively. Operations of Lake Oroville and Oroville Dam dictate flows on the Lower Feather River. Prior to the development of the Oroville Dam, the County negotiated with the State of California to receive an allocation of water for growth and future needs within the county as a SWP contractor. These types of water supply projects completely blocked upstream passage of anadromous Central Valley spring-run Chinook salmon, Central Valley fall-run Chinook salmon, and California Central Valley steelhead, causing these runs to be completely altered. These hydropower projects also substantially changed flows and temperatures in waterways, such as the Feather River, downstream of the dams. The hydrologic changes altered the geomorphology of the river such that natural recruitment of wood and gravels was severely altered, creating poor quality riparian habitat conditions downstream of the dams. Over the past 15 years, concerted efforts to restore Butte Creek for listed salmonids have included the removal of many dams and water diversions along the length of Butte Creek in an effort to restore fish passage for CV spring-run Chinook salmon and CCV steelhead. These improvements have reduced juvenile entrainment and restored flows to areas where fish passage was an issue.

- **Restoration Projects.** Several restoration programs, such as the CalFed Ecosystem Restoration Program, have worked to restore habitat along Central Valley rivers. The multiple goals and actions of this program support the recovery of at-risk native species and other species. These types of restoration projects involve the rehabilitation of natural processes related to hydrology, stream channels, sediment, floodplains, and ecosystem water quality and develop habitat management and restoration actions, including restoration of river corridors, reconstruction of channel floodplain interaction, and restoration of aquatic habitat.
- **Flood Control Projects.** The levee system and most of the larger dams provide flood protection for farmlands in Sacramento Valley communities. Extensive work has been undertaken to bolster flood protection for urban areas, which require a higher level of protection than agricultural areas. Past and present flood control projects within the Plan Area include the following.
  - **Central Valley Flood Protection Act (2009).** DWR prepared the Central Valley Flood Protection Plan (CVFPP), which was adopted in June 2012. The CVFPP provides a

comprehensive framework for system-wide flood management and flood-risk reduction in the Central Valley. The CVFPA also establishes a new standard of 200-year flood protection for urban areas in the Central Valley and requires this standard to be achieved by 2025.

- **Sacramento River Flood Control System Evaluation.** USACE and the State of California, along with local partners, completed a comprehensive evaluation of the Sacramento River Flood Control Program and initiated a flood-risk management program aimed at repairing, raising, and strengthening urban levees, among other activities. This effort, known as the Sacramento River Flood Control System Evaluation (commonly referred to as System Evaluation) resulted in the repair of more than 70 miles of deficient levees by USACE. To date, not all the authorized repairs have been completed, but efforts are continuing.
- **Sacramento–San Joaquin Rivers Comprehensive Study.** The State of California and USACE formulated comprehensive plans for flood-risk reduction and environmental restoration following the 1997 flood. The study did result in a new set of engineering criteria for the design and evaluation of urban levees and a greatly expanded scope and cost for the ongoing urban levee improvement efforts on the Sacramento and American Rivers. The Central Valley Integrated Flood Management Study (CVIFMS) is a continuation of the Sacramento–San Joaquin Rivers Comprehensive Study in which USACE and the State are defining a long-range program for the Sacramento and San Joaquin River Basins and the corresponding level of federal participation. This program will identify opportunities to reduce flood risk by improving the flood capacity of the system while restoring and protecting floodplain and environmental features, including wetlands and other fish and wildlife habitat.
- **Sacramento River Bank Protection Project.** USACE is responsible for implementation of the Sacramento River Bank Protection Project (SRBPP) in conjunction with its nonfederal partner, Central Valley Flood Protection Bureau (CVFPB). The SRBPP is a continuing construction project to provide existing levee and flood control facilities with protection from erosion. To date, work has been carried out in two phases to protect over 800,000 feet of levees.
- **Sutter Basin Project.** The Sutter Basin Project, part of which is included in the Plan Area, is undergoing a feasibility study by USACE (U.S. Army Corps of Engineers 2011), Sacramento District, to determine federal interest in implementing a flood-risk management (FRM) project. The feasibility study will evaluate structural and nonstructural FRM measures, including improvements to existing levees; construction of new levees; and other storage, conveyance, and nonstructural options.

These projects generally have degraded instream and nearby wetland and riparian communities in the Plan Area but may also have provided additional water in reservoirs to maintain instream flows in the summer. Efforts have been underway to upgrade flood control systems while restoring natural stream channels to the extent possible along the Sacramento and Feather Rivers.

### **Park Acquisition and Management**

A substantial amount of land preservation has occurred along with the urbanization of the Plan Area. In addition to urban parks within the planning limits of urban growth, notable regional park areas and other protected lands are as follows.

- John Bechtel Trust

- Bidwell Park
- Sacramento River National Wildlife Refuge
- Vina Plains Preserve
- Sacramento River Wildlife Area
- Rancho Llano Seco
- Rancho Esquon
- Dove Ridge
- Table Mountain
- Highway 149 Mitigation Lands
- Oroville Wildlife Area
- Gray Lodge Waterfowl Management Area
- Upper Butte Wildlife Area

These parks and wildlife refuges preserve habitat in the Plan Area and benefit many covered species.

### **Reasonably Foreseeable Projects in the Plan Area**

Reasonably foreseeable projects in the Plan Area that could affect covered species would be new projects not considered part of the proposed action or action alternatives. Existing ongoing operations or maintenance of facilities in the Plan Area by agencies not participating in BRCP would continue as is and would be considered part of the baseline. The following general categories of projects are considered new and, therefore, are considered reasonably foreseeable projects to be addressed in the analysis of cumulative projects for each relevant resource topic.

- Construction and operation of new flood control facilities on the Sacramento River under the control of USACE that may be developed as a result of the flood programs discussed above (e.g., Sacramento River Bank Protection Project [U.S. Army Corps of Engineers 2009], Sacramento River Flood Control System Evaluation (U.S. Army Corps of Engineers 2012), Sutter Basin Project [U.S. Army Corps of Engineers 2011]) or new programs, such as the Feather River West Levee Project (Sutter Butte Flood Control Agency 2013), which would install flood-risk reduction measures along the west levee of the Feather River (e.g., building berms and putting in slurry walls to reduce and minimize under and through seepage).
- Construction and operation of new flood control facilities on the Feather River under control of DWR (e.g., activities under the Central Valley Flood Protection Act, including the specific conservation strategies and actions [California Department of Water Resources 2012]).
- Operations of new water control facilities for water conveyance or flood management under the control or responsibility of USACE, including in-channel construction and operation of new water diversion facilities.
- Operations of new water control facilities for water conveyance or flood management under the control or responsibility of DWR, including in-channel construction and operation of new water diversion facilities.

- Emergency activities not defined as “changed circumstances” by the BRCP (Butte County Association of Governments 2015).
- Ongoing agricultural land conversions (e.g., conversion of cropland to orchard).
- Water transfers by various water districts within the county to water purveyors in other California counties.

The following specific projects are considered new and therefore are considered reasonably foreseeable projects to be addressed in the resource-specific cumulative project analysis.

- **FERC relicense to reoperate Oroville hydroelectric facilities.** The ongoing effort of DWR to relicense the Oroville Dam operations includes a BO from USFWS and NMFS issued in 2013 (California Department of Water Resources 2008).
- **Yuba Sutter HCP/NCCP.** This HCP/NCCP provides for the conservation and management of covered state and federal species within approximately 470,000 acres in Yuba and Sutter Counties. The parties involved include the County of Yuba, County of Sutter, Yuba City, City of Live Oak, City of Wheatland, CDFW, and USFWS. Although a draft document is not currently available, a Planning Agreement was drafted and signed by the parties in November 2011 (California Department of Fish and Game 2011).

### Methods for Determining Cumulative Effects

Each resource chapter contains an analysis of the cumulative effects specific to that resource that would potentially result due to implementation of the proposed action or action alternatives. Potential cumulative effects associated with implementation of the proposed action or action alternatives are analyzed both quantitatively and qualitatively in this EIS/EIR. In many cases, the resource-specific cumulative analysis is primarily qualitative and considers the contribution of the proposed action or action alternatives to other programs, projects, and policies. As provided for under CEQA (14 CCR 15130[b]) and consistent with NEPA (40 CFR 1508.7), the analysis of cumulative impacts is evaluated at a level of detail sufficient for the Lead Agencies to use as a reasonable basis for decision making in selecting between the alternatives.

## 3.4 Approach to Analyzing Alternatives Considered

As required by CEQA and NEPA, a no action alternative must be described and evaluated in an EIS/EIR. Additionally, the proposed action alternative must be described and evaluated. The general approach to analyzing each of these alternatives in Chapters 4 through 15 of this EIS/EIR is discussed below.

### 3.4.1 Alternative 1—No Action (No Plan Implementation)

The No Action Alternative (Alternative 1) analysis in each resource chapter evaluates the expected changes to the resource in the absence of the proposed action. This analysis generally follows a 50-year study period to correspond with the permit term under the proposed action. As described in Chapter 2, *Proposed Action and Alternatives*, Alternative 1 encompasses most of the same activities that would be covered activities under the proposed action. However, Alternative 1 analysis would consider biological resources differently, as outlined below.

- Biological resource impacts would be considered only for projects with discretionary action by one of the Local Agencies or with a potential to adversely affect listed species (i.e., would require consultation with USFWS, NMFS, and/or CDFW).
- Biological resource impacts would be considered on a project-by-project basis, with no regional framework for impact avoidance and minimization.
- Biological resource mitigation would be considered on a project-by-project basis, with various types of mitigation measures, developed independently for each project, including compensatory mitigation in offsite areas. There would be no regional framework for conservation of covered species or natural communities or preservation of habitat linkages.

Alternative 1 includes reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance included in the various planning documents of the Local Agencies. The general plan EIRs analyzed these activities, and Alternative 1 includes these analyses by incorporating by reference and carries these conclusions forward. Any mitigation included in these EIRs is incorporated by reference into the Alternative 1 analysis. In addition, typical best management practices (BMPs) used during construction by Caltrans are also incorporated in Alternative 1, as these would occur whether or not the BRCP were to be approved. The BMPs are summarized in Appendix D. The land use changes associated with these activities would have various effects on each of the resources considered in this EIS/EIR, including direct and indirect effects, temporary effects associated with construction, and long-term effects of operation and maintenance. Conclusions about the significance of these impacts are based on the extent of the expected land use changes and the adequacy of the regulatory framework (e.g., local regulations and requirements) to provide effective mitigation.

### 3.4.2 Alternative 2—Proposed Action Alternative

The proposed action (Alternative 2) adds a regional framework for biological resource impact avoidance, minimization, and mitigation, and natural community conservation. This is provided by the BRCP and implemented as a result of wildlife agencies issuing permit(s). The impact analysis of Alternative 2 focuses on how permit issuance could affect a resource differently than Alternative 1. The analysis was based on the following.

- The BRCP conservation strategy would apply to all covered activities.
- All covered activities would be implemented using the avoidance and minimization measures summarized in Chapter 2, Section 2.3.2, *Alternative 2—Proposed Action*, of this EIS/EIR.
- Alternative 2 would include the acquisition and enhancement of a large, connected conservation lands system, with coordinated management for the benefit of the covered species. This system would have a substantially larger footprint (126,345 acres of land targeted for protection) compared to the (unquantified) system of independent mitigation sites under Alternative 1.
- Acquisition and enhancement of the conservation lands system would be dispersed throughout the Plan Area but would be directed toward the CAZs shown in Figure 2-1.
- Activities on the conservation lands system would be consistent with the conservation measures described in the conservation strategy.

Unless affected by implementation of the proposed BRCP, impacts of Alternative 1 would also occur under Alternative 2. This is because Alternative 1 encompasses the same urbanization and

infrastructure development activities that are identified as covered activities under Alternative 2. Therefore, the analysis in the BRCP addresses most of the reasonably foreseeable activities in the Plan Area associated with urbanization and associated infrastructure development, operation, and maintenance as performed by the designated Permit Applicants and uses the analysis in the general plan EIRs accordingly. The analysis of Alternative 2 also describes how the general concepts identified in the conservation strategy for biological resource mitigation could affect each of the individual resources considered since the conservation strategy is part of Alternative 2. Thus, the analysis of the BRCP focuses on the consequences of issuing the ITPs. The BRCP is based on extensive consultation with the Permit Applicants and wildlife agencies resulting in a detailed database of activities that allows for a quantitative analysis of anticipated changes in land uses as a result of activities under Alternative 1 (i.e., covered activities under the BRCP) and the conservation strategy of the BRCP. The land use changes associated with these activities would have various effects on each of the resources considered in the BRCP and this EIS/EIR, including direct and indirect effects, temporary effects associated with construction, and long-term effects of operation and maintenance. Conclusions about the significance of these impacts are based on the extent of the expected land use changes and the adequacy of the regulatory framework (e.g., local regulations and requirements) to provide effective mitigation.

### 3.4.3 Alternatives 3 and 4—Other Action Alternatives

The other action alternatives (Alternatives 3 and 4) would consist of modifications to the regional framework for biological resource impact avoidance, minimization, and mitigation and for natural community conservation through various measures, as described in Chapter 2, *Proposed Action and Alternatives*. Alternatives 3 and 4 would likely result in wildlife agencies issuing permit(s), similar to the proposed action. Therefore, the impact analysis of Alternatives 3 and 4 focuses on how permit issuance could affect a resource. The land use changes associated with activities described in Chapter 2 for these alternatives would have various effects on each of the resources considered in the BRCP and this EIS/EIR, including direct and indirect effects, temporary effects associated with construction, and long-term effects of operation and maintenance. Conclusions about the significance of these impacts are based on the extent of the expected land use changes and the adequacy of the existing regulatory framework to provide effective mitigation.

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