

Supplemental Program Environmental Impact Report

FINAL



Final

Supplemental Program Environmental Impact Report

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Prologue

This document is the Final Supplemental Program Environmental Impact Report (Final SPEIR) for the 2017 Central Valley Flood Protection Plan Update (2017 CVFPP Update). This Final SPEIR incorporates changes and corrections to the Draft SPEIR in response to comments (see Appendix B, Comments and Responses).

1.0 Introduction

The California Department of Water Resources (DWR) prepared the Central Valley Flood Protection Plan (CVFPP) (DWR, 2012a) to reflect a systemwide approach to improve integrated flood management in lands protected by the State Plan of Flood Control (SPFC). In accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.), DWR, acting as Lead Agency, prepared a Program Environmental Impact Report (PEIR) that evaluated potential impacts on the physical environment associated with a broad range of flood protection actions included in the CVFPP (DWR, 2012b). The CVFPP was adopted and the PEIR was certified on June 29, 2012.

Primary authorization for the CVFPP originates in Senate Bill 5 (SB 5), also known as the Central Valley Flood Protection Act of 2008 (Act). The Act requires an update of the CVFPP every 5 years. To this end, DWR prepared the Draft 2017 CVFPP Update to describe proposed refinements to the adopted CVFPP (DWR, 2016a). In accordance with CEQA and the CEQA Guidelines (Title 14 of the California Code of Regulations [CCRs], Division 6, Chapter 3, Sections 15000–15387), DWR prepared this Supplemental PEIR for the 2017 CVFPP Update. This Supplemental PEIR focuses its analysis (per CEQA Guidelines Sections 15162 and 15163) on how the 2017 CVFPP Update could result in new, significant impacts or a substantial increase in the severity of a significant impact, if there is substantially important new information relating to the CVFPP or its environmental effects, or if there are substantial changes with respect to the circumstances under which the project is undertaken. Similar to the PEIR, the impact analysis in this Supplemental PEIR takes a broad, programmatic approach to defining significant impacts and feasible mitigation measures. Implementation actions resulting from the adopted CVFPP and the 2017 CVFPP Update would require project-level environmental review and documentation for CEQA compliance.

1.1 CVFPP Background

As stated in the CVFPP and PEIR, the Central Valley has experienced some of California's largest and most damaging floods, and is currently vulnerable to catastrophic floods, including risk to life and property and to the State's financial stability. The Central Valley's existing flood management system has been incrementally developed through numerous individual projects

over the last 150 years, and includes dams and reservoirs, levees, channels, weirs, bypasses, flood easements, flood warning systems, and other features that provide varying levels of flood protection. This system protects public safety, has prevented billions of dollars in flood damages in the Central Valley, and supports a vibrant California economy through its multiple benefits (DWR, 2012b).

Although the Central Valley flood management system has prevented billions of dollars in flood damages since its construction, substantial improvements are required so that the system meets modern needs. In addition, societal values and expectations for the flood management system have changed over time and many challenges need to be overcome to provide a more sustainable flood system into the 21st century. Section 1.1 of the Draft 2017 CVFPP Update describes the historical setting and context of the Central Valley flood management system.

In 2008, DWR embarked on the Central Valley Flood Management Planning (CVFMP) Program, a long-term planning effort to improve integrated flood management in the Central Valley and carry out direction from the California Legislature. Several documents, including the adopted CVFPP, were prepared under the CVFMP Program to collectively meet requirements of the Act and related flood legislation passed in 2007.¹ The adopted CVFPP describes the State Systemwide Investment Approach (SSIA) for sustainable, integrated flood management in areas protected by SPFC facilities. The Draft 2017 CVFPP Update includes refinements to the SSIA that were identified through ongoing flood management planning and coordination with federal and local partners to improve flood protection in the Central Valley (DWR, 2016a).

1.2 Development of the 2017 CVFPP Update

CVFPP implementation progress has been steady, but more work remains to be done to further the vision for flood management established in 2012. In addition to on-the-ground implementation progress achieved so far, interagency collaboration has begun to address flood management policy issues highlighted in 2012, and the CVFPP planning process has advanced significantly to refine the SSIA and needed flood management improvements. Guided by the Act and necessary alignment with statewide plans, this process reflects a greater emphasis on comprehensive, multi-benefit actions that can achieve lasting and measurable outcomes rather than incremental, single-purpose flood management investments.

The 2017 CVFPP Update planning process brought together many stakeholders and flood management-related efforts in the Central Valley to converge on a common, outcome-driven vision that guides State investments. Some efforts focused on rigorous technical analysis to refine a broad array of management actions consistent with the adopted plan, while others addressed the need for more effective implementation, such as developing an Investment Strategy for identifying funding needs and mechanisms (DWR, 2016a). Development of the 2017 CVFPP Update was supported through planning efforts, including the following:

- **Draft Sacramento River and San Joaquin River Basin-Wide Feasibility Studies.** These two Basin-Wide Feasibility Studies (BWFSS) were completed to refine the scale and location

¹ Section 1.1.1 of the PEIR includes additional details on the legislative basis for the CVFPP.

of system improvements identified in the CVFPP, identify system improvements that can be further developed in ongoing or new federal cost-share feasibility studies, and inform the 2017 CVFPP Update (DWR, 2016b, 2017).

- **Regional Flood Management Plans.** DWR funded six regionally led Regional Flood Management Plans (RFMPs) that describe local and regional flood management priorities, challenges, and potential funding mechanisms, along with site-specific improvement needs. These plans provide valuable perspectives from regional and local flood managers that help inform and align CVFPP investment strategies and implementation (Feather River Regional Partners, 2014; FloodProtect, 2014; Mid and Upper Sacramento River Flood Management Plan Partners, 2014; Reclamation District 2092, 2014; San Joaquin Area Flood Control Agency, 2014; San Joaquin River Flood Control Project Agency, 2015).
- **Draft Central Valley Flood System Conservation Strategy.** The Conservation Strategy supported development of the 2017 CVFPP Update by guiding the integration and improvement of ecosystem functions associated with flood-risk-reduction actions, and providing the basis for recommending conservation actions for the SPFC (DWR, 2016d).
- **Draft CVFPP Climate Change Analyses.** Using the latest climate science and understanding, these analyses identify and evaluate potential future climatic and sea level rise changes in the Central Valley. The climate change analyses inform quantitative estimates of plan performance of the CVFPP over time and provide flood management system managers with important information on potential effects of climate change.
- **State Plan of Flood Control Descriptive Document Update.** The 2010 State Plan of Flood Control Descriptive Document was the first inventory of the SPFC compiled in a single report (DWR, 2011b). In 2016, it was updated (DWR, 2016e).
- **Flood System Status Report Update.** The Flood System Status Report Update (DWR, 2016f) describes the current status (physical condition) of SPFC facilities as of 2016 at a systemwide level as an update to the Flood Control System Status Report developed in 2011 (DWR, 2011a).

1.3 Geographic Scope of CVFPP

As described in the CVFPP and PEIR, the CVFPP study area encompasses much of the Central Valley of California (DWR, 2012a, 2012b). CVFPP Figure 1-9 shows the CVFPP geographic scope, and PEIR Section 1.3.1 describes the CVFPP planning areas, which include:

- **SPFC Planning Area**—This area encompasses lands currently receiving protection from the SPFC.
- **Systemwide Planning Area (SPA)**—This area includes lands subject to flooding under the current facilities and operation of the Sacramento-San Joaquin River Flood Management System, including lands with facilities that provide substantial systemwide benefits or that protect urban areas in the Sacramento-San Joaquin Valley. The SPFC Planning Area is

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completely contained within the SPA. The SPA also includes lands with facilities that are not part of the SPFC, including federal and local reservoirs that have allocated flood storage.

These planning areas are illustrated on PEIR Figure 1-1. The 2017 CVFPP Update does not change these planning areas.

PEIR Section 1.3. describes the environmental impact assessment study area, which is divided into three regions for describing the environmental setting and potential environmental effects of implementing the CVFPP (DWR, 2012b). These three regions are shown on PEIR Figure 1-2 and described as follows:

1. **Systemwide Planning Area Plus 2-Mile Buffer and Suisun Extension (Extended SPA).** The Extended SPA generally includes a 2-mile-wide buffer around the SPA to provide the environmental context for direct and indirect impacts on areas adjacent to the SPA. Because of topographical and land use considerations, the buffer is 1 mile wide in urban areas and does not extend beyond the adjacent ridgeline along foothill waterways. The buffer is wider than 2 miles in the Suisun Marsh area so that the Extended SPA completely encompasses the hydrologically influenced areas. The Extended SPA is divided into two subregions:
 - a. Sacramento and San Joaquin Valley and Foothills—This area of the Extended SPA consists of the Sacramento and San Joaquin valleys and the surrounding foothills along several major waterways. Most of the management actions would be implemented in this area.
 - b. Delta and Suisun Marsh—This area encompasses the Sacramento–San Joaquin Delta (Delta) and portions of Suisun Marsh where upstream management actions may affect water flows or quality. At Suisun Marsh, the boundary is at the western end of Montezuma Slough.
2. **Sacramento and San Joaquin Valley Watersheds.** The Sacramento and San Joaquin Valley watersheds are the portions of the watershed upstream from the Extended SPA that may be affected by the management actions employed in these watersheds. The PEIR discusses these watersheds in less detail than the Extended SPA.
3. **Southern California/Coastal Service Areas of the Central Valley Project (CVP) and State Water Project (SWP) (SoCal/CVP/SWP service areas).** The SoCal/ CVP/SWP service areas consist of those portions of the CVP/SWP service areas that are not in the Extended SPA. These CVFP/SWP service areas are located primarily in Southern California and the Central Coast areas, and include CVP/SWP service areas in the Tulare Lake Basin. The PEIR discusses the service areas in less detail than the Extended SPA and Sacramento and San Joaquin Valley watersheds.

Because the CVFPP planning areas are the same, the Supplemental PEIR does not change the environmental impact assessment study area.

1.4 Public Participation in the CEQA Process

A notice of preparation (NOP) was prepared to begin the 2017 CVFPP Update Supplemental PEIR scoping process. The NOP was publicly released on March 18, 2016, to solicit guidance regarding the scope and content of the environmental information to be included in the Supplemental PEIR. An Environmental Checklist, which was prepared to provide an initial analysis of the refinements associated with the 2017 CVFPP Update (as it existed at that time), circulated with the NOP.

A public scoping meeting was held on April 8, 2016. DWR received written comments from the public and a variety of agencies before the scoping period ended on April 18, 2016. Responses to comments were provided in a Scoping Report (DWR, 2016g), which was made available for review in July 2016.

The Draft Supplemental PEIR was circulated for public and agency review, coinciding with review of the Draft 2017 CVFPP Update, on December 30, 2016. DWR made the Draft Supplemental PEIR widely available for review and comment by: (1) making copies available at several libraries, information repositories, and DWR offices in Sacramento and Red Bluff; (2) posting a copy on DWR's Web site; (3) mailing copies of the Draft Supplemental PEIR and CDs containing the document to all persons who requested such copies; (4) filing a Notice of Completion with the State Clearinghouse; (5) publishing a Notice of Availability (NOA) of the Draft Supplemental PEIR on December 30, 2016 in the Sacramento Bee; and (6) submitting the NOA to all 47 counties within the study area for posting on December 30, 2016.

DWR held public hearings in Marysville on February 9, in Merced on February 16, in Sacramento on February 24, in Woodland on March 9, and in Stockton on March 17 to receive verbal comments on the Draft Supplemental PEIR. The public review and comment period concluded on March 31, 2017.

Three people provided comments on the Draft Supplemental PEIR at the public hearings. In addition, 22 letters and e-mails were received during the public comment period, including letters from several federal, State, and local agencies and from two Native American tribes. Responses to public agency comments will be made available 10 days prior to certification, pursuant to CEQA Guidelines Section 15088(b).

1.5 Roles of Other Entities

The CVFPP is focused on managing flood risk in areas protected by the SPFC, a State-federal flood protection system that encompasses most of the Central Valley. The Central Valley Flood Protection Board (Board) has the responsibility and authority necessary to oversee future modifications to the SPFC, including approval or removal of encroachments within flood management projects, floodplains, floodways, and drainage areas of the Sacramento and San Joaquin rivers, and their tributaries and distributaries. As such, the Board is a CEQA Responsible Agency and will use this Supplemental PEIR as part of its decision-making processes associated with the 2017 CVFPP Update. The Board will consider adopting the 2017 CVFPP Update in August 2017.

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State actions are preempted by obligations to the U.S. Army Corps of Engineers (USACE) pursuant to various requirements, including assurance agreements, operations and maintenance (O&M) manuals, and the federal Rivers and Harbors Act. Modifications, additions, or deletions to an existing federal flood management project requires federal participation and approval by the USACE. At a minimum, this participation includes review of environmental and related compliance documentation sufficient to meet requirements contained in the National Environmental Policy Act (NEPA) and other federal laws and regulations.

DWR is continuing to work closely with USACE in developing the federal Central Valley Integrated Flood Management Study (CVIFMS). CVIFMS is a watershed study to evaluate flood management improvements in the Sacramento River Basin from a federal perspective, and to provide a framework for authorization and implementation of flood risk reduction projects in the Central Valley. The Draft CVIFMS Watershed Plan was completed in November 2015, and it states that it is a companion document to the CVFPP (USACE, 2015). The Draft CVIFMS supports future partnership between USACE, DWR, the Board, and other stakeholders on water resources studies that include flood risk management, ecosystem restoration, and water supply in the Sacramento River Watershed.

DWR coordinated with USACE on the two State-led BWFSs – the Sacramento River BWFS and the San Joaquin River BWFS. A benefit of these State-led studies is the ability to inform any subsequent State-federal feasibility studies. Similarly, DWR funded regionally led efforts in developing the six RFMPs.² As described above, the RFMPs supported development of the 2017 CVFPP Update including investment needs and priorities.

Specific actions contemplated in the CVFPP have been refined based on ongoing USACE studies and potential projects identified by the Sacramento River and San Joaquin River BWFSs, and these refinements are included in the 2017 CVFPP Update. Improving the flood system requires a coordinated partnership of federal, State, and local agencies. DWR will continue its tradition of working closely with federal and local partners to improve flood protection in the Central Valley.

1.6 Uses of the PEIR and the Supplemental PEIR

When it was certified in 2012, the primary use of the PEIR was to inform DWR, the Board, maintaining agencies, and the public about the program-level environmental effects of implementing the CVFPP. The Supplemental PEIR serves to further inform these agencies and the public about potential changes to these program-level environmental effects associated with the refinements made to the adopted CVFPP as part of the 2017 CVFPP Update. These agencies will be able to rely on the PEIR and Supplemental PEIR for future planning and feasibility studies pertinent to implementation of the SSIA. In addition, cities and counties located in the Sacramento and San Joaquin valleys will be able to rely on the PEIR and Supplemental PEIR for guidance when amending general plans and zoning ordinances.

² Maintaining agencies are cities, counties, districts, or other political subdivisions of the state that are authorized to maintain levees. DWR maintains levees pursuant to California Water Code (CWC) Sections 8361 and 12878, but is not considered a local maintaining agency.

To the extent changes are required, an updated program-level mitigation monitoring and reporting program will accompany the final Supplemental PEIR.

1.7 Supplemental PEIR Organization

This Supplemental PEIR is organized as follows:

- **Chapter 1.0, “Introduction,”** summarizes the background of the CVFPP and 2017 CVFPP Update and relevant legislation, development of the CVFPP and 2017 CVFPP Update, the geographic scope of the CVFPP and CVFPP Update, public participation in the CEQA process, the roles of other entities, the uses of the PEIR and Supplemental PEIR, and the organization of this Supplemental PEIR.
- **Chapter 2.0, “Program Description,”** summarizes the purpose and objectives of the CVFPP; explains the development, characteristics, and key components of the refinements proposed in the 2017 CVFPP Update; discusses the management actions that make up the CVFPP and 2017 CVFPP Update; describes how the 2017 CVFPP Update would be implemented; describes how there would be no near- or long-term reduction in water or renewable energy supplies; and identifies typical construction methods.
- **Chapter 3.0, “Environmental Setting, Impacts, and Mitigation Measures,”** describes the resources that could be affected by implementing refinements included in the 2017 CVFPP Update. It provides supplemental information specific to environmental and regulatory settings, environmental impacts, and mitigation measures.
- **Chapter 4.0, “Cumulative Impacts,”** provides updated information regarding the effects of the 2017 CVFPP Update in combination with the effects of other past, present, and reasonably foreseeable future projects.
- **Chapter 5.0, “References,”** provides a bibliography of the sources cited in this Supplemental PEIR.
- **Chapter 6.0, “List of Preparers,”** lists the individuals who helped to prepare this Supplemental PEIR, and identifies the qualifications and affiliations of those individuals.
- **Chapter 7.0, “Abbreviations and Acronyms,”** lists the acronyms and abbreviations used in this PEIR.

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2.0 Program Description

The 2017 CVFPP Update refines the SSIA described in the CVFPP. The SSIA approved in the CVFPP, as modified by the 2017 CVFPP Update, is the program evaluated in this Supplemental PEIR. The program is described in detail in the public draft of the 2017 CVFPP Update. The description in this chapter is a summary of the SSIA's principal features that are relevant to the environmental analysis, with an emphasis on the refinements to the program evaluated in the PEIR. For a more comprehensive description of the program, please refer to the Draft 2017 CVFPP Update (DWR, 2016a).

2.1 Purpose and Objectives

The SSIA identified in the CVFPP and refined in the 2017 CVFPP Update has been identified by DWR to accomplish the primary goal, supporting goals, and statutory objectives of the CVFPP. These goals and objectives are unchanged from those reported in the PEIR Section 2.1 (DWR, 2012b).

2.2 Program Development

As described in the PEIR, the CVFPP was founded on over 100 years of planning and flood system improvement efforts in the Central Valley (DWR, 2012b). For the first time, the CVFPP compiled and elaborated on those efforts in a unified public document reflecting considerable public input and the requirements established by the California Legislature in SB 5.

The CVFPP was prepared in accordance with the requirements of SB 5 and adopted by the Board on June 29, 2012 (DWR, 2012a). Like the CVFPP, the 2017 CVFPP Update was prepared in accordance with the requirements of the Act. The Board is expected to adopt this update by in 2017, after considering public review comments. As the first of a series of 5-year updates, the 2017 CVFPP Update (and future updates) documents implementation progress and informs updates to the policies, programs, and funding mechanisms that make up the plan (DWR, 2016a). Each update cycle offers an opportunity to reprioritize investments in the flood system. The CVFPP has a 30-year planning horizon and is updated on a 5-year basis, with each update looking ahead 30 years.

The CVFPP laid the foundation necessary to formulate a comprehensive and forward-looking approach to flood risk management in the Central Valley. The CVFPP:

- Defined CVFPP goals based on legislated and codified requirements
- Initiated essential studies and engagement activities to establish a direction for detailed, long-term planning

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- Provided an extensive history of Central Valley flood management and the SPFC
- Established the SSIA
- Served as the foundation for all future CVFPP planning and updates (DWR, 2012a)

CVFPP updates build upon the initial plan (and subsequent updates) by focusing on and incorporating the following from the previous 5 years:

- Significant new developments, including external events, policies, or other drivers affecting the CVFPP
- Stakeholder input, study results, and planning refinements
- Accomplishments and implementation progress

CVFPP updates will repeat key concepts from 2012 (and subsequent updates) where necessary for planning context, continuity, and convenience. Otherwise, readers are encouraged to continue using and referring to the original CVFPP throughout the life of this long-term planning effort.

The 2017 CVFPP Update was prepared in close coordination with State, federal, and regional partners, and was guided by a robust, multi-year stakeholder engagement process. As a result, the 2017 CVFPP Update reflects input and ideas that helped refine and update the SSIA originally described in the CVFPP, and presents a diverse set of multi-benefit solutions to improve flood management in the Central Valley. DWR worked closely with the Board throughout the public engagement process to link communication activities and dialogue to the State's outcome-based planning approach. Since 2012, the Board has convened regular meetings that were open to the public and widely attended by representatives of State, federal, and local agencies; environmental organizations; and agricultural stakeholders. Ongoing discussions with resource and regulatory agencies; regional and local flood management entities; elected officials; members of the agricultural, environmental, and business communities; and other interested individuals have yielded important insights about flood management needs, challenges, and opportunities across the Sacramento and San Joaquin river basins. Many of these issues are reflected in the 2017 CVFPP Update recommendations, while others will continue to be discussed among stakeholders and policymakers as the CVFPP is implemented and refined in future plan updates.

The 2017 CVFPP Update also aligns with recent statewide plans. As described in Section 1.2.1 of the Draft 2017 CVFPP Update (DWR, 2016a), these plans include:

- The California Water Action Plan issued by the Governor in 2014 and updated in 2016 (California Natural Resources Agency, et al., 2016).
- The California Water Plan Update (2013a) by DWR, with progress under way for the 2018 update.
- California's Flood Future: Recommendations for Managing the State's Flood Risk by DWR (2013b), which articulates the State's higher-level priorities in flood management statewide.

Key implications of the CVFPP are listed in the PEIR, Section 2.2.2, and are unchanged (DWR, 2012b).

As with the PEIR, this Supplemental PEIR focuses on those management actions with the potential to result in environmental effects. Generally, those actions involve the construction, modification, operations, or maintenance of physical facilities. Actions that result in administrative changes are not considered, as they do not have the potential to result in environmental effects.

2.3 Characteristics and Key Components of the Proposed Program

2.3.1 Urban Flood Protection

The CVFPP includes a program to protect existing urban areas (with populations greater than 10,000) to achieve at least an urban level of flood protection (protection against a 0.5 percent chance event, or 200-year level of protection [LOP]). An urban level of flood protection could include a demonstration of adequate progress; imposed conditions; or nonstructural or structural improvements, such as levees or floodwalls that meet DWR's Urban Levee Design Criteria (DWR, 2012c). In-place fixes could involve raising levees by adding earthen material or constructing floodwalls, or strengthening levees to enhance their integrity. Although urban flood protection projects are generally expected to consist of in-place fixes, the CVFPP also states that levee setbacks could be considered for projects in urban areas based on the level of adjacent development and the potential benefits.

Urban flood protection is also included in the 2017 CVFPP Update (DWR, 2016a). Specific actions contemplated in the CVFPP have been refined to reflect updates from studies such as the BWFSs and RFMPs. The current portfolio of possible actions, including refinements, is discussed in Section 2.4.

2.3.2 Small-Communities Flood Protection

The CVFPP includes a program to reduce flood risk in existing small communities (with populations less than 10,000), where feasible, and at a level of investment to preserve development opportunities without providing an urban level of flood protection. Additional State investment in small-community flood protection would be prioritized based on relative community flood-threat, considering factors such as population, the likelihood of flooding, proximity to the flooding source, and depth of flooding. Financial feasibility and achievement of the program objectives to promote multiple benefits would also be considered. The CVFPP identifies several structural and nonstructural actions that the State would consider implementing to protect small communities, including:

- Protecting small communities in-place using ring levees, training levees, or floodwalls when improvements do not exceed a certain predetermined cost threshold.
- Reconstructing or making improvements to adjacent SPFC levees.
- Implementing nonstructural improvements, such as raising or elevating structures, flood proofing, land or easement purchases, relocating structures, or some combination of these when the in-place improvements described are not feasible.

Small-community flood protection is also included in the 2017 CVFPP Update (DWR, 2016a). Specific actions contemplated in the CVFPP have been refined to reflect updates from the BWFSs and RFMPs. The current portfolio of possible actions, including refinements, are discussed in Section 2.4.

2.3.3 Rural-Agricultural Area Flood Protection

The CVFPP indicates that levee improvements for rural-agricultural areas would not be as extensive as those for urban areas and small communities, reflecting the lower levels of development. In general, the State would consider the following options to protect rural-agricultural areas against floods:

- Repairs to SPFC levees in rural-agricultural areas would focus on maintaining the levee crown elevation and providing all-weather access roads to facilitate inspection and flood fighting.
- Levee improvements, including setbacks, may be used to resolve known performance problems (such as erosion, boils, slumps and slides, and cracks) on a prioritized basis, where justified. Projects would be evaluated that repair or reconstruct rural SPFC levees to address identified threat factors, particularly in combination with small-community protection, where economically feasible.
- Agricultural and conservation easements that preserve agriculture and prevent urban development in current agricultural areas may be purchased, when consistent with local land use plans.

Because federal engineering and design standards may result in cost-prohibitive levee repairs for many rural-agricultural areas, the State will work with rural-agricultural communities to develop applicable repair standards. The State will also evaluate what level of investments to make to preserve rural-agricultural activities that discourage incompatible development and encourage the wise use of floodplains.

The 2017 CVFPP Update also includes measures to improve flood management in rural-agricultural areas (DWR, 2016a), with additional information identified through the BWFSs and RFMPs. The current portfolio of possible actions is discussed in Section 2.4.

2.3.4 System Improvements

The CVFPP proposes system improvements, defined as physical actions or improvements with the potential to benefit large portions of the flood management system and improve the overall function and performance of the SPFC in managing large floods that affect urban, small community, and rural-agricultural areas. An important category of system improvement projects is bypass capacity expansion, which includes modifications to weirs, bypass systems, hydraulic structures, and easements. Bypass capacity could be increased by modifying existing weirs and bypasses.

Weirs could be modified in any of several ways, depending on their configuration, operation, and desired effect: by raising, lowering, lengthening, or automating the weir or by changing the weir sill elevation. For example, a weir crest could be raised to prevent flows from entering a storage area too early in a flood event, thereby reserving storage space for the peak of the storm. As an

alternative, weirs could be lengthened to pass more flow into a bypass at the same stage, or lowered to divert flow at lower stages. Other modifications could include removing sediment or debris to improve the intended performance of a weir. Weir modifications could also be designed to provide opportunities to restore ecosystem functions and continuity or habitats on a systemwide level, and improve safety.

The capacity of existing bypasses could be increased by widening or expanding the footprint of a bypass or, in some locations, by raising its levees or berms. Existing flow control weirs that direct flood flows might need to be reconstructed, re-operated, or both, in conjunction with bypass modifications. Increasing the capacity of certain bypasses could provide opportunities to enhance habitat, recreation and public education, and agriculture.

Flood system conveyance capacity could be increased by constructing new bypasses. However, because the existing flood management system already features several large and effective bypass systems, new bypasses would likely be constructed at a smaller scale. New bypasses could be constructed to redirect damaging flood flows away from existing channels or facilities that currently lack sufficient conveyance capacity.

Weirs and other control structures could be rehabilitated with hydraulic structure upgrades. This includes rehabilitating weirs and other control structures (removing sediment that has deposited), or automating existing weirs.

System improvement projects also may include groundwater recharge and reservoir reoperation projects.

System improvements would be implemented and maintained consistent with the Conservation Strategy and the Vegetation Management Strategy (see Sections 2.3.6 and 2.3.7).

The CVFPP states that the ultimate configuration of system improvement projects would be known only after future feasibility studies have explored the potential magnitude and extent of hydraulic improvements within the system (DWR, 2012a). Since 2012, DWR has completed the Sacramento River and San Joaquin River BWFSs and recommended several system improvement projects for detailed study (DWR, 2016b, 2017). These refined system improvements, which are identified in the 2017 CVFPP Update (DWR, 2016a), are described in Section 2.4.

2.3.5 Non-State Plan of Flood Control Levees

The CVFPP identifies approximately 420 miles of private, non-SPFC levees that are closely associated with SPFC levees. Of these, approximately 120 miles work in conjunction with SPFC levees to provide protection to urban areas (DWR, 2012a). Non-SPFC levees are those (1) that abut SPFC levees, (2) whose performance may affect the performance of SPFC levees, or (3) that provide flood risk reduction benefits to areas also being protected by SPFC features. The State recognizes that for an urban area protected jointly by both SPFC and non-SPFC levees, the legislated requirement for an urban level of flood protection (200-year or 0.5 percent annual-chance flood) requires that both types of facilities be improved.

The CVFPP (DWR, 2012a) and the 2017 CVFPP Update (DWR, 2016a) do not specify any projects on non-SPFC levees, but recognize that achieving an urban level of flood protection in some areas will require projects on both SPFC and non-SPFC levees. The CVFPP identifies the State's right to invest in these levees if studies demonstrate a systemwide benefit or otherwise determine that they should be part of the SPFC.

2.3.6 Integrating Ecosystem Restoration Opportunities with Flood Risk Reduction Projects

The CVFPP includes opportunities for integrating ecosystem restoration with flood risk reduction projects. These opportunities were based on and consistent with the Conservation Framework (DWR, 2012a). The Conservation Framework identified opportunities for integrated flood management projects that, in addition to improving public safety, can enhance riparian habitats, provide connectivity of habitats, restore riparian corridors, improve fish passage, and reconnect the river and floodplains. The Conservation Framework also stated that it was the first phase of more comprehensive and integrated planning within the flood management system, which would lead to a more defined Conservation Strategy. DWR has developed the Conservation Strategy (DWR, 2016d) as a refinement to the Conservation Framework. Recognizing that the rivers and bypass channels, levees, and water control structures included in the SPFC do more than just convey floodwaters, the Conservation Strategy presents guidance, data, and tools to facilitate multi-benefit planning while improving flood protection throughout the Central Valley. It supports the CVFPP's goals and focuses on the integration and improvement of ecosystem functions within SPFC facilities, where feasible. The Conservation Strategy also provides goals and measurable objectives for monitoring and evaluating progress of conservation efforts within the SPFC. As a guidance document, the Conservation Strategy does not establish a regulatory process.

As guidance, the Conservation Strategy provides measurable objectives that represent contributions to solving ecosystem problems (in particular to recovery of native species), and that may be achievable through implementation of multi-benefit projects and O&M during the SSIA's 30-year time frame. In conjunction with 5-year updates to the CVFPP, these objectives would be reevaluated and revised as necessary, based on improvements to scientific understanding and further evaluation of opportunities for multi-benefit flood projects (DWR, 2016d).

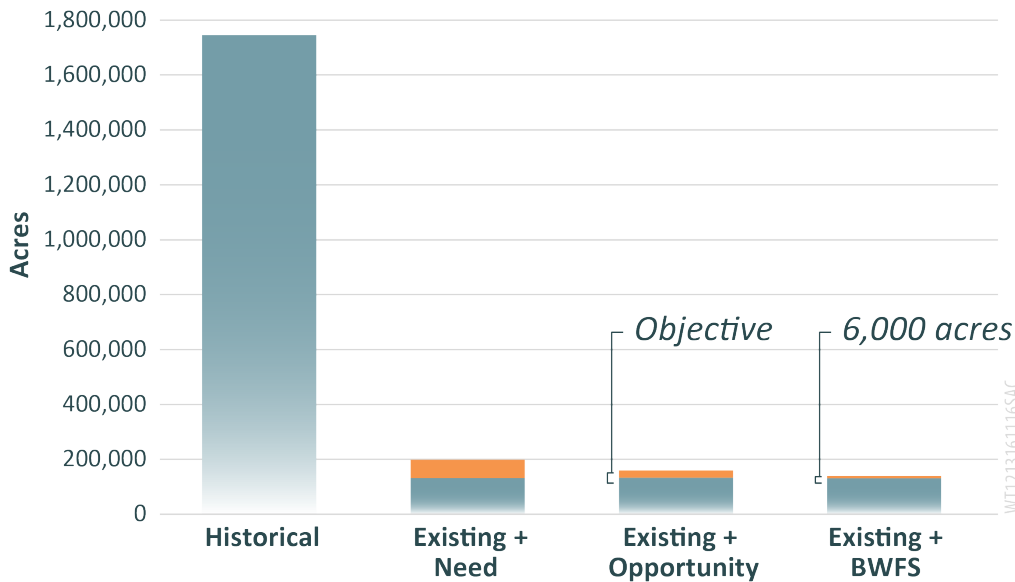
Objectives consist of one or more metrics (i.e., specific, measurable attributes, such as the acreage of riparian vegetation), and for each metric an amount of change (i.e., a magnitude of ecosystem enhancement) is identified. This evaluation of conservation needs and opportunities was conducted with input and review from a technical advisory workgroup comprised of resource agency and stakeholder representatives, reviewing best available science. Conservation Strategy Appendix L, "Measurable Objectives Development: Summary of Conservation Needs and Scale of Restoration Opportunities," documents the evaluation (DWR, 2016d).

In summary, measurable objectives were developed from an analysis of historical and existing conditions, as well as the best available conservation and species recovery planning science to estimate conservation needs. Measurable objectives were further refined based on identified opportunities (multi-purpose projects) for the SPFC to positively contribute toward these conservation needs in the form of objectives. Because measurable objectives represent only the SPFC's potential contribution to conservation needs, conservation needs tend to be larger than the

objective. It is anticipated that other conservation partners will also contribute toward meeting conservation needs and future collaborative planning efforts at the regional and State levels will continue to identify local and regional scale opportunities and estimate potential contributions to support future CVFPP updates. It is important to note that if the conservation need is actually identified as smaller than the known opportunities, the objective is set to the lesser of the two, demonstrating a perspective that conservation actions be formulated in a reasonable manner and in the context of many existing land uses.

DWR used the Conservation Strategy as guidance for formulation of multi-benefit projects proposed in the Sacramento River and San Joaquin River BWFSs. The Supplemental PEIR evaluates the habitat acres proposed in the BWFSs because they are the most current and developed expression of progress toward the measurable objectives. Specifically, the 2017 CVFPP Update and its associated refinements identified ecosystem improvement actions in the Yolo Bypass, Paradise Cut, Firebaugh, and other locations identified in the Sacramento River and San Joaquin River BWFSs that would result in approximately 6,000 acres of new riparian and wetland habitats, 4,700 acres of inundated floodplain habitat, and 5 miles of shaded riverine aquatic (SRA) habitat. These improvements would restore natural processes and support a mosaic of habitat and species (DWR, 2016a). These habitat and ecosystems considerations have been incorporated into the individual management actions described in Section 2.4. The BWFS acreages are less than the opportunities identified in the measurable objectives. In further updates to the CVFPP, other opportunities to meet the measurable objectives may be identified.

Figure 2-1 shows existing riparian and wetland habitat in comparison to a rough estimate of historical conditions; the needs, opportunities, and objectives from the Conservation Strategy (DWR, 2016d); and the expected contributions identified in the BWFSs toward meeting the objectives.



Sources: Conservation Strategy (DWR, 2016d); 2017 CVFPP Update (DWR, 2016a).

Figure 2-1. Riparian and Wetland Habitat

Lastly, a robust and fully funded O&M program is fundamental to the proper function of the SPFC, ensuring public safety and upholding the State's legal assurances to maintain federal flood project features, and enabling the implementation and maintenance of multi-benefit projects. Regulatory demands on the flood system have increased over time, and flood system managers are increasingly being tasked as resource managers with public trust responsibilities in addition to public safety responsibilities. A multi-benefit O&M program at the scale of the SPFC will require cooperation among federal, State, regional, and local partners.

2.3.7 Vegetation Management Strategy

The CVFPP identifies levee vegetation management practices and procedures as an important component of ongoing and proposed flood risk reduction and O&M projects. As indicated in the CVFPP, one priority aspect of the Vegetation Management Strategy (VMS) is to improve public safety by providing for levee integrity, visibility, and accessibility for inspections, maintenance, and floodfighting operations. However, these practices and procedures also must consider the fact that the levees that confine today's river systems in California are holding some of the last remnants of a once great riparian forest ecosystem that dominated the Central Valley. Many of California's fish and wildlife resources, such as Swainson's hawk, yellow-billed cuckoo, and valley elderberry longhorn beetle, evolved in this complex and diverse natural community and are listed as State or federal threatened or endangered species due to the cumulative loss of habitat along riparian corridors (DWR, 2012a).

The PEIR provides a historical account of vegetation management of Central Valley levees, including USACE maintenance manuals and agreements that allowed for trees and other vegetation to be retained on the waterside slope of levees for erosion prevention. The PEIR also details the more recent USACE vegetation policy established in 2009, requiring a zone free of woody vegetation on all levees and the adjoining ground within 15 feet of the levee on both sides. The PEIR describes DWR's objections to USACE's vegetation removal requirements and identifies a levee VMS that was included in the CVFPP. One aspect of the levee VMS involves continuing existing O&M practices to ensure that new trees do not become established on those portions of SPFC levees in a defined vegetation management zone. The vegetation management zone consists of the landside levee slope and a 15-foot strip adjacent to the landside levee toe, the levee crown, and the waterside levee slope in a zone extending 20 feet from the levee crown. Under the levee VMS, existing trees not posing an unacceptable safety hazard are allowed to remain, but will not be replaced upon their deaths. Over time, the life-cycle management component of the VMS would result in the gradual elimination of this large, woody vegetation from the portions of SPFC levees within the vegetation management zone. The waterside levee slope area downslope from the vegetation management zone was defined as lower waterside slope where visibility and accessibility criteria would not apply. Vegetation would experience little to no active management unless individual trees were identified as posing an unacceptable threat to levee integrity.

Since the PEIR, interagency collaboration has continued to address the issues highlighted in the CVFPP related to levee vegetation management. In adopting the CVFPP, the Board directed DWR to further develop the levee VMS into a more comprehensive approach, and further directed that the approach be adaptive and responsive to the results of ongoing and future research regarding vegetation on levees, knowledge gained from levee performance during

high-water events, and the need to conserve critical riparian habitat. DWR prepared an updated levee VMS (Appendix D of the Conservation Strategy [DWR, 2016d]), which includes evaluating the threat level of levee trees and taking appropriate management actions (e.g., trimming, topping, coppicing, and removal).

Many of the approaches described in the levee VMS are already being implemented, while others are under development. The levee VMS also addresses minimizing habitat losses associated with vegetation management, including evaluating strategies implementing riparian forest corridors in the vicinity of existing levees, and considering the potential for limited natural recruitment of native habitat on the waterside of levees. In response, and consistent with PEIR Mitigation Measure BIO-A-2b that references riparian corridor planning, DWR studied the spatial extent of levee vegetation occurring within the vegetation management zone and likely to be lost over the course of VMS implementation, and determined that the VMS is likely to result in the loss of approximately 1,300 acres of riparian habitat across the extent of the SPFC vegetation management zone (see Appendix A).

DWR is further developing and refining levee vegetation management practices by using the research findings that came out of the California Levee Vegetation Research Program (CLVRP). This partnership of policy makers, levee managers, and researchers within federal, State, and local agencies are working together to use the latest research and field expertise to inform levee management policies, improve maintenance practices, and reduce flood risk. A CLVRP work group is developing guidance that will provide DWR's levee maintainers with a structured, science-based process to manage levee vegetation on a risk-prioritized basis. DWR is also engaging with USACE during their legislatively mandated review and refinement of federal levee vegetation policy, striving to achieve compatibility between State and federal policies.

2.3.8 Local Planning Obligations

The CVFPP recognizes that development behind levees is often incompatible with periodic flooding, to the detriment of public safety and floodplain ecosystems, unless special measures, such as elevating or floodproofing buildings, are implemented to limit damages. Therefore, the CVFPP broadly discourages incompatible development and encourages compatible development within floodplains. Beyond these broad policies, the CVFPP does not directly impose local planning obligations. Current law (SB 5) establishes planning and development approval obligations imposed on certain cities and counties in the CVFPP protected area, including requirements for local agencies to amend their general plans and associated zoning ordinances, and to make certain findings before granting entitlements to develop and approve certain building permits. The intent of these general plan and zoning amendments and findings was to help cities and counties better recognize the flood risk and consequences of flooding.

In 2014, DWR published the Addendum to Implementing California Flood Legislation into Local Land Use Planning: A Handbook for Local Communities, and the Guidance on General Plan Amendments for Addressing Flood Risks (DWR, 2014a, 2014b). The purpose of these reports is to provide technical assistance to cities and counties related to their compliance requirements to amend their General Plans and ordinances. DWR continues to provide technical assistance to communities on meeting the Urban Level of Flood Protection government code requirements when requested.

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The planning and development approval obligations identified in the CVFPP (DWR, 2012a) are also included in the 2017 CVFPP Update (DWR, 2016a). This component is essentially unchanged.

2.4 Management Actions

Management actions are building blocks that can be combined in different ways to form systemwide solutions that collectively address program objectives. The management actions included in the CVFPP consist of one or more individual actions that fall within the two categories of near- and long-term management actions. The CVFPP states that additional feasibility studies, design activities, and environmental review would be needed before any of the physical elements of the program could be implemented (DWR, 2012a). To this end, the six RFMPs, the two BWFSs, and the Conservation Strategy have been developed since the CVFPP was adopted in 2012. Together, these efforts inform and refine the potential management actions identified in the 2017 CVFPP Update.

The 2017 CVFPP Update also identifies phased implementation of CVFPP actions and their associated investments over a 30-year planning horizon, and specifies whether potential management actions require a one-time investment or require ongoing, annual investment. Phasing implementation is intended to balance economic risk and reward on Central Valley floodplains and reduce the number of lives lost or injured from flooding. In general, actions are grouped into three, 10-year phasing categories based near-, mid-, and long-term implementation (DWR, 2016a). Future CVFPP updates will refine investment timing as priorities and conditions change during CVFPP implementation.

Consistent with the PEIR, individual management actions evaluated in this Supplemental PEIR are discussed in three categories: conveyance-related actions, storage-related actions, and other actions. The management actions in these categories represent the range of individual strategies that could be used to accomplish the program goals and objectives.

2.4.1 Conveyance-Related Management Actions

The PEIR identifies conveyance-related management actions as actions that could improve or restore the overall flood conveyance capacity of the flood system; and identifies general categories, including in-place levee reconstruction, erosion repairs, floodway widening, and weir and bypass modification (DWR, 2012b). The CVFPP and PEIR identified potential improvements to weirs and bypasses, including improvements to Yolo Bypass and Paradise Cut. Both of these projects have been refined in the BWFS, and are included as potential projects in the 2017 CVFPP Update. These projects and other conveyance-related actions included in the 2017 CVFPP Update are described in this section. In addition to these specific projects, the general categories of conveyance-related management actions described in the PEIR continue to apply.

- The Sacramento River BWFS identified the following features of the Yolo Bypass recommended option (DWR, 2016b):
 - A 1.5-mile expansion of Upper Elkhorn Basin, with a corresponding expansion of Fremont Weir

- A 3,500-foot levee setback along the Lower Elkhorn Basin
- A 1,500-foot expansion of Sacramento Weir and a corresponding 1,500-foot expansion of the Sacramento Bypass
- Measures to extend the useful life of the Cache Creek Settling Basin and address concerns regarding mercury in its sediment
- Levee setbacks (4,000 feet) on the western side of the Willow Slough Bypass north of Willow Slough and south of Interstate (I)-80
- Levee setbacks (5,000 feet) on the western side of the Putah Creek Bypass north of Putah Creek
- A gated weir to tie into the Deep Water Ship Channel
- Degradation of remaining step-levee segments in the lower bypass
- Levee setback south of Reclamation District (RD) 2068 to Rio Vista
- Degradation of portions of the Prospect Island western levee
- Degradation of portions of the Lower Egbert Tract (RD 2084) levees
- Potential participation in flood protection improvements for Rio Vista to address potential hydraulic impacts of Yolo Bypass capacity improvements
- Various fix-in-place levee improvements to ensure 6 feet of freeboard over 1997 110 percent water surface elevations
- The Yolo Bypass improvements include ecosystem opportunities that have been identified in the BWFS and following guidance from the Conservation Strategy:
 - o Inclusion of up to 2,400 acres of marsh in Little Egbert Tract
 - o Ecosystem improvements that include up to 2,408 acres of riparian habitat and up to 1,143 acres of marsh habitat
 - o Inundated floodplain expected annual habitat for a 2-year return interval of up to 3,992 acres
 - o SRA cover increase of up to 1.6 miles
- Levee improvements to fix remaining geotechnical inadequacies for urban areas unaddressed in the future baseline condition, and known critical geotechnical deficiencies for rural and small communities
- The San Joaquin River BWFS recommended option includes the Paradise Cut Bypass Expansion, which would include a combination of a new secondary upstream weir, 4,000 to

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7,000 feet of left bank setback levees on Paradise Cut, downstream levee improvements, as well as base case improvements implemented by the River Islands land development project. As described, the project would remove revetment and restore SRA habitat along the degraded San Joaquin River levee, and restore the southern portion of the current in-channel bar for floodplain rearing habitat. Most of the land within the setback area would be kept in agricultural production. Ecosystem improvements following guidance from the Conservation Strategy would increase riparian and wetland habitat by about 500 acres and would benefit a wide variety of endangered species (DWR, 2017).

The CVFPP does not include a specific recommendation for the Feather River-Sutter Basin bypass system (DWR, 2012a). Similarly, the 2017 CVFPP Update does not identify a preferred option from the range of analyzed Feather River-Sutter Bypass options (DWR, 2016a). It is anticipated that more specific Feather River-Sutter Bypass flood management improvements would not be recommended before 2030, after the Yolo Bypass improvements are implemented.

Section 2.4.3, Other Management Actions, describes other conveyance-related management actions that are included in the urban, small community, and rural programs.

2.4.2 Storage-Related Management Actions

The PEIR states that storage-related management actions are actions that could be implemented by increasing reservoir and floodplain storage capacity, and changing the flood management operations of existing reservoirs (DWR, 2012b). These actions have been further studied in the Sacramento River and San Joaquin River BWFSs (DWR, 2016b, 2017), and are included as potential projects in the 2017 CVFPP Update (DWR, 2016a). This component is essentially unchanged.

Reservoir and Floodplain Storage

Increased flood storage may reduce the need for some types of downstream actions, such as levee improvements, and can offset the hydraulic effects of system improvements on downstream reaches. Additional flood storage can also provide greater flexibility in accommodating future hydrologic changes, including climate change, and provide greater system resiliency (similar to that provided by freeboard on levees) in the face of changing downstream conditions.

Expanding reservoir storage capacity is included in the CVFPP, which referenced one authorized project: the Joint Federal Project for Folsom Dam. This project, which will modify the spillway and slightly raise the dam for emergency flood storage, is under way and is included in the 2017 CVFPP Update.

The CVFPP states that, as part of future feasibility studies, the State may consider partnering with other willing agencies on expanding existing reservoir storage (DWR, 2012a). Similarly, the 2017 CVFPP Update states that DWR may study reservoir storage opportunities, but no specific recommendations are included. Potential operational changes to existing reservoirs are discussed below.

The CVFPP includes floodplain storage projects that would capture flood flows to reduce downstream peak stages, but did not identify any specific projects (DWR, 2012a). Based on the San Joaquin River BWFS (DWR, 2017), two potential projects are included in the 2017 CVFPP

Update. Both would be located along the San Joaquin River in rural Stanislaus County, and have multi-benefit potential, including strong ecosystem benefits, as follows (DWR, 2016a):

- Dos Rios/Hidden Valley Ranch Transitory Storage, which would provide approximately 5.6 TAF of new floodplain storage on approximately 1,000 acres, including 700 acres of riparian and marsh habitat and large recreational benefits.
- Three Amigos Transitory Storage, which would provide approximately 13.4 TAF of new floodplain storage on approximately 1,934 acres, including more than 150 acres of riparian and marsh habitat in the San Joaquin National Wildlife Refuge and large recreational benefits.

The 2017 CVFPP Update also includes potential groundwater recharge opportunities associated with two projects: the Madera Ranch Recharge Project and the Western Madera and Merced County Subsidence Solution (DWR, 2016a).

Reservoir Operations

Reservoir operations play an important role in flood operations in the Central Valley. The CVFPP included two approaches to reservoir reoperation. The Forecast-Coordinated Operations (F-CO) program would coordinate flood releases from the reservoirs located on various tributaries of a major river to manage the use of downstream channel capacity and total available flood storage space in the system. The management process and partnerships formed under the F-CO Program development could provide substantial flood control benefits.

The Forecast-Informed Operations (F-IO) program would involve using improved long-term forecasts of runoff and operating within the parameters of an existing flood control diagram.³ To proactively manage reservoirs by using a more flexible flood control diagram, managers would have to conduct extensive studies of the most feasible diagram, complete environmental documentation for changing reservoir operations, and obtain congressional approval for a new dynamic flood control diagram (DWR, 2012a).

F-CO and F-IO are included in the 2017 CVFPP Update (DWR, 2016a). The San Joaquin River BWFS identified the need for improved operations at multiple storage facilities in the San Joaquin Basin (DWR, 2017):

- F-IO release of 50 to 100 thousand acre-feet (TAF) from Don Pedro Dam on the Tuolumne River prior to a flood event (known as pre-release)
- Increase of the objective release from Don Pedro Dam from 9,000 to 25,000 cubic feet per second (cfs)
- Reservoir management in the Calaveras River Watershed to create approximately 42 TAF of additional storage, which could be achieved by conjunctive use or reservoir reoperation

³ The term Forecast-Based Operations (F-BO) was used in the CVFPP instead of F-IO. The terms are equivalent.

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The Sacramento River BWFS discussed potential benefits provided by a New Bullards Bar Lower Level Outlet (DWR, 2016b).

2.4.3 Other Management Actions

The CVFPP identifies other management actions as actions that do not fall into the conveyance- or storage-related categories described. These other management actions are summarized in this section.

Urban Flood Protection

As described in Section 2.3.1, SB 5 requires existing, large, urban areas to achieve at least a 200-year LOP by 2025 to continue development. The CVFPP states that DWR will evaluate and participate in projects in the following urban areas: Chico, Yuba City/Marysville, Sacramento, Woodland/Davis, Merced, and Stockton. For each of these areas, the CVFPP lists the types of urban flood protection projects under consideration, and also states that DWR may consider participating in projects in other urban areas that are protected by non-SPFC levees (DWR, 2012a).

The 2017 CVFPP Update lists the current feasibility studies and construction projects that are pending or under way in these urban areas. The updated information is based on implementation progress during the last 5 years and the BWFS-recommended actions. The six urban areas listed are carried forward into the 2017 CVFPP Update (DWR, 2016a), and the San Joaquin River BWFS (DWR, 2017) provides additional detail for the following projects:

- **Stockton Improvements.** Floodwalls would be included in the Stockton urban area for a 200-year event that accounts for projected climate change. Closure structures at the mouth of Smith Canal and 14-Mile Slough are also included to prevent Delta backwater flooding.
- **Mormon Channel Bypass.** This element includes a control structure and channel improvements to divert up to 1,200 cfs from the upstream end of the Stockton Diverting Canal to the Mormon Channel to add resiliency against projected climate change by reducing flows in the Stockton Diverting Canal and Old Calaveras River.
- **RD 17 Levee Improvements.** This includes a new levee structure (“cross levee”) within RD 17 and a small setback levee near the Old River and San Joaquin River confluence (River Mile [RM] 52). This option would also include levee raises and geotechnical improvements. The RM 52 multi-benefit setback levee would provide an additional 130 acres of ecosystem habitat.
- **Merced Urban Improvements.** This includes support for a 200-year LOP for the Merced urban area, but does not include specific actions or improvements at this time.

Collectively, the 2017 CVFPP Update refers to these projects as the Urban Portfolio.

Small-Community Flood Protection

As described in Section 2.3.2, the CVFPP includes a program to protect existing small communities; in some cases, sufficient to achieve at least a 100-year LOP. The CVFPP estimates that 15 small communities would receive 100-year flood protection from about 80 miles of levee

improvements or new levee construction. Another five small communities would receive 100-year flood protection, at minimum, through implementation of other urban and system improvements included in the SSIA. Seven small communities would receive flood protection through floodplain management actions, such as flood proofing or raising structures (DWR, 2012a).

The 2017 CVFPP Update includes the continued implementation of programs designed to provide flood protection to small communities (DWR, 2016a). In addition, the San Joaquin River BWFS provides additional detail for one new project (DWR, 2017):

- **Firebaugh Small Community Improvements.** This element would include multi-benefit levee improvements along the San Joaquin River, including fix-in-place levee improvements, levee raises, new levees, and strategic setback levees to provide a 100-year LOP for Firebaugh and the adjacent Eastside Acres development. This element would also provide 623 acres of riparian and marsh habitat and additional recreational benefits, including a recreational trail system consistent with the 2030 Firebaugh General Plan (Collins & Schoettler et al., 2014).

Collectively, the 2017 CVFPP Update refers to these projects as the Small Communities Portfolio.

Rural-Agricultural Area Flood Protection

As described in Section 2.3.2, the CVFPP includes a program to improve protection for rural-agricultural areas and describes the typical categories of projects to support. With regard to SPFC levees, the CVFPP does not include specific projects in rural-agricultural areas (DWR, 2012a). Similarly, the 2017 CVFPP Update focuses on the typical categories of rural capital projects; specifically, levee upgrades, improvements to channels and hydraulic structures, new or upgraded retention and detention basins, deferred maintenance, levee setbacks, small bypass modifications, and floodplain storage projects. In addition, the 2017 CVFPP Update (DWR, 2016a) also includes potential projects described in the BWFS, as follows:

- **RM 60-65 Setback Levee.** The San Joaquin River right bank levees at RM 60-65 have many inadequacies and have performed poorly in historical flood events. An alternative to fix-in-place levee improvements is construction of an approximately 800-acre right bank setback levee to achieve a 50-year LOP and to address known levee seepage, stability, and geometry problems. Land in the setback area would stay in agricultural production but would be inundated more frequently through the purchase of flowage easements.
- **Hydraulic Structure Upgrades.** The San Joaquin River and Chowchilla Canal Bypass control structures would be improved with critical structural rehabilitation to proactively prevent catastrophic failure of these structures during large flood events.
- **Eastside Bypass Subsidence Improvements.** This element includes either levee raises or flowage easements at the Eastside Bypass. Because of uncertainties with future subsidence, future uncertainty with San Joaquin River Restoration Program implementation, and similar costs across the levee raising and flowage easements option, both are included as potential options.

Collectively, the 2017 CVFPP Update refers to these projects as the Rural Portfolio.

Conservation Elements

Consistent with the Conservation Strategy, conservation elements would be integrated into many management actions to improve the sustainability of the flood management system and the ecosystem benefits it provides. Conservation elements would include management actions such as bypass expansions containing habitat, multi-benefit urban and rural-agricultural flood protection projects, fish passage projects, and biotechnical bank protection projects. Examples of integrating conservation elements into SPFC modification projects include designing setback levees to provide environmental benefits, lowering floodway elevations to provide more frequent and sustained inundation of lower floodplain surfaces, modifying floodways to provide greater topographic and hydrologic diversity, developing advanced mitigation programs, incorporating corridor management planning to improve flood management and ecological conditions, and restoring natural river processes.

Bypass expansion could substantially increase the overall area of frequently activated floodplain that would support riparian, SRA, and wetland habitats while also providing a continuous corridor of these habitats. Based on the BWFSs, the 2017 CVFPP Update includes management actions with more than 6,000 acres of new habitats that could be created within the flood management system. This estimate could vary based on many factors including land availability and affordability, and available funding; however, the estimate is considered the best reasonably available forecast for purposes of the analysis in this Supplemental PEIR.⁴

2.5 Implementation of the Proposed Program

Adoption of the 2017 CVFPP Update by the Board would not lead directly to construction of improvements or implementation of other elements of the program. The 2017 CVFPP Update would guide a variety of follow-on studies and planning efforts, environmental reviews, changes to policies and guidance, and other implementation actions (e.g., development of financing strategies and funding sources), some of which are currently in progress. The State's implementation role in these actions varies, and may include leadership in planning and construction, financial assistance, technical support, O&M, and regulation. Based on the information in the 2017 CVFPP Update, it is expected that DWR and the Board would participate in follow-on feasibility studies; that the Board would act within its existing regulatory, planning, and project implementation capacities; and that State agencies would change policies, guidance, or regulations related to flood management as necessary. Other non-State entities may also participate in implementing the program. For example, modifying the SPFC would require participation by USACE, the Board, and local, nonfederal project sponsors (DWR, 2016a).

⁴ The PEIR assumed 10,000 acres of new habitat. The current estimate of 6,000 acres does not include potential new habitat areas in the Feather River-Sutter Bypass system (currently undefined).

2.5.1 Implementation in Accordance with Applicable Laws and Regulations

As stated in the PEIR (DWR, 2012b), implementation of the program would be undertaken in compliance with all applicable laws and regulations, and the adoption and approval of the program is conditioned on such compliance. Numerous State and federal laws, regulations, and executive orders would be considered: CEQA, NEPA, the Fish and Wildlife Coordination Act, the Clean Air and Clean Water acts, the California and federal Endangered Species acts, the National Historic Preservation Act, and other applicable laws and regulations. The specific permits and authorizations that would be required for future projects will vary, depending upon the nature and location of the actions involved.

Possible permits and authorizations required for future projects with implementation of the CVFPP are summarized in the PEIR, Table 2-2 (DWR, 2012b). All items listed in the PEIR's Table 2-2 still apply, and one new administrative requirement has been added since adoption of the PEIR, as follows:

- **Assembly Bill (AB) 52.** AB 52 became effective in July 2015, establishing a meaningful consultation process with California Native American Tribes (both federally and non-federally recognized) and requiring that impacts on tribal cultural resources (TCRs) identified during consultation be addressed during CEQA review. As defined in Public Resources Code Section 21074, a TCR is a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that is either on, or eligible for inclusion in the California Register of Historical Resources; or a local historic register; or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR.

Information on DWR's implementation of AB 52 for the 2017 CVFPP Update can be found in Section 3.2, Cultural and Historic Resources.

2.5.2 Funding Plan for Implementing the Program

As stated in the PEIR (DWR, 2012b), DWR is required to prepare a funding plan for the CVFPP. Based on information known at the time, the PEIR stated that CVFPP implementation would require an investment of \$14 to \$17 billion over 20 years. A mix of federal, State, and local funds would be needed, and funding sources would vary according to the type of project or program, beneficiaries, availability of funds, urgency, and other factors (DWR, 2012b).

Current CVFPP cost information for capital projects and ongoing improvements is discussed in the 2017 CVFPP Update, Section 4. Implementation of the 2017 refined SSIA portfolio of improvements is estimated to cost approximately \$17 to \$21 billion over the next 30 years (DWR, 2016a). Section 4 of the 2017 CVFPP Update also includes information regarding plan funding and implementation.

2.6 No Near- or Long-Term Reduction in Water or Renewable Electricity Deliveries

The CVFPP includes changes to the flood management operations of existing reservoirs, and these changes could result in incidental, indirect effects on the delivery of water, renewable electricity (hydropower), or both (DWR, 2012a). PEIR Section 2.6 states that these effects would most likely be beneficial (DWR, 2012b). In addition, any near-term reductions in the availability of water and renewable electricity are anticipated to be minimal and well within the capacity of the entities receiving these resources to respond to minor supply fluctuations. The SSIA also includes a commitment to no long-term reduction in water deliveries or renewable electricity. For these reasons, the PEIR concluded that no potential existed for a significant impact on water supply deliveries or hydroelectric power production (DWR, 2012b).

The 2017 CVFPP Update does not propose any additional reservoir operational changes over and above what was included in the CVFPP (DWR, 2016a). Refinements as part of the 2017 CVFPP Update process continue to support the determination that changes in water supply and renewable electricity would mostly likely be beneficial, and that any near-term reductions are likely to be minimal. Therefore, the PEIR's conclusions regarding reductions in water and renewable energy deliveries still apply.

2.7 Typical Construction Activities and Methods

Implementation of the SSIA will involve construction activities, which would cause most of the environmental impacts considered in the PEIR. The PEIR includes a general description of typical construction activities (PEIR, Section 2.7), with an understanding that specific construction activities will vary based on the unique characteristics of each individual project (DWR, 2016b). There are no changes to the general construction activities described in the PEIR.

3.0 Environmental Setting, Impacts, and Mitigation Measures

PEIR Chapter 3 describes the existing conditions in the study area, analyzes environmental impacts, and presents mitigation measures for significant and potentially significant impacts. The SSIA refinements included in the 2017 CVFPP Update would not result in new significant impacts or change the severity of impacts previously identified in the PEIR. For this reason, the PEIR analysis adequately covers the 2017 CVFPP Update's SSIA refinements.

For some resources, there is new information that was not known when the PEIR was prepared. The new information and affected resources are:

- New information resulting from the DWR Agricultural Lands Stewardship Working Group. Although no new or greater farmland impacts are identified, the range of farmland mitigation options listed in PEIR Section 3.2, Agricultural and Forestry Resources, should be updated.
- New information documenting both the extent of riparian habitat impacts from the VMS and the extent of expected riparian habitat enhancement, restoration, and creation documented in the BWFSs. This new information should be reflected in the analysis of potential impacts on riparian habitat in PEIR Section 3.5, Biological Resources – Aquatic, and PEIR Section 3.6, Biological Resources – Terrestrial.
- New species information for giant garter snake, yellow-billed cuckoo, and tricolored blackbird. This new information requires updates throughout PEIR Section 3.6, Biological Resources – Terrestrial.
- AB 52 requirements to consider impacts on TCRs and the adoption of DWR's Tribal Engagement Policy (DWR, 2016h). This new information requires updates throughout PEIR Section 3.8, Cultural and Historic Resources.
- Adoption of the Sustainable Groundwater Management Act (SGMA). Although no new or greater groundwater impacts are identified, this new information requires an update to the regulatory setting of PEIR Section 3.11, Groundwater Resources.

A preliminary review of the potential for the 2017 CVFPP Update to require changes to the PEIR was conducted during the scoping phase of the project, as documented in an Environmental Checklist that was circulated for review as part of the NOP process (see Section 1.4, Public Participation in the CEQA Process). The checklist responses reflected what was known about the 2017 CVFPP Update in early 2016. Primarily, these expected updates were based on an assumption that the Conservation Strategy would result in greater impacts on farmland and associated impacts on land uses and socioeconomic conditions. Based on the current draft Conservation Strategy and the habitat features included in the BWFSs, it was determined that the potential adverse impacts are still within the range of impacts evaluated in the PEIR; therefore,

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no updates are needed. In addition, some of the items listed above were not identified in early 2016 as requiring an update to the PEIR but were subsequently determined to be necessary.

As defined in CEQA Guidelines (Title 14 CCR Sections 15162 and 15163), the new information discussed in this chapter is not substantially important and does not result in a new or substantially more severe significant effect. So that the PEIR continues to adequately describe the environmental impacts of the CVFPP (as modified by the 2017 CVFPP Update), minor changes and additions to the PEIR text are needed. The updates in this chapter are presented as errata to the PEIR; additions to the PEIR text are underlined, and deletions are marked in ~~strikeout~~. PEIR text to remain unchanged is presented in light gray text.⁵

Also, for these reasons, no new alternatives have been identified, nor are there other factors that would make the prior alternatives worthy of reconsideration. The analysis updates discussed in this chapter are presented in terms of the SSIA alternative, which was the preferred alternative identified at the conclusion of the PEIR review in 2012.

3.1 Agricultural and Forestry Resources

The following changes are made to PEIR Section 3.3, Agricultural and Forestry Resources.

- Update to the conclusion statement for PEIR Impact AG-1 to reflect a greater range of potential mitigation strategies.

Implementing Mitigation Measures AG-1a (NTMA), AG-1b (NTMA), and AG-1c (NTMA) would substantially lessen significant impacts associated with conversion of agricultural land uses, including lands classified as Important Farmland. In addition, other measures may be available to further lessen the significant impacts; for example, the DWR Agricultural Lands Stewardship Workgroup has developed 36 strategies for farmland impact avoidance, minimization, and mitigation. These measures will be reviewed and considered as appropriate. However, until the case-by-case analysis for each project is complete, it is not possible to conclude that all potentially significant impacts could and would be mitigated. Consequently, Impact AG-1 (NTMA) would be potentially significant and unavoidable.

3.2 Biological Resources – Aquatic

The following changes are made to PEIR Section 3.5, Biological Resources – Aquatic.

- Update to PEIR Table 3.5-2 to reflect the changed listing status of Pacific lamprey.

⁵ Note that some of the PEIR text refers to NTMA and LTMA, which stand for Near-Term Management Actions and Long-Term Management Actions. Those terms are not used in this Supplemental PEIR, but are preserved in the existing PEIR text in this section as legacy acronyms.

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Table 3.5-2. Special-Status Species and Occurrence Within the Extended Systemwide Planning Area

Species	Status ¹	Distribution
Fish		
Pacific lamprey	No status <u>CSC</u>	Sacramento and San Joaquin rivers and their major tributaries; Delta, San Francisco Bay, Pacific Ocean

¹ Status Definitions:

Delta = Sacramento–San Joaquin Delta

SSC = State species of special concern

SC = Federal species of concern

ST = State threatened species

SE = State endangered species

FT = Federal threatened species

FE = Federal endangered species

USFS = U.S. Forest Service

CSC = California species of special concern

- Update to PEIR Impact BIO-A-2 and Mitigation Measures BIO-A-2a and BIO-A-2b in response to new information regarding the extent of riparian habitat impacts under the current VMS.

Impact BIO-A-2 (NTMA): Effects on Special-Status Fish, Fish Movement, Nursery Ground Usage, Riparian Habitat, Designated Critical Habitat, and Essential Fish Habitat Caused by Loss of Overhead Cover and Instream Woody Material as Part of the Vegetation Management Strategy

Implementing the VMS (as described in Section 2.4.3, “Other Near-Term Management Actions,” in Chapter 2.0, “Program Description”) would result in a gradual reduction of existing riparian habitats in some locations on and along existing levees, as dead or diseased trees are removed and not replaced by either natural recruitment or planting. Trees and other woody vegetation would be removed over an extended period—and eventually eliminated entirely—from the designated vegetation management zone, an area typically extending 15 feet beyond the landside levee toe to 20 feet below the waterside levee crown. Immature trees and woody vegetation would be removed, existing mature trees either would be lost eventually to natural mortality or would be removed if they posed an unacceptable threat, and new trees and woody vegetation would not be reestablished. However, vegetation would generally be retained on the water side of levees more than 20 feet below the levee crown. Loss of levee vegetation is expected to occur on approximately 1,300 acres within the levee vegetation management zone (see Appendix A).

Specifically, under the VMS, immature trees and woody vegetation in the vegetation management zone that measure less than 4 inches in diameter at breast height (dbh) would be removed in an authorized manner as part of levee maintenance. Larger trees and woody vegetation greater than 4 inches dbh would be subject to a long-term life-cycle management (LCM) plan to be implemented by levee maintenance agencies. These larger trees would be

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allowed to live out their normal life cycles if they do not pose an unacceptable threat, but would not be replaced in the vegetation management zone after their death or removal. (The LCM plan allows the immediate removal of trees that pose an unacceptable threat.) Removal of woody vegetation in both size categories would be conducted in consultation with the appropriate resource agencies.

Over time, a net loss in the extent and quality of riparian habitat would occur in the vegetation management zone on existing levees as the lost vegetation is not replaced. Vegetation less than 4 inches dbh would be removed relatively quickly after plan adoption. Larger riparian vegetation (e.g., mature cottonwoods and black willows) is expected to gradually decline, and the vegetation management zone would ultimately consist almost exclusively of smaller, nonwoody vegetation. Overhanging vegetation, most often from large trees, provide stream shade, which is a component of shaded riverine aquatic habitat.

The effects of vegetation removal under the VMS would vary substantially depending on the existing conditions along a particular levee segment:

- In locations where little to no woody vegetation grows in the vegetation management zone, and existing levee maintenance practices prevent this vegetation from establishing, the VMS would result in little change from existing conditions.
- If the ordinary water level approaches the waterside edge of the vegetation management zone, and the only woody riparian vegetation on the waterside of the levee is a thin strip in the management zone (20 feet or less below the crown), much of the woody riparian vegetation on this side of the levee could be removed over time.
- If woody riparian vegetation grows on the levee's waterside both in and below the vegetation management zone, riparian vegetation would be lost in the management zone but retained below it. As a result, the strip of waterside riparian habitat would be thinner than under existing conditions.
- In situations where woody riparian vegetation grows on both sides of a levee, and with some vegetation in the vegetation management zone, the current nonriparian corridor between the landside and waterside riparian vegetation (likely a levee crown patrol road and portions of the levee slope) would become wider as vegetation in the management zone on both sides of the levee moves toward an increased amount of smaller and nonwoody vegetation.

Numerous other vegetation removal scenarios could be described here. However, the key point is that as the VMS is implemented, adverse effects on riparian vegetation and associated aquatic resources could range from minimal to substantial, depending on factors such as location, amount, and quality of vegetation affected; its proximity to water; and the continuity with other riparian vegetation. Where adverse effects are found, they would result primarily from one of three scenarios:

1. Thin strips of riparian vegetation that grow entirely within the vegetation management zone would be substantially or entirely removed.

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2. Riparian vegetation grows both inside and outside of the vegetation management zone, and habitat in the management zone ultimately would be removed. As a result, thinner corridors of riparian habitat would remain outside of the management zone.
3. Woody riparian habitat exists on both sides of the levee, separated by a nonriparian zone along the levee (likely, at a minimum, along a crown patrol road). If some riparian habitat occurs within the vegetation management zone, this habitat would be removed over time, causing the nonriparian zone between the landside and waterside habitat to become wider. However, this mechanism would be very unlikely to affect aquatic resources, and potential adverse effects would typically be limited to terrestrial biological resources. (See Section 3.6, “Biological Resources—Terrestrial.”)

However, a component of both the VMS and the CVFPP Conservation ~~Framework Strategy~~ is also the enhancement of existing riparian habitats and restoration and creation of riparian habitat at various locations. Riparian forest corridors would be established, as appropriate, in areas outside the vegetation management zone along both the waterside and landside of existing levees. The greatest opportunities to increase the extent of riparian vegetation would be on the landside because of space limitations often found between levees and the water bodies they are designed to contain. It is most likely that restoration and creation of riparian forest corridors would be in proximity to levees in rural areas where undeveloped land is available and human disturbance would be minimized. Conservation Strategy objectives for riparian habitat enhancement, restoration, and creation are integrated into the 2017 CVFPP Update and the Sacramento River and San Joaquin River BWFSs. At this time, the management actions are expected to result in the enhancement, restoration, and creation of 3,500 acres of new riparian habitat.

The VMS would also inform the design of new setback levees by recommending an expanded floodway that would accommodate both vegetation and water conveyance. Under this approach, woody vegetation may be permitted on the waterside slopes and berms of new levees where a specifically designed waterside planting berm is incorporated into the levee design. In some cases, woody vegetation provides environmental and engineering benefits to levee integrity (e.g., erosion protection, soil reinforcement, sediment recruitment). In these cases, the vegetation could remain on existing levees that are repaired or improved, particularly where the levee prism is widened or a root or seepage barrier is installed. With these efforts, existing riparian habitat could be retained or expanded along levees at some locations.

The combined elements of the VMS ~~would result in the removal~~ could, eventually, result in the loss of riparian vegetation in some areas (totaling approximately 1,300 acres) and the enhancement, restoration, or creation of riparian vegetation in other areas (approximately 3,500 acres are currently identified). The final result would be a gradual change in the location of riparian vegetation, with habitat lost in some areas but gained in other areas. There is the potential that ultimately a net gain in riparian vegetation could result. The recovery and restoration of native habitats is a supporting goal of the CVFPP, and increasing and improving the quantity, diversity, quality, and connectivity of riverine habitats (including riparian habitat) is a goal of the Conservation ~~Framework Strategy~~. However, there is currently insufficient detail in these plans to ensure that, in all time periods and in all areas, there would be a balance between habitat losses and gains, resulting in no net overall loss in

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the extent and quality of riparian vegetation in the program area relative to existing conditions.

With the CVFPP Conservation ~~Framework~~ Strategy, planting riparian vegetation below the vegetation management zone could enhance existing riparian habitats and result in restoration or creation of additional riparian habitat at various locations. A portion of the affected riparian habitat—both the gains (below the vegetation management zone) and the losses (in and below the vegetation management zone, if a matter of public safety)—may qualify as shaded riverine aquatic habitat. This is an important habitat component for aquatic species, including special-status fish species. Shaded riverine aquatic habitat is also considered part of the critical habitat and EFH particularly for salmonid species.

The effect of implementing the VMS (i.e., LCM) would be gradual for woody vegetation greater than 4 inches dbh. Therefore, the rate at which these habitat components would be enhanced, restored, and created under the CVFPP Conservation ~~Framework~~ Strategy could match or exceed the rate of potential habitat loss associated with the VMS. Ultimately, habitat improvements resulting from implementation of the Conservation Framework would likely exceed losses resulting from implementation of the VMS on a net basis. The final outcome would be a gradual change in the locations of riparian/shaded riverine aquatic vegetation as habitat is lost in some areas but gained in other areas.

It cannot be assured that habitat gains generated by the CVFPP Conservation ~~Framework~~ Strategy would always exceed losses at a specific location. If vegetation removal were required in a general area that currently has a high volume of riparian vegetation, the removal and offsite mitigation would have less of an effect on the overall system because changes in overall conditions in the area would be small. However, if vegetation were removed in an area where minimal riparian vegetation is available, this removal—even with offsite mitigation—would have a greater effect on the fisheries. The effect would be greater because it is more likely that connectivity between patches of riparian habitat could be limited and long stretches of river shoreline would have little to no riparian vegetation. Although clearly not every levee segment in the SPFC contains riparian vegetation that functions as SRA habitat, it is reasonable to assume that there would be some areas where SRA currently exists along relatively long river reaches where this habitat would be removed. Therefore, implementation of the VMS could have, at least in some areas, a substantial adverse effect on riparian vegetation that functions as SRA habitat.

Because overhead cover and IWM (and thus shaded riverine aquatic habitat) would be lost as a result of implementation of the VMS along the banks and levees, this impact would be potentially significant.

Mitigation Measure BIO-A-2a (NTMA): Secure Applicable State and/or Federal Permits and Implement Permit Requirements

Not all measures listed below may be applicable to each management action. Rather, these measures serve as an overlying mitigation framework to be used for specific management actions. The applicability of measures listed below would vary based on the lead agency, location, timing, and nature of each management action.

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The project proponent will ensure that the following measures are implemented to reduce the effects of repairing, reconstructing, and improving levees on trees within stream zones, shaded riverine aquatic habitat, IWM, listed fish species, and designated critical habitat:

- A Section 1602 streambed alteration agreement will be obtained from DFG before any trees are removed from a stream zone that is under DFG jurisdiction unless the activity is implemented by USACE. The project proponent will comply with all terms and conditions of the streambed alteration agreement, including measures to protect habitat or to restore, replace, or rehabilitate any habitat.
- The project proponent will consult or coordinate with USFWS and NMFS as required under the federal ESA, and with DFG as required under the CESA, regarding potential impacts on listed fish species, including the loss of habitat. The project proponent will implement any additional measures developed through the ESA and CESA consultation processes, including the conditions of Section 7 biological opinions, Section 10 HCPs, and Section 2081 permits.

Where an existing approved HCP, NCCP, or similar plan covers an NTMA and provides for compliance with applicable State or federal regulations, the project proponent may participate in and comply with the terms of such a plan to achieve the permit compliance measures listed above. Any mitigation plantings in the floodway will not be permitted if they would result in substantial increases in flood stage elevations, or alter flows in a manner that would have a substantial adverse effect on the opposite bank.

Mitigation Measure BIO-A-2b (NTMA): Ensure Full Compensation for Losses of Riparian Habitat Functions and Values Caused by Implementing the Vegetation Management Strategy Along Levees

DWR will coordinate with the Board and levee maintenance agencies tasked with implementing the VMS to develop and implement a plan to record data on riparian vegetation lost or removed due to implementation of the VMS, and to ensure adequate compensation for losses of riparian habitat functions and values. Although this mitigation measure is written as if a single plan is prepared, multiple plans addressing individual regions, watersheds, river corridors, or other geographic subdivisions are also acceptable.

The plan will be completed and suitable for implementation before the start of riparian habitat removal under the VMS. The plan will include mechanisms to, at a minimum, record and track the acreage, type, and location of riparian habitat to be removed through implementation of the VMS or lost over time through LCM.

The plan will also address compensation for the loss and degradation of riparian habitat through the enhancement, restoration, or creation of riparian habitat in other locations. Assessment of the value of lost or degraded habitat and of compensation habitat will take into account issues such as the differing functions of waterside and landside riparian habitat, continuity and connectivity of habitat, types of riparian habitat removed vs. type of compensation habitat (e.g., riparian scrub vs. cottonwood riparian forest), and ability of habitat to support special-status species. DWR will track habitat compensation efforts and

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only authorize implementation of vegetation removal under the VMS at a rate and in locations consistent with the volume and type of compensation habitat that has been established. This habitat compensation tracking program will be included in the program MMRP prepared to support this PEIR.

The plan must, at a minimum, meet the following basic performance standard:

- Authorized losses of habitat do not exceed the function and value of available compensation habitat.

DWR will coordinate with the Board and levee maintenance agencies tasked with implementing the VMS, and to ensure adequate compensation for losses of riparian habitat functions and values. This plan will attempt to address the fact that SRA functions and values may only be partially replaced with riparian forest functions and values elsewhere. Although this mitigation measure is written as if a single plan is prepared, multiple plans addressing individual regions, watersheds, river corridors, or other geographic subdivisions are also acceptable.

Various mechanisms may be employed to provide compensation habitat under the plan, as long as the performance standard identified above is met. The mechanisms include but are not limited to the following:

- Implementation of the CVFPP Conservation Strategy Framework
- Participation in existing NCCPs, HCPs, or other conservation plans
- Purchase of habitat credits at an established mitigation bank
- Habitat restoration implemented by a levee maintenance agency or other entity

Any mitigation plantings in the floodway will not be permitted if they would result in substantial increases in flood stage elevations, or alter flows in a manner that would have a substantial adverse effect on the opposite bank.

In many cases, implementing Mitigation Measures BIO-A-2a (NTMA), and BIO-A-2b (NTMA) related to implementation of the VMS would reduce impacts to an overall less-than-significant level and even sometimes to a beneficial level. The extent, type, function, and values of any riparian habitat removed would be fully compensated for by enhancing, restoring, or creating riparian habitat elsewhere. However, removing riparian habitat in some locations and enhancing, restoring, or creating habitat elsewhere would result in overall relocation of riparian habitat within the Extended SPA. It is possible that although some stream or river reaches may benefit from compensatory habitat, habitat values in other stream or river reaches could be substantially reduced, adversely affecting special-status fish species that must move through these river reaches. Potential adverse effects include increased predation risk, increased water temperatures, and reduced food availability. In addition, planting vegetation in the floodway may not be authorized by the Board, USACE, or other agencies if the vegetation would impede flood flows sufficiently that a rise in water surface elevation would cause a significant increase in risk to public safety. Therefore, it cannot be assured that in all instances fisheries impacts would be mitigated to a less-than-

significant level. Therefore, Impact BIO-A-2 (NTMA) would be potentially significant and unavoidable.

3.3 Biological Resources – Terrestrial

The following changes are made to PEIR Section 3.6, Biological Resources – Terrestrial:

- Update to PEIR Table 3.6-4 to reflect the changed listing status of western yellow-billed cuckoo and tricolored blackbird.

Table 3.6-4. Sensitive Wildlife Species of Riparian and Wetland Communities in the Sacramento and San Joaquin Valley and Foothills

Species	Status ¹	Habitat Description
Birds		
Tricolored blackbird <i>Agelaius tricolor</i>	CSC <u>CC</u>	<i>Foraging:</i> On ground in croplands, grassy fields, flooded land, and along edges of ponds. <i>Nesting:</i> Dense cattails, tules, or thickets near freshwater.
Western yellow-billed cuckoo <i>Coccyzus americanus Occidentalis</i>	FC CE	<i>Nesting:</i> Extensive deciduous riparian thickets or forests with dense, low-level or understory foliage adjacent to slow-moving watercourses, backwaters, or seeps. Willow is almost always a dominant component of the vegetation. In the Sacramento Valley, also utilizes adjacent walnut orchards.

¹ Status Definitions:

- FC = federal candidate for listing
- FE = federally listed as endangered
- FT = federally listed as threatened
- CC = California candidate for listing
- CE = California listed as endangered
- CT = California listed as threatened
- FP = California fully protected
- CSC = California species of special concern

- Update to PEIR Section 3.6.1, Environmental Setting, to update the giant garter snake species description based on new information about life history and behavior.

Giant Garter Snake The giant garter snake (*Thamnophis gigas*) is federally and State listed as threatened. The giant garter snake historically occurred throughout California’s Central Valley, but the species’ current range is confined to the Sacramento Valley, and isolated sites in the San Joaquin Valley, and, potentially, in the Delta (Hansen and Brode 1980; USFWS 2006b). Many of the populations of giant garter snake in the northern part of the state range from Stockton (San Joaquin County) to Chico (Butte County) are relatively stable; however, the southernmost populations at the Mendota Wildlife Area (Fresno County) and the Grassland Wetlands (Merced County) are small, fragmented, unstable, and probably decreasing (USFWS 2006b). No sightings of giant garter snakes south of the Mendota Wildlife Area, within the historic range of the species, have occurred since the time of listing (Hansen 2002).

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The giant garter snake is a large (up to 5 feet long), aquatic snake. It inhabits sloughs, low-gradient streams, marshes, ponds, agricultural wetlands (e.g., rice fields), irrigation canals and drainage ditches, and adjacent uplands. It feeds primarily on small fish, tadpoles, and frogs. Despite their aquatic habits, giant garter snakes also make extensive use of adjacent terrestrial habitats, where they occupy emergent vegetation, crevasses, and burrows for cover (USFWS 2006b). They also use adjacent uplands for foraging, basking, refuge from flood waters, and brumation. Radio telemetry results indicate that individual giant garter snakes use the terrestrial environment more than 50 percent of the time during the summer, and nearly 100 percent of the time during brumation (Halstead et al., 2015a). Giant garter snakes may hibernate up to 800 feet from water, and along waterways, they may move considerable distances (e.g., up to 2 miles in a single day) (Hansen 1988; USFWS 2006b). However, on average, giant garter snakes are found within about 33 feet of water 95 percent of the time during mid-summer (Halstead et al., 2015b). Giant garter snakes are less active or dormant from October until April, when they emerge to breed and forage (Wylie et al. 1997).

Giant garter snakes are vulnerable to predation from both native species (e.g., raccoons, egrets, and herons) and nonnative species (e.g., bullfrogs, feral cats) (58 *Federal Register* (FR) 54053–54065, October 20, 1993; Carpenter et al. 2002). Predation may be the reason that giant garter snakes tend to be absent from larger rivers that support predatory fish (Hansen 1980). They are also affected by parasites and contaminants. Giant garter snake is threatened primarily by habitat conversion, fragmentation, and degradation resulting from urban development (58 FR 54053–54065, October 20, 1993; Dickert 2005). (Human disturbance contributes to habitat degradation because giant garter snakes are diurnal predators that are disturbed by human activities.) It is also threatened by incompatible agricultural practices such as intensive vegetation control along canal banks and changes in crop composition.

- Update to PEIR Section 3.6.1, Environmental Setting, to update the western yellow-billed cuckoo species description based on the changed federal designation.

Western Yellow-Billed Cuckoo The western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) is federally listed as a candidate-threatened species for federal listing and is State listed as endangered. Yellow-billed cuckoo breeds throughout much of North America and winters in South America (Hughes 1999). The California breeding range of western yellow-billed cuckoo is restricted to the Sacramento Valley, the South Fork of the Kern River, the lower Colorado River Valley, and sometimes the Prado Basin in Riverside and San Bernardino counties (Gaines and Laymon 1984). In 2014, designation of critical habitat was proposed for western yellow-billed cuckoo throughout its range (79 FR 71373–71375, December 2, 2014). At this time, a final designation of critical habitat has not been adopted.

Yellow-billed cuckoos are occasional brood parasites; they will lay eggs in nests of other cuckoos or in nests of other species. In the western United States, yellow-billed cuckoos breed in broad, well-developed, low elevation riparian woodlands composed primarily of mature cottonwoods (*Populus* spp.) and willows (*Salix* spp.). Typical nest sites in California have moderately high canopy closure and low total ground cover, and are close to water (Laymon and Halterman 1987). In spring, yellow-billed cuckoos arrive in California from late May to until late June.

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In California, yellow-billed cuckoo is threatened by the loss or degradation of suitable large tracts of riparian habitat, pesticide poisoning, and possibly also reduced prey abundance resulting from widespread application of pesticides (Gaines and Laymon 1984). Conservation projects of the CVP have preserved habitat for yellow-billed cuckoo (DFG 2005). This species also has been included in habitat conservation and multispecies conservation planning efforts in Southern California. These efforts have focused on conserving suitable breeding habitat by preserving and restoring large patches of riparian vegetation.

- Update to Mitigation Measures BIO-T-3a and BIO-T-3b based on new information with respect to giant garter snake and its use of adjacent terrestrial habitat.

Mitigation Measure BIO-T-3a (NTMA): Conduct Focused Surveys for Special-Status Plants and Wildlife, and Avoid Impacts

Not all measures listed below may be applicable to each management action. Rather, these measures serve as an overlying mitigation framework to be used for specific management actions. The applicability of measures listed below would vary based on the lead agency, location, timing, and nature of each management action.

The project proponent will verify whether species survey and avoidance protocols have been established for species that might be affected by the specific project, or will coordinate with the appropriate regulatory agency (e.g., USFWS or DFG) to determine an acceptable alternative method for surveying and avoiding effects on a species. To avoid effects of proposed construction activities on special-status plants and wildlife, the project proponent will ensure that the following measures are implemented before commencement of ground-disturbing activities. Where measures below call for field surveys, the project proponent may rely on previous surveys that were conducted for the project area if these surveys meet the applicable agency guidelines. If avoidance consistent with these measures cannot be achieved, the project proponent will implement the minimization and compensation measures included in Mitigation Measure BIO-T-3b described below. Where surveys for special-status species may be necessary, the project proponent may be able to rely on previous surveys that were conducted for the project area if these surveys meet the applicable agency guidelines.

- The CNNDDB will be searched to determine whether any records describe species observations and indicate the presence of habitat for those species in or near the project area. These habitats and species occurrences will be identified, mapped, and quantified as deemed appropriate. The project proponent, assisted by the primary engineering and construction contractors, will coordinate with a qualified biologist to ensure that disturbance of sensitive communities, habitats, and species is minimized during construction to the extent feasible. In consultation with USFWS and DFG, the project proponent will develop measures to minimize and, where appropriate, compensate for construction-related effects on sensitive habitats and special-status species.
- A qualified botanist will conduct surveys for special-status plants (as listed in Table 3.6-3) with potential to occur in appropriate habitat within the project area. The surveys will follow applicable guidelines established by USFWS and/or DFG, and will be

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conducted at the appropriate time of year when the target species would be clearly identifiable. If no special-status plants have the potential to occur in the project area or none are found during focused surveys, no further action is required. If special-status plants are found, areas of occupied habitat will be identified. The construction contractor will avoid these areas where feasible. Temporary fencing will be installed to protect all occupied habitat that is located adjacent to construction areas but can be avoided.

- A qualified biologist will conduct a survey in areas where elderberry shrubs could occur within 100 feet of construction and inundation areas. Surveys and stem counts will follow the USFWS conservation guidelines for the valley elderberry longhorn beetle (USFWS 1999). If elderberry shrubs are found, the project proponent will implement avoidance measures that are consistent with the USFWS conservation guidelines for this species (USFWS 1999). Where feasible, effects will be avoided by establishing and maintaining a 100-foot-wide buffer around elderberry plants. Where a 100-foot buffer is not feasible, effects may be minimized by providing a minimum setback, with a buffer around elderberry plants measuring at least 20 feet wide.
- Protocol surveys of all potential nesting trees and habitat in the area will be completed during the raptor nesting season (generally February 15–September 15 but may be adjusted for individual species), particularly if any construction activity is to occur during that season. Potential nesting trees and other nesting habitats (e.g., grasslands for northern harriers and burrowing owls) that are within one-half mile of proposed activity will be surveyed. To avoid the loss of active raptor nests, if the project proponent elects to remove trees suitable for nesting, the trees will be removed during the non-nesting season (generally between September 15 and February 15), to the extent practicable. Where feasible and depending on the species (particularly for Swainson’s hawk), construction activities within one-quarter mile of active nests will be avoided during the raptor nesting season. Other nesting raptors may tolerate a much smaller buffer (e.g., one tenth mile).
- Surveys for other special-status wildlife listed in Table 3.6-4 with potential to occur in the project area will be conducted by a qualified biologist at the appropriate time of year when the target species would be clearly identifiable. Not all wildlife species require surveys because their presence may be assumed based on habitat components and known locality records, or they clearly will not be present in the area. USFWS and DFG will be consulted to determine for which species surveys should be conducted; appropriate species protocols will be followed. Occupied and potentially suitable habitat will be avoided where feasible by installing temporary exclusionary fencing.
- If potentially suitable aquatic habitat for giant garter snake is identified in or within 200 feet of disturbance areas by a qualified biologist, DWR will establish a 200-foot-a buffer area of 200 feet will be established around the aquatic habitat, where feasible. These buffers will be indicated by marked in the field with guidance from a qualified biologist using temporary fencing, high-visibility flagging, or other equally effective means for clearly delineating the buffers. Disturbance activities will not occur within the buffer, and workers will avoid entering the buffer at all times. If avoidance buffers are observed, no other mitigation measures for impacts on giant garter snakes will be required. If work must occur within 200 feet of potentially suitable habitat, DWR will

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implement mitigation measures included in Mitigation Measure BIO-T-3b, as determined to be necessary by a qualified biologist.

- If nesting areas for pond turtles are identified, a buffer area of 300 feet will be established between the nesting site and nearby wetlands, where feasible. (The nesting site may be adjacent to wetlands or extend up to 400 feet away from wetland areas in uplands.) These buffers will be indicated by temporary fencing if construction has begun or will be established before nesting periods are ended (the period from egg laying to emergence of hatchlings is normally April to November).
- Preconstruction surveys for special-status bat species will be conducted to determine the presence of roosts. When colonial roosting sites located in trees or structures must be removed, removal will occur outside of the nursery and/or hibernation seasons. Unless otherwise approved by DFG, such removal will occur during dusk and/or evening hours after bats have left the roosting site. When hibernation sites are identified on the project site, nursery and hibernation sites will be sealed before the hibernation season (November–March). Additional measures, such as monitoring and onsite mitigation roosts, will be implemented, as feasible (see H.T. Harvey & Associates 2004).
- Participation in and compliance with an existing approved HCP, NCCP, or similar plan applicable to an NTMA may replace the specific survey and avoidance actions listed above if all of the following conditions are met:
 - The existing, approved HCP, NCCP, or similar plan is applicable to the NTMA.
 - The NTMA is within the permit area.
 - The NTMA is a covered activity under the existing plan.
 - The plan addresses methods to identify, avoid, minimize, and compensate for effects on special-status species.

Mitigation Measure BIO-T-3b (NTMA): If Avoiding Construction-Related Effects on Special-Status Plants and Wildlife is Infeasible, Minimize and, Where Appropriate, Compensate for Effects on Special-Status Species and Loss of Habitat.

If the focused surveys described above in Mitigation Measure BIO-T-3a have been completed and avoiding effects on special-status species is infeasible, the project proponent will coordinate with the appropriate regulatory agency (e.g., USFWS or DFG) to determine acceptable methods for minimizing or compensating for effects on a species. Various minimization and compensation measures are described below. The CVFPP Conservation Strategy Framework may be a suitable source of compensation habitat. The project proponent will ensure that the following measures are implemented to minimize and compensate for effects of proposed levee improvements on special-status plants and wildlife:

- If special-status plants cannot be avoided, the project proponent will coordinate with USFWS and/or DFG (depending on which agency has jurisdiction over the particular species) to determine appropriate minimization and compensation measures. Some local

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plans and policies, if applicable to the project being implemented, may require that the project proponent completely avoid effects on a special-status plant species or pay a fee to mitigate impacts. Where feasible and applicable, the project proponent will consult and/or coordinate with local agencies on these plans and policies. In some instances, sensitive plants may be relocated to an area approved by DFG or USFWS.

- If ground-disturbing activities are to occur within 20 feet of the dripline of an elderberry shrub, minimization and compensation measures consistent with the USFWS conservation guidelines (USFWS 1999) will be implemented. These measures include transplanting elderberry shrubs and planting compensatory elderberry seedlings and associated native plantings.
- If an active raptor nest is found, a biologist, in coordination with DFG, will determine an appropriate buffer that minimizes the potential for disturbing the nest. Setbacks will be marked by brightly colored temporary fencing. Based on the coordination with DFG, no construction activities will begin in the buffer area until a qualified biologist has confirmed that the nest is no longer active or that the birds are not dependent on it. A qualified biologist will monitor construction to ensure that project activities will not substantially adversely affect the nesting pair or their young. The size of the buffer may vary, depending on the nest location, nest stage, construction activity, and monitoring results. If establishing the buffer becomes infeasible or construction activities result in an unanticipated nest disturbance, DFG will be consulted to determine the appropriate course of action.
- Minimization and compensation measures for other special-status wildlife species will be developed in consultation with DFG and/or USFWS. DFG and USFWS provide standardized minimization measures for several species; for example, the giant garter snake has specific minimization measures, such as restrictions on the construction season, and a requirements for biological surveys and monitoring, exclusionary fencing, permitted capture and relocation, aquatic habitat dewatering, and restoration.
- Participation in and compliance with an existing approved HCP, NCCP, or similar plan applicable to an NTMA may replace the specific minimization and compensation actions listed above if all of the following conditions are met:
 - The existing approved HCP, NCCP, or similar plan is applicable to the NTMA.
 - The NTMA is within the permit area.
 - The NTMA is a covered activity under the existing plan.
 - The plan addresses methods to identify, avoid, minimize, and compensate for effects on special-status species.

All construction-related activities will be subject to all applicable permitting requirements. The mitigation measures described above, when combined with applicable permit requirements, must, at a minimum, meet the following basic performance standard:

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- Authorized losses of habitat will not exceed the function and value of available compensation habitat.

DWR will also track these habitat compensation efforts as part of the MMRP for this PEIR. These measures will be designed to ensure that construction activities will not result in a substantial reduction in the population size or range of any special-status plants or wildlife.

- Proposed update to Impact BIO-T-7 and Mitigation Measures BIO-T-7a and BIO-T-7b in response to new information regarding the extent of riparian habitat impacts under the current VMS.

Impact BIO-T-7 (NTMA): Effects of the Vegetation Management Strategy on Sensitive Natural Communities and Habitats, Special-Status Plants and Wildlife, and Wildlife Movement

Implementing the VMS would result in a gradual reduction of existing riparian habitats in some locations on and along existing levees, as dead or diseased trees are removed and not replaced by either natural recruitment or planting. Trees and other woody vegetation would be removed over an extended period—and eventually eliminated entirely—from the designated vegetation management zone, an area typically extending 15 feet beyond the landside levee toe to 20 feet below the waterside levee crown. Immature trees and woody vegetation would be removed, existing mature trees either would be lost eventually to natural mortality or would be removed if they posed an unacceptable threat, and new trees and woody vegetation would not be reestablished. However, vegetation would generally be retained on the water side of levees more than 20 feet below the levee crown. Loss of vegetation is expected to occur on approximately 1,300 acres within the levee vegetation management zone (see Appendix A).

Specifically, under the VMS, immature trees and woody vegetation in the vegetation management zone that measure less than 4 inches in diameter at breast height (dbh) would be removed in an authorized manner as part of levee maintenance. Larger trees and woody vegetation greater than 4 inches dbh would be subject to a long-term life-cycle management (LCM) plan to be implemented by levee maintenance agencies. These larger trees would be allowed to live out their normal life cycles if they do not pose an unacceptable threat, but would not be replaced in the vegetation management zone after their death or removal. (The LCM plan allows the immediate removal of trees that pose an unacceptable threat.) Removal of woody vegetation in both size categories would be conducted in consultation with the appropriate resource agencies.

Over time, a net loss in the extent and quality of riparian habitat would occur in the vegetation management zone on existing levees as the lost vegetation is not replaced. Vegetation less than 4 inches in diameter would be removed relatively quickly after plan adoption. Larger riparian vegetation (e.g., mature cottonwoods and black willows) is expected to gradually decline, and the vegetation management zone would ultimately consist almost exclusively of smaller, nonwoody vegetation.

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The effects of vegetation removal under the VMS would vary substantially depending on the existing conditions along a particular levee segment:

- In locations where little to no woody vegetation grows in the vegetation management zone, and existing levee maintenance practices prevent this vegetation from establishing, the VMS would result in little change from existing conditions.
- If the ordinary water level approaches the waterside edge of the vegetation management zone, and the only woody riparian vegetation on the waterside of the levee is a thin strip in the management zone (20 feet or less below the crown), much of the woody riparian vegetation on this side of the levee would be removed over time.
- If woody riparian vegetation grows on the levee's waterside both in and below the vegetation management zone, riparian vegetation would be lost in the management zone but retained below it. As a result, the strip of waterside riparian habitat would be thinner than under existing conditions.
- In situations where woody riparian vegetation grows on both sides of a levee, and with some vegetation in the vegetation management zone, the current nonriparian corridor between the landside and waterside riparian vegetation (likely a levee crown patrol road and portions of the levee slope) would become wider as vegetation in the management zone on both sides of the levee moves toward more of the smaller and nonwoody vegetation.

Numerous other vegetation removal scenarios could be described here. However, the key point is that as the VMS is implemented, adverse effects on riparian vegetation and associated terrestrial resources could range from minimal to substantial, depending on factors such as the location, amount, and quality of vegetation affected; its proximity to water; and the continuity with other riparian vegetation. Where adverse effects are found, they would result primarily from one of three scenarios:

1. Thin strips of riparian vegetation that grow entirely within the vegetation management zone would be substantially or entirely removed.
2. Riparian vegetation grows both inside and outside of the vegetation management zone, and habitat in the management zone ultimately would be removed. As a result, thinner corridors of riparian habitat would remain outside of the management zone.
3. Woody riparian habitat exists on both sides of the levee, separated by a nonriparian zone along the levee (likely, at a minimum, along a crown patrol road). If some riparian habitat occurs within the vegetation management zone, this habitat would be removed over time, causing the nonriparian zone between the landside and waterside habitat to become wider.

The effects of these losses of riparian vegetation on terrestrial biological resources would be similar to those already described in Impact BIO-T-1 (NTMA), "Construction-Related Effects of NTMAs on Sensitive Natural Communities and Habitats"; Impact BIO-T-3 (NTMA), "Construction-Related Effects of NTMAs on Special-Status Plants and Wildlife"; and Impact BIO-T-4 (NTMA), "Construction-Related Effects of NTMAs on Wildlife

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Movement.” However, where construction activities would cause riparian vegetation to be lost relatively rapidly as described in these impacts, implementing the VMS would typically result in the near-term removal of smaller woody vegetation (to the extent that current routine levee maintenance operations do not already prevent this class of vegetation from being present) and a gradual reduction over time in the density and extent of larger woody vegetation.

As described in Impact BIO-T-3 (NTMA), numerous special-status wildlife species may be affected by degradation or loss of riparian vegetation: valley elderberry longhorn beetle, western pond turtle, giant garter snake, five frog species, 18 bird species (such as Swainson’s hawk, western yellow-billed cuckoo, and least Bell’s vireo), riparian woodrat, riparian brush rabbit, and four bat species.

Beyond the effects of potential direct loss of occupied habitat for these species, the degradation, removal, or corridor narrowing of riparian habitat could result in habitat fragmentation and loss or degradation of primary movement corridors for many special-status and non-special-status wildlife species. As described above, in some locations the separation between landside and waterside riparian habitat would expand. Where this change would occur, species closely associated with dense riparian vegetation, such as riparian woodrat or riparian brush rabbit, may no longer cross the nonriparian area and may be prevented from using substantial portions of available riparian habitat. In addition, the predation risk for these species increases as the nonriparian area becomes wider, resulting in increased mortality.

A component of both the VMS and the CVFPP Conservation ~~Framework~~ Strategy is the enhancement of existing riparian habitats and restoration and creation of riparian habitat in various locations. Riparian forest corridors would be established, as appropriate, in areas outside the vegetation management zone along both the waterside and landside of existing levees. The greatest opportunities to increase the extent of riparian vegetation would be on the landside because of space limitations often found between levees and the water bodies they are designed to contain. It is most likely that restoration and creation of riparian forest corridors would be in proximity to levees in rural areas where undeveloped land is available and human disturbance would be minimized. Conservation Strategy objectives for riparian habitat enhancement, restoration, and creation are integrated into the 2017 CVFPP Update and the Sacramento River and San Joaquin River BWFSs. At this time, the management actions are expected to result in the enhancement, restoration, and creation of 3,500 acres of new riparian habitat.

The VMS would also inform the design of new setback levees by recommending an expanded floodway that would accommodate both vegetation and water conveyance. Under this approach, woody vegetation may be permitted on the waterside slopes and berms of new levees where a specifically designed waterside planting berm is incorporated into the levee design. In some cases woody vegetation provides environmental and engineering benefits to levee integrity (e.g., erosion protection, soil reinforcement, sediment recruitment). In these cases, the vegetation could remain on existing levees that are repaired or improved, particularly where the levee prism is widened or a root or seepage barrier is installed.

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With these efforts, existing riparian habitat would be retained or expanded along levees where feasible.

The combined elements of the VMS ~~would result in the removal~~ could, eventually, result in the loss of riparian vegetation in some areas (totaling approximately 1,300 acres) and the enhancement, restoration, or creation of riparian vegetation in other areas (approximately 3,500 acres are currently identified). The final result would be a gradual change in the location of riparian vegetation, with habitat lost in some areas but gained in other areas. There is the potential that ultimately a net gain in riparian vegetation could result; the recovery and restoration of native habitats is a supporting goal of the CVFPP, and increasing and improving the quantity, diversity, quality, and connectivity of riverine habitats (including riparian habitat) is a goal of the Conservation Framework Strategy. However, there is currently insufficient detail in these plans to ensure that, in all time periods and in all areas, there would be a balance between habitat losses and gains, resulting in no net overall loss in the extent and quality of riparian vegetation in the program area relative to existing conditions.

In addition, the values provided to water-dependent terrestrial wildlife species (e.g., western pond turtle, special-status frog species) by waterside riparian habitat differ substantially from those provided by riparian habitat on the landside of the levee. Because the ability to provide waterside riparian habitat is often complicated by space limitations, it is unknown whether a balance would exist in all time periods between losses and gains of waterside riparian habitat.

Changes in the locations of available riparian habitat over time can also result in the disruption of movement corridors where riparian habitat is lost in one location but compensated for in another location that may be less critical to wildlife movement.

Also, for species with very limited ranges, such as riparian brush rabbit, losses of riparian habitat at the edge of the known distribution of the species could restrict the species' range.

Because implementing the VMS could result in substantial adverse effects on sensitive habitats, special-status species, and wildlife movement corridors, this impact would be potentially significant.

Mitigation Measure BIO-T-7a (NTMA): Implement Applicable Elements of Mitigation Measures BIO-T-1a (NTMA), BIO-T-3a (NTMA), BIO-T-3b (NTMA), and BIO-T-3c (NTMA) to Minimize Impacts during Vegetation Removal

Implementing this mitigation measure would reduce elements of Impact BIO-T-7 (NTMA). In particular, this measure includes actions that would avoid and minimize impacts on sensitive biological resources caused by direct removal of woody vegetation as part of the VMS. For example, where mature trees must be removed, elements of Mitigation Measure BIOT-3a (NTMA) would minimize adverse effects on nesting raptors and special-status bat roost sites because trees that might support these resources would be identified and guidance regarding timing of tree removal would be implemented to minimize adverse effects. However, these measures that compose Mitigation Measure BIO-T-7a (NTMA) do not ensure the full replacement of riparian habitat functions and values to compensate for losses

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of riparian vegetation associated with implementation of the VMS. Therefore, this mitigation measure would not reduce the entirety of the impact to a less-than-significant level. Also see Mitigation Measure BIO-T-7b below.

Mitigation Measure BIO-T-7b (NTMA): Implement Mitigation Measure BIO-A-2b (NTMA), “Ensure Full Compensation for Losses of Riparian Habitat Functions and Values Caused by Implementing the Vegetation Management Strategy Along Levees”

In many cases, implementing Mitigation Measure BIO-A-2b (NTMA) and meeting the performance criteria in the measure for riparian vegetation compensation would reduce impacts associated with the removal of riparian vegetation to an overall less-than-significant level. The extent, type, quality, and function of any riparian habitat removed would be fully compensated for through the enhancement, restoration, and creation of riparian habitat elsewhere. However, removing riparian habitat in some locations and enhancing, restoring, or creating habitat elsewhere would result in overall relocation of riparian habitat within the Extended SPA. It is possible that although some areas may benefit from compensatory habitat, habitat values in other locations could be substantially reduced. It cannot be assured that wildlife movement corridors can be maintained in all instances or that relocation of riparian habitat would not restrict the range of some species. In addition, planting vegetation in the floodway may not be authorized by the Board, USACE, or other agencies if the vegetation would impede flood flows sufficiently that a rise in water surface elevation would cause a significant increase in risk to public safety. Therefore, it cannot be assured that in all instances impacts on sensitive terrestrial biological resources would be mitigated to a less-than-significant level. Therefore, Impact BIO-T-7 (NTMA) would be potentially significant and unavoidable.

3.4 Cultural and Historic Resources

The following changes are made to PEIR Section 3.8, Cultural and Historic Resources.

- Update to PEIR Section 3.8.1, Environmental Setting, to add *tribal cultural resources* to the definitions.

Definitions

Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or cultural value for the historical significance they possess or convey. Cultural resources include but are not limited to the following types of resources: prehistoric and historic-era archaeological deposits; historic-era features, such as roadways and railroad tracks; buildings and structures of architectural significance; and places that are important for maintaining a community’s identity or culture (i.e., traditions, beliefs, lifeways, social institutions).

Historical resources are those cultural resources that are determined eligible for listing in the California Register of Historical Resources (CRHR) pursuant to Public Resources Code (PRC) Section 5024.1.

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Historic properties are cultural resources that are found eligible for inclusion in the National Register of Historic Places (NRHP) by meeting the criteria outlined in Title 36, Section 60.4 of the Code of Federal Regulations (CFR) (36 CFR 60.4).

Traditional cultural properties (TCPs) are a subset of historic properties. These resources have been found eligible for listing in the NRHP “because of [their] association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1998).

Tribal Cultural Resources (TCRs) as defined by PRC Section 21074 are either (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that is either on or eligible for inclusion in the CRHR or a local historic register; or (2) the lead agency, at its discretion and supported by substantial evidence, chooses to treat the resource as a TCR. Additionally, a cultural landscape may also qualify as a TCR if it meets the criteria to be eligible for inclusion in the CRHR and is geographically defined in terms of the size and scope of the landscape. Other historical resources (as described in PRC 21084.1), a unique archaeological resource (as defined in PRC 21083.2(g)), or nonunique archaeological resources (as described in PRC 21083.2(h)) may also be TCRs if they conform to the criteria to be eligible for inclusion in the CRHR.

Generally, for a cultural resource to be considered a historical resource (or a historic property), it must be at least 50 years old. However, properties less than 50 years of age that are of exceptional importance or are contributors to a district can also be included in the NRHP. For example, in California, the Oroville Dam and hydroelectric facilities are less than 50 years of age, but they have been determined eligible for the NRHP because of their importance as part of the SWP. See Section 3.8.2, “Regulatory Setting,” for further description of the NRHP and CRHR.

- Update to PEIR Section 3.8.1, Environmental Setting, to add a new section to provide additional historical context regarding the importance of human remains, grave goods, and tribal cemeteries.

Human Remains, Grave Goods, Tribal Cemeteries, and Tribal Resources

Beginning in the early sixteenth century, but primarily during the late nineteenth and early twentieth centuries, a limited amount of Native American oral histories, lifeways, and languages were documented throughout California, predominantly by Euro-Americans. Whether by professional ethnographers or anthropologists, field personnel from government agencies such as the Bureau of Indian Affairs, soldiers, merchants, settlers, or travelers, ethnographic accounts partly illuminate the traditions, beliefs, and cultures of Native American groups during specific points in time. Synthesized narratives such as the *Handbook of North American Indians, California: Volume 8* (Heizer, 1978) categorize Native traditions and practices; however, the complexity of regional diversity should not be overlooked. These narratives are supplemented by the stories and histories maintained by Native American Tribes.

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Water—whether springs, creeks, rivers, lakes, bays, or the ocean—is one of the most important resources necessary for human use and settlement. Water, and access to water, gives sustenance, provides corridors for travel and trade, and establishes traditional boundaries. For these reasons, areas near water often have archaeological sites as well as ceremonial places and cemeteries important to Native American traditions. Prehistoric sites may also have traditional values important to Native American groups beyond their potential to yield information. Prehistoric archaeological sites found along California’s waterways include permanent or semi-permanent habitation sites, burial sites, temporary camps or food-processing localities, and isolated artifacts. They may also include shrines, sanctified cemeteries, puberty sites, veneration sites, dedication sites, termination sites, birth sites, medicinal sites, prayer sites, gathering areas, and fishing sites.

Archaeological materials that may be found at sites along waterways include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil (“midden”) containing ash and other organic material, heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Midden can be found in situ, redeposited in situ, disturbed in context, and disturbed out of context. In all discovery situations that midden is found, it is important to recognize the assemblage associated with the deposit. One type of common midden includes such cultural constituents as charcoal, fresh water shell, and baked clay. Other types of midden could include tools, non-local material types, and ground stone. Most importantly, midden is a key indicator and is often associated with burial soils. Midden soil associated with a burial could include things like ocher, crystals, charm stones, eccentric tools, beads, cremations, and disarticulated and articulated human remains. Depending on the time period, however, midden associated with a known burial assemblage could include different components from those discussed above.

In addition to the archaeological materials described above, Native American burials may be present at prehistoric archaeological sites along waterways and other locations. Native American burials include: intact skeletal remains; burial soils; cremations; disarticulated remains mixed into the levee matrix from borrow areas containing Native American burials; mass graves resulting from the California Indian Wars, the gold rush, or similar events; Native American warfare sites; dedicated communal cemeteries; family cemeteries; household cemeteries; and individual cemeteries. Subsequent development, construction, and other ground-disturbing activities may expose these remains, which are then subject to California Native American burial laws that require culturally appropriate treatment and dignified disposition of the remains.

Although it is less likely that these types of resources are located within the riverbed, there is a potential that prehistoric resources are located in or under existing or historic levees, under land and water side easements and toes, and on the adjacent riverbanks and surrounding vicinity. Areas near water may also be important as TCRs. As detailed in this environmental setting section, certain segments within the project area are known to be highly sensitive for the presence of prehistoric archaeological resources and places important to Native American traditional values.

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Cultural resources or prehistoric period resources can include evidence of Native American past or contemporary beliefs or sacred places and burial sites. Native American cultural resources also may include: places of natural phenomena; landscapes; viewsheds; locations associated with rites or otherwise relating to puberty, fertility, veneration, dedication, termination, birth, burial, medicine, vision quest, menstruation, dance, prayer, astronomy, calendars, gathering, hunting, and fishing; and other types of sites that may qualify as tribal cultural or historic resources and historic properties under state and federal regulatory frameworks. A confidential map was submitted during tribal consultation and the map indicates that a large number of resources, some of which are potential TCRs, are distributed within the SPA.

It is relevant that levees may have TCRs due to local material gathered for construction. In the valley, the local material may have contained Native American cemetery sites (burial mounds) and village sites. Levees may also have incorporated high ground which may have contained these resources. Because of these practices, contemporary levees within the Sacramento Valley are likely to possess additional significance to Native American Tribes. In some cases, the levees were built around tribal mounds and those mounds remain inside the levee structure.

Some Tribes believe that human remains, grave goods and tribal cemeteries should be preserved in place with no disturbance, invasive testing, or destructive analysis and testing. Disturbance does not only occur in connection with construction activities, but can also occur in connection with geotechnical or other testing, operations and maintenance, and data collection activities. This tribal view extends to ex situ, disarticulated or disturbed human remains (including cremations) as well as sacred objects, objects of cultural patrimony, grave goods, and burial soils. Public Resources Code section 5097.98 (b)(2)(d)(1) and (2) supports that view in defining Native American human remains to include inhumation or cremation, and remains in any state of decomposition or skeletal completeness.

Some Tribes also believe that burial “recovery,” while preferable to complete destruction, is not an impact-neutral activity. This tribal view means that the recovery action itself, a type of mitigation, may itself cause impacts, and that even after treatment there may be residual significant, unavoidable impacts that need to be considered on both a project and cumulative basis and reflected in the environmental documents. This is because one can rarely be sure the entire burial is removed (disarticulated remains, bodily fluids, burial soils and offerings, grave goods that have become separated, cremation ash, eroded materials, etc., may not be able to be fully located or recovered) and because the environment of that burial cannot be fully replicated elsewhere (the orientation, location, relative context to other burials and features, prayers said in that location, etc.) Such aspects, in the view of some tribes, mean that there may be residual impacts even after treatment, and that tribal burials and cemeteries should be provided at least as much respect as is provided historic buildings and TCPs.

- Update to PEIR Section 3.8.2, Regulatory Setting, to add AB 52 and DWR’s Tribal Engagement Policy, as well as new information about the Native American Heritage Commission and the California Native American Graves Protection and Repatriation Act, to the discussion of applicable State regulations.

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State

California Environmental Quality Act Statute and Guidelines. CEQA and the CEQA Guidelines include procedures for identifying, analyzing, and disclosing potential adverse impacts on cultural resources, which include all resources listed in or formally determined eligible for listing in the NRHP, the CRHR, or local registers.

Section 21083.2 CEQA Section 21083.2 defines a “unique archaeological resource” as “an archaeological artifact, object, or site” that meets the following criteria:

1. Contains information needed to answer important scientific questions and that there is a demonstrable public interest in that information
2. Has a special and particular quality such as being the oldest of its type or best available example of its type
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person

Section 21083.2 also requires the lead agency to consider the effects of a project on these resources. If it is demonstrated that a project will affect a unique archaeological resource, treatment to preserve the site may be required. Such treatments may include but are not limited to:

1. Planning construction to avoid archaeological sites
2. Deeding archaeological sites into permanent conservation easements
3. Capping or covering archaeological sites with a layer of soil before building on the sites
4. Planning parks, green space, or other open space to incorporate archaeological sites

If a unique archaeological site cannot be avoided, mitigation, which may involve excavation, is required.

Section 15064.5 Section 15064.5 of the CEQA Guidelines further requires that the lead agency mitigate substantial adverse changes to resources listed on the CRHR or local registers, and coordinate with the Native American Heritage Commission (NAHC) if Native American human remains are identified as a result of a project. A substantial adverse change is defined as “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.” Treatment and mitigation measures are further discussed under Section 15126.4(b). Section 15064.5 also reiterates the need to contact NAHC if human remains are found pursuant to PRC Section 5024.1, as stated below.

Assembly Bill 52. Assembly Bill 52 (AB 52), effective on July 1, 2015, amends CEQA and adds new sections relating to Native American consultation and certain types of cultural resources, Tribal Cultural Resources (TCRs). See definition of TCRs in PRC Section 21074 and above. AB 52 provides that a project with an effect that may cause a substantial adverse change in the significance of a TCR may have a significant effect on the environment. AB 52 requires the lead agency to begin consultation with a California Native American tribe that is

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traditionally and culturally affiliated with the geographic area of the proposed project if the tribe requests the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in that geographic area and the tribe subsequently requests consultation. PRC Section 21084.3 states that “public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.”

Department of Water Resources Tribal Engagement Policy. Effective March 8, 2016, DWR adopted the Tribal Engagement Policy to strengthen DWR’s commitment to improving communication, collaboration, and consultation with California Native American Tribes, (DWR, 2016h). Consistent with Executive Order B-10-11, the California Natural Resources Agency Tribal Consultation Policy, and AB 52, the Tribal Engagement Policy includes the following policy principles to achieve early and meaningful tribal engagement with California Native American Tribes:

- Establish meaningful dialogue between DWR and California Tribes early in planning for CEQA projects to ensure that DWR’s tribal outreach efforts are consistent with mandated tribal consultation policies, and to ensure that California Tribes know how information from consultation affected DWR’s decision-making process;
- Establish guidelines to share information between DWR and California Tribes, while protecting their confidential information to the fullest extent of the law;
- Consult with California Tribes to identify and protect TCRs where feasible, and to develop treatment and mitigation plans to mitigate for impacts on tribal cultural resources and cultural places;
- Develop criteria in communication plans and grant funding decisions for all applicable DWR programs that will facilitate tribal participation;
- Provide cultural competency training for DWR executives, managers, supervisors, and staff on tribal engagement and consultation practices;
- Recognize that California Tribes have distinct cultural, spiritual, environmental, economic, public health interests, and traditional ecological knowledge about California’s natural resources;
- Enable California Tribes to manage and act as caretakers of TCRs.
- **Native American Heritage Commission and Public Resources Code.** California PRC Sections 5097.91–5097.94 created the nine-member Native American Heritage Commission (NAHC). The NAHC identifies and catalogs places of special religious or social significance to Native Americans and known graves and cemeteries of Native Americans on private lands, identifies the Native American group most likely descended from those Native Americans who may be interred on the project property, makes recommendations related to Native American sacred places that are located on private lands for acquisition by the State or other public agencies for the purpose of facilitating or assuring access thereto by Native Americans, assists Native Americans in obtaining appropriate access to sacred places that are

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located on public lands for ceremonial or spiritual activities, and performs other duties regarding the preservation and accessibility of sacred sites and burials and the disposition of Native American human remains and burial items. The commission has the following powers and duties:

- (a) To identify and catalog places of special religious or social significance to Native Americans, and known graves and cemeteries of Native Americans on private lands. The identification and cataloging of known graves and cemeteries shall be completed on or before January 1, 1984. The commission shall notify landowners on whose property such graves and cemeteries are determined to exist, and shall identify the Native American group most likely descended from those Native Americans who may be interred on the property.
- (b) To make recommendations relative to Native American sacred places that are located on private lands, are inaccessible to Native Americans, and have cultural significance to Native Americans for acquisition by the state or other public agencies for the purpose of facilitating or assuring access thereto by Native Americans.
- (c) To make recommendations to the Legislature relative to procedures that will voluntarily encourage private property owners to preserve and protect sacred places in a natural state and to allow appropriate access to Native American religionists for ceremonial or spiritual activities.
- (d) To appoint necessary clerical staff.
- (e) To accept grants or donations, real or in kind, to carry out the purposes of this chapter and the California Native American Graves Protection and Repatriation Act of 2001 (Chapter 5 (commencing with Section 8010) of Part 2 of Division 7 of the Health and Safety Code).
- (f) To make recommendations to the Director of Parks and Recreation and the California Arts Council relative to the California State Indian Museum and other Indian matters touched upon by department programs.
- (g) To bring an action to prevent severe and irreparable damage to, or assure appropriate access for Native Americans to, a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, pursuant to Section 5097.97. If the court finds that severe and irreparable damage will occur or that appropriate access will be denied, and appropriate mitigation measures are not available, it shall issue an injunction, unless it finds, on clear and convincing evidence, that the public interest and necessity require otherwise. The Attorney General shall represent the commission and the state in litigation concerning affairs of the commission, unless the Attorney General has determined to represent the agency against whom the commission's action is directed, in which case the commission shall be authorized to employ other counsel. In an action to enforce this subdivision the commission shall introduce evidence showing that a cemetery, place, site, or shrine has been historically regarded as a sacred or sanctified place by Native American people and represents a place of unique historical and cultural significance to an Indian tribe or community.
- (h) To request and utilize the advice and service of all federal, state, local, and regional agencies, including for purposes of carrying out the California Native American Graves Protection and Repatriation Act of 2001 (Chapter 5 [commencing with Section 8010] of Part 2 of Division 7 of the Health and Safety Code).

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- (i) To assist Native Americans in obtaining appropriate access to sacred places that are located on public lands for ceremonial or spiritual activities.
- (j) To assist state agencies in any negotiations with agencies of the federal government for the protection of Native American sacred places that are located on federal lands.
- (k) (1) To mediate, upon application of either of the parties, disputes arising between landowners and known descendants relating to the treatment and disposition of Native American human burials, skeletal remains, and items associated with Native American burials.
- (k) (2) The agreements shall provide protection to Native American human burials and skeletal remains from vandalism and inadvertent destruction and provide for sensitive treatment and disposition of Native American burials, skeletal remains, and associated grave goods consistent with the planned use of, or the approved project on, the land.
- (l) To assist interested landowners in developing agreements with appropriate Native American groups for treating or disposing, with appropriate dignity, of the human remains and any items associated with Native American burials.
- (m) To provide each California Native American tribe, as defined in Section 21073, on or before July 1, 2016, with a list of all public agencies that may be a lead agency pursuant to Division 13 (commencing with Section 21000) within the geographic area with which the tribe is traditionally and culturally affiliated, the contact information of those public agencies, and information on how the tribe may request the public agency to notify the tribe of projects within the jurisdiction of those public agencies for the purposes of requesting consultation pursuant to Section 21080.3.1.
- (n) (1) To assume the powers and duties of the former Repatriation Oversight Commission and meet, when necessary and at least quarterly, to perform the following duties:
 - (A) Order the repatriation of human remains and cultural items in accordance with the act.
 - (B) Establish mediation procedures and, upon the application of the parties involved, mediate disputes among tribes and museums and agencies relating to the disposition of human remains and cultural items. The commission shall have the power of subpoena for purposes of discovery and may impose civil penalties against any agency or museum that intentionally or willfully fails to comply with the act. Members of the commission and commission staff shall receive training in mediation for purposes of this subparagraph. The commission may delegate its responsibility to mediate disputes to a certified mediator or commission staff.
 - (C) Establish and maintain an Internet Web site for communication among tribes and museums and agencies.
 - (D) Upon the request of tribes or museums and agencies, analyze and make decisions regarding providing financial assistance to aid in specific repatriation activities.
 - (E) Make recommendations to the Legislature to assist tribes in obtaining the dedication of appropriate state lands for the purposes of reinternment of human remains and cultural items.
 - (F) (i) Prepare and submit to the Legislature an annual report detailing commission activities, disbursement of funds, and dispute resolutions relating to the repatriation activities under the act.
 - (F) (ii) A report submitted to the Legislature pursuant to this subparagraph shall be submitted in compliance with Section 9795 of the Government Code.

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- (G) Refer any known noncompliance with the federal Native American Graves Protection and Repatriation Act (25 U.S.C. Sec. 3001 et seq.) to the United States Attorney General and the Secretary of the Interior.
- (H) Impose administrative civil penalties pursuant to Section 8029 of the Health and Safety Code against an agency or museum that is determined by the commission to have violated the act.
- (I) Establish those rules and regulations the commission determines to be necessary for the administration of the act.
- (n) (2) For purposes of this subdivision, the following terms have the following meanings:
 - (A) “Act” means the California Native American Graves Protection and Repatriation Act
 - (B) (Chapter 5 (commencing with Section 8010) of Part 2 of Division 7 of the Health and Safety Code).
 - (C) “Tribe” means a “California Indian tribe” as that term is used in the act.

Section 5097.97 of the PRC further states:

In the event that any Native American organization, tribe, group, or individual advises the commission that a proposed action by a public agency may cause severe or irreparable damage to a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, or may bar appropriate access thereto by Native Americans, the commission shall conduct an investigation as to the effect of the proposed action. Where the commission finds, after a public hearing, that the proposed action would result in such damage or interference, the commission may recommend mitigation measures for consideration by the public agency proposing to take such action. If the public agency fails to accept the mitigation measures, and if the commission finds that the proposed action would do severe and irreparable damage to a Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, the commission may ask the Attorney General to take appropriate legal action pursuant to subdivision (g) of Section 5097.94.

Section 5097.98 of the PRC further states:

(a) Whenever the commission receives notification of a discovery of Native American human remains from a county coroner pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, it shall immediately notify those persons it believes to be most likely descended from the deceased Native American. The descendants may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American human remains and may recommend to the owner or the person responsible for the excavation work means for treatment or disposition, with appropriate dignity, of the human remains and any associated grave goods. The descendants shall complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site.

(b) Upon the discovery of Native American remains, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred,

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as prescribed in this section, with the most likely descendants regarding their recommendations, if applicable, taking into account the possibility of multiple human remains. The landowner shall discuss and confer with the descendants all reasonable options regarding the descendants' preferences for treatment.

(1) The descendants' preferences for treatment may include the following:

(A) The nondestructive removal and analysis of human remains and items associated with Native American human remains.

(B) Preservation of Native American human remains and associated items in place.

(C) Relinquishment of Native American human remains and associated items to the descendants for treatment.

(D) Other culturally appropriate treatment.

(2) The parties may also mutually agree to extend discussions, taking into account the possibility that additional or multiple Native American human remains, as defined in this section, are located in the project area, providing a basis for additional treatment measures.

(c) For the purposes of this section, “conferral” or “discuss and confer” means the meaningful and timely discussion and careful consideration of the views of each party, in a manner that is cognizant of all parties' cultural values, and where feasible, seeking agreement. Each party shall recognize the other's needs and concerns for confidentiality of information provided to the other.

(d)(1) Human remains of a Native American may be an inhumation or cremation, and in any state of decomposition or skeletal completeness.

(2) Any items associated with the human remains that are placed or buried with the Native American human remains are to be treated in the same manner as the remains, but do not by themselves constitute human remains.

(e) Whenever the commission is unable to identify a descendant, or the descendants identified fail to make a recommendation, or the landowner or his or her authorized representative rejects the recommendation of the descendants and the mediation provided for in subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall reinter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. To protect these sites, the landowner shall do one or more of the following:

(1) Record the site with the commission or the appropriate Information Center.

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(2) Utilize an open-space or conservation zoning designation or easement.

(3) Record a document with the county in which the property is located. The document shall be titled "Notice of Reinterment of Native American Remains" and shall include a legal description of the property, the name of the owner of the property, and the owner's acknowledged signature, in addition to any other information required by this section. The document shall be indexed as a notice under the name of the owner.

(f) Upon the discovery of multiple Native American human remains during a ground disturbing land development activity, the landowner may agree that additional conferral with the descendants is necessary to consider culturally appropriate treatment of multiple Native American human remains. Culturally appropriate treatment of the discovery may be ascertained from a review of the site utilizing cultural and archaeological standards. Where the parties are unable to agree on the appropriate treatment measures the human remains and items associated and buried with Native American human remains shall be reinterred with appropriate dignity, pursuant to subdivision (e).

(g) Notwithstanding Section 5097.9, this section, including those actions taken by the landowner or his or her authorized representative to implement this section and any action taken to implement an agreement developed pursuant to subdivision (l) of Section 5097.94, shall be exempt from the requirements of the California Environmental Quality Act (Division 13 (commencing with Section 21000)).

(h) Notwithstanding Section 30244, this section, including those actions taken by the landowner or his or her authorized representative to implement this section and any action taken to implement an agreement developed pursuant to subdivision (l) of Section 5097.94, shall be exempt from the requirements of the California Coastal Act of 1976 (Division 20 (commencing with Section 30000)).

Section 5097.991 of the PRC further states:

It is the policy of the state that Native American remains and associated grave artifacts shall be repatriated.

- Update to PEIR Section 3.8.3, Analysis Methods and Thresholds of Significance, to include recent updates to the CEQA Guidelines, Appendix G regarding tribal cultural resources.

Thresholds of Significance

The following applicable thresholds of significance have been used to determine whether implementing the proposed program would result in a significant impact. These thresholds of significance are based on the questions posed in Appendix G of the CEQA Guidelines, as amended. A cultural resource impact is considered significant if implementation of the proposed program would do any of the following when compared against existing conditions:

- Result in a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the CEQA Guidelines

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- Result in a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines
- Disturb any human remains, including those interred outside of ~~formal~~ dedicated cemeteries

Additionally, a TCR impact is considered significant if implementation of the proposed program would result in a substantially adverse change in the significance of a TCR (as defined in PRC Section 21074 and above) when compared against existing conditions:

- Listed as eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.
- Update to PEIR Section 3.8.4, Environmental Impacts and Mitigation Measures for NTMAs, to revise the radius of search if cultural resources are discovered, to add the analysis of impacts on TCRs, the to add the implementation of cultural resource awareness and sensitivity training.

Mitigation Measure CUL-2 (NTMA): If Cultural Resources Are Discovered, Immediately Halt Construction and Implement an Accidental-Discovery Plan

Should cultural resources such as structural features, unusual amounts of bone or shell, artifacts, human remains, or architectural remains be encountered during construction activities, work will be suspended immediately at the location of the find and within a ~~50~~100-foot radius. A qualified archaeologist will conduct a field investigation of the specific site and recommend mitigation necessary to protect or recover any cultural resource determined by the archaeologist to represent a historical resource or unique archaeological resource.

Based on the archaeologist's recommendations, the project proponent will develop measures in consultation with responsible agencies and, as appropriate, interested parties such as Native American tribes. The approved mitigation must be implemented before construction activities resume at the archaeological site, as identified by the Native American Heritage Commission.

All of the steps identified above will be detailed in an accidental-discovery plan developed before construction so that all parties are aware of the process that must be implemented should buried archaeological resources be uncovered during construction.

Construction monitoring by a qualified archaeologist in areas determined particularly sensitive for buried archaeological remains will be implemented by project proponents when warranted, as recommended by the archaeological professional. Reasons for providing an

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archaeological monitor may include but are not limited to the previous identification of buried cultural deposits in the project vicinity or the previous recordation of an archaeological site that could not be recently identified on the ground surface. Furthermore, some landforms, such as mounded areas in floodplains adjacent to water courses, are more likely to be sensitive for buried resources. Large-scale projects involving a great deal of ground disturbance (e.g., lengthy levee construction) could benefit from geoarchaeological studies to determine those areas most likely to contain buried cultural deposits.

Discoveries of human remains will be treated as described in Mitigation Measure CUL-5c (NTMA), below.

Implementing this mitigation measure would reduce Impact CUL-2 (NTMA) to a less-than-significant level.

Impact CUL-4 (NTMA): Potential Damage or Disturbance to Traditional Cultural Properties/Tribal Cultural Resources during Ground Disturbance or Other Construction-Related Activities

Traditional cultural properties (TCPs) are cultural resources with tangible locations that are important to the cultural continuity and longevity of a community, have been important to the community for more than 50 years, and meet the criteria for eligibility for listing in the NRHP and CRHR. Although most TCPs in California are associated with Native American communities, they are not exclusively so. TCPs can be archaeological or built-environment resources, or they can be features of the natural landscape. TCPs are often locations on the landscape that have sacred or other special meaning to Native American communities. Cultivating and harvesting plants for traditional medicines and foods, and for uses such as basketry, remain important activities to Native American communities.

Some of the areas where such plants grow, which are often located adjacent to rivers and streams, may qualify as TCPs.

TCRs can be a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe that is either on, or eligible for inclusion in, the CRHR or a local historic register, or is a resource that the lead agency, at its discretion and supported by substantial evidence, determines should be treated as a TCR.

Pursuant to AB 52 and the Natural Resources Agency's tribal consultation policy, DWR contacted approximately 50 tribes in coordination with the Notice of Preparation (NOP) released on March 18, 2016. This provided notice of the Supplemental PEIR and provided an opportunity for interested tribes to submit information and request consultation under AB 52. Based on responses to the March 18, 2016, letter and pursuant to AB 52 and DWR's Tribal Engagement Policy (DWR, 2016h), DWR initiated Native American outreach meetings with the United Auburn Indian Community, Yocha Dehe Wintun Community, the Wilton Rancheria, the Ione Band of Miwok Indians, and the Shingle Springs Band of Miwok Indians during the period of October through December, 2016. On December 30, 2016 DWR released the Draft Supplemental PEIR, and the comment deadline was March 31, 2017. On February 9, DWR sent a letter to the five Native American Tribes that had requested

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consultation under AB 52 or the DWR Tribal Engagement Policy requesting that they notify DWR, by February 25, if they wanted to proceed with consultation. On March 21, 2017, DWR sent another letter to Native American Tribes that had requested consultation under AB 52 asking if the tribes wanted to continue with consultation and providing available dates. Only UAIC responded to these letters, and requested to continue consultation. UAIC provided comments on the draft Supplemental PEIR, but the remaining Native American tribes did not.

DWR and UAIC proceeded with consultation on April 11 and 18, May 2 and 16, June 15 and 27, and July 6, 2017.

Based on consultation activities to date, DWR added background information about tribal resources, updated the Regulatory Setting, and has expanded the Supplemental PEIR mitigation measures. In addition, DWR is adding a new Mitigation Measure CUL-4c to establish cultural resource awareness and sensitivity training.

Ground-disturbing construction activities or the demolition or modification of the built environment associated with NTMA projects could cause a significant adverse change to TCP/TCRs. Therefore, this impact would be potentially significant.

Mitigation Measure CUL-4a (NTMA): Conduct Cultural Resources Studies and Avoid Effects on TCP/TCRs

In areas potentially containing ~~traditional cultural properties~~ TCPs or TCRs, an ethnographer or archaeologist who meets the Secretary of the Interior's standards as a professional cultural resource specialist will consult with appropriate populations (Native Americans or otherwise) before approval of any project and identify the presence of any TCP/TCRs at the project location. Native American TCP/TCRs may be identified by an ethnographer who has worked intensively with community members (often, but not always, elders) possessed of considerable knowledge about places important to the community. Efforts to identify TCP/TCRs may include the engagement of tribal monitors. Should TCP/TCRs be identified in the project area, they will be avoided by project redesign or project relocation, if feasible. As an example, the proposed location of a water-monitoring device may be moved to another, still appropriate, place along a stream bed to avoid a section of the creek bank that is a TCP/TCR for medicinal plants, thereby avoiding a substantial adverse change to the resource.

Where avoidance is implemented and no further mitigation is required, implementing this mitigation measure would reduce Impact CUL-4 (NTMA) to a less-than-significant level. However, if avoidance is not feasible, see Mitigation Measure CUL-4b (NTMA) below.

Mitigation Measure CUL-4b (NTMA): Consult with Native American Communities and Implement Appropriate Measures to Mitigate Effects on TCP/TCRs

~~Effects to TCPs are expected to be rare occurrences. However, where~~ Where an identified TCP/TCR cannot be fully avoided by a proposed project, the project proponent will engage in early, meaningful consultation with Native American communities, consistent with AB 52 and DWR's Tribal Engagement Policy ~~as identified by the Native American Heritage~~

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Commission, to identify ways to mitigate impacts on TCP/TCRs. This may include the engagement of tribal monitors. An example of a mitigation measure that may be implemented would be ~~For example~~, if TCP/TCR locations that presently support plant species cultivated and harvested by Native American communities for traditional medicines and foods, or for uses such as basketry, are slated for destruction to make way for planned construction, the project proponent may work with the Native American community associated with the TCP/TCR to identify other nearby locations that can support these same plants. The project proponent can then take steps to enhance existing plant populations at those locations or provide materials and labor to cultivate new plants, with assistance from the Native American community.

Working with local Native American communities to develop interpretive programs is another measure to mitigate impacts on TCP/TCRs. Programs may include developing signage, constructing visitor centers describing locations that have sacred or other special meaning to Native Americans, developing and implementing management plans for important cultural resources, or establishing conservation easements to protect culturally important places.

For each subsequent project implemented under the CVFPP, DWR will follow the consultation processes described in Public Resources Code Sections 21080.3.1 and 21080.3.2 for Native American Tribes that request notice and consultation under AB 52. These processes include the following:

- DWR will maintain a notification list of Tribal contacts.
- DWR will notify Tribal contacts within 14 days from deciding to undertake a project.
- Tribes may respond to the notifications in writing within 30 days and request consultation on the project.
- DWR will begin consultation with the Tribe within 30 days of receiving the tribe's written request.
- Consultation will end when DWR and the interested Tribe(s) agree to measures to mitigate or avoid a significant effect on a TCR, or a party acting in good faith and after a reasonable effort, concludes that a mutual agreement cannot be reached.

For projects implemented under the CVFPP, the topics to be addressed in each project-level consultation will depend upon the interests and concerns of the consulting Tribe and the specifics of the project and its context including project and alternatives footprint. Without limiting the scope of future consultations under Public Resources Code Section 21080.3.2 in any way, these topics may include one or more of the following:

- Obtaining information that may be held by the affiliated Tribe, including Tribal Historic Preservation Offices, or others concerning the location and characteristics of any tribal cultural resources that may be located in the project area. This may include tribal registers, inventories, and geographical information systems. The characteristics of

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potentially affected resources may include, but are not limited to, the nature of the resource (village site, burial site, sacred site, etc.), the areal extent of the resource, and the cultural significance of the resource to the Tribe.

- Reviewing results of previous flood safety work and existing investigations (including non-invasive investigations, geoarchaeology, surveys, testing, data recovery, and well, trench, and boring logs) in proximity to the project area and to known potentially affected TCRs to further characterize known resources within the project footprint. The purposes of the review of previous investigations are to: provide data concerning the inventory of TCRs in the project area, describe and evaluate the significance of any known TCRs, and provide information useful in determining potential project effects on identified TCRs in the project footprint. Undertaking additional investigations appropriate to the scale and type of activity to further characterize known resources, where needed, and to assess the sensitivity for potential unknown resources in the project area. Other non-invasive investigatory methods may be appropriate and will be discussed with affiliated Tribes.
- Integrating Native American values into tribal cultural resource significance evaluations (using criteria 1, 2, 3 and 4). In applying the criteria set forth in the subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to the Native American tribe.
- Developing feasible avoidance measures for known resources. In some circumstances, only minor location adjustments or redesign may be needed to avoid the resource. Avoidance measures could include relocating haul and access roads, staging areas, spoil piles, and borrow areas. In other circumstances, such as operations and maintenance activities, opportunities for avoidance may be more limited.
- To the extent that avoidance is infeasible or unanticipated discoveries are encountered, developing appropriate mitigation measures to minimize the impacts to the resource. Such measures would include those described in Section 15370 of the CEQA Guidelines and may include providing Native American tribes that are affiliated with the project area with a schedule of ground-disturbing activities, considering alternative construction methods, potential reburial locations, potential site protection, buffer zones, a burial recovery plan, a cultural and Tribal resources management and treatment plan, sensitivity training, and discussing alternative equipment. It is recognized that in certain circumstances these measures might not reduce the effects on cultural resources and values to a less than significant level, and that some mitigation measures may themselves result in impacts that need to be addressed. Providing for the appropriate involvement of qualified Tribal monitors, including notification, coordination and safety protocols, and consideration of compensation.
- Undertaking the activities described above with full respect for the potentially affected tribal cultural resources and their significance to the Tribe. In particular, full consideration will be given to the Most Likely Descendant's recommendation for treatment and disposition of ancestral human remains and grave goods, consistent with Public Resources Code section 5097.98.

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In addition to formal consultations required by AB 52 in connection with future projects that are implemented under the CVFPP, DWR will comply with the DWR Tribal Engagement Policy and will notify Tribes culturally and traditionally affiliated with the project area, as appropriate, in connection with future ground disturbing geotechnical surveys that may have an effect on tribal cultural resources that are known to be present or that are likely to be present in the vicinity of the ground disturbing activities. When determining the presence or likely presence of tribal cultural resources, in addition to other sources, the following may be reviewed: the applicable Information in the California Historical Resources Information System, NAHC Sacred Lands database, ethnographic research, records maintained by the affiliated Tribe, and the results of previous surveys and investigations.

This mitigation measure was developed solely for projects that may be implemented under the CVFPP and corresponding consultations under AB 52, and is not necessarily applicable to tribal consultations conducted in conjunction with other DWR projects.

Mitigation Measure CUL-4c: Cultural Resource Awareness and Sensitivity Training

Only personnel who have received cultural resource awareness and sensitivity training will be allowed to enter areas potentially containing TCPs or TCRs. Training will include a presentation developed in coordination with affiliated tribal representatives. Topics may include the potential presence and type of Native American and non-Native American resources that might be found during operations associated with the individual flood control projects, and necessary reporting protocols. Written materials will be provided to personnel as appropriate.

Implementing Mitigation Measure CUL-4a (NTMA) and a suite of measures as necessary in Mitigation Measure CUL-4b (NTMA) **and CUL-4c (NTMA)** would reduce Impact CUL-4 (NTMA) to a less-than-significant level in most cases, but may not necessarily reduce impacts on some categories of TCP/TCRs. For example, a tribe's sacred site that is regularly visited for ceremonies could be destroyed during levee construction. In this situation, the direct impacts of the action cannot be fully mitigated even though some form of mitigation may be negotiated with the tribe to ameliorate the action. In such instances, Impact CUL-4 (NTMA) would be potentially significant and unavoidable.

Impact CUL-5 (NTMA): Potential Damage or Disturbance to Human Remains, Including Those Interred Outside of Formal Cemeteries, during Ground Disturbance or Other Construction-Related Activities

Cemeteries are defined by fencing or grave markers or both, but they may also be unmarked. Marked cemeteries may be informal family cemeteries found in rural settings or formal entities managed by local governments or cemetery boards. Formal cemeteries, in particular, can often be identified during record searches early in the project-planning process. However, unmarked cemeteries and Native American burials are difficult to locate during project planning and are often discovered only after construction has begun. Ground disturbance associated with NTMAs could disturb cemeteries and burial places, especially previously undiscovered burial places. Because cemeteries and burial places could be disturbed, this impact would be potentially significant.

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Mitigation Measure CUL-5a (NTMA): Conduct Cultural Resources Studies and Avoid Effects on Human Remains

The project proponent will ensure that archaeological and historical studies and surveys will be conducted by professionals who meet the Secretary of the Interior's standards, to identify the presence of human remains within a particular project location. Should human remains be identified within the study area, impacts on those remains resulting from any NTMA will be avoided, if feasible. Project relocation and redesign are appropriate avoidance measures. For example, should construction of a new maintenance facility be proposed at a place known to contain human remains, relocation of the facility would avoid disturbing the burials.

Where avoidance is implemented and no further mitigation is required, implementing this mitigation measure would reduce Impact CUL-5 (NTMA) to a less-than-significant level. However, if avoidance is not feasible, see Mitigation Measures CUL-5b (NTMA) and/or CUL-5c (NTMA) below, as applicable.

Mitigation Measure CUL-5b (NTMA): Relocate Known Cemeteries

The project proponent will consult with the entity (county, city, or private) that has jurisdiction over the cemetery, and with interested parties as appropriate, to identify a satisfactory place to relocate human remains that would provide protection from future disturbance. Similarly, if Native American burials are known to exist in an archaeological site, the project proponent will work with the appropriate tribe, as identified by the Native American Heritage Commission, to identify a satisfactory location for reinterment of burials in a protected location. In these and other circumstances where a known cemetery must be relocated, implementing this mitigation measure would reduce Impact CUL-5 (NTMA) to a less-than-significant level.

Mitigation Measure CUL-5c (NTMA): Immediately Halt Construction If Human Remains Are Discovered and Implement a Burial Treatment Plan

Construction activities have the potential to result in unanticipated effects on buried human remains where there is no surface indication of their presence. Under these circumstances, the project proponent will adhere to the requirements described in Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98:

- If human remains are uncovered during ground-disturbing activities, potentially damaging excavation must halt in the area of the remains and the local county coroner must be notified. The coroner is required to examine all discoveries of human remains within 48 hours of receiving notice of a discovery on private or state lands (Health and Safety Code, Section 7050.5(b)).
- If the coroner determines that the remains are those of a Native American, he or she must contact the NAHC by phone within 24 hours of making that determination (Health and Safety Code, Section 7050(c)).

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- In turn, under the provisions of PRC Section 5097.98, NAHC will identify a Most Likely Descendant (MLD). The MLD designated by the NAHC will have at least 48 hours to inspect the site and propose treatment and disposition of the remains and any associated grave goods.

For large projects (e.g., new levee construction) or projects where a high probability of encountering human remains exists, a burial treatment plan will be developed by the project proponent in consultation with local Native American tribes before construction. During this process, all parties will be made aware of the actions required should buried Native American human remains be uncovered during construction. The plan will detail all of the activities identified above and include treatment preferences identified by the MLD.

Smaller, localized projects do not require a burial treatment plan. Examples of such projects are modifications of existing facilities and projects that do not involve ground disturbance (e.g., purchases of easements, structure modifications). However, should human remains be uncovered during these project activities, treatment of the remains will strictly follow the requirements in Section 7050.5 of the California Health and Safety Code and PRC Section 5097.98.

Implementing Mitigation Measures CUL-5a (NTMA), CUL-5b (NTMA), and CUL-5c (NMTA) and complying with other provisions of the California Health and Safety Code would reduce Impact CUL-5 (NTMA) to a less-than-significant level.

Some burials and cemeteries may also be TCRs as described in Impact CUL-4 above. In that situation, the impact analysis, mitigation measures, and potentially significant and unavoidable impact conclusion described under Impact CUL-4 could apply. Burials and cemeteries may also be archaeological resources as described in Impacts CUL-1 and/or CUL-2 above. In that situation, the impact analysis, mitigation measures, and less than significant impact conclusion described under those impacts could apply.

- Update to PEIR Section 3.8.5, Environmental Impacts, Mitigation Measures, and Mitigation Strategies for LTMA, to add the analysis of impacts on TCRs.

Impact CUL-4 (LTMA): Potential Damage or Disturbance to Traditional Cultural Properties/Tribal Cultural Resources during Ground Disturbance or Other Construction-Related Activities

Where the LTMA would continue activities included in the NTMA, this impact would be the same as Impact CUL-4 (NTMA). However, the LTMA also include activities of greater scope, which could result in greater direct effects on TCP/TCRs. Those activities could involve constructing flood bypasses and restoring and realigning stream channels. This impact would be potentially significant.

Mitigation Measure CUL-4a (LTMA): Implement Mitigation Measure CUL-4a (NTMA)

Where avoidance is implemented and no further mitigation is required, implementing this mitigation measure would reduce Impact CUL-4 (LTMA) to a less-than-significant level. However, if avoidance is not feasible, see Mitigation Measure CUL-4b (LTMA) below.

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Mitigation Measure CUL-4b (LTMA): Implement Mitigation Measure CUL-4b (NTMA)

Implementing Mitigation Measure CUL-4a (LTMA) and a suite of measures as necessary in Mitigation Measure CUL-4b (LTMA) would reduce Impact CUL-4 (LTMA) to a less-than-significant level in most cases, but would not necessarily reduce impacts on some categories of TCP/TCRs. In such instances, Impact CUL-4 (LTMA) would be potentially significant and unavoidable.

3.5 Groundwater Resources

The following changes are made to PEIR Section 3.11, Groundwater Resources.

- Update to PEIR Section 3.8.2, Regulatory Setting, to add the Sustainable Groundwater Management Act to the discussion of applicable State regulations.

State

Porter-Cologne Water Quality Control Act. Regulations included in the Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (California Water Code, Section 13000 et seq.) are described in Subsection 3.5.2, “Regulatory Setting,” in Section 3.5, “Biological Resources—Aquatic.” Implementing the proposed program activities would not likely result in discharges of wastewater that could affect waters of the State, including groundwater. However, as a State regulation, the proposed program would comply with the Porter-Cologne Act, and DWR would file a report of discharge, if necessary.

Groundwater Management Act and Senate Bill 1938. Assembly Bill 3030 (1992), known as the Groundwater Management Act (California Water Code, Section 10750 et seq.), provides a systematic procedure for local agencies to develop a groundwater management plan for groundwater basins defined in DWR Bulletin 118. Senate Bill 1938, signed into law in 2002, amended the Water Code and the provisions of Assembly Bill 3030. This law requires any public agency seeking State funds administered through DWR for construction of groundwater or groundwater quality projects to prepare and implement a groundwater management plan with certain specified components. The public agency must establish basin management objectives, prepare a plan to involve other local agencies in a cooperative planning effort, and adopt monitoring protocols that promote efficient and effective groundwater management. These requirements still apply if the agency has already adopted a groundwater management plan or if its service area does not overlie groundwater basins identified in Bulletin 118 and its updates.

A groundwater management plan may provide details about the following components (California Water Code, Section 10753.8 et seq.):

- Controlling intrusion by saline water
- Identifying and managing wellhead protection areas and recharge areas
- Regulating the migration of contaminated groundwater
- Administering a well abandonment and well destruction program
- Mitigating overdraft conditions

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- Replenishing groundwater extracted by water producers
- Monitoring groundwater levels and storage
- Facilitating conjunctive-use operations
- Identifying well construction policies
- Cleaning up local groundwater contamination
- Implementing recharge, storage, conservation, water recycling, and extraction projects
- Developing relationships with State and federal regulatory agencies
- Reviewing land use plans and coordinating with land use planning agencies to assess activities that create a reasonable risk of groundwater contamination

Once a groundwater management plan is adopted, rules and regulations must be adopted to implement the program called for in the plan. Groundwater management plans can be found online through DWR's Integrated Water Resources Information System Web site (DWR 2011).

Sustainable Groundwater Management Act (SGMA). In September 2014, SGMA was enacted. SGMA establishes a new structure for locally managing California's groundwater in addition to existing groundwater management provisions established by AB 3030 (1992), SB 1938 (2002), and AB 359 (2011), as well as SBX7 6 (2009).

SGMA includes the following key elements:

- Provides for the establishment of a Groundwater Sustainability Agency (GSA) by one or more local agencies overlying a designated groundwater basin or sub-basin identified in DWR Bulletin 118-03
- Requires all DWR Bulletin 118 groundwater basins found to be of "high" or "medium" priorities to prepare Groundwater Sustainability Plans (GSPs)
- Provides for the proposed revisions, by local agencies, to the boundaries of a DWR Bulletin 118 basin, including the establishment of new sub-basins
- Provides authority for DWR to adopt regulations for the development of GSPs, and review the GSPs for compliance every 5 years
- Requires DWR to establish best management practices and technical measures for GSAs to develop and implement GSPs
- Provides regulatory authority to the State Water Resources Control Board (SWRCB) for developing and implementing interim GSPs under certain circumstances (such as lack of compliance with development of GSPs by GSAs)

SGMA defines sustainable groundwater management as "the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results." Undesirable results are defined as any of the following effects:

- Chronic lowering of groundwater levels

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- Significant and unreasonable reduction of groundwater storage
- Significant and unreasonable seawater intrusion
- Significant and unreasonable degraded water quality, including the migration of contaminant plumes that impair water supplies
- Significant and unreasonable land subsidence that substantially interferes with surface land uses
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

Based on basin priority definitions defined by DWR’s California Statewide Groundwater Elevation Monitoring (CASGEM) program in June 2014 and confirmed in January 2015, SGMA requires the formation of GSPs by 2020 or 2022. GSPs for medium- and high-priority basins identified as subject to critical conditions of overdraft are required by 2020. All other high- and medium-priority basins must complete a GSP by 2022. Sustainable groundwater operations must be achieved within 20 years following completion of the GSPs.

Area-of-Origin Statute Limitations. Section 1220 of the California Water Code prohibits pumping groundwater for export from within the combined Sacramento and Delta–Central Sierra basins, as defined in DWR Bulletin 160-74, unless the pumping complies with a groundwater management plan that is adopted by the ordinance.

Water Rights. The State Watermaster Program’s main purpose is to ensure that water is allocated according to established water rights (riparian, appropriative, or groundwater), as determined by court adjudications or agreements by an unbiased, qualified person, thereby reducing water rights court litigation, civil lawsuits, and law enforcement workload. Some groundwater rights in California have been settled by the courts after landowners or other parties have appealed to the courts to settle disputes over how much groundwater can rightfully be extracted. In these “adjudicated groundwater basins,” the courts have determined an equitable distribution of water that will be available for extraction each year. In adjudicated groundwater basins, the courts typically appoint a watermaster to administer the court judgment. Counties have also enacted laws to prevent wells developed on one property from interfering with the use of adjacent wells.

Groundwater Quality and Supply. The State requires counties to enact regulations covering well design to protect groundwater quality from surface contamination, and to properly construct and develop wells for domestic use. The Groundwater Management Act (California Water Code, Part 2.75, starting with Section 10750) provides a systematic procedure for groundwater management planning at the county and city levels.

Other Existing Management Policies. Existing law regarding groundwater is controlled by jurisdictional decisions. The California Water Code provides limited authority over groundwater use by allowing the formation of special districts (or water agencies) through general or special legislation. DWR identifies nine groundwater management agencies formed by special legislation (DWR 1994), none of which are located in the Central Valley.

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Local Identification of Potential Groundwater Recharge Areas. The 2007 flood legislation, in Government Code Section 65302 as amended by AB 162, directs cities and counties to identify in the conservation elements of their general plans those rivers, creeks, streams, flood corridors, riparian habitats and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management, upon the next revision of their general plan housing element.

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4.0 Cumulative Impacts

PEIR Section 4 describes the cumulative impacts analysis that was conducted for the CVFPP. Consistent with the CEQA Guidelines (Title 14 CCR Section 15130(a)), the discussion of cumulative impacts in the PEIR focused on significant and potentially significant cumulative impacts. Cumulative impacts are defined in the CEQA Guidelines (Title 14 CCR Section 15355) as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” A cumulative impact occurs from “the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects” (Title 14 CCR Section 15355(b)). For a detailed description of CEQA requirements, refer to PEIR Section 4.1.

As described in PEIR Section 4.2, the approach and geographic scope of the cumulative effects evaluation vary depending on the resource area being analyzed. There are no changes to the geographic scope of the cumulative analysis in this Supplemental PEIR. Refer to PEIR Table 4.2-1 for a list of the geographic area considered for each resource area.

Many past and present projects and activities have occurred and are occurring in the study area. For a list of the major past and present projects considered in the cumulative impact analysis, refer to PEIR Section 4.3.1. The effects of these past and present projects and activities have strongly influenced existing conditions, and some past projects are still affecting resources. Past and present projects and activities have contributed on a cumulative basis to the existing environment within the study area via various mechanisms, such as the following:

- Population growth and associated development of socioeconomic resources and infrastructure
- Conversion of natural vegetation to agricultural and developed land uses, and subsequent conversion or restoration of some agricultural lands to developed or natural lands
- Alteration of riverine hydrologic and geomorphic processes by flood management, water supply management, mining activities, and other activities
- Introduction of nonnative plant and animal species

In considering tribal cultural resources (TCRs) in response to AB 52 (see Section 3.4, Cultural and Historical Resources), an additional example was identified of past actions contributing on a cumulative basis to the existing environment:

- Degradation and destruction of TCRs, historical resources, unique archaeological resources, and other resources protected by federal laws, by flood management activities with substantial ground disturbance.

Determining the significance of a project’s cumulative impacts is a two-step process. First, the lead agency must examine the combined effects of past, present, and probable future projects to

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determine whether a significant cumulative impact would occur. Second, the lead agency must determine whether the project's incremental contribution to any significant cumulative impact is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

As described in PEIR Section 4.3.2, the cumulative impact analysis for the CVFPP combined a list approach and a plan approach to generate the most reliable assessment of future conditions possible. This approach is carried forward in the Supplemental PEIR and the lists of plans and projects from PEIR Section 4.3.2 have been updated. These updates, as shown below, are minor (i.e., plan updates and changes in project status) and do not result in significantly new or different cumulative impacts to consider. Similarly, as described in Section 3 of this Supplemental PEIR, the SSIA refinements included in the 2017 CVFPP Update would not result in new significant impacts or change the severity of impacts previously identified in the PEIR. However, the passage of AB 52 indicates the need to update the cumulative impact analysis for Cultural and Historic Resources in Section 4.4.2 of the PEIR. No other updates are needed.

As described above, updates were made to PEIR Section 4.3.2, Reasonably Foreseeable Future Projects, under the headers "Plans Describing Conditions Contributing to Cumulative Effects" and "List of Reasonably Foreseeable Probable Future Projects." In addition, updates were made to PEIR Section 4.4.2, Cumulative Impacts under the headers "Cultural and Historic Resources." The updates are presented below as errata to the PEIR – additions to the PEIR text are underlined, and deletions are marked in ~~strikeout~~. PEIR text to remain unchanged is presented in light gray text.

- Update to PEIR Section 4.3.1, Past and Present Projects and Activities and Cumulative Context, to refresh the list of "Plans Describing Conditions Contributing to Cumulative Effects."

Numerous statewide, regional, and local plans were considered in the CVFPP cumulative analysis in the PEIR. The plans listed below relate, on a regional or statewide level, to issues such as air quality, transportation, habitat preservation, and water. The list of plans describing conditions contributing to cumulative effects was updated for the Supplemental PEIR, as follows:

- California Water Plan Update ~~2009~~ 2013 (DWR, ~~2009~~ 2013a)
- The Water Quality Control Plan (Basin Plan) for the California Regional Water Quality Control Board: Central Valley Region, the Sacramento River Basin and San Joaquin River Basin (Central Valley RWQCB, ~~2009~~ 2016)
- The East Bay Municipal Utility District's WSMP 2040: Water Supply Management Program 2040 (EBMUD, ~~2009~~ 2012)
- The California Air Resources Board's Climate Change Scoping Plan: A Framework for Change (CARB ~~2008~~ 2014)

- PM₁₀ Implementation/Maintenance Plan and Redesignation ~~Request~~ for Sacramento County (SMAQMD ~~2010~~ 2013)
- Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (EDCAQMD et al., 2008)
- The San Joaquin Valley Air Pollution Control District's 2007 Ozone Plan (SJVAPCD, 2007a)
- The San Joaquin Valley Air Pollution Control District's ~~Extreme Ozone Attainment Demonstration Plan~~ 2013 Plan for the Revoked 1-Hour Ozone Standard (SJVAPCD, ~~2004~~ 2013)
- The San Joaquin Valley Air Pollution Control District's 2016 Plan for the 2008 8-Hour Ozone Standard (SJVAPCD, 2016)
- The San Joaquin Valley Air Pollution Control District's 2007 PM₁₀ Maintenance Plan and ~~Request for Redesignation~~ (SJVAPCD, 2007b)
- The San Joaquin Valley Air Pollution Control District's San Joaquin Valley ~~2008-2015~~ PM_{2.5} Plan (SJVAPCD, ~~2008-2015~~)
- Raising the Roof: California Development Projections and Constraints, 1997–2020. Statewide Housing Plan Update (California Department of Housing and Community Development, 2000)
- California Transportation Plan ~~2025-2040~~ (Caltrans, ~~2006~~ 2016)
- Butte County 2016 Regional Transportation Plan/Sustainable Communities Strategy ~~2008-2035~~ (BCAG, ~~2008~~ 2016)
- The Sacramento Area Council of Governments' 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy for ~~2035~~ 2036 (SACOG, ~~2011~~ 2016)
- The San Joaquin Council of Governments' ~~2011~~ 2014 Regional Transportation Plan/Sustainable Communities Strategy (SJCOG, ~~2011~~ 2014)
- The Stanislaus Council of Governments' ~~2011~~ 2014 Regional Transportation Plan/Sustainable Communities Strategy (STANCOG, ~~2011~~ 2014)
- The Merced County Association of Governments' ~~2012~~ 2016 Regional Transportation Improvement Program (MCAG, ~~2011~~ 2016)
- Madera County ~~2011~~ 2014 Regional Transportation Plan (Madera County, ~~2011~~ 2014)
- Fresno Council of Governments ~~The Council of Fresno County Governments'~~ ~~2011~~ 2014 Regional Transportation Plan/Sustainable Communities Strategy (Fresno Council of Governments ~~Council of Fresno County Governments,~~ ~~2010~~ 2014)

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- Natomas Basin Habitat Conservation Plan (City of Sacramento et al., 2003)
- East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (East Contra Costa County HCPA, 2006)
- San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (San Joaquin County, 2000)
- ~~Bay Delta Conservation Plan (Reclamation et al. 2012)~~
- California Water Fix (California Natural Resources Agency, 2016a)
- California EcoRestore (California Natural Resources Agency, 2016b)
- The Delta Stewardship Council’s Delta Plan (Delta Stewardship Council, ~~2011~~ 2013)
- The Delta Protection Commission’s Land Use and Resource Management Plan for the Primary Zone of the Delta (DPC, 2010)
- The Delta Protection Commission’s Economic Sustainability Plan for the Sacramento–San Joaquin Delta (DPC, ~~2011~~ 2012)
- The Sacramento–San Joaquin Delta Conservancy’s ~~Interim~~ 2012 Strategic Plan (Delta Conservancy, ~~2011~~ 2012)
- ~~Yolo Natural Heritage Program Plan Document~~ Yolo Habitat Conservation Plan and Natural Community Conservation Plan (Yolo County HCP/NCCP JPA, ~~2011~~ 2015)
- Butte Regional Conservation Plan (BCAG, ~~2011~~ 2015)
- Habitat restoration and species protection actions undertaken pursuant to the Central Valley Project Improvement Act, including the Anadromous Fish Restoration Program, Habitat Restoration Program, Instream Water Acquisition Program, Spawning and Rearing Habitat Restoration Program, and Anadromous Fish Screen Program.
- Update to PEIR Section 4.3.2, Reasonably Foreseeable Future Projects, to refresh the list of “List of Reasonably Foreseeable Future Projects.”

In addition to statewide, regional, and local plans and statewide development data identified in the previous section, reasonably foreseeable future flood management and water supply management projects in the extended systemwide planning area were included in the PEIR cumulative impacts analysis. These projects were considered individually because their effects are more closely related to those of the CVFPP than other projects. This list does not include any projects that are included in the CVFPP ~~if the CVFPP were adopted.~~

- Yuba River Basin Project
- Shasta Lake Water Resources Investigation
- North of Delta Off-Stream Storage (Sites Reservoir)

- Los Vaqueros Reservoir Expansion
 - Arroyo Pasajero Flood Related Improvements (CVP/SWP)
 - San Joaquin River Salinity Management Plan
 - Cosgrove Creek Flood Control Project
 - San Joaquin River Restoration Program
 - North Delta Flood Control and Ecosystem Restoration Project
 - Dutch Slough Tidal Restoration Project
 - Franks Tract Project
 - Delta-Mendota Canal/California Aqueduct Intertie Project
 - Delta Water Supply Project
 - Hetch Hetchy Seismic Upgrade Project
 - North Bay Aqueduct Alternative Intake Project
 - ~~BDCP/DHCCP~~California WaterFix/California EcoRestore/Delta Plan
 - Suisun Marsh Management, Preservation, and Restoration Plan
 - Environmental Permitting for Operations and Maintenance Project
- Update to PEIR Section 4.4.2, Cumulative Impacts, to update the section “Cultural and Historic Resources.”

Cultural and Historic Resources

The cumulative context for cultural and historic resources is defined as the Extended SPA and the Sacramento and San Joaquin Valley watersheds, which primarily incorporate three archaeological regions: the Central Valley, Northeastern, and Sierra Nevada. The eastern edge of the North Coast region is also included.

As discussed in Section 3.8, “Cultural and Historic Resources,” cultural resources may consist of prehistoric sites, historic sites, historic structures, ethnographic resources, ~~and~~ isolated artifacts, traditional cultural properties (TCPs), and tribal cultural resources (TCRs). During the 19th and 20th centuries, localized urbanization and intensive agricultural use resulted in the destruction, ~~or~~ disturbance, or incorporation of numerous prehistoric sites, TCPs, and TCRs, and many structures now considered to be historic were erected. From the latter half of the 20th century to the present, prehistoric and historic structures have been destroyed, disturbed, ~~and destroyed or~~ incorporated. Various regulations protecting cultural resources were developed and enforced during this period, substantially reducing with the intent to reduce the rate and intensity of these impacts. However, even with these regulations, cultural resources are still degraded or destroyed as cumulative development proceeds, resulting in significant adverse cumulative impacts on cultural resources.

Prehistoric human habitation sites are relatively common in riverbank, natural overbank deposits, and floodplain areas, and burial sites (including marked and unmarked cemeteries) are ~~occasionally~~ more likely to be encountered ~~in the course of~~ during ground-disturbing activities. As discussed in Section 3.8 of this PEIR, it is likely that known or unknown TCPs and TCRs ~~archaeological resources~~ could be disturbed, ~~and cultural resources~~ damaged, or destroyed during construction of NTMAs and LTMAAs. Losses of TCPs and TCRs ~~an archaeological resource~~ could occur during construction, operations and maintenance, where excavations encounter archaeological deposits that cannot be removed or recovered (e.g., underneath new facilities), or

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where recovery would ~~not~~ be ~~in~~sufficient to prevent the loss of the cultural material's significance. ~~Other TCPs and TCRs~~Historic resources could also be damaged or require removal from areas where new facilities or floodway expansions would occur. If any of these resources would be eligible for listing in the National Register of Historic Places, the impact of their modification or destruction would also be significant. In addition, ~~traditional cultural properties~~ TCPs (which can be archaeological or built-environment resources, or features of the natural landscape) and TCRs could be damaged or destroyed, or loss of use could occur if access to such properties is removed.

Implementing Mitigation Measures CUL-1 (NTMA and LTMA) through CUL-5 (NTMA and LTMA) would reduce effects on potentially significant cultural resources; however, adverse effects on significant historic buildings and structures and ~~traditional cultural properties~~ TCPs and TCRs may still occur. Therefore, Impacts CUL-3 (NTMA and LTMA), and CUL-4 (NTMA and LTMA) would be potentially significant and unavoidable.

Reasonably foreseeable future projects related to the CVFPP could result in the same potentially significant impacts on TCPs and TCRs ~~the same types of cultural resources~~ described above. Even if related projects were to implement mitigation measures, adverse impacts ~~could~~ would likely still occur, and thus the impacts of the related projects would be significant and unavoidable. Loss of TCPs and TCRs ~~archaeological resources~~ would add to a historical trend in the loss of these resources as artifacts and places of cultural significance and as objects of research significance. Therefore, as urban development proceeds, a significant and unavoidable cumulative impact is ongoing in the project region. Despite implementation of Mitigation Measures CUL-1 (NTMA and LTMA) through CUL-5 (NTMA and LTMA), the proposed program would result in a cumulatively considerable, incremental contribution to a cumulatively significant and unavoidable impact related to TCPs and TCRs ~~cultural and historic resources~~.

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SJCOG. *See* San Joaquin Council of Governments.

SMAQMD. *See* Sacramento Metropolitan Air Quality Management District.

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7.0 Acronyms and Abbreviations

AB	Assembly Bill
Act	Central Valley Flood Protection Act of 2008, Senate Bill 5
Basin Plan.....	Water Quality Control Plan for the Sacramento River Basin and San Joaquin River Basin
BCAG	Butte County Association of Governments
Board	Central Valley Flood Protection Board
BWFS	Basin-Wide Feasibility Study
Caltrans	California Department of Transportation
CARB.....	California Air Resources Board
CASGEM	California Statewide Groundwater Elevation Monitoring
CCR.....	California Code of Regulations
Central Valley RWQCB	Central Valley Regional Water Quality Control Board
CEQA	California Environmental Quality Act
CFR.....	Code of Federal Regulations
cfs.....	cubic feet per second
CLVRP.....	California Levee Vegetation Research Program
CRHR	California Register of Historical Resources
CVFMP	Central Valley Flood Management Planning
CVFPP.....	Central Valley Flood Protection Plan
CVIFMS	Central Valley Integrated Flood Management Study
CVP	Central Valley Project
CWC	California Water Code
Delta	Sacramento–San Joaquin Delta
Delta Conservancy.....	Sacramento–San Joaquin Delta Conservancy
DPC.....	Delta Protection Commission
DWR	California Department of Water Resources
EBMUD.....	East Bay Municipal Utility District
EDCAQMD	El Dorado County Air Quality Management District
EIA.....	environmental impact assessment
Extended SPA.....	Systemwide Planning Area Plus 2-Mile Buffer and Suisun Extension
F-BO	Forecast-Based Operations

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F-CO	Forecast-Coordinated Operations
FCSSR	Flood Control System Status Report
F-IO	Forecast-Informed Operations
FR	Federal Register
FSSR	Flood System Status Report
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
HCD	California Department of Housing and Community Development
HCP/NCCP	Habitat Conservation Plan/Natural Communities Conservation Plan
HCPA	East Contra Costa County Habitat Conservation Plan Association.
I	interstate
JPA	Joint Powers Agency
LOP	level of protection
LVMS	Levee Vegetation Management Strategy
MCAG	Merced Council of Governments
NAHC	Native American Heritage Commission
NEPA	National Environmental Policy Act
NOP	notice of preparation
O&M	operations and maintenance
OMRR&R	operations, maintenance, repair, rehabilitation, and replacement
PEIR	Program Environmental Impact Report
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	Public Resources Code
RD	Reclamation District
RFMP	Regional Flood Management Plan
RM	River Mile
SACOG	Sacramento Area Council of Governments
SB 5	Senate Bill 5, Central Valley Flood Protection Act of 2008
SGMA	Sustainable Groundwater Management Act
SJCOG	San Joaquin Council of Governments
SJVAPCD	San Joaquin Valley Air Pollution Control District
SMAQMD	Sacramento Metropolitan Air Quality District

7.0 Acronyms and Abbreviations

SoCal/CVP/SWP service areas ..	Southern California/Coastal Service Areas of the Central Valley Project and State Water Project
SPA	Systemwide Planning Area
SPFC	State Plan of Flood Control
SRA	shaded riverine aquatic
SSIA	State Systemwide Investment Approach
STANCOG	Stanislaus Council of Governments
SWP	State Water Project
SWRCB	State Water Resources Control Board
TAF	thousand acre-feet
TCP	traditional cultural properties
TCR	tribal cultural resource
TM	technical memorandum
U.S.....	United States
USACE	U.S. Army Corps of Engineers
VMS.....	Vegetation Management Strategy
WSMP	Water Supply Management Program

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Appendix A
Analysis of Vegetation Management Zone
Implementation Technical Memorandum

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Analysis of Vegetation Management Zone Implementation Technical Memorandum

December 2016

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1.0 Introduction

This technical memorandum provides an overview of the methodology used to develop an estimate of potential riparian vegetation loss related to implementing the Vegetation Management Strategy (VMS) described in the 2017 Central Valley Flood Protection Plan Update (2017 CVFPP Update). More specifically, it describes the data used in the analysis, analysis methods, and results of the analysis expressed as acres of anticipated long-term die-off of woody vegetation from the Vegetation Management Zone (VMZ) on levees that are a component of the State Plan of Flood Control (SPFC). The memorandum was developed in partial fulfillment of mitigation measures described in the 2012 program environmental impact report (EIR), and to inform the impact analysis made in the supplemental program environmental impact report (SPEIR) for the 2017 CVFPP Update. Because the analysis was conducted to support program-level, strategic, and regional-scale planning for conservation and flood management, the data sources, methods, and conclusions described in this memorandum are not appropriate for, and should not be used for, project-specific planning and design.

2.0 Data Sources

2.1 Fine-Scale Riparian Vegetation Layer

The Central Valley Riparian and Sacramento Valley (DS-1000) vegetation layer is a fine-scale vegetation layer created in 2013 to support the CVFPP planning process (GIC at CSU Chico 2013). The mapping area includes the main-stem rivers and major tributaries in the Systemwide Planning Area (SPA), along with streams from the Kings River north to the town of Red Bluff and streams north of the U.S. Department of Agriculture Great Valley Ecological Section along the main stem of the Sacramento River to Keswick Dam. The dataset combines mapping done in the western Sacramento Valley with medium-scale vegetation mapping in the SPA and eastern Sacramento Valley created for the 2012 CVFPP (GIC at CSU Chico 2011).

The medium-scale vegetation layer originally was mapped at the Group level and was further refined (when possible) to the Alliance level as defined in *A Manual of California Vegetation* (Sawyer et al. 2009) for inclusion in the fine-scale vegetation layer. This dataset meets the National Vegetation Classification Standard and California Vegetation Classification and Mapping Standards as of 2013, both of which have since been updated (CDFW VegCAMP 2015, USNVC 2016). Vegetation is mapped to the Alliance level (or in some cases to the Group or

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Macrogroup level when the Alliance level could not be determined from photointerpretation) with a 1-acre minimum mapping unit (MMU).

Polygons are also attributed with total bird's-eye cover (i.e., what can be seen on the aerial photograph image, excluding understory layers when covered by an overstory layer) of trees, shrubs, and herbs. Mapping was completed from interpretation of the National Agricultural Inventory Program's (NAIP's) 2009 (NAIP 2009) aerial imagery. Polygons were hand-digitized at a scale of 1:2,000 with a minimum average width of 10 meters per polygon.

The dataset was assessed for accuracy by California Department of Fish and Wildlife Vegetation Classification and Mapping Program (CDFW VegCAMP and GIC at CSU Chico 2013). Overall, users' accuracy of the map was 88%, and producers' accuracy was 87%, exceeding the Federal Geographic Data Committee's standard for such maps of 80% (FGDC 2008). This accuracy level is sufficient for regional planning.

This dataset represents the baseline condition of vegetation communities in the Central Valley as of 2009. More information on this dataset can be found at <https://catalog.data.gov/dataset/vegetation-central-valley-riparian-and-sacramento-valley-ds1000>. Attachment A includes the full metadata for this dataset.

2.2 Delta Vegetation Layer

The Delta Vegetation and Land Use (DS-292) vegetation layer is a map of vegetation in the Legal Delta portion of the Sacramento–San Joaquin Delta (Delta) area (CDFW VegCAMP 2011).

This dataset meets the National Vegetation Classification Standard and California Vegetation Classification and Mapping Standards as of 2011, both of which have since been updated (CDFW VegCAMP 2015, USNVC 2016). Vegetation is mapped from a sub-Alliance to super-Alliance level derived from field data collected in summer and fall 2005 by the California Department of Fish and Wildlife Vegetation Classification and Mapping Program, using the California Native Plant Society Rapid Assessment Protocol (CDFG 2007). Mapping was completed using heads-up digitizing conducted by Aerial Information Services. Base imagery was U.S. Geological Survey high-resolution orthoimagery at 1-foot resolution from spring 2002, with additional marginal areas supplemented with NAIP 1-meter resolution photography from summer 2005. In addition to vegetation type, each polygon was attributed by height, primary stratum cover (density), and site quality. Minimum widths for vegetation polygons are 10 meters, and the MMU is 1–2 acres, depending on the vegetation type. Vegetation features were occasionally mapped below the MMU, when they were so distinct or important compared to the surroundings that omitting them would have distorted the representation of that area.

This dataset represents the baseline condition of vegetation in the Delta as of 2002 or 2005 (depending on the aerial imagery used). More information on this dataset can be found at

<https://catalog.data.gov/dataset/delta-vegetation-and-land-use-ds29205ccd>. Attachment B includes the full metadata for this dataset.

2.3 Levee Anatomy

The Levee Anatomy layer depicts levee footprints created using high-resolution Light Detection and Ranging (LiDAR) imagery (DWR 2015). As part of the SPFC Delta Anatomy Mapping Project, levee anatomies were delineated using slope grids built from available LiDAR data points. Thresholds were identified that capture the levee crown, levee landside slope, and levee waterside slope. Visual interpretations of slope thresholds were used in conjunction with heads-up digitizing to maintain smooth boundaries at a scale of 1:550. The levee crown was delineated as the levee's elevational peak; the levee waterside slope extended to the levee's toe, the waterside edge, or 50 feet from the crown, whichever came first; the levee landside slope was delineated as the levee section opposite the levee waterside slope section (as long as it does not also face a water body) and always extended from the levee crown to the levee toe, regardless of the length from the crown. In addition to the standard anatomy, 15-foot buffers were created at both the landside and waterside levee toes. On the waterside, this buffer was trimmed, if needed, to the water's edge as defined by California Department of Water Resources hydrologic and water body breaklines dataset. The waterside slope was further delineated by creating a 20-foot buffer from the edge levee crown down the slope of the levee.

Accuracy was assessed for this dataset as a minimum of +/- 3 feet.

This dataset depicts the levee anatomy at the time of the Central Valley Flood Evaluation and Delineation Program LiDAR survey and the Delta LiDAR survey flown in 2007. Attachment C includes the full metadata for this dataset.

3.0 Data Analysis

3.1 Methods

The Levee Anatomy layer was used to delineate the DWR vegetation management zone (VMZ) as defined in the VMS, where:

- Levee crown VMZ = levee crown
- Landside VMZ = levee landside slope and 15-foot buffer
- Waterside VMZ = 20-foot buffer on levee waterside slope lineally from levee crown edge

Using ArcGIS version 10.X, acreages of woody riparian vegetation types were tabulated for each VMZ or portion of the VMZ (i.e., levee crown, landside slope, landside buffer, and waterside slope as delineated in the Levee Anatomy layer). These acreages were calculated by using GIS to

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intersect the Levee Anatomy layer with the fine-scale riparian and Delta vegetation layers and calculating the acreages of the resultant polygons. These acreages were converted to an Excel file to tabulate vegetation types by region.

Woody riparian vegetation types were chosen from each vegetation dataset using a crosswalk table (Attachment D). Woody riparian vegetation types are those vegetation types that correspond to Oak Woodland, Riparian Forest, Riparian Scrub, and Woodland.

3.2 Results

Results are tabulated separately for the Sacramento Basin and the San Joaquin Basin (Table 1). A total of 1,296 acres of woody riparian vegetation would be lost from the VMZ of the SPFC across both basins, with approximately two-thirds of that acreage in the Sacramento Basin. This loss would take place over a long timeframe, estimated on the order of decades, as the CVFPP VMS is implemented. Note that the crown of a single tree may overlap in any number of levee anatomy categories. For example, a single tree canopy may occur both within a levee slope as well as occurring above the levee crown.

Table 1. Acres of Riparian Habitat Lost through the Vegetation Management Strategy

Basin	Levee Crown	Levee Landside Slope	Levee Landside Buffer	Levee Waterside Slope	Total
Sacramento Basin	240	288	103	293	924
San Joaquin Basin	88	72	38	174	372
Total	328	360	141	467	1,296

Note: Riparian vegetation includes Woodland, Riparian Scrub, Riparian Forest, and Oak Woodland vegetation types.
Sources: CDFW VegCAMP 2011, GIC at CSU Chico 2013, DWR 2015.

3.3 Caveats

As stated in the “Introduction” section, this analysis was conducted to support program-level, strategic, and regional-scale planning for conservation and flood management, and the data sources, methods, and conclusions described in this memorandum are not appropriate for, and should not be used for, project-specific planning and design. Riparian vegetation may grow in small patches and, because of their small size, some patches of riparian vegetation may have been mapped as part of adjoining vegetation types. The Levee Anatomy features are narrow and often located at these transition zones of adjoining vegetation types (e.g., agricultural crops and riparian). Because of these limitations, the acreage of riparian vegetation potentially affected in any portion of the levee anatomy will require field verification for any project specific actions.

4.0 Conclusion

Implementation of the VMS described in the 2017 CVFPP could, eventually, result in the loss of approximately 1,296 acres of riparian vegetation from the DWR VMZ.). These anticipated losses of riparian vegetation may be offset by riparian corridors under consideration in other CVFPP planning efforts such as the Basin-wide Feasibility studies, or other multi-purpose project implementation efforts.

These estimates of eventual habitat loss from the VMZ are based on the best available data, and do not include considerations of channel vegetation management policies or any other operations and maintenance activities.

The data sources applied to this analysis may be used to further help inform vegetation management planning efforts called for in the 2012 PEIR.

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Appendix B

Comments and Responses

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Appendix B: Comments and Responses

B.1 Introduction

This appendix contains a summary of the comment letters received on the Draft Supplemental Program Environmental Impact Report (PEIR) for the 2017 Central Valley Flood Protection Plan Update (2017 CVFPP Update) (released in December 2016). Section B.2 contains responses to common themes contained in the comment letters; these are referred to as Master Responses. Responses to individual comments – those not covered by Master Responses – are found in Section B.3.

Comment summaries and responses to comments are arranged in the following order:

- Section B.3.1: Federal Comments and Responses
- Section B.3.2: State Comments and Responses
- Section B.3.3: Local and Regional Comments and Responses
- Section B.3.4: Group Comments and Responses
- Section B.3.5: Individual Comments and Responses
- Section B.3.6: Public Hearing Comments and Responses
- Section B.3.7: Tribes

Each letter and each comment within a letter have been given an identification code. Responses are numbered so that they correspond to the appropriate comment. Where appropriate, responses are cross-referenced with a Master Response.

Table B-1 lists all comments on the Draft Supplemental PEIR, including comments received during the public hearings.

Table B-1. List of Commenters on the Final Supplemental PEIR for the 2017 CVFPP Update

Commenter Name	Date
Federal Agency Commenters	
U.S. Fish and Wildlife Service	date not included
State Agency Commenters	
California Department of Fish and Wildlife, Tina Bartlett (Letter 1)	April 3, 2017
California Department of Fish and Wildlife, Tina Bartlett (Letter 2)	April 3, 2017
California Department of Transportation, Christian Bushong	March 27, 2017
Delta Protection Commission, Skip Thomson	March 23, 2017
Delta Stewardship Council, Cassandra Enos-Nobriga	March 30, 2017
Local and Regional Agency Commenters	
City of Lathrop, Glenn Gebhardt (Letter 1)	March 22, 2017

Table B-1. List of Commenters on the Final Supplemental PEIR for the 2017 CVFPP Update

Commenter Name	Date
City of Lathrop, Glenn Gebhardt (Letter 2)	March 31, 2017
City of Stockton, David Kwong	March 30, 2017
County of Sutter, Chuck Smith	February 28, 2017
Reclamation District 108, Fritz Durst	March 18, 2017
San Joaquin Area Flood Control Agency, James B. Giottonini (Letter 1)	March 17, 2017
San Joaquin Area Flood Control Agency, James B. Giottonini (Letter 3)	March 30, 2017
San Joaquin County Public Works	March 17, 2017
Group Commenters	
American Rivers, John Cain	March 28, 2017
California Farm Bureau Federation, Justin E. Fredrickson	March 31, 2017
Green Mountain Engineering, Dominick Gulli	date not included
Sites Project Authority, James C. Watson	March 24, 2017
Individual Commenters	
Francis Coats – Letter 1	February 25, 2017
Francis Coats – Letter 3	March 7, 2017
Comments Received During Public Hearings	
Justin Fredrickson, California Farm Bureau	February 24, 2017
Ronald Stork, Friends of the River	February 24, 2017
Dante Nomellini	March 17, 2017
Tribes	
Shingle Springs Band of Miwok Indians, Kara Perry	March 16, 2017
United Auburn Indian Community of the Auburn Rancheria, Gene Whitehouse	March 31, 2017

B.2 Master Responses

Master Response A: Supplement to the 2012 Program EIR

Several comments addressed topics that were resolved by certifying the PEIR in 2012, and do not require update. As described on Supplemental PEIR p. 1-1, new text is only proposed where it was determined that the 2017 CVFPP Update could result in new significant impacts or a substantial increase in the severity of significant impacts, if there is substantially important new information relating to the CVFPP or its environmental effects, or if there are substantial changes with respect to the circumstances under which the project is undertaken. This is consistent with the requirements of the California Environmental Quality Act (CEQA), per CEQA Guidelines Sections 15162 and 15163.

The California Department of Water Resources’ (DWR’s) process for determining topics requiring update began with publication of a Notice of Preparation on March 18, 2016 and included a Scoping Meeting held on April 8, 2016. The Notice of Preparation described topics that DWR expected would require update per the CEQA Guidelines, and solicited input from agencies and the public. Based on the Notice of Preparation, feedback from the scoping process,

and the contents of the 2017 CVFPP Update as it was developed, DWR determined that some PEIR resources required updating, and some did not.

In response to comments on the Draft Supplemental PEIR, some additional changes have been made; see the responses to individual comments and the updated text in the Final Supplemental PEIR. These changes were made based on comments that pointed out other issues meeting the criteria in the CEQA Guidelines. Comments requesting changes that did not rise to the level of meeting the CEQA criteria were not incorporated into the Final Supplemental PEIR.

Master Response B: Program vs. Project Level of Detail

Several commenters asserted that the Supplemental PEIR should include more detail about the characteristics and impacts of future projects that may occur in the planning area. Many of these comments were based on the two basin-wide feasibility studies (BWFSs) for the Sacramento and San Joaquin basins; in particular, various maps depicting the nature and location of possible future actions such as setback levees. Similar comments were received and addressed in the 2012 PEIR. Other commenters did not object to the level of project-level detail contained in the Supplemental PEIR, but instead requested that DWR establish a process, including a template initial study, that would guide how future project-level environmental documents would be prepared. In particular, the California Department of Fish and Wildlife (CDFW) requested that this initial study provide a framework for “tiering” future environmental documents. This Master Response addresses the nature of the CVFPP, the 2012 PEIR, and Supplemental PEIR, and the relationship of these documents to future actions and environmental reviews.

To begin with, many of the comments misunderstand the nature and purpose of the CVFPP. The CVFPP is a broad-level planning study directed by Senate Bill (SB) 5 to evaluate a number of topics. Although the CVFPP is intended to guide future actions regarding the State Plan of Flood Control (SPFC), the CVFPP is not a regulatory document in the nature of a local general plan or local coastal program. Specifically, there is no requirement that future actions in the planning area be consistent with the CVFPP. The CVFPP is also scheduled to be revised every five years. As a result, many comments overstate the CVFPP’s role going forward when they assume that the CVFPP will direct, control, or constrain future actions. Instead, the management actions ultimately proposed for implementation in the planning area may well differ from the options currently being considered, based on further evaluation and input from affected stakeholders. Moreover, most of the actions described in the CVFPP are currently unfunded, making their future implementation somewhat speculative.

The San Joaquin River BWFS (DWR 2017), for example, explains the preliminary nature of the actions described in it, as follows:

“The San Joaquin River Basin-Wide Feasibility Study (BWFS) presents the California Department of Water Resources’ (DWR’s) findings on the refinement of major flood management system improvements and the State’s interest in locally-led regional improvements. These findings result in a State Recommended Plan, which do not result in funding decisions, but provide valuable planning information for more detailed and extensive analysis.” [p. 1-1]

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The San Joaquin River BWFS continues:

“The BWFS is a planning study. In general, planning studies that lead to implementation begin with conceptual evaluations supported by preliminary, often incomplete information, then advance to more rigor and detail as planning concepts are developed.” [p. 1-3]

As explained in the 2012 PEIR, the environmental document for the CVFPP is a first-tier PEIR. A PEIR is “an EIR which may be prepared on a series of actions that can be characterized as one large project” and are related in specified ways (CEQA Guidelines Section 15168(a)). An advantage of using a PEIR is that it can “[a]llow the lead agency to consider broad policy alternatives and program wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts” (CEQA Guidelines Section 15168(b)(4)). Accordingly, a PEIR is distinct from a project environmental impact report (EIR), which is prepared for a specific project and must examine in detail site-specific considerations (CEQA Guidelines Section 15161).

CEQA does not mandate that a first-tier PEIR identify with certainty the characteristics and impacts of second-tier projects that will be further analyzed before implementation during later stages of the program. Rather, identification of specific impacts is required only at the second-tier stage when specific projects are considered. Similarly, at the first-tier program stage, the environmental effects of potential future projects may be analyzed in general terms, without the level of detail appropriate for second-tier, site-specific review (CEQA Guidelines Sections 15146 and 15152). The CVFPP 2012 PEIR satisfies these requirements.

The Supreme Court’s decision in re Bay-Delta Programmatic Environmental Impact Report Coordinated Proceedings (2008), 43 Cal.4th 1143, 1163 (CALFED Proceedings), supported DWR’s programmatic approach in that document, noting that:

“In addressing the appropriate amount of detail required at different stages in the tiering process, the CEQA Guidelines state that “[w]here a lead agency is using the tiering process in connection with an EIR for a large-scale planning approval, such as a general plan or component thereof ..., the development of detailed, site-specific information may not be feasible but can be deferred, in many instances, until such time as the lead agency prepares a future environmental document in connection with a project of a more limited geographic scale, as long as deferral does not prevent adequate identification of significant effects of the planning approval at hand.” (Cal. Code Regs., tit. 14, § 15152, subd. (c).) This court has explained that “[t]iering is properly used to defer analysis of environmental impacts and mitigation measures to later phases when the impacts or mitigation measures are not determined by the first-tier approval decision but are specific to the later phases.” (Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova, supra, 40 Cal.4th at p. 431.) (Id. at 1170.)”

A comparison of the EIR at issue in the CALFED Proceedings, which is comparatively general, with the more detailed analysis contained in the CVFPP PEIR demonstrates that the standard articulated in the CALFED Proceedings has been more than satisfied here.

This question was also discussed in *Rio Vista Farm Bureau Center v. County of Solano* (1992) 5 Cal.App.4th 351 (Rio Vista). Like the CALFED Proceedings, that case upheld the adequacy of a program-level EIR that, like the CVFPP PEIR here, supported a program-level action that did not commit the agency to any future projects. Specifically, Rio Vista concerned the validity of a final EIR for a county's hazardous waste management plan. The plan did not select any specific sites for hazardous waste disposal facilities, but instead merely designated certain areas within the county as being potentially consistent with the stated criteria for such a facility. Much like the argument made by the commenters here, at issue was whether the EIR was defective for failing to provide a sufficient project description or to sufficiently analyze the environmental impacts of, possible mitigation measures for, and project alternatives to constructing hazardous waste disposal facilities at identified potential sites. Rejecting the claim, the Court of Appeal stated:

“The flaw in appellant’s argument is that the Plan makes no commitment to future facilities other than furnishing siting criteria and designating generally acceptable locations. While the Plan suggests that new facilities may be needed by the County, no siting decisions are made; the Plan does not even determine that future facilities will ever be built.” (Id. at 371.) The Court of Appeal added: “Where, as here, an EIR cannot provide meaningful information about a speculative future project, deferral of an environmental assessment does not violate CEQA.” (Id. at 373.)

Several commenters argued that DWR failed to disclose the full scope of the program, pointing to various analyses in the draft CVFPP and Draft PEIR of conceptual future projects, such as certain bypass expansions. However, these analyses simply implemented DWR's obligation under CEQA's "rule of reason" to make reasonable forecasts necessary to support informed decision making and public participation at the program level. As in Rio Vista, the draft CVFPP and PEIR carefully explain that no commitments are presently being made to future facilities such as bypass expansions. Instead, extensive technical and other analyses as well as public participation will precede any specific project proposals.

CDFW's suggestion that DWR develop a standardized process for evaluating the future use of the Supplemental PEIR at the project level is well taken. CDFW cites CEQA Guidelines Section 15168, which states: “[w]here the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.”

CDFW continues with the following specific recommendation:

“As such, the Department recommends that the process used to evaluate impacts for this Project be used for any further supplemental PEIRs for consistency in analysis. The checklist developed should be accompanied by enough relevant information and reasonable inferences from this information to support each conclusion concerning biological resources. For any subsequent Project activities that may affect sensitive biological resources, a site-specific analysis should be prepared, from which the supporting information would be derived. The checklist should cite the specific portions of the PEIR, including page and section references, containing the analysis of the

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subsequent Project activities' significant effects and indicate whether it incorporates all applicable mitigation measures from the PEIR.”

DWR agrees. Indeed, a similar checklist was used to scope and focus the Supplemental PEIR. Similar to CDFW's recommendation, the initial study for the Supplemental PEIR summarized the 2012 PEIR's disposition of each impact and considered whether program changes, changed circumstances or new information warranted additional environmental review. A similar approach would be appropriate for tiering many future environmental documents from the PEIR at the project level. The exact process, however, will depend on the specific activities being considered. For example, activities may be categorically exempt from CEQA, so the application of a detailed tiering checklist may not be needed. For many future actions, though, CDFW's recommendation of a standardized or "template" initial study would efficiently facilitate future project-level environmental reviews.

Master Response C: Supporting Documents/Time Extension

Several commenters requested a time extension for comments on the 2017 CVFPP Update and Draft Supplemental PEIR, because some documents were released following the public release of the 2017 CVFPP Update and Draft Supplemental PEIR in December, 2016. Specifically, commenters referenced the updated San Joaquin River BWFS, the Investment Strategy, and several supporting documents that were still in preparation when the Draft Supplemental PEIR was released for public comment in December 2016.

The 2017 CVFPP Update was developed, in part, based on information contained in the draft San Joaquin River BWFS, dated October 2016, and the Draft Supplemental PEIR was prepared based on information contained in the 2017 CVFPP Update and the October 2016 San Joaquin River BWFS. The San Joaquin River BWFS was updated in response to comments on the October 2016 draft, and a revised draft was published in March 2017. The updates to the San Joaquin River BWFS mostly provide clarifying edits to the October 2016 draft, and do not result in substantive changes to the BWFS recommended options.

The draft Investment Strategy was released in March, 2017. It describes the expected costs of implementing the CVFPP and presents a strategy to secure funding; it does not include information that would affect the nature and extent of the flood system management recommendations in the CVFPP itself.

The several additional supporting documents also identified in the time extension requests generally provide updated information on various topics, such as public engagement and climate change. Those documents may provide administrative record support for the Supplemental PEIR, but they do not modify either the 2017 CVFPP Update or the Supplemental PEIR.

As the 2017 CVFPP Update explains, these supporting documents simply inform the update; see, for example, 2017 CVFPP Update Section 2.1.1. The documents do not alter the CVFPP itself, and in any event the documents are generally consistent with both the original CVFPP as well as the 2017 CVFPP Update. In addition, none of these documents are anticipated to be adopted by the Board in connection with the 2017 CVFPP Update. All of the documents that are being considered for adoption (the 2017 CVFPP Update, Updated Flood System Status Report,

Updated State Plan of Flood Control Descriptive Document) were available for review in December 2016, as was the draft Conservation Strategy.

The documents of greatest apparent interest to the commenters also reflect the current status of ongoing planning and feasibility studies that might, if and when funding becomes available, ripen into specific project proposals. At present, these project-level activities are not sufficiently developed to allow additional CEQA analysis beyond the broad programmatic level reflected in the Supplemental PEIR. For additional discussion of this topic, please refer to Master Response B.

In terms of the request for an extension of the comment period, it needs to be remembered that DWR and the Board have no legal obligation to take comments on the 2017 CVFPP Update. As a matter of policy, however, DWR and the Board have engaged in an extensive public participation process, including numerous workshops and the opportunity to comment on the December 2016 draft of the 2017 CVFPP Update. That public participation has been very helpful and we believe that it has resulted in better documents.

Unlike SB 5, CEQA does provide for a minimum 45-day public comment period, which in this case DWR doubled to 90 days, with comments due on March 31, 2017. DWR believes that this comment period was adequate.

Public review of the Supplemental PEIR is based upon the project description in that document, which must be “accurate, stable and finite.” Since the documents referenced in the time extension requests do not modify the 2017 CVFPP Update, particularly not in any material way, the Supplemental PEIR’s project description continues to satisfy this requirement. Since the project described in the Supplemental PEIR has not changed, the fact that some of these documents were not completed until after the December 2016 opening of the public comment period does not provide a basis for further extending the CEQA comment period. Moreover, the documents do not modify or otherwise affect the analysis in the Draft Supplemental PEIR, particularly not in a way that deprived the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect.

Master Response D: Conservation Strategy

Several commenters referenced the Conservation Strategy, or referenced biological resource issues that are intertwined with the Conservation Strategy. For the most part, these comments are addressed as individual responses. However, there is a common theme about the Conservation Strategy that is worth repeating. As stated in the Supplemental PEIR, the Conservation Strategy is an informational guidance document that does not establish a regulatory process. This is reinforced in the 2017 CVFPP Update and in the Conservation Strategy itself; essentially, it provides measurable ecological objectives to guide and support the CVFPP’s supporting goal of promoting ecosystem functions over time. The Conservation Strategy measurable objectives will continue to serve as a framework at the regional and systemwide scales for evaluating progress toward recovery of native species over time. These objectives will be used to measure contribution to conservation goals. As stated in the 2017 CVFPP Update, these targets may be reevaluated and revised as necessary, based on improvements to scientific understanding and further evaluation of opportunities for multi-benefit flood management projects.

Master Response E: Climate Change/Hydrology

Several commenters asked about hydrologic impacts, including impacts associated with climate change. In response, commenters are referred to the discussion of hydrologic impacts in the PEIR; see PEIR Section 3.13. The PEIR addressed the relevant CEQA questions:

- Impact HYD-2: Increased flooding from modifying the flood control system
- Impact HYD-3: Placement of housing within a 100-year flood hazard area
- Impact HYD-4: Modification of the flood control conveyance system in a way that would redirect flood flows and increase flood risk or exposure of people or structures to risk of loss, injury, or death involving flooding

Impacts HYD-2 and HYD-4 were determined to be less than significant, and Impact HYD-3 was determined to be beneficial. Essentially, the CVFPP is intended to improve flood management, and thereby reduce the frequency of destructive flood flows and the damage caused by flooding. The PEIR recognized that some site-specific hydraulic changes (e.g., redirected flows) might occur as a result of individual management actions, but those impacts would be minimized by compliance with regulatory standards based on project-level analysis. The PEIR conclusions were bolstered by the requirements of SB 5, which requires local agencies amend their general plans and zoning ordinances, and make certain findings before approving projects, that could restrict construction of new homes in a flood hazard area.

To support its conclusions, the PEIR referenced a technical study (“Riverine Channel Evaluations”), which was included as CVFPP Attachment 8C. The Riverine Channel Evaluation study summarized hydrologic modeling, including an evaluation of the program-level alternatives under consideration at the time. The Riverine Channel Evaluation included key results showing that implementing the CVFPP (State Systemwide Investment Approach [SSIA]) would improve flood management by reducing flows and water surface elevations throughout the flood conveyance system, in part by redirecting flows to areas bolstered by CVFPP improvements (e.g., Yolo Bypass).

DWR is continuing to further develop and refine its hydrologic studies, but the conclusions from the PEIR have not changed. For example, Map 3-8 in the 2017 CVFPP Update shows that the CVFPP would reduce flows and water surface elevations throughout the flood conveyance system compared to future conditions without the project. These results were presented in more detail in DWR’s most recent technical report: the Scenario Technical Analysis Summary Report (February, 2017). This report builds on DWR’s prior efforts, and is part of DWR’s ongoing commitment to use the best available technical information to support flood management decisions. For example, see Figure 3-2 in the Scenario Technical Analysis Summary Report, which shows the evolution of hydrologic modeling tools used for the 2017 CVFPP Update.

The Scenario Technical Analysis Summary Report also summarizes how the current modeling incorporates the effects of climate change, including sea level rise. Specifically, the Scenario Technical Analysis Summary Report includes a 2067 hydrologic condition that takes into account inland hydrologic changes due to climate change (see DWR’s Climate Change Analysis Technical Memorandum, dated March 2016) as well as projected sea level rise based on the National

Research Council's Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future (NRC, 2012). For this reason, DWR disagrees that climate change has not been adequately assessed in the 2017 CVFPP Update and, as mentioned above, current modeling continues to show that PEIR Impacts HYD-2 through HYD-4 would not be significant; therefore, no additional updates to the Supplemental PEIR are needed.

DWR will continue to update and refine its technical analysis in future CVFPP update cycles as new information and better tools become available. For example, the Climate Change Analysis Technical Memorandum recommends addressing uncertainty by evaluating a broader range of future climate scenarios; additional study to gain insight about reservoir climate vulnerability and potential adaptation needs; and incorporating new findings from research into atmospheric rivers, watershed controls on precipitation, and runoff processes. DWR's continuing attention to this key issue may result in new changes to the SSIA as part of future updates.

Several commenters also asked about hydrologic analysis for an interim condition – 2025. As described above, the Scenario Technical Analysis Summary Report describes a future condition (2067) in which all of the identified 2017 CVFPP Update management actions have been implemented (see Tables 2-1 and 2-2 in the Scenario Technical Analysis Summary Report). This is a good approach because it does not require predicting when individual management actions will be online, and is appropriate for a programmatic analysis. In terms of an interim condition in 2025, very few of the 2017 CVFPP Update management actions are likely to be fully implemented. See the Scenario Technical Analysis Summary Report discussion of 2017 conditions for a reasonable estimate of 2025 hydrologic conditions. Further, the assumption implicit in the comment – that local agencies need only demonstrate a 200-year level of protection that will be effective only based on 2025 conditions – is incorrect. Year 2025 is the current statutory deadline for the local agency actions; those actions will need to demonstrate effectiveness beyond that date, including future performance taking into account climate change.

Master Response F: Reclamation District 17

Reclamation District (RD) 17 and others submitted comments noting that the 2017 CVFPP Update and Investment Strategy did not include a 200-year level of protection for areas protected by RD 17 levees (or inclusion was uncertain). The comments noted that lack of inclusion of RD 17 levee improvements would be inconsistent with the Delta Plan and SB 5. Levee improvements (and their associated costs) in RD 17 to provide a 200-year level of protection were included in the SSIA Portfolio of the 2017 CVFPP Update and Investment Strategy.

Other comments noted that RD 17 improvements included in the Draft 2017 CVFPP Update did not reflect the fix-in-place alternative preferred by local agencies that would protect all future planned development in the area. This would restrict any new development within the 200-year floodplain, and developer funding is needed to fund the local cost share for levee improvements. Another comment noted that it is imperative that 2017 CVFPP Update Phase 1 investments include 200-year level of protection RD 17 levee improvements.

Regarding inclusion of RD 17 levee improvements in the 2017 CVFPP Update, please refer to Master Response B, Program vs. Project Level of Detail. The 2017 CVFPP Update includes RD 17 urban improvements in the SSIA Portfolio, but describes them in general terms. The cost of the RD 17 improvements in the Draft 2017 CVFPP Update, which were included in Phase 1

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investments, were derived from the San Joaquin River BWFS. No specific RD 17 levee improvements are shown or recommended in the 2017 CVFPP Update, leaving any specifics open-ended.

The U.S. Army Corps of Engineers (USACE) Lower San Joaquin River Feasibility Study excluded RD 17 fix-in-place levee improvements from the National Economic Development Plan because they were deemed noncompliant with the Executive Order 11988 on the Wise Use of Floodplains. The State has also described its concerns about promoting urban development within rural, deep floodplains in the 2012 CVFPP and 2017 CVFPP Update.

Another commenter requested that the 2017 CVFPP Update defer any specific recommendations for RD 17 improvements until the Urban Flood Risk Reduction Program Feasibility Study is conducted. DWR is in the process of providing an Urban Flood Risk Reduction Planning grant for a feasibility study to explore flood management options in RD 17 that would reflect wise use of floodplains. As stated before, the 2017 CVFPP Update does not provide any specific details on recommended RD 17 improvements. The San Joaquin River BWFS only provides planning information about potential larger-scale actions and their expected outcomes, but does not represent a specific funding decision that would preclude the study of other RD 17 alternative options.

The comment letters also made a number of legal assertions concerning the State's obligations regarding the SPFC in that district. Specifically, after selectively quoting a number of historical documents regarding the flood risk reduction system, RD 17 argues that the CVFPP should include increased flood protection measures in RD 17, should preclude the development of setback levees, and should generally be designed to support and encourage additional development in the district. RD 17 suggests that, in the absence of increased expenditures in their district addressing the priorities that they would prefer, the State's "liability" (presumably referring to "inverse condemnation" liability as described in the "Paterno" decision) would be increased. RD 17 also urges that multi-benefit projects (specifically including expenditures supporting habitat improvements) should be deferred until all public safety issues in their district have been addressed. DWR disagrees with RD 17's legal arguments for the reasons set forth below.

The 2012 CVFPP and the pending 2017 revision have been guided by the requirements of SB 5, adopted in 2007. A key provision of SB 5, Water Code Section 9616, not only authorizes, but directs, DWR (to the extent feasible) to meet multiple objectives. Among the 14 specific objectives listed in Section 9616 are various objectives relating to habitat improvements, as well as an objective to "identify opportunities and incentives for expanding or increasing use of floodway corridors." The CVFPP explains the critical role that the bypass system has served in reducing flood risks in the Central Valley, and discusses the multiple benefits that could be achieved by the expansion of those floodways.

Of particular concern to RD 17 is the conceptual discussion of a potential setback levee at the confluence of Old River and the San Joaquin River in the San Joaquin River BWFS currently being developed. As an initial matter, RD 17's comments misunderstand the nature, status and role of the two basin-wide feasibility studies, which are addressed in Master Response C. Additionally, RD 17's assertion that setback levees and associated habitat improvements should

be excluded from the CVFPP run counter to the directives of SB 5, which requires the consideration of multiple benefits.

RD 17's comments also ignore the requirements of Government Code Sections 65302.9 and 65860.1, which direct cities and counties in the SPFC planning area to amend their general plans and zoning ordinances to address flood protection concerns. RD 17's comments also ignore the requirements of Government Code Sections 65865.5, 65962, and 66474.5, which generally preclude certain local land use approvals in the absence of a finding by the local agency of an adequate level of flood protection.

Several points can be made in response to RD 17's arguments regarding liability. First, the Paterno decision was issued by a single court of appeal nearly 15 years ago addressing the State's liability under a particular set of facts regarding a flood over 31 years ago. The Court evaluated the plaintiffs' inverse condemnation claim under a number of criteria generally labeled the "Locklin" factors. The potential that a future court will evaluate a future flood damage situation under the Locklin factors and come to a similar conclusion of State inverse condemnation liability is speculative and far from certain. Indeed, courts have concluded otherwise in this complex fact-specific inquiry, e.g. *Gutierrez v. County of San Bernardino*, 198 Cal.App.4th 831 (2011). Moreover, the Paterno decision specifically rejected several of the arguments being made by RD 17, in particular the claim that liability could be predicated on the failure to increase the flow capacity of the flood control system (here, to a 200-year level of protection). The Paterno decision also emphasized "that the State was not an insurer against flood risks, and rejected a claim of liability based on the idea that the State has to increase flood protection simply because the value of property to be protected has increased." Paterno also predated SB 5 (including the roles specified for cities and counties as described above), as well as the original 2012 adoption of the CVFPP. DWR therefore believes that any potential future inverse condemnation claim for flood damages will present a very different factual situation than considered by the Court in Paterno, and, as such, is irrelevant for the purposes of the 2017 CVFPP Update.

RD 17 also argues that the existing levee configurations in their district are forever inalterable, based in part on the historical discussion in the early part of its letter. This is simply incorrect. As demonstrated by other levee setback projects in the Central Valley after SB 5, such as the various Three Rivers Levee Improvement Authority projects, the configuration of the SPFC can be altered and can and should include new levee setbacks. Of course, approvals by USACE and the Central Valley Flood Protection Board are required for any such alterations, but nothing precludes the improvement and evolution of the flood risk reduction management system in the way urged by RD 17.

B.3 Individual Comments and Responses

Federal Agencies

U.S. Fish and Wildlife Service (USFWS)

Comment 1

We appreciate the opportunity to comment on the Public Draft 2017 Central Valley Flood Protection Plan Update (Plan). The Fish and Wildlife Service (Service) has participated to the extent possible in Plan development by attending various workshops, briefings and providing written comments on various appendices over the past few years prior to this current release of the Plan. Since the adoption of the 2012 Central Valley Flood Protection Plan, the California Department of Water Resources (DWR) has developed a number of planning documents (Sacramento and San Joaquin Basin Wide Feasibility Studies, Conservation Strategy, and others) as well as reports from the six regional flood groups. The Plan presents the State's interest in working toward implementation of all of these other planning documents.

Following are our comments on the Plan as well as on the Draft Supplemental Program Environmental Impact Report.

Response 1

Comment noted.

Comment 2

Section 2.3.6 – The summary of the evolution of the measurable objectives is a little confusing. The first sentence in the fourth paragraph should say that the measurable objectives were set based on the loss between the historic and existing conditions and then set at the contributions the flood system can make towards the conservation needs of the various species.

Response 2

The fourth paragraph in Section 2.3.6 has been updated, as follows, in response to this comment:

In summary, measurable objectives arose from an analysis of historical and existing conditions, as well as the best available conservation and species recovery planning science to estimate conservation needs. Measurable objectives were then based on a compilation of the opportunities (multi-purpose projects) for the SPFC to positively contribute towards these conservation needs in the form of objectives. Because measurable objectives represent only the SPFC's contribution to conservation needs, conservation needs tend to be larger than the objective. It is anticipated that other conservation partners will also contribute towards meeting overall conservation needs. It is important to note that if the conservation need is actually identified as smaller than the known opportunities, the objective is set to the lesser of the two, demonstrating a perspective that conservation actions be formulated in a reasonable manner and in the context of many existing land uses.

Comment 3

Section 2.4.1 – The discussion on the Paradise Cut Bypass does not seem accurate. It is our understanding that revetment removal, shaded riverine aquatic (SRA) planting, and floodplain creation is not happening along the mainstem San Joaquin River, however the text implies this to be the case. Please check and re-write as appropriate.

Response 3

The text in Section 2.4.1 is correct as written; components of the proposed Paradise Cut multi-benefit improvements include restoring shaded riverine aquatic habitat on a degraded levee along the mainstem San Joaquin River. The San Joaquin River BWFS contains a more detailed description of the State recommended option (Option M-Ag), including the following statement: “The ecosystem restoration component for Option M-Ag entails removing revetment and restoring [shaded riverine aquatic] habitat along the degraded San Joaquin River levee and restoring the southern portion of the current in-channel bar for floodplain rearing habitat.”

Comment 4

Section 3.2 – On page 3-4 and 3-5 it discusses 3,500 acres of new riparian habitat as a result of implementing actions in the Basin Wide Feasibility Studies. The Service would like to comment that the location of the 3,500 acres of riparian habitat is vitally important. For example, riparian habitat should be on a floodplain with direct connection to the river to allow natural flooding processes to occur. Additionally, impacts could eventually cause the loss of 1,300 acres of riparian which exists on or adjacent to levees. While 3,500 acres of riparian would result in a gain of riparian DWR must also consider where it is located such that it provides connectivity between habitat patches for wildlife species. Additionally, we have concern that most of the riparian loss would be along mainstem rivers, while most of the Sacramento River Basin Wide Feasibility projects will be occurring along the bypasses. This may provide in-kind mitigation which we would want to see. Additionally, we are aware that DWR also plans on using 3,500 acres of riparian to meet other mitigation needs. Therefore, tracking impacts and mitigation will be vitally important as well as frequent coordination with us and the other resource agencies to determine that habitat and species are being adequately mitigated.

Response 4

The second full paragraph on Supplemental PEIR p. 3-7 has been updated, as follows, in response to this comment.

DWR will coordinate with the Board and levee maintenance agencies tasked with implementing the VMS to develop and implement a plan to record data on riparian vegetation lost or removed due to implementation of the VMS, and to ensure adequate compensation for losses of riparian habitat functions and values. This plan will attempt to address the fact that SRA functions and values may only be partially replaced with riparian forest functions and values elsewhere. Although this mitigation measure is written as if a single plan is prepared, multiple plans addressing individual regions, watersheds, river corridors, or other geographic subdivisions are also acceptable.

Regarding tracking impacts and mitigation measures, DWR is in the process of developing the processes and criteria needed to implement the required compliance and performance monitoring programs – see Conservation Strategy Chapter 8, Implementation.

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Comment 5

Section 3.3 – The Service appreciates the additional information provided regarding giant garter snake and their habitat uses. However, the text does not document that snakes spend a great deal of time in upland habitat, in burrows and basking, during the active season. Additionally, the added sentence regarding snake distance from water is misleading. Snakes have been found as far as 174 meters from aquatic habitat, not just 66 feet.

Response 5

In response to this comment, additional changes have been made to this paragraph to help clarify the new information about use of adjacent terrestrial habitat, as follows.

The giant garter snake is a large (up to 5 feet long), aquatic snake. It inhabits sloughs, low-gradient streams, marshes, ponds, agricultural wetlands (e.g., rice fields), irrigation canals and drainage ditches, and adjacent uplands. It feeds primarily on small fish, tadpoles, and frogs. Despite their aquatic habits, giant garter snakes also make extensive use of adjacent terrestrial habitats where they occupy emergent vegetation, crevasses, and burrows for cover (USFWS 2006b). They also use adjacent uplands for foraging, basking, refuge from flood waters, and brumation. Radio telemetry results indicate that individual giant garter snakes use the terrestrial environment more than 50 percent of the time during the summer, and nearly 100 percent of the time during brumation (Halstead et al., 2015a). Giant garter snakes may hibernate up to 800 feet from water, and along waterways, they may move considerable distances (e.g., up to 2 miles in a single day) (Hansen 1988; USFWS 2006b). However, on average, giant garter snakes are found within about 33 feet of water 95 percent of the time during mid-summer (Halstead et al., 2015b). Giant garter snakes are less active or dormant from October until April, when they emerge to breed and forage (Wylie et al. 1997).

Comment 6

Section 3-3 – There appears to be a typo on page 3-17 regarding the number of riparian acres that would be enhanced, restored, or created. The text here states 1,300 acres, but earlier, 3,500 acres is referenced.

Response 6

This typographical error has been corrected.

State Agencies

California Department of Fish and Wildlife – Letter 1

Comment 1

Department Role – The Department is California’s **Trustee Agency** for fish and wildlife resources, and holds those resources in trust by statute for all the people of the State. (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a).) The Department, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species. (*Id.*, § 1802.) Similarly for purposes of CEQA, the Department is charged by law to provide, as available, biological expertise during public agency

environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

The Department is also submitting comments as a **Responsible Agency** under CEQA. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) The Department expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to the Department's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.) Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), the Department may authorize the Project's take by permit. The Department also administers the Native Plant Protection Act, Natural Community Conservation Act, and other provisions of the Fish and Game Code that afford protection to California's fish and wildlife resources.

The Department offers the comments and recommendations below to assist DWR in adequately identifying and, where appropriate, mitigating the Project's significant, or potentially significant, direct and indirect impacts on fish and wildlife (biological) resources. The Department's primary concerns relate to the need to update the Program Environmental Impact Report (PEIR) adequately to reflect changes with species listing and recovery plans that have occurred since the original PEIR analysis for the 2012 CVFPP and the subsequent representation of impacts and mitigation incorporated into the Project, and analysis of indirect and cumulative impacts, as explained below.

The comments provided herein are based on the information provided in the draft SPEIR, the Department's knowledge of species and habitat in the proposed Project area, and our participation in the development of the 2017 CVFPP Update.

Response 1

Comment noted.

Comment 2

Project Overview – The California Department of Water Resources (DWR) prepared the 2012 CVFPP to reflect a system wide approach to improve integrated flood management in lands protected by the State Plan of Flood Control. In accordance with CEQA (Public Resources Code section 21000 et seq.), DWR, acting as Lead Agency, prepared a PEIR for the 2012 CVFPP that evaluated potential impacts on the physical environment associated with the broad range of flood protection actions discussed in the 2012 CVFPP. The CVFPP was adopted and the PEIR was certified on June 29, 2012.

Primary authorization for the CVFPP originates in Senate Bill 5 (SB 5), also known as the Central Valley Flood Protection Act of 2008 (Act). The Act requires that the CVFPP be updated every 5 years. Therefore, DWR prepared the draft CVFPP 2017 Update to describe proposed refinements to the 2012 CVFPP. This SPEIR focuses its analysis (per CEQA Guidelines sections 15162 and 15163) on how the CVFPP 2017 Update could result in new, significant impacts or a substantial increase in the severity of a significant impact, if there is substantially important new information relating to the CVFPP or its environmental effects, or if there are substantial changes with respect to the circumstances under which the project is undertaken. Similar to the PEIR, the

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impact analysis in this SPEIR takes a broad, programmatic approach to defining significant impacts and feasible mitigation measures. Implementation actions resulting from the adopted CVFPP and the CVFPP 2017 Update would likely require project-level environmental review and documentation to comply with CEQA.

Response 2

Comment noted.

Comment 3

The Department's History with the CVFPP – The process for the development of the 2012 CVFPP and the CVFPP 2017 Update has been a collaborative interagency effort including Department participation since the Act passed in 2008. For six of the last nine years, the Department has had staff dedicated to working closely with DWR on the CVFPP and related efforts.

As such, the Department provided comments on the 2012 CVFPP and its PEIR, and plans to continue participation in the development and commenting on this and future updates of both documents.

Response 3

Comment noted.

Comment 4

Discussion of procedures needed for the SPEIR – DWR will be updating the CVFPP every five years, so the Department anticipates that there will be further SPEIR documents. The Department recommends establishing a procedure in the current SPEIR for determining if future Project activities are within the scope of the original PEIR or will require a project-specific environmental document. This process will be critical in ensuring adequate documentation and analysis of impacts to biological resources. CEQA Guidelines section 15168 states: “[w]here the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.” As such, the Department recommends that the process used to evaluate impacts for this Project be used for any further supplemental PEIRs for consistency in analysis.

The checklist developed should be accompanied by enough relevant information and reasonable inferences from this information to support each conclusion concerning biological resources. For any subsequent Project activities that may affect sensitive biological resources, a site-specific analysis should be prepared, from which the supporting information would be derived. The checklist should cite the specific portions of the PEIR, including page and section references, containing the analysis of the subsequent Project activities' significant effects and indicate whether it incorporates all applicable mitigation measures from the PEIR.

The PEIR should state that once specific projects are identified, the project proponents should consult with the Department and other responsible and trustee agencies, during the development of any CEQA documents tiering from this PEIR (CEQA Guidelines, § 15063).

Response 4

See Master Response B.

Comment 5

Updates to Impact Analysis – The SPEIR does not address changes that have occurred since the adoption of the PEIR in 2012. These changes include new species listings under the California Endangered Species Act (CESA) (such as tricolored blackbird (*Agelaius tricolor*) and Clear Lake hitch (*Lavinia exilicauda chi*)) and new documents, such as the *Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead* (NOAA Fisheries 2014) and the *Bank Swallow (**Riparia riparia**) Conservation Strategy for the Sacramento River Watershed* (Bank Swallow Technical Advisory Committee 2013). The Department recommends the SPEIR update the analysis of the Project impacts to be consistent with recent recovery plans and conservation strategies and include any measures to avoid, minimize and mitigate significant impacts to species since last analyzed for the 2012 PEIR. This analysis should also include new scientific understanding of previously listed CESA species and impacts to newly listed CESA species.

All of these considerations may have an influence in the determination of potential direct, indirect and cumulative impacts. Please see the attached table of specific comments on sections 3.2 and 3.3 of the SPEIR.

Additionally, the Department recommends the SPEIR state that future Project activities follow the Department’s 2009 Protocols for Surveying and Evaluating Impacts on Special Status Native Plant Populations and Natural Communities available online at: (<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959&inline>) and should refer to the Second Edition of the Manual of California Vegetation for vegetation classification and mapping. This manual provides a standardized, floristic-based systematic classification and description of vegetation in the state.

Response 5

This summary comment is addressed below in the responses to CDFW’s Comments 15 through 18. Note that only this summary comment mentions Clear Lake hitch, which was listed as a State threatened species in 2014. The CVFPP, the Sacramento River BWFS, and the Lower Sacramento/Delta North Regional Flood Management Plan (RFMP) do not include any projects that would affect Clear Lake or its tributaries.

Comment 6

Issue/Comment: EDITORIAL Reference to CEQA Public Resources Code is: 2100 et. seq.

Solution/Suggested Fix: Should be: 21000 et. seq.

Response 6

This typographical error has been corrected.

Comment 7

Issue/Comment: PROGRAM EIR USE: There is no clear procedure for determining if each site-specific project activity is within the PEIR or supplemental PEIR scope, or requires additional

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analysis through a tiered CEQA document. Without such a procedure, including analysis by an individual knowledgeable about California's species and habitats, and CEQA review, impacts on these sources could go undisclosed and unmitigated. As trustee agency, CDFW may not have a review opportunity for a lead agency's in-scope determination.

Solution/Suggested Fix: Establishing a procedure in the Supplemental PEIR for determining if each site-specific project activity is within the PEIR and Supplemental PEIR scope, or requires an additional analysis through a tiered CEQA document, is critical to ensuring adequate analysis of impacts on biological resources. CEQA Guidelines section 15168 states: *[w]here the subsequent activities involve site-specific operations, the agency should use a written checklist or similar device to document the evaluation of the site and the activity to determine whether the environmental effects of the operation were covered in the program EIR.* Each Lead Agency should use the checklist appended to the PEIR and file a Notice of Determination for each subsequent activity.

The checklist should be accompanied by enough relevant information and reasonable inferences based on from this information to support each conclusion concerning biological resources. For site-specific project activities that may affect sensitive biological resources, the lead agency assisted by an individual knowledgeable about California's species and habitats, and CEQA review, should prepare a site-specific analysis, from which the supporting information would be derived. The checklist should cite the specific portions of the PEIR or Supplemental PEIR, including page and section references, containing the analysis of the site-specific project activity impacts, and indicate whether it incorporates all applicable PEIR mitigation measures.

Note: An example checklist was developed for infill projects and can be found in CEQA Guidelines section 15183.3 and Appendix N. The Department of Conservation used a similar checklist for their Oil and Gas Well Stimulation Project program EIR, available at: http://www.conservation.ca.gov/dog/Pages/SB4_Final_EIR_TOC.aspx. For full disclosure of impacts, the Supplemental PEIR should encourage Lead Agencies to make the checklist and supporting biological analysis for each subsequent Project activity available for public review.

Response 7

This comment is a more detailed version of comment CDFW's Comment 4 in the cover letter. See Master Response B.

Comment 8

Issue/Comment: ENVIRONMENTAL SETTING

Issue: The PEIR and Supplemental PEIR do not address the potential for the project to directly or indirectly impact wetlands not subject to the federal Clean Water Act, which are important habitats for a variety of species. Wetlands that are not federally protected are addressed under Fish and Game Code and California Fish and Game Commission policies.

Note: The Office of Planning and Research 2015 Proposed Updates to the CEQA Guidelines includes adding non-federally protected wetlands to Appendix G significance thresholds. https://www.opr.ca.gov/docs/Preliminary_Discussion_Draft_Package_of_Amendments_to_the_CEQA_Guidelines_Aug_11_2015.pdf

Specific impact: Project activities could result in loss or degradation of non-federally protected wetlands.

Why impact would occur: Non-federally protected wetlands lacking permanent water may not be detected within proposed treatment areas. Drought cycles may influence the condition of wetlands, making detection more problematic. Some seasonal wetlands which support vernal pool species or semi-aquatic species (e.g. western spadefoot (*Spea hammondi*)), may exhibit no evidence of recent ponding or may lack aquatic plant indicator species.

Three criteria are used to identify wetlands: indicator plants, inundation or saturation, and hydric soils. Only one of the three wetland criteria is necessary to define wetlands (Cowardin et al. 1978). Drought can also affect isolated springs and seeps, some of which currently are releasing no water, yet retain an ability to recover when drought abates.

Evidence of significant impacts: More than 90 percent of California wetlands have disappeared primarily by development and habitat destruction (EPA 2016; USGS 1996). Wetlands are vital to many wildlife species including migratory birds, and provide a number of ecological services. Federal and California resources agencies generally have a no-net loss policy for wetlands. Loss or degradation of wetlands would constitute a significant adverse impact.

REFERENCES

Cowardin L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. Classification of wetlands and deep water habitats of the United States. Report FWS/OBS-79/31, USDI, U.S. Fish and Wildlife Service, Biological Services Program, Washington D.C.

U.S. Environmental Protection Agency. 2016. National Wetland Condition Assessment 2011: A Collaborative Survey of the Nation's Wetlands. EPA-843-R-15-005. US Environmental Protection Agency, Washington, DC.

U.S. Geological Survey National Water Summary on Wetland Resources. 1996. U Water Supply Paper 2425.

Solution/Suggested Fix: CDFW recommends that the PEIR supplement discuss conducting wetland delineations for wetlands, including both those subject to the Clean Water Act and those described in the Fish and Game Commission policies that may be impacted within the State Plan of Flood Control area.

Future specific projects should be required to:

– Avoid impacts to wetlands. This may include installation of silt fencing or other materials around wetlands.

Response 8

The PEIR does not limit the analysis of wetland impacts to only federally jurisdictional wetlands. USACE regulations and procedures are discussed in PEIR Section 3.6, Biological Resources – Terrestrial, but wetlands are also discussed as a sensitive natural community. Impact BIO-T-1 analyzes the potential impacts to sensitive natural communities and habitat, including wetlands,

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and Mitigation Measure (MM) BIO-T-1a discusses avoidance and minimization for wetlands including both Waters of the United States and Waters of the State. The requirements in MM BIO-T-1a for “no net loss” of wetland functions and values references both the federal regulator (USACE) and the Central Valley Regional Water Quality Control Board (RWQCB); therefore, non-federal wetlands are not excluded from protection. Other parts of the PEIR terrestrial biological resources analysis (e.g., Impacts BIO-T-2 and BIO-T-3) help ensure that wetlands will be protected as a sensitive natural community/habitat for special-status species, regardless of federal jurisdiction. No changes are required.

DWR understands that the State Water Board is continuing to develop its regulations for permitting discharge of dredged or fill material to Waters of the State, including wetlands, and that the CEQA Guidelines may be updated to explicitly require evaluation of non-federal wetlands. DWR will comply with all regulatory standards that are in place at the time individual projects are advanced to project-level review.

Comment 9

Issue/Comment: Lack of mention of other flood-related efforts/programs/structures such as CVP and OCAP-related flow management, as well as Phase 2 of the ACOE/Sacramento River flood protection measures. The CVP structures and operations can have a huge effect on instream flows, esp. those related to floods and flood management, even though they are under another authority (federal).

Solution/Suggested Fix: Identify changes to previous operations and/or assumptions related to CVP management and how that can effect, or be coordinated with, State-driven flood management plans AND plans for restoration related to flooding.

Response 9

SPFC facilities are part of a larger system of interrelated projects under the jurisdiction of many federal, state, and local entities. The CVFPP and the 2017 CVFPP Update focus on the flood control aspects of this interrelated system, and recognize that individual projects implemented pursuant to the CVFPP may have systemwide benefits or adverse effects that may need to be studied at a project level of detail. The PEIR and Supplemental PEIR address these other interrelated projects under Cumulative Impacts; see Chapter 4 in both the PEIR and the Supplemental PEIR.

Comment 10

Issue/Comment: Re Reservoir and Floodplain Storage: The document is not clear about if the reservoir storage options are just SWP structures or CVP, or both.

Solution/Suggested Fix: More information is needed to show how the SWP, CVP, and storage plans are integrated and/or coordinated, or if they are not. That puts then the whole picture of flood management into better context.

Response 10

Consideration of increased flood storage is not limited to any specific facilities, and could include State Water Project (SWP), Central Valley project (CVP), or local facilities. The CVFPP and 2017 CVFPP Update recognize that additional flood storage can have multiple benefits. As

described in Supplemental PEIR Section 2.4.2, the CVFPP explicitly references only one project: the Joint Federal Project for Folsom Dam. The State may consider partnering with other agencies on expanding existing reservoir storage in other areas in subsequent CVFPP updates.

Comment 11

Issue/Comment: Paragraph at the top of the page. The levee Vegetation Management Strategy also addresses minimizing habitat losses associated with vegetation management, including evaluating strategies implementing riparian forest corridors in the vicinity of existing levees, and considering the potential for limited natural recruitment of native habitat on the waterside of levees.

Solution/Suggested Fix: CDFW recommends revising the language to be more direct. The word ‘considering’ is not very actionable or measurable, and it would be preferable to see a more specific action associated with this statement. CDFW recommends removing the term ‘limited’ and that DWR should consider full potential for natural recruitment (not just at a limited level).

Response 11

See Master Response D. As described in Conservation Strategy Appendix D, Section 2.2.3, “limited natural recruitment” is a concept that was articulated for consideration by DWR Flood Managers and resources agencies, but has not been fully developed or agreed to. It is noted that one potential avenue for managed recruitment is within the context of planning and implementation of ongoing maintenance and repairs of existing levees. Establishment of habitat through the creation of riparian corridors or limited managed recruitment would have to be closely coordinated with, and informed by, efforts evaluating channel capacity across the SPFC. A mutually developed and agreed upon planning approach is needed that provides assurances for both flood managers as well as resource managers to meet multiple goals for channel capacity and riparian habitat corridors. Thus, the words “considering” and “limited” are appropriate for discussion of this item in its full context.

Comment 12

Issue/Comment: Re Reservoir Operations: The document should mention, as it relates to baseline conditions, flooding processes/management associated with other reservoir operations (e.g. Shasta Dam). While DWR cannot control Shasta Dam/Keswick releases, its management should be mentioned in the context of how these reservoir operations may translate into flooding, geomorphological changes, river meander, etc. ACOE level and other ACOE structures also have bearing on how the CVFPP may be implemented.

Solution/Suggested Fix: CDFW recommends the SPEIR incorporate discussions for the facilities and their operations and maintenance that are operated as a part of the federal water project, since it also influences the function and process of the system.

Response 12

See Responses to CDFW Comments 9 and 10, and Master Response E.

Comment 13

Issue/Comment: On the second bullet starting with the words, “The Project Proponent”...There are also listed wildlife species that are aquatic obligates, not just fish.

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Solution/Suggested Fix: Correct DFG to CDFW where applicable. CDFW recommends revising language in the bullet referenced to include aquatic obligates.

Response 13

This section of the Supplemental PEIR is based on PEIR Section 3.5, Biological Resources – Aquatic. The PEIR discussion of aquatic biological resources is limited to fish, and non-fish wildlife species (including aquatic obligates) are considered in PEIR Section 3.6, Biological Resources – Terrestrial. The Supplemental PEIR does not attempt to change the PEIR organization.

Also note that original PEIR language is presented in grayed-out text for context, where the Supplemental PEIR proposes necessary, substantive changes. Global style changes such as updating DFG to CDFW were not attempted.

Comment 14

Issue/Comment: Re Mitigation Measure BIO A-2b: Every effort should be made to mitigate in the same area as what is impacted. If there is no other way in which to do this, then going elsewhere can be considered.

In some cases, the actual loss of habitat can fragment a stand to the point where the stand can no longer be used by certain species (e.g. a nest stand).

Solution/Suggested Fix: CDFW recommends the SPEIR analyze potential impacts to listed species as a result of habitat fragmentation. If offsite mitigation is a large component of projects covered by this SPEIR, then the document should analyze impacts to the species in those offsite locations.

Response 14

See Master Response A. Also, it should be noted that projects implemented pursuant to the CVFPP will be informed by the Conservation Strategy, which includes specific goals to increase and improve habitat connectivity. In terms of onsite versus offsite mitigation, see the response to the Delta Stewardship Council's Comment 21.

Comment 15

Issue/Comment: Re. species assessed: Pacific lamprey is a species of special concern and the impacts of the project were not analyzed and avoided, minimized and mitigated. The federal listing status of yellow-billed cuckoo has changed, and there are subsequent changes in how this species and its habitat are protected, both of which can have a large bearing on flood-related impacts and restoration. There are also changes in Valley elderberry longhorn beetle management that needs to be reflected in the document.

Solution/Suggested Fix: CDFW recommends the SPEIR be updated to analyze the impacts of the Project to these species.

CDFW also recommends the document be updated to include the Recovery Plan for Sacramento River winter-run Chinook salmon, Central Valley spring-run Chinook salmon, and Central Valley steelhead (NOAA Fisheries 2014) and the Bank Swallow (*Riparia riparia*) Conservation

Strategy for the Sacramento River Watershed (Bank Swallow Technical Advisory Committee 2013). The Department recommends the SPEIR update the analysis of the Project impacts to be consistent with recent recovery plans and conservation strategies and include any measures to avoid, minimize and mitigate significant impacts to species since last analyzed for the 2012 PEIR. This analysis should also include new scientific understanding of previously listed CESA species and impacts to newly listed CESA species.

Response 15

The PEIR considered potential impacts to Pacific lamprey, but stated “no status” as its listing status. The commenter is correct in that the Pacific lamprey status classification should be updated to “CSC” pursuant to California Fish Species of Special Concern, 3rd Edition. The PEIR impact analysis and mitigation measures were reviewed to see if other changes were needed, and it was determined that no additional changes are required.

The yellow-billed cuckoo’s updated status already is recognized in the Supplemental PEIR (see Supplemental PEIR Section 3.3).

In terms of valley elderberry longhorn beetle, this species is already considered in the PEIR, with adequate provision for preconstruction surveys and impact avoidance (see MM Bio-T-3a).

Also see Master Response B. The PEIR mitigation measures are focused on ensuring adequate review and agency coordination at a project level when individual projects are ripe for consideration. This is articulated in the introduction to MM Bio-T-3a: “Not all measures listed below may be applicable to each management action. Rather, these measures serve as an overlying mitigation framework to be used for specific management actions. The applicability of measures listed below would vary based on the lead agency, location, timing, and nature of each management action.”

The comment also references the recent recovery plan for Central Valley salmonids (National Marine Fisheries Service [NMFS] 2014) and conservation strategy for bank swallow (Bank Swallow Technical Advisory Committee 2013). Neither the recovery plan nor the conservation strategy are regulatory documents; however, they both provide an approach and framework for achieving species recovery. Although the recovery plan for salmonids was still in draft form when the 2012 PEIR was prepared, the information contained in the draft document was considered in the analysis of impacts and development of mitigation. Nothing in the final recovery plan or the conservation strategy for bank swallow would change the PEIR conclusions. As noted above, the specifics of the mitigation at the project level will be determined in coordination with USFWS and CDFW. In addition, the documents referenced in the comment were used to inform the Conservation Strategy, which, in turn, will guide the development of specific future projects. This helps ensure that the impact analyses and appropriate mitigation for future projects are informed by the most recent science.

Comment 16

Issue/Comment: Re surveys: The document should also state that these surveys should be done at the appropriate time of the year. It should also follow directives identified by the regulatory agencies re. the temporal viability of these surveys (how long the surveys are valid for).

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Solution/Suggested Fix: CDFW recommends that this PEIR update include new surveys and protocols as appropriate.

Response 16

See the response to CDFW's Comment 15. Appropriate surveys will be conducted pursuant to the existing PEIR mitigation measures as updated by the Supplemental PEIR. For example, MM Bio-T-3a includes the statement: "The project proponent will verify whether species survey and avoidance protocols have been established for species that might be affected by a specific project, or will coordinate with the appropriate regulatory agency (e.g., USFWS or DFG) to determine an acceptable alternative method for surveying and avoiding effects on a species."

Comment 17

Issue/Comment: Compliance with the Neotropical Migratory Bird Act, Eagle Protection Act, and state laws regarding birds/raptors also need to be complied with. Again, it is noted that on this page/section there is no mention of bank swallow and critical protection measures for them.

Solution/Suggested Fix: CDFW recommends updating this supplemental PEIR with all up-to-date changes in species protections.

Response 17

We assume the comment refers to compliance with the Migratory Bird Treaty Act and not the Neotropical Migratory Bird Conservation Act, which provides financial support and fosters international cooperation for initiatives that will perpetuate healthy bird populations. The Migratory Bird Treaty Act and Bald and Golden Eagle Protection Act alluded to in the comment are included in the PEIR (see PEIR Section 3.6.2, Regulatory Setting), as are the relevant state regulations. Given the programmatic level of analysis conducted for the PEIR, the current protections under these acts and regulations do not affect the PEIR analyses and mitigation and thus do not require update. Note that the terrestrial species avoidance, minimization, and mitigation requirements for construction activity (MM Bio-T-3a and MM Bio-T-3b) apply to all protected species. Bullet points are provided for some species, but lack of specific mention of some species in this measure (e.g., bank swallow) does not imply that those species would not receive protection under this measure. Note, however, that bank swallow is specifically addressed throughout PEIR Section 3.6.

Comment 18

Issue/Comment: Activities could also result in the spread of NIS plant or other species. Actions to avoid this, and an analysis of the issue, should be included in the EIR. Some impacts of NIS plants also have direct and indirect effect on listed animal species.

Solution/Suggested Fix: CDFW recommends the SPEIR address the potential impact of spread of NIS plant and animal species as a result of discretionary actions associated with flood management.

Response 18

Invasive species are discussed throughout PEIR Section 3.6, Biological Resources – Terrestrial, as a factor affecting Central Valley natural communities and special status species. Consistent with the impact analysis and mitigation measures for construction impacts, there is considerable

flexibility to apply various measures to individual projects when each project is advanced for detailed, project-level consideration. These measures could include specific construction activities to minimize the potential for spread of invasive plant and animal species. Note also that the Conservation Strategy contains an Invasive Plant Management Plan (Conservation Strategy Appendix E). The Plan:

“...seeks to increase DWR institutional support for an SPA-wide invasive plant treatment program, and facilitate consistent invasive vegetation treatment actions by levee maintaining agencies and other partners such as the California Department of Fish and Wildlife and the United States Fish and Wildlife Service who are also conducting invasive plant control efforts.” This shows DWR’s commitment to the invasive species issue. Mitigation Measure BIO-T-1a states that “In consultation with USFWS and DFG, the project proponent will develop measures to minimize and, where appropriate, compensate for construction-related effects on sensitive communities, habitats, and species.”

This includes addressing potential impacts caused by invasive species.

Comment 19

Issue/Comment: Re. probable future projects: This bullet list should also include CVPIA restoration actions (e.g. b13) and recently approved Proposition 1 projects.

Solution/Suggested Fix: CDFW recommends the SPEIR list of probable future projects be updated to include these projects.

Response 19

In response to this comment, Central Valley Project Improvement Act (CVPIA) restoration actions have been added to the list of cumulative projects; see list of statewide, local, and regional plans. CVPIA programs, such as the Section 3406(b)(13) program for spawning and rearing habitat restoration, are included in the Conservation Strategy as “existing conservation efforts from other plans” – see Conservation Strategy, Appendix J, Section 2.1.8. As described by DWR in the Introduction to Appendix J, “Regional planning efforts such as the Conservation Strategy are most effective when coordinated with similar programs and plans, in terms of both cost efficiency and ecological benefit.”

Note that Proposition 1 did not “approve” any projects; therefore, it is premature to use Proposition 1 as a criterion for inclusion on the list of probable future projects. Several projects that are considering submitting Water Supply Improvement Project grant applications pursuant to Proposition 1 are already on the list of probable future projects (e.g., Sites Reservoir).

California Department of Fish and Wildlife (CDFW) – Letter 2

Comment 5

Regulatory Considerations: The Department is also submitting comments as a Responsible Agency under CEQA on the associated PEIR for the CVFPP 2017 Update. (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381.) The Department expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example,

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the CVFPP planning area may include site specific implementation projects/activities that would be subject to the Department's lake and streambed alteration regulatory authority. (Fish & G. Code, § 1600 et seq.)

The CVFPP area also overlaps habitat for several State listed species. To the extent that implementation of the CVFPP may result in "take" as defined in section 86 of Fish and Game Code, of any species protected under the Native Plant Protection Act (NPPA) (Chapter 10 of Fish and Game Code, commencing with § 1900) or California Endangered Species Act (CESA), such take must be authorized by the Department. If the CVFPP, including implementation of the CVFPP through specific project construction or any other implementation project-related activity during the life of the CVFPP, results in the take of State listed species, the Department recommends that DWR apply for take authorization prior to implementation of the CVFPP through specific projects. The Department's permit may include an Incidental Take Permit (ITP) or a Consistency Determination (CD) in certain circumstances (Fish & Game Code, §§ 2080.1 & 2081).

Response 5

This comment was made in the CDFW comment letter on the 2017 CVFPP Update; however, given its subject is being addressed in the Final Supplemental PEIR. Recognition of CDFW's status as a CEQA Responsible Agency and Trustee Agency is provided throughout the PEIR and Supplemental PEIR. In addition, the impact analysis and mitigation measures for aquatic and terrestrial species fully recognize CDFW's regulatory authority (e.g., lake and streambed alteration authority) and DWR's obligation to closely coordinate with CDFW during project-level review.

In addition, the 2017 CVFPP Update addresses the need for ongoing coordination with resource agencies at a programmatic level. In addition to the ongoing development of the Conservation Strategy, DWR is in the process of developing a multi-objective plan to address habitat conservation needs during O&M activities. See the 2017 CVFPP Update supporting document titled "Draft Multi-Objective Operations and Maintenance Case Studies Technical Memorandum." As this process advances, DWR may consider working with CDFW to seek incidental take authorization at a program-wide level.

California Department of Transportation (Caltrans)

Comment 1

Please provide additional detail on the transportation impact of this proposed project to Caltrans facilities, that include 1-5, 1-80, US 50, State Route 12 (SR-12), SR-4, SR-33, SR-84, SR-99, SR-120, etc.

Any work performed within Caltrans right-of-way (R/W) will require review, approval by Caltrans, and an encroachment permit prior to construction. Please allow 2 to 4 weeks for a complete submittal to be reviewed and for a permit to be issued. Additional information regarding encroachment permits may be obtained by contacting the Caltrans District 3 Permits Office at (530) 741-4403, or the Caltrans District 10 Permits Office at (209) 948-7891, dependent on encroachment location. Early coordination with Caltrans is strongly advised for all encroachment permits.

When applying for an Encroachment Permit, please incorporate Environmental Documentation, Stormwater Pollution Prevention Plan (SWPPP)/Water Pollution Control Program (WPCP), Hydraulic Calculations, Traffic Management Plans for work zones, Geotechnical Analysis, Materials specifications, and all relevant design details. For specific details on Caltrans Encroachment Permits procedure, please refer to the latest edition of the Caltrans Encroachment Permits Manual at the following web site: <http://www.dot.ca.gov/trafficops/ep/index.html>

Response 1

See Master Response A. The PEIR describes the requirement to obtain encroachment permits from the California Department of Transportation (Caltrans) (see PEIR Section 3.19.2). No updates are needed. Specific impacts to individual roads – including state highways – will be evaluated during project-level review (see Master Response B).

Delta Protection Commission

Comment 7

The draft 2017 CVFPP Update includes objectives for the integration of ecosystem restoration elements into project levee improvements as part of a Conservation Strategy, which was a document called for in CVFPB's Resolution 2012-25. These non-regulatory measurable objectives serve as a framework for evaluating progress toward recovery of native species over time. In particular, the document has detailed review of relocating levees to expand bypasses and integrating ecosystem and other improvements where possible into flood-risk-reduction actions. We suggest DWR and CVFPB promote the use of DWR's "good neighbor checklist" as it was developed for the Bay Delta Conservation Plan's agricultural land stewardship strategy and consider Vision 2030 Strategic Objective A.2 ("Protect agricultural lands from inappropriate development.") and LURMP Policy Natural Resources P-1.

Response 7

In the Commission's comment letter, this comment was made on the 2017 CVFPP Update; however, given its subject is being addressed in the Final Supplemental PEIR. As described in the Supplemental PEIR (see Section 3.1, Agricultural and Forestry Resources), PEIR Impact AG-1 was updated to reflect a greater range of potential mitigation strategies. An example was provided – DWR's Agricultural Lands Stewardship Workgroup. The commenter's suggestions (e.g., Good Neighbor Checklist) are consistent with the broad framework developed by the Workgroup. For these reasons, DWR believes that the Supplemental PEIR already includes appropriate language and no additional changes are needed.

Comment 10

Agricultural conservation measures proposed by the 2012 CVFPP PEIR are designed to limit conversion of agricultural land to urban uses, and to preserve the robust agricultural economy of the Central Valley. This is consistent with Vision 2030 Strategic Objective H.1 ("Protect the Delta's distinctive character and land uses through implementation of the LURMP") and the LURMP Policy Agriculture P-8.

Response 10

The commenter acknowledges consistency between the PEIR agricultural impacts analysis and its policies for agricultural land protection. Comment noted.

Comment 11

One of the more significant changes to the PEIR concerns the removal of vegetation from levees as part of compliance with federal regulations (described in the PEIR's Appendix A). This change in strategy will affect the aesthetics of Delta waterways and could be in conflict with Vision 2030 Strategic Objective E.4 ("Identify and address environmental factors that negatively impact the economic sustainability of the Delta" – "4.2. Advocate for improved beautification of Delta roadways"). The removal of trees from roads that are the gateway to the Delta will change the character of the experience for both those who live and recreate in the Delta. The loss of trees should be evaluated not just for their possible biological impacts, but also evaluated for its potential to impact "Delta as Place" – the unique Delta values that are to be protected and enhanced even as the State seeks to accomplish its co-equal goals of water supply reliability and Delta ecosystem restoration.

The Commission suggests the 2017 PEIR Update include edits to Section 3.2 Aesthetics to consider the traveler's experience on roads (see page 3.2-8 to 3.2-9 from July 2012 PEIR). These experiences could change significantly after removal of riparian trees. The possible aesthetic impacts of maintenance work in a defined vegetation management zone (Impact VIS-5, page 3.2-32) in relation to the established Threshold of Significance (as used in Section 3.2.3 from the 2012 PEIR) merit a fresh look with the new information on the extent of vegetation removal that is now documented in Appendix A of the 2017 PEIR. It would seem that offsetting visual impacts along the Delta's river corridors itself rather than in setback levees within the Yolo Bypass is needed as a new mitigation measure in the 2017 CVFPP Update.

Response 11

The potential need to update the Aesthetics section was considered during the scoping process, and it was determined that no updates were needed (see Master Response A). DWR still believes this to be the case; the analysis presented in the PEIR is sufficient.

As the commenter notes, the PEIR considers the loss of riparian vegetation as an aesthetic impact – see Impact VIS-5, Effects of Other NTMAs on Aesthetic Resources. The conclusion states:

"...sensitive viewers would gradually become accustomed to changes in visual character because the loss of trees and woody vegetation would occur slowly over multiple decades, one tree at a time, and vegetation would be replaced in many locations through implementation of the vegetation management strategy and conservation elements. This impact would be less than significant. No mitigation is required."

The Supplemental PEIR offers new information on the extent of riparian impacts – a loss of approximately 1,300 acres of riparian vegetation, with restoration of approximately 3,500 acres of riparian habitat. These quantities clarify the extent of the impact, but does not change the PEIR conclusion for aesthetic impacts.

Delta Stewardship Council

Comment 2

According to the Delta Reform Act, it is the state or local agency approving, funding, or carrying out the project that must determine if that project is a "covered action" and, if so, file a

certification of consistency with the Delta Plan. Council staff is available to consult with you further, as provided by the Water Code section 85225.5, about the process for filing a Delta Plan certification.

Response 2

Comment noted. See also the response to the Delta Stewardship Council's Comment 18, addressing required approvals.

Comment 17

Regional setting and planning context. The SPEIR should identify the Delta Plan as a relevant regional plan in its description of regional setting or planning context for the CVFPP and discuss any inconsistencies between the proposed plan and the Delta Plan, as required by 15125(d) of the CEQA Guidelines. Please note that the CEQA guidelines' Appendix G states that a project that is inconsistent with any applicable land use plan, policy, or regulations may result in a finding of significant impact on the environment. These comments reference many of the relevant Delta Plan provisions that should be considered in that discussion. As noted below, we are prepared to assist in an examination of the CVFPP's consistency with the Delta Plan's provisions through our early consultation process.

Response 17

The Supplemental PEIR addresses the CVFPP, which is merely a planning document and is not meant to be project specific. As DWR carries out specific projects it will, of course, be directed by Water Code Section 85054 and other relevant regulations. See also the response to the Delta Stewardship Council's Comment 18, addressing required approvals.

Comment 18

Approvals required. The description of potential uses of the EIR should consider, in conformance with CEQA Guidelines section 15124(c), the need to certify the plan's consistency with the Delta Plan (Wat. Code section 85225). According to the Delta Reform Act, it is the state or local agency approving, funding, or carrying out the project that must determine if that project is a "covered action" and, if so, file a certification of consistency with the Delta Plan. Because the CVFPP's defined Systemwide Planning Area (SPA) includes the entire legal Delta (Wat. Code sections 9611, 9614(d, e)) and the SPFC, defined as the lands currently receiving protection from the SPFC (Wat. Code sections 9651(g)), includes the islands and tracts in the Delta that are protected by Project levees, and because the CVFPP is a project as described in CEQA, a key determination would be whether the project significantly affects the coequal goals or a government sponsored flood control program, including the Sacramento-San Joaquin River Flood Control Projects or the Central Valley Flood Protection Plan (Cal. Code of Regs. 5001(u)). If certification or consultation with the Council is needed, the EIR would provide important factual support for the consistency certification.

Council staff is available to consult with you further, as provided by Water Code section 85225.5, about this process on filing a Delta Plan certification.

Response 18

DWR and the Board will determine whether or not the CVFPP is a “project” as defined by Public Resources Code Section 21065 and will make a determination as to whether the CVFPP is a “covered action” pursuant to Water Code Section 85057.5.

Comment 19

Hydrology. Council Staff applauds the level of detailed analysis underlying the State Systemwide Investment Approach refinement, including the evaluation and recommendation of systemwide options, the elements of which have been moved to implementation (e.g., Lower Elkhorn Basin Levee Setback Project). Given the detailed level of information presented in the 2017 CVFPP Update’s supporting documentation, Council Staff recommends that the SPEIR include a corresponding analysis of the potential effects of the proposed flood system improvements identified in the State’s Recommended Options. This analysis should include an assessment of changes to water surface elevation and the hydrograph within the Delta, in respect to the 1992 Sacramento-San Joaquin Delta Special Study. The analysis should also discuss future scenarios and projected impacts that incorporate the effect of climate change on upstream hydrology. Lastly, Council Staff recommends making the appendices and technical memoranda which support the Basin-wide Feasibility Studies available for download on the CVFMP CVFPP Documents webpage, given the key role they play in identifying the recommended options within each Basin-wide Feasibility Study.

Response 19

See Master Response E. As stated on the BWFS website, appendices are available upon request (see <http://www.water.ca.gov/cvfmp/basin-wide.cfm>).

Comment 20

Levee Vegetation Management Strategy. The Council applauds the inclusion of the Analysis of Vegetation Management Zone Implementation within the SPEIR. This is an important step in achieving levee integrity and the protection and conservation of channel margin and shaded riverine aquatic habitat. The Delta Plan advocates for the use of best available science in advancing the co-equal goals of water supply and ecosystem. To this end, the Council Staff recommends including consideration of the implications of aerial flight dates, and the prior implementation of the vegetation management practices (then interim) as they pertain to potential impact estimates (ca 2008, Appendix D, CVFPP Conservation Strategy). Council staff further encourages DWR to leverage the inventory of trees and vegetation on project levees and toe easements which it gathered during levee inspections to robustly estimate the potential impact of implementing vegetation management (2007 Inspection Report of the Flood Control Project and Maintenance and Repair available on CDEC). This field-based data collection effort would provide the most robust understanding of the effects of the LVMS on important channel margin and shaded riverine aquatic habitats.

Response 20

At this time, DWR is in the process of developing performance criteria to determine the success of its CVFPP management actions. The suggestion to use aerial photos to track the loss of – and restoration of – levee vegetation is a good one, and will be considered as DWR continues to refine its performance criteria.

Comment 21

Mitigation – Channel Margin and SRA Habitats

The Delta Plans regulatory policy *Expanded Floodplain and Riparian Habitats in Levee Projects ER P4* (Cal Code of Regs. 23 section 5008) and PEIR’s Biological Resources Mitigation Measure 4-3 calls for proponents to design projects that avoid impacts that would lead to substantial loss of fish and wildlife habitat. If there will be a loss of habitat for fish and wildlife species from a project, Mitigation Measure 4-3 calls for proponents to replace, restore, or enhance habitats for those species and preserve in-kind habitat.

Council staff notes that current suggested mitigation for the LVMS is identified in off-stream multi-benefit improvements to bypass systems in the Sacramento and San Joaquin Valleys. No refined discussion of the effects of erosion repair as described in the Rural Portfolio or Small Communities program are provided in the SPEIR. As noted in the Council’s April 14, 2016 comment letter, we believe mitigation of any effects on channel margin habitat is particularly important. In particular, we recommend that to the maximum extent feasible, any impacts to channel margin habitat along important salmonid migration corridors in the Delta be mitigated on-site; in the event that off-site mitigation is necessary, we recommend that any off-site mitigation occurs in close proximity and along the same waterway as where the impacts would occur (e.g., impacts to habitat along Steamboat Slough should be mitigated along Steamboat Slough) to demonstrate that the mitigation is restoring equivalent, in-kind habitat. For more information on mitigation and creation of channel habitat, see the Council’s issue paper on *Improving Habitats Along Delta Levees*.

Response 21

For channel margin habitat, the commenter suggests that restoration occur in close proximity to affected areas where channel margin habitat is lost, for example by erosion repair projects. DWR agrees that geographic proximity to impacts can be an important factor in determining the location of its habitat restoration projects, especially where the affected area provides connectivity and similar ecological benefits. DWR will consider that habitat would be replaced in close proximity when feasible, including along the same waterway. However, in some cases there is insufficient capacity or space within the flood system to accommodate increased mitigation requirements, and those must be met elsewhere. In some cases, DWR’s restoration activities for key conservation needs will necessarily need to occur where opportunities for multi-purpose projects exist.

Comment 22

Transportation – Delta Plan Recommendation **DP R18** recommends that the ports of Stockton and West Sacramento should encourage maintenance and carefully designed and sited development of port facilities. How potential improvements to the Yolo Bypass, including alterations of the Deepwater Ship Channel, could affect maritime transportation through the channel to and from the port should be discussed and appropriate mitigation measures should be proposed.

Response 22

Potential impacts to port facilities were considered in the PEIR. On PEIR p. 3.19-16, the discussion states:

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“Impacts on deep water shipping channels are not evaluated further because the proposed program would not include activities that would alter the capacity of these facilities. Although levees along established ship channels may be improved, the proposed program would not materially reduce the depth, width, or functionality of ship channels within these levees. In addition, completion of a rigorous permitting process would be required to alter deep water shipping channels or use them during construction. The U.S. Coast Guard, the responsible agency for deep water shipping channels, requires that full use of these channels be maintained. The proponent of any action that would require modifying a deep water shipping channel or use it for construction must consult with the U.S. Coast Guard to minimize any impacts that could occur.”

The 2017 CVFPP Update does not include new information that would require update to this PEIR text. It should be noted that project-level environmental review may indicate the need for closer study based on the circumstances of each specific project (see Master Response B).

Comment 23

Recreation – Delta Plan Recommendation **DP R11** calls for providing new and protecting existing recreational opportunities in the Delta and Suisun Marsh. The Delta Plan recommends protecting and improving existing recreation opportunities while seeking ways of providing new and better coordinated opportunities. Additionally, Recommendation DP R16 states that public agencies owning land should increase opportunities, where feasible, for bank fishing, hunting, levee-top trails, and environmental education. Opportunities to provide these recreation uses as part of the 2017 Update project should be explored. A key area to consider with respect to recreation impacts is along Highway 84 bordering the Sacramento River from the Real McCoy Farm south to Rio Vista. Levee improvements here could interfere with water access and bank fishing that occurs in this area. This potential effort should be evaluated in the PEIR and appropriate mitigation proposed.

Response 23

Potential impacts to recreation uses were considered in the PEIR – see PEIR Impacts REC-1 and REC-2. Mitigation measures include replacing displaced recreational facilities and access and minimizing construction activities to avoid high-use recreation seasons. These measures would apply to all project areas, including any projects that would affect the area along Highway 84. The 2017 CVFPP Update does not include new information that would require update to these PEIR measures.

Local and Regional Agencies

City of Lathrop – Letter 1

Comment 1

Thank you for the opportunity to submit comments on the 2017 Central Valley Flood Protection Plan Update (2017 CVFPP Update) and the Draft Supplemental Program Environmental Impact Report (PEIR) dated December 2016.

The Department of Water Resources (DWR) and other State agencies have released or will soon release several plans and reports that inform and will affect the CVFPP Update. Currently, it

appears that these efforts remain uncoordinated with the 2017 CVFPP Update. Consequently, the City of Lathrop respectfully requests that DWR extend the comment period on the Draft December 2016 Central Valley Flood Protection Plan 2017 Update and the Draft PEIR until after DWR releases the public draft of the San Joaquin River Basin-Wide Feasibility Study and until it has the opportunity to coordinate the 2017 CVFPP Update with the other planning efforts in the region.

Response 1

See Master Response C.

Comment 3

The serious rain events of the past few months remind us of why it is so important to have a coordinated, transparent plan for flood protection in the Sacramento-San Joaquin Delta region. Proceeding with the 2017 CVFPP Update and PEIR at this point will preclude the ability for the State to develop such a coordinated system. Accordingly, we request that the comment period for the 2017 CVFPP Update and PEIR be extended to coincide with the comment period on the San Joaquin River Basinwide Feasibility Study and the DWR Investment Strategy so that the public will have the opportunity to provide meaningful and coordinated comments.

We look forward to receipt of confirmation from you that the comment period has been extended.

Response 3

See Master Response C.

City of Lathrop – Letter 2

Comment 2

The City of Lathrop representatives reviewed the Draft 2017 CVFPP Update and Draft Supplemental PEIR with a specific focus on the 2017 CVFPP Update policies and the alternatives that DWR is proposing for flood management in the Lower San Joaquin River study area and Reclamation District (RD) 17. We understand that the 2017 CVFPP Update is the first five-year update to the CVFPP as required by the Central Valley Flood Protection Act of 2008 (also known as, “Senate Bill (SB) 5”) and that the purpose of the update is to update near- and long-term investment needs established in the original 2012 Central Valley Flood Protection Plan.

Nonetheless, Lathrop is one of the local land use agencies seeking 200-year flood protection from the RD 17 levee system, as mandated in the Central Valley Flood Protection Act of 2008. The City of Lathrop requests that DWR recognize, as part of the 2017 CVFPP Update and associated Supplemental PEIR, the year 2025 time limit for providing the required 200-year LOP, and focus on early funding of viable flood risk reduction alternatives to provide 200-year flood protection within this short time limit for urbanizing and urbanized areas, such as RD 17.

Response 2

Section 2.3.8 of the Supplemental PEIR describes local planning obligations, including DWR’s obligation to provide technical assistance regarding compliance with the Urban Level of Flood

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Protection requirements. The Supplemental PEIR also addresses funding (Section 2.5.2), referring to the more detailed description in the 2017 CVFPP Update. The 2017 CVFPP Update itself discusses the timing of investments – see Section 4.2.2, which describes Phase 1, Phase 2, and Phase 3 investments in 2017-2027, 2027-2037, and 2037-2047, respectively. See also Master Response F.

Comment 3

We understand that DWR recently has been extremely busy with the recent heavy rains and the need to undertake emergency repairs of the State flood protection system. We appreciate how the recent events of the past several months necessitated diverting DWR staff resources to other more urgent conditions. As a result, it appears that DWR may have had some challenges in releasing various documents intended for public review in a timely manner.

As you know, DWR and other State agencies have released or will soon release several plans and reports that purportedly inform and will affect the 2017 CVFPP Update. Currently, it appears that these associated documents were not released prior to release of the 2017 CVFPP Update. DWR only recently addressed stakeholder comments and provided the responses to San Joaquin County stakeholders on March 17, 2017, more than 2 months after DWR circulated the Draft 2017 CVFPP and Draft Supplemental PEIR for public review and comment. Similarly, DWR released an updated public review draft for the San Joaquin Basinwide Feasibility Study earlier this week, further complicating the review process.

Earlier this month, DWR released a draft Technical Memorandum entitled “Central Valley Flood Protection Investment Strategy” (DWR Investment Strategy) which also is being used to inform State levee investments in the region. Based on our preliminary review of the responses to the San Joaquin River Basinwide Feasibility Study stakeholder comments and the DWR Investment Strategy, these documents appear to be inconsistent with the recommendations contained in a third State document, the recently released Delta Stewardship Council (DSC) Delta Levee Investment Strategy (DLIS) which will serve as the recommended plan for purposes of proceeding with the DSC’s environmental review process under CEQA later this year. For example, the DSC DLIS designates the RD 17 Levees as Very High Priority for State levee investment to protect the region in a manner consistent with the Delta Plan. Upon reviewing the DWR Investment Strategy, the investment priorities for alternatives related to improvements to the RD 17 levees are unclear. Also, we are having difficulty locating alternatives included in the Draft 2017 Central Valley Flood Protection Plan Update and the Draft Supplemental PEIR for flood protection for urbanizing areas of San Joaquin County, including all of RD 17. State law requires that local land use agencies must assure the provision of 200-year flood protection for *urbanizing and urbanized areas* in the Sacramento-San Joaquin Delta. Yet, we do not see a consistent State commitment to flood protection investment in urbanizing regions of San Joaquin County.

Due to delays in DWR’s release of associated documents, and apparent inconsistencies in these documents, Lathrop requests that DWR extend the comment period on the Draft 2017 Central Valley Flood Protection Plan Update and Draft Supplemental PEIR for another 30 days until April 30, 2017. A 30-day extension would enable the City to complete its review of the recently released documents (e.g., Draft San Joaquin River Basinwide Feasibility Study and the DWR Investment Strategy) and allow the City to revise its existing comments on the Draft 2017

CVFPP Update and Supplemental PEIR to take into consideration information in these additional documents.

Response 3

See Master Responses C and F. The City of Lathrop incorrectly interprets provisions of SB 5 (2007). Cities and counties shall make a finding related to Urban Level of Protection or the national FEMA standard for protection based on substantial evidence in the record before approving any affected land-use decisions. State law does not require that local land use agencies must assure the provision of 200-year flood protection for *urbanizing and urbanized areas* in the Sacramento-San Joaquin Delta.

Comment 15

Section 1 of the Draft Supplemental PEIR states that DWR, acting as Lead Agency, prepared the original PEIR in 2012 to evaluate a “broad range of flood protection actions included in the CVFPP” and the CVFPP was adopted and the PEIR was certified on June 29, 2012. The Supplemental PEIR addresses the 2017 CVFPP Update and evaluates whether or not there are new, significant impacts or a substantial increase in the severity of significant impacts associated with the 2017 CVFPP Update. Additionally, Section 1 states that DWR evaluated whether there is “substantially important new information relating to the CVFPP or its environmental effects, or if there are substantial changes with respect to the circumstances under which the project is undertaken” to determine if further environmental review was required. As with the original PEIR, the impact analysis in the Supplemental PEIR takes a broad, programmatic approach to defining significant impacts and mitigation measures.

Under CEQA Guidelines Section 15146, the degree of specificity required in an EIR must correspond to the degree of specificity involved in the underlying activity which is described in the EIR. While it is true that an EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or plan should focus on the secondary effects that can be expected to follow from the plan, and the EIR need not be as detailed as an EIR on the specific construction projects, if the plan itself includes specific policies and recommendations, then the analysis must address the potential impacts associated with that plan or policy.

The problem with DWR’s approach is that the 2017 CVFPP Update includes very specific recommendations for State investment in only 1 alternative for RD 17, and the analysis of the potential impacts contained in the Supplemental PEIR is so broad that the analysis is not at a level of detail commensurate with the project description. Moreover, as indicated below, this analysis does not take into consideration other feasible alternatives that DWR has declined to consider in violation of CEQA. Consequently, we request that the Supplemental PEIR be revised to provide a more detailed analysis of the Fix-in-Place Project Alternative.

Response 15

See Master Response B.

Comment 16

Section 2.3.1 states that the CVFPP includes a program to protect existing urban areas (with populations greater than 10,000) to achieve at least an urban level of flood protection or 200-year level of protection. Approximately 46,500 people reside in RD 17 and the only alternative

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considered for 200-year flood protection involves a new cross levee and a small setback levee. The San Joaquin River Basinwide Feasibility Study recommended option includes a Paradise Cut Bypass Expansion to provide flood protection for agricultural areas and habitat. We are concerned that DWR may not have identified an alternative reflecting the Fix-in-Place alternative under consideration as part of the State-led feasibility study for RD 17 that will soon commence as part of the Urban Flood Risk Reduction (UFRR) Program.

Accordingly, we request that the 2017 CVFPP Update policies consider a Fix-in-Place Alternative based on the project proposed by the local communities and under consideration in the UFRR feasibility study for RD 17 or defer any specific recommendations for RD 17 until such time as DWR has completed the UFRR feasibility study and conducted its environmental review of the RD 17 Fix-in-Place Project.

Response 16

See Master Response B.

Comment 17

The Draft 2017 CVFPP Update evaluates flood protection scenarios for 2007, 2017 (with and without project) and 2067 (with and without project) conditions. The 2067 scenario evaluates the effects of climate change, sea level rise and land use changes for a 50-year period. There is no analysis, however, of conditions within 2025 – the time frame required to establish 200-year flood protection for urban and urbanizing areas. The Draft Supplemental PEIR does not include an analysis of climate change conditions. Both the 2017 CVFPP Update and the Supplemental PEIR should evaluate conditions in 2025 to be consistent with SB 5 and to evaluate the reasonably foreseeable urbanized and urbanizing conditions in the San Joaquin River Basin based on adopted general plans and policies for San Joaquin County, and the local cities of Manteca, Lathrop, and Stockton. The Supplemental PEIR should evaluate climate change impacts based on the additional climate change scenarios considered in the Draft 2017 CVFPP Update.

Response 17

See Master Response E.

Comment 18

The serious rain events of the past few months remind us of why it is so important to have a coordinated, transparent plan for flood protection in the Sacramento-San Joaquin Delta region. We request that the comment period for the 2017 CVFPP Update and Supplemental PEIR be extended to coincide with the comment period on the San Joaquin Basinwide Feasibility Study and the DWR Investment Strategy so that the public will have the opportunity to provide meaningful and coordinated comments.

We look forward to receipt of confirmation from you that the comment period has been extended. If I can be of further assistance, please let me know. I can be reached by e-mail at ggebhardt@lathrop.ca.us or by phone (209) 941-7220.

Response 18

See responses to the City of Lathrop's Comments 2, 3, 15, 16, and 17 above.

City of Stockton

Comment 2

City of Stockton representatives reviewed the Draft 2017 CVFPP Update and Draft Supplemental PEIR with a specific focus on the 2017 CVFPP Update policies and the alternatives that DWR is proposing for flood management in the Lower San Joaquin River study area and Reclamation District (RD) 17. We understand that the 2017 CVFPP Update is the first five-year update to the CVFPP as required by the Central Valley Flood Protection Act of 2008 (also known as, “Senate Bill (SB) 5”) and that the purpose of the update is to update near-term and long-term investment needs established in the original 2012 Central Valley Flood Protection Plan.

Nonetheless, as one of the local land use agencies seeking 200-year flood protection from the RD 17 levee system in accordance with the Central Valley Flood Protection Act of 2008, the City of Stockton requests that DWR focus on viable flood risk reduction alternatives to provide 200-year flood protection for urbanizing and urbanized area, such as RD 17, as part of the 2017 CVFPP Update and associated Supplemental PEIR. Our review suggests that some of the draft documents focus only on funding the multi-benefit improvements in Paradise Cut or limiting 200-year flood protection to only the Central Stockton area.

Response 2

It is not true that the 2017 CVFPP Update and Supplemental PEIR focus only on the Paradise Cut multi-benefit improvements and Central Stockton actions. For example, Supplemental PEIR Section 2.4.3 specifically lists RD 17 levee improvements as part of the urban portfolio. See also Master Response F.

Comment 3

We understand that DWR recently has had a lot on its plate with the recent heavy rains and the need to undertake emergency repairs of the State flood protection system, and we appreciate how the recent events of the past several months necessitated diverting DWR staff resources to other more urgent conditions. As a result, it appears that DWR may have had some challenges in releasing various documents intended for public review in a timely manner.

As you know, DWR and other State agencies have released or will soon release several plans and reports that purportedly inform and will affect the 2017 CVFPP Update. Currently, it appears that these efforts remain uncoordinated with the 2017 CVFPP Update. For example, before releasing the 2017 CVFPP Update, DWR released the Draft Sacramento River Basinwide Feasibility Study on November 2016. The Sacramento River Basinwide Feasibility Study addressed stakeholder review comments submitted in May 2016 and represented the version of the Sacramento River Basinwide Feasibility Study that DWR is using to support the Draft 2017 CVFPP Update. Unlike the Sacramento River Basin, DWR only recently addressed stakeholder comments and provided the responses to San Joaquin County stakeholders on March 17, 2017, more than 2 months *after* DWR circulated for the Draft 2017 CVFPP and Draft Supplemental PEIR for public review and comment. DWR released an updated public review draft for the San Joaquin River Basinwide Feasibility Study earlier this week, further complicating the review process. Why has DWR undertaken different review processes for both regions when they are covered by the same Draft 2017 CVFPP and Draft Supplemental PEIR?

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Earlier this month, DWR released a draft Technical Memorandum entitled “Central Valley Flood Protection Investment Strategy” (DWR Investment Strategy) which also is being used to inform State levee investments in the region. Based on our preliminary review of the responses to the San Joaquin River Basinwide Feasibility Study stakeholder comments and the DWR Investment Strategy, these documents appear to be inconsistent with the recommendations contained in a third State document, the recently released Delta Stewardship Council (DSC) Delta Levee Investment Strategy (DLIS) which will serve as the recommended plan for purposes of proceeding with the DSC’s environmental review process under CEQA later this year. For example, the DSC DLIS designates the RD 17 Levees as Very High Priority for State levee investment to protect the region in a manner consistent with the Delta Plan. According to the DWR Investment Strategy, however, there are *no* investment priorities for alternatives related to improvements to the RD 17 levees, and although a flood protection alternative is identified for the urbanized Central Stockton area, there are *no* alternatives included in the Draft 2017 Central Valley Flood Protection Plan Update and the Draft Supplemental PEIR for flood protection for urbanizing areas of San Joaquin County, including all of RD 17. On the one hand, the State is promoting the State’s flood protection investment in urbanizing regions of San Joaquin County, and on the other, it is not – even though State law requires that local land use agencies must assure the provision of 200-year flood protection for *urbanizing and urbanized area* in the Sacramento-San Joaquin Delta.

Due to the uncoordinated state review processes, the inconsistencies in the various public review processes and delays in DWR’s release of associated documents, the City of Stockton requests that DWR extend the comment period on the Draft 2017 Central Valley Flood Protection Plan Update and the Draft Supplemental PEIR for another 30 days until April 30, 2017. A 30-day extension would enable the County to complete its review of the recently-released documents (e.g., the Draft San Joaquin River Basinwide Feasibility Study and the DWR Investment Strategy) and allow the County to revise its existing comments on the Draft 2017 CVFPP Update and Supplemental PEIR to take into consideration the new information DWR recently shared with Stockton.

Response 3

See Master Responses B, C and F, and responses to comments from the Delta Stewardship Council (especially Comment 2).

Comment 12

The Draft 2017 CVFPP Update relies upon the San Joaquin River Basinwide Feasibility Study which evaluates flood protection scenarios for 2007, 2017 (with and without project) and 2067 (with and without project) conditions. The 2067 scenario evaluates the effects of climate change, sea level rise and land use changes for a 50-year period. There is no analysis however, of conditions within 2025 – the time frame required to establish 200-year flood protection for urban and urbanizing areas. Both the 2017 CVFPP Update and the Supplemental PEIR should evaluate flood protection and climate change conditions in 2025 to be consistent with SB 5 and to evaluate the reasonably foreseeable urbanized and urbanizing conditions in the San Joaquin River Basin based on adopted general plans and policies for San Joaquin County, and the local cities of Manteca, Lathrop and Stockton.

Response 12

See Master Response E.

Comment 13

Section 1 of the Draft Supplemental PEIR states that DWR, acting as Lead Agency, prepared the original PEIR in 2012 to evaluate a “broad range of flood protection actions included in the CVFPP” and the CVFPP was adopted and the PEIR was certified on June 29, 2012. The Supplemental PEIR addresses the 2017 CVFPP Update and evaluates whether or not there are new, significant impacts or a substantial increase in the severity of significant impacts associated with the 2017 CVFPP Update. Additionally, Section 1 states that DWR evaluated whether there is “substantially important new information relating to the CVFPP or its environmental effects, or if there are substantial changes with respect to the circumstances under which the project is undertaken” to determine if further environmental review was required. As with the original PEIR, the impact analysis in the Supplemental PEIR makes a broad, programmatic approach to defining significant impacts and mitigation measures.

Under CEQA Guidelines Section 15146, the degree of specificity required in an EIR must correspond to the degree of specificity involved in the underlying activity which is described in the EIR. While it is true that an EIR on a project such as the adoption or amendment of a comprehensive zoning ordinance or plan should focus on the secondary effects that can be expected to follow from the plan, and the EIR need not be as detailed as an EIR on the specific construction projects, if the plan itself includes specific policies and recommendations, then the analysis must address the potential impacts associated with that plan or policy.

The problem with DWR’s approach is that the 2017 CVFPP Update includes very specific recommendations for State investment in only 1 alternative for RD 17, and the analysis of the potential impacts contained in the Supplemental PEIR is so broad that the analysis is not at a level of detail commensurate with the project description. Moreover, as indicated below, this analysis does not take into consideration other feasible alternatives that DWR has declined to consider in violation of CEQA. Consequently, we request that the Supplemental PEIR be revised to provide a more detailed analysis of the Fix-in-Place Project Alternative.

Response 13

See Master Response B.

Comment 14

Section 2.3.1 states that the CVFPP includes a program to protect existing urban areas (with populations greater than 10,000) to achieve at least an urban level of flood protection or 200-year level of protection. Approximately 46,500 people reside in RD 17 and the only alternative considered for 200-year flood protection involves a new cross levee and a small setback levee that would only provide flood protection for a small portion of RD 17. The San Joaquin River Basinwide Feasibility Study recommended option includes a Paradise Cut Bypass Expansion to provide flood protection for agricultural areas and habitat. We are concerned that DWR may not have identified an alternative reflecting the Fix-in-Place alternative under consideration as part of the State-led feasibility study for RD 17 currently underway as part of the Urban Flood Risk Reduction (UFRR) Program.

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Accordingly, we request that the 2017 CVFPP Update policies consider a Fix-in-Place Alternative based on the project proposed by the local communities and under consideration of the UFRR feasibility study for RD 17 or defer any specific recommendations for RD 17 until such time as DWR has completed the UFRR feasibility study and conducted its environmental review of the RD 17 Fix-in-Place Project. The Draft Supplemental PEIR however only focus on alternatives providing flood protection to RD 17 for north and central Stockton. The overall purpose of the proposed flood management project is to reduce flood risk to urban and urbanizing parts of the *Study Area* as explained in Chapter 3 of the Draft Supplemental PEIR. It appears that DWR, however, selected an alternative that only protects *part* of the Study Area and excludes two-thirds of RD 17.

Response 14

See Master Responses B and F.

Comment 15

The Draft 2017 CVFPP Update evaluates flood protection scenarios for 2007, 2017 (with and without project) and 2067 (with and without project) conditions. The 2067 scenario evaluates the effects of climate change, sea level rise and land use changes for a 50-year period. There is no analysis, however, of conditions within 2025 – the time frame required to establish 200-year flood protection for urban and urbanizing areas. The Draft Supplemental PEIR does not include an analysis of climate change conditions. Both the 2017 CVFPP Update and the Supplemental PEIR should evaluate conditions in 2025 to be consistent with SB 5 and to evaluate the reasonably urbanized and urbanizing conditions in the San Joaquin River Basin based on adopted general plans and policies for San Joaquin County, and the local cities of Manteca, Lathrop and Stockton. The Supplemental PEIR should evaluate climate change impact based on the additional climate change scenarios considered in the Draft 2017 CVFPP Update.

Response 15

See Master Response E.

Comment 16

The serious rain events of the past few months remind us of why it is so important to have a coordinated, transparent plan for flood protection in the Sacramento-San Joaquin Delta region. Proceeding with the 2017 CVFPP Update and Supplemental PEIR at this point will put the cart before the horse and preclude the ability for the State to develop such a coordinated system. Accordingly, we request that the comment period for the 2017 CVFPP Update and Supplemental PEIR be extended to coincide with the comment period on the San Joaquin River Basinwide Feasibility Study and the DWR Investment Strategy so that the public will have the opportunity to provide meaningful and coordinated comments.

Response 16

See responses to the City of Stockton's Comments 2, 3, 12, 13, 14, and 15 above.

County of Sutter

Comment 1

You held a public hearing in Yuba County on February 9. Do you know how many attended?

Response 1

A total of 17 people signed in at the February 9, 2017 public hearing.

Reclamation District 108

Comment 1

Thank you for the opportunity to provide comments at your March 9th hearing in Woodland on the Central Valley Flood Protection Plan 2017 Update (CVFPP 2017 Update). As you requested, I am sending this letter to memorialize the comments I made at the hearing so you may consider these issues as you prepare to consider CVFPP 2017 Update adoption. Please note that additional comment letters from the Mid & Upper Sacramento River Region are also being submitted for your consideration.

Response 1

Comment noted.

Comment 2

I find it ironic that we have spent most of the last five years working on the CVFPP 2017 Update during a drought, but now as you prepare to adopt the CVFPP 2017 Update we are dealing with flooding issues throughout the Central Valley. Getting people to think about flood planning during a drought has not been easy, but as recent events have shown us, we can never ignore the need to work on and improve our flood control system. We need to remember this, and continually remind the public and our elected officials that we must always be preparing for floods in the Central Valley regardless of the current weather reports.

I would like to thank the Central Valley Flood Protection Board (Board) for supporting the Department of Water Resources (DWR) for funding the Regional Flood Management Planning (RFMP) process. The RFMP process provided us with the resources needed to engage and have meaningful input into the CVFPP 2017 Update. The 2012 Plan was a top-down planning process which resulted in significant last-minute disagreements as the Board moved to adopt the 2012 Plan. The RFMP process has allowed for a more bottom-up planning process for the CVFPP 2017 Update, and you are seeing the results of those efforts. So far, no major objections or disagreements have been discussed at your hearings. In addition, the RFMP process has strengthened relationships and communication between regions, which have matured to the point where the regions representing the Sacramento River Basin can express their concerns with a single voice. I commend you for your leadership and commitment to the RFMP and I urge you to continue the RFMP process after the adoption of the CVFPP 2017 Update to continue this great effort.

Response 2

The State's intention is to continue the regional flood management planning process, demonstrated by several recommendations made in the 2017 CVFPP Update. Regional collaboration will be key in committees/workgroups developed to address the eight policy issues identified in the 2017 CVFPP Update.

Supplemental Program Environmental Impact Report

San Joaquin Area Flood Control Agency – Letter 1

Comment 1

Thank you for the opportunity to submit comments on the draft 2017 Central Valley Flood Protection Plan Update (2017 CVFPP Update) and the draft Supplemental Program Environmental Impact Report (PEIR) dated December 2016.

The purpose of this letter is to respectfully request that DWR extend the commenting period for the 2017 CVFPP Update and draft Supplemental PEIR until after DWR releases the public draft of the San Joaquin River Basin-wide Feasibility Study (SJ-BWFS).

SJAFCA submitted extensive comments to the SJ-BWFS Stakeholder Review Draft dated October 2016. To date, these comments have not been addressed nor has an update to the SJ-BWFS been released for public review. This is concerning considering DWR is using the SJ-BWFS to support the 2017 CVFPP Update. The absence of an update to the SJ-BWFS document hampers one's ability to make informed comments to the draft 2017 CVFPP Update. In addition, DWR released a draft Technical Memorandum just this month titled *Central Valley Flood Protection Investment Strategy*, which is also being used to inform State levee investments in the region. We believe it is important to extend the commenting period of the 2017 CVFPP Update to allow complete information to be evaluated and to allow coordinated comments to these key State documents. There is nothing to be gained by rushing this process.

Local stakeholder input has been a valuable resource throughout the process of updating the CVFPP through participation in Regional Flood Management Planning and the Basin-Wide Feasibility Study, and while we appreciate the opportunity to be included in these processes, we believe that closing the comment period without an update to influential documents such as the SJ-BWFS diminishes our local input and the time that was spent developing information that will be used to make investment decisions in our Region.

With the goal of providing a fair representation of our Region, we humbly ask that you consider extending the comment period to after an update of the SJ-BWFS has been released for public view.

Response 1

See Master Response C.

San Joaquin Area Flood Control Agency – Letter 3

Comment 1

We provided comments to DWR on the “Stakeholder Review Draft of the San Joaquin River Basin-wide Feasibility Study” on November 23, 2016. We were informed that the revised draft of the Basin-wide Feasibility Study would not be released for public review until the end of March. Since the Basin-wide Feasibility Study was meant to inform the 2017 Update, this is troubling.

Response 1

See Master Response C.

Comment 2

p. 1-5, Section 1.5 “Roles of Other Entities:” It notes that “DWR is continuing to work with the USACE in developing the Central Valley Integrated Flood Management Study (CVIFMS).” The EIR should note that this Watershed Plan does not cover the entire Central Valley since it was limited to the Sacramento River Watershed. No work has been done to date on the San Joaquin River Watershed.

Response 2

Correct; USACE describes the Central Valley Integrated Flood Management Study (CVIFMS) as “a watershed study of the Sacramento River Basin.” Text in Supplemental PEIR Section 1.5 has been updated; the sentence “CVIFMS is intended to evaluate flood management improvements in the Central Valley from a federal perspective...” is now “CVIFMS is a watershed study to evaluate flood management improvements in the Sacramento River Basin from a federal perspective...”

Comment 3

p. 2-1, Section 2.2 “Program Development:” The 2012 CVFPP identified \$14-\$17 billion over 20-25 years, while the 2017 Plan totals \$17-\$21 billion over the next 30 years. It is unclear whether the time duration of the 2017 and subsequent Plans will be 30 years, or will it be shortened as projects are completed?

Response 3

The funding plan described in the 2017 CVFPP Update (and discussed in Supplemental PEIR Section 2.5.2) describes spending \$17-21 billion to implement the actions in the 2017 CVFPP Update. The 2017 CVFPP Update uses a 30-year planning horizon to develop a funding plan and an investment strategy; however, the State’s interest in the SPFC will not end after 30 years. Future CVFPP updates will continue to refine what actions are included in the CVFPP.

Comment 4

p. 2-5, Section 2.3.4 “System Improvements:” It notes that “DWR has completed the...San Joaquin River BWFSs. “Since only a stakeholder draft had been circulated until the revised draft was released on March 28, it would appear that this study was not yet complete. Ample time to review the revised draft and coordinate comments with this document was not provided.

Response 4

See Master Response C.

Comment 5

p. 2-14, “Urban Flood Protection:” should include the urban areas of Lathrop and Manteca.

Response 5

The commenter refers to a sentence beginning “The CVFPP...,” meaning the original CVFPP adopted in 2012. The specific urban areas listed in this sentence are consistent with Section 3.3 of the (2012) CVFPP, and also with the statement in the CVFPP that DWR may consider other urban areas.

Supplemental Program Environmental Impact Report

See the subsequent text, which lists additional specifics from the 2017 CVFPP Update. RD 17 levee improvements were included in the 2017 CVFPP Update, and are therefore added to this section on urban flood protection.

San Joaquin County Public Works

Comment 7

The PEIR and the CVFPP Update evaluate flood protection scenarios for 2007, 2017 (with and without project) and 2067 (with and without project) conditions. The 2067 scenario evaluates the effects of climate change, sea level rise and land use changes for a 50-year period. There is no analysis however, of conditions within 2025 – the time frame required to establish 200-year flood protection for urban and urbanizing areas. Both the Plan Update and the EIR should evaluate conditions in 2025 to be consistent with SB 5 and to evaluate the reasonably foreseeable conditions based on adopted general plans and policies.

Response 7

See Master Response E.

Comment 8

The PEIR states the EIR is a program level document to evaluate a program to protect existing urban areas to achieve an urban level of flood protection. The CVFPP, however, identifies very specific recommendations and possible actions related to flood risk management policies without providing the technical information and analysis to support the identification of the improvements. Further, the PEIR states that these actions are subject to further design and environmental review. It is unclear how DWR can approve these specific recommendations when the level of specificity contained in the PEIR is not commensurate with the level of detail included in the project.

Response 8

See Master Response B.

Groups

American Rivers

Comment 1

Thank you for the opportunity to comment on the 2017 CVFPP Update and the SPEIR. In addition to the comments below, I am resubmitting American Rivers scoping comments, which are still germane. In addition and in light of the fact that DWR considers the 2017 CVFPP Update a mere refinement of the 2012 plan, I have also attached our comments to the 2012 plan. Please consider these comments in their totality as you finalize your efforts to complete the Plan and comply with the California Environmental Quality Act.

Response 1

Comment noted. The Supplemental PEIR only addresses the updates to the CVFPP; comments on the original PEIR are outside of the scope of the Supplemental PEIR and will not be addressed.

Comment 2

The Board should be the lead agency under CEQA

As discussed in American Rivers April 18, 2016 scoping comments (attached), DWR is not the appropriate lead agency. The Central Valley Flood Protection Board should re-scope the PEIR and complete a full CEQA analysis. The legislature designated the Board to adopt the plan and the Board will ultimately be the entity permitting the improvements and therefore is the appropriate lead agency.

Response 2

DWR is the appropriate lead agency for the Supplemental PEIR. The approval of the 2017 CVFPP Update itself is not the project under review in the Supplemental PEIR. As set forth in CEQA Guidelines Section 15378, the definition of a project means the whole of an action that has a potential for resulting in either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment. The Guidelines further state that “[T]he term ‘project’ refers to the activity which is being approved and which may be subject to several discretionary approvals by government agencies. The term ‘project’ does not mean each separate government approval.” CEQA Guidelines Section 15378(c). DWR’s preparation of the 2017 CVFPP Update, and its implementation of flood system improvements in furtherance of the 2017 CVFPP Update, are all part of the Project which is the subject of the Supplemental PEIR.

Pursuant to California Water Code Section 9612, DWR has responsibility for the development of the 2017 CVFPP Update and the Board has the responsibility to approve the 2017 CVFPP Update. In addition to being responsible for the development of the 2017 CVFPP Update, the majority of the implementation of the Plan falls to DWR. Pursuant to California Water Code Section 8350, DWR has supervisory power over the maintenance and operation of the Sacramento River Flood Control Project (SRFCP). DWR maintains specifically enumerated portions of the SRFCP pursuant to California Water Code Section 8361 and maintains specific SRFCP levees within maintenance areas established by the Board pursuant to Water Code Section 12878. Pursuant to the CVFPP adopted in 2012, as well as the 2017 CVFPP Update, DWR will, among other actions, continue to maintain portions of the SRFCP (including performing structural rehabilitation where necessary), carry out appropriate emergency response activities throughout the Central Valley and the Sacramento-San Joaquin Delta, continue to evaluate project levees, develop and implement repair and rehabilitation improvements for the flood system, and develop and implement multi-benefit flood projects in concert with other flood management agencies.

DWR has the greatest responsibility for creating and implementing the 2017 CVFPP Update as a whole and is therefore the proper lead agency.

Comment 3

A Supplemental Programmatic Environmental Document is Not Adequate for Environmental Review of the 2017 CVFPP Update

As discussed in American Rivers April 18, 2016 scoping comments, a supplemental document is not adequate for environmental review of the 2017 CVFPP Update because the 2017 Update is based on substantial new information and analysis paid for at taxpayer’s expense.

Supplemental Program Environmental Impact Report

The idea that the 2017 update, and future updates, are intended only to be refinements of the 2012 State System wide Investment Approach (SSIA) is contrary to legislative intent of the authorizing legislation and the requirements of the California Environmental Quality Act. The legislation calls for quinquennial updates and it is reasonable to assume that these updates could be little more than refinements when there is no new information or reason to justify significant modifications to the previous plan. In cases where there is significant new information, however, the legislature presumably expected quinquennial update to include proportional modifications to the plan. This is particularly true in cases where the new information affects the plan's ability to protect the public or reduce the states liability from dangerous floods. Substantial new information, particularly new hydrologic data developed since the 2012 plan, along with the near tragedy at Oroville dam, mandates that DWR do more than merely refine the previous plan. While 2017 Update does not evaluate a sufficiently broad range of new alternatives to the SSIA, it does in fact do much more than "refine" the 2012 plan. DWR's claims to the contrary conveniently justify their decision to file a supplemental PEIR.

If American Rivers is wrong, and the 2017 Update is actually only a refinement of the 2012 plan, then we respectfully request DWR to respond to our comments to the 2012 plan, which are attached.

Response 3

A supplemental EIR is the appropriate document to review the environmental impacts of the 2017 CVFPP Update. DWR has determined that no new significant impacts will occur beyond those analyzed adequately in the 2012 CVFPP PEIR, and that none of the previously identified significant impacts will be substantially increased. DWR has evaluated whether major revisions, rather than minor changes, need to be made to the 2012 document, and given the relatively minor, incremental changes that are anticipated in the 2017 CVFPP Update, DWR has determined that the changes are minor. While it is true that additional detail is now being provided regarding the proposed management actions, as well as in the Conservation Strategy, this detail is consistent with the program reflected in the 2012 CVFPP and does not require major changes in the analysis.

The following factors have led DWR to conclude that only "minor changes" to the 2012 document are required, as compared to "major revisions." First, the Notice of Preparation (NOP) concluded that most of the environmental impacts discussed in 2012, such as traffic, air quality, public hazards, and aesthetics, are unaffected and need not be revisited. Second, within the impact areas that are addressed in the Supplemental PEIR, only focused updates were necessary. Finally, DWR has concluded that a focused supplemental EIR best supports the public information purposes of CEQA, since it highlights the changes being made rather than dilute those changes through the repetition of extensive, unchanged analysis from the 2012 document. This is also more efficient for both the interested parties and for DWR and the Board. For a more detailed discussion of this topic, please refer to DWR's July 2016 "2017 Central Valley Flood Protection Plan Update Scoping Report."

Comment 4

The Plan Does Not Adequately Mitigate or Avoid Impacts

The SPEIR and the Plan fail to provide assurances that the Conservation Strategy would be implemented and therefore fail to assure mitigation of significant impacts associated with the proposed vegetation management strategy and other current, future, or cumulative impacts.

The SPEIR acknowledges that the Vegetation Management Strategy (VMS) will have a potentially significant impact. Under the VMS, DWR proposes to gradually remove old trees while continuously preventing new growth. This will ultimately lead to the loss of 1,300 acres of vegetation resulting in no vegetation on or near the levees, many of which are in waters of the U.S. The SPEIR relies on “expectations” that the conservation strategy will be implemented to reduce impacts to a less-than-significant level. Unfortunately, the plans language regarding the Conservation Strategy is non-committal and thus provides no assurances that the VMS impacts will be mitigated. Although the Conservation Strategy may never be implemented, Plan adoption or implementation by either the Board or DWR would effectively implement the VMS leading to the inexorable loss of vegetation without assured mitigation.

The Board attempted to address this issue in the 2012 flood plan resolution. They raised concerns about the Corps of Engineers’ proposal to eliminate vegetation, other than annual grasses, on or near levees. The Board also modified DWR’s proposed vegetation policy and called for additional study and potential refinements of the state’s policies on this matter. DWR and the Board subsequently assisted Representative Matsui and Senator Boxer to insert language into the 2014 WRDA to require the USACE to reconsider its proposal. The USACE has yet to put forth a new vegetation proposal and now it appears that DWR is once again advancing this flawed VMS.

The state has already lost more than 95% of the riparian vegetation in the Central Valley. Much of what is left is on or near the levees or within the flood system. The Board or DWR should consider doing the following to avoid additional impacts to vegetation along Central Valley waterways.

- Reject the VMS (when it dies, don’t replace it) policy in the Conservation Strategy until after the USACE releases its new vegetation plan and after DWR, the Board, and other state agencies have the opportunity to engage with the USACE.
- Require that DWR include a mitigation plan for the loss of vegetation and habitats or that they full commit to achieving the Conservation Strategy objective.
- Undertake a consistency review of the 2012 CVFPP Board resolution and the policies being proposed in the 2017 proposed DWR CVFPP update.

Response 4

The comment contains several incorrect factual assertions and assumptions, and legal conclusions drawn from those incorrect facts.

Rather than relying on the Conservation Strategy, mitigation for the Vegetation Management Strategy (VMS) was established in the 2012 CVFPP PEIR, specifically in mitigation measures BIO-A-2b and BIO-T-7b. Those measures are unchanged in the Supplemental PEIR. With regard to the Conservation Strategy, Mitigation Measure BIO-A-2b acknowledges that one of a variety

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mechanisms for achieving the mitigation required by the measure *could be* implementation of the Conservation Strategy, but the mitigation required by the measure is not reliant on that mechanism being used.

The Conservation Strategy is also intended to provide net environmental benefits independent of the need to compensate for the impacts of CVFPP actions, including the VMS.

The comment also incorrectly states that the VMS will result in “no vegetation on or near the levees...” As explained in the PEIR, total loss of vegetation will only occur in the scenario where the existing vegetation is confined to a narrow band in the vegetation management zone. In other scenarios, important vegetation will remain.

The comment also assumes that the vegetation management strategy is just now being “proposed.” To the contrary, the vegetation management strategy was adopted as an interim strategy as part of the 2012 CVFPP, and at this juncture, no changes to that strategy are being proposed other than concepts in Appendix D of the Conservation Strategy that may be further explored in the future in conjunction with stakeholders. Therefore, there have been no changes to the CVFPP in this regard.

The comment also misunderstands the status and role of the Conservation Strategy. As explained at several points in the Strategy, the Strategy is a planning document that does not establish new performance or regulatory obligations for DWR or local maintaining agencies (LMAs). It is further recognized that attaining the objectives of the Strategy will depend primarily on future funding and on contributing actions by multiple organizations. Moreover, DWR lacks the statutory authority to apply the Strategy as a regulatory document, and also constitutionally lacks the authority to commit to the expenditure of funds that have not been appropriated by the Legislature.

The comment recites some of the history of the development of the VMS, which was in part a response to previous USACE policy generally requiring the removal of all vegetation from all levees. DWR strongly disagreed with USACE’s extreme stance, and crafted the VMS as an approach – reflecting scientific research and risk prioritization – that balances flood risk reduction system effectiveness with habitat values. DWR and the Board continue to believe that the approach reflected in the VMS best accomplishes this balance. The fact that the 2014 Water Resources Development Act (WRDA) requires USACE to reconsider its more extreme policy does not alter this conclusion. From a CEQA perspective, the 2014 WRDA does not reflect a material change in circumstances.

The Supplemental PEIR has now quantified both the loss of vegetation anticipated to result from the VMS (1,300 acres) as well as the anticipated benefit from replacement activities (3,500 acres). This supports the PEIR conclusion that adequate feasible mitigation is available. Finally, as in 2012 with regard to the former Conservation Framework, the Conservation Strategy is an integral part of the CVFPP. The additional detail of the Conservation Strategy as compared to the Conservation Framework will help ensure its effectiveness.

In addition to being amply supported in the current circumstance, since the PEIR was unchallenged, it is now conclusively presumed adequate in the absence of material project changes, changed circumstances, or significant new information, none of which have occurred.

Regarding consistency with the 2012 Board resolution, please see the Board workshop materials from the June 10, 2017 workshop, which largely address this comment.

Comment 6

The Plan and SPEIR fail to Adequately Address Rural Flood Risk, Particularly in the San Joaquin Basin

The 2012 Plan adopted a new, two-tiered approach for urban and rural levee systems – correctly prioritizing investment in urban levees and effectively minimizing investment in rural levees. The 2017 SPEIR did not adequately address how this new approach for the 2012 Plan combined with the new hydrology for the 2017 Update would impact levee protected lands. As a result, the Plan and the SPEIR do not adequately avoid or mitigate the impacts associated with likely future levee failures greatly underestimating the potential impacts to the environment, property, and lives. In light of the new hydrology information, DWR should evaluate alternatives that could safely accommodate larger flood releases through a system of expanded floodways or strategic decommissioning of the levee system.

American Rivers commends DWR for their proposal to reevaluate reservoir reoperation and increases in the objective release from New Hogan and New Don Pedro Reservoirs. However, the plan fails to acknowledge the unacceptable risk of flooding and dam failure associated with climate change as well as the resulting imperative to change reservoir operations and objective releases at Friant, New Exchequer, and New Melones.

DWR has estimated that climate change will increase unimpaired flows in the main San Joaquin tributaries by up to 70-80 percent. This increase in flows will overwhelm the flood management system in the valley – for both rural areas and some urban areas. The system was very nearly overwhelmed this year. Reservoir operators opted to exceed the objective release at New Don Pedro and Friant Dam in order to restore the flood reservation. This very nearly resulted in major downstream levee breaches. Regardless of the decision to exceed the objective release, reservoir operators were out of compliance with flood reservation rules for weeks and were forced with the difficult choice of increasing releases and risking unplanned and unsafe levee failure or moderating releases and facing the horrible prospect of spilling unattenuated flood flows over dam spillways – which would not only result in downstream levee failure but could increase the potential for dam failure. These concerns would have seemed overwrought before the Oroville crisis, but must now be taken seriously.

The reservoirs of the San Joaquin Basin are not operated to manage the extreme flood events that will become more common with climate change, and the designated floodways downstream of the reservoirs are grossly insufficient to convey these events. Aside from Paradise Cut and proposed review of operations at New Hogan and New Don Pedro, the Draft CVFPP Update does nothing to address this reality. It is a virtual certainty that flows will exceed the levee capacity of the San Joaquin levee system in the next two decades resulting in wide spread levee failure.

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In light of this problem, DWR or the Board should revise the plan to take one or more of the following actions:

- Increase the flood reservation in upstream reservoirs,
- Increase the size of the downstream designated floodways,
- Increase the size of low-level outlet works,
- Make institutional arrangements for flooding that may exceed the limits of lands within designated floodways or floodplains,
- Revising the reservoir regulation manuals to take better advantage of forecasts, coordinated operations, higher-than-objective-release flood pre-releases to prevent reservoir “inflow equals outflow” events, and improved physical and institutional arrangements downstream.

Response 6

The comment focuses on additional flood control infrastructure, including upstream physical and operational improvements at existing dams and reservoirs. The 2017 CVFPP Update does not recommend increased storage and objective releases in every reservoir/watershed, and these recommendations are based on hydrologic analysis – including the effects of climate change – summarized in the Scenario Technical Analysis Summary Report. The San Joaquin River BWFS studied several options to modify reservoir operations and objective releases, including at Friant Dam, New Exchequer Dam, and New Melones Dam. Both Friant and New Exchequer were explicitly modeled and evaluated. New Melones was screened out early from the analysis because of its large flood space relative to inflow volume. Evaluations showed that reservoir management opportunities on the Calaveras River and Tuolumne River watersheds provided the most benefits, which is why they were recommended in the San Joaquin River BWFS and 2017 CVFPP Update. For a detailed discussion, see San Joaquin BWFS Section 4.2, Reservoir Management.

The comment also discusses the downstream effects of reservoir releases, including the potential to “overwhelm the flood management system in the valley.” It is important to note that the 2017 CVFPP Update considers the potential for levee failures using future hydrology that incorporates climate change. See the flood risk analysis in the Scenario Technical Analysis Summary Report, which uses future hydrology to simulate potential levee failures and takes this into account when reporting systemwide performance. In the San Joaquin BWFS, DWR evaluated varying amounts of levee decommissioning and transitory storage and found that it provided little flood risk reduction benefit at very high cost. Some projects were included; the San Joaquin River BWFS and the 2017 CVFPP Update identified two potential transitory storage projects (Dos Rios/Hidden Valley Ranch and Three Amigos) as well as potential groundwater recharge opportunities and small levee degradation activities. The SSIA states specific criteria for studying transitory storage, including known willing sellers and local plan consistency. These criteria were followed in identifying potential transitory storage opportunities in the San Joaquin River Basin. Including much larger amounts of levee decommissioning and transitory storage would be inconsistent with the SSIA.

Flood safety is a topic of ongoing study. For example, DWR will continue to update and refine its technical analysis in future CVFPP update cycles as new information and better tools become available. This may result in the identification of new upstream and downstream management actions in future updates, potentially including changes to reservoir outlet works, changes to reservoir regulation manuals, and newly identified opportunities to degrade levees to increase downstream floodplain capacity. At this time, however, and based on existing information, these other types of management actions are not included for the reasons described above.

Comment 7

The Plan Failed to Consider Alternatives that Could Have Better Avoided or Mitigated Significant Impacts

DWR did not explicitly develop alternatives to minimize impacts or maximize benefits. As discussed above, DWR did not adequately consider alternatives that would substantially increase floodway capacity in large areas of the system to better achieve the primary and secondary objectives in a world with a changing climate. Significantly expanding floodways downstream of reservoirs or strategically decommissioning levees in the San Joaquin Basin would have better avoided the flood risk and ecosystem impacts associated with the existing system. DWR and the Board should revise the plan to consider these alternatives.

Section 2.3.6 falsely claims that “DWR used the Conservation Strategy as guidance for formulation of multi-benefit projects proposed in the Sacramento River and San Joaquin River BWFSs.” In reality, DWR configured Basin Wide alternatives and options to reduce flood volumes and then predicted the ecosystem benefits of this approach. Multiple conservation organizations repeatedly criticized this approach and requested that DWR design alternatives to both reduce flood risk and significantly advance conservation objectives. In the case of the regional plans, the Conservation Strategy objectives were not even available to guide the development of the regional plan actions. The Conservation Community specifically raised this problem in a letter to DWR and the Board before the regional planning process was funded.

The characterization of conservation “opportunities” in the plan and the SPEIR is seriously flawed because it is a measure of what could be achieved through the Basin Wide and Regional actions considered, neither of which was designed to achieve the objectives. If flood management actions had been specifically designed to achieve both the conservation and the flood management objectives, it is entirely possible that the predicted outcomes would exceed the recovery needs. DWR should revise the plan to more accurately quantify conservation opportunities and better avoid the impacts of the plan.

Response 7

For the most part, this comment follows from American Rivers’ Comment 6. The prior response addresses the development of flood risk reduction actions in the 2017 CVFPP Update including their technical basis. The multi-benefit actions included in the 2017 CVFPP Update were, in large part, identified by the six RFMPs and two BWFSs. These plans identified multi-benefit actions where feasible, within the constraints of the SSIA.

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DWR and the Board considered the Enhance Flood System Capacity Alternative in the PEIR. This alternative focused on enhancing the flood system’s storage and conveyance capacity to achieve multiple benefits. The PEIR recognized that overall flood protection would increase under the Enhance Flood System Capacity Alternative, although specific levels of protection would continue to vary throughout the system. In addition, the PEIR recognized that this alternative would provide substantial opportunities to restore native habitats and improve the quality and connectivity of environmental resources in the flood management system. In other words, it was an alternative that “minimized impacts” and “maximized benefits” as suggested in the comment. However, DWR and the Board did not select the Enhance Flood System Capacity Alternative because it did not meet the statutory objective to maximize flood risk reduction benefits *within the practical constraints of available funds* – it was financially infeasible. That conclusion has not changed, and so the large extent of floodway capacity expansion envisioned by the commenter is not part of the 2017 CVFPP Update. The 2017 CVFPP Update is, however, consistent with the SSIA – DWR and the Board’s preferred alternative.

Regarding the Conservation Strategy, see Master Response D. The commenter is correct that DWR did not constrain plan formulation with the non-regulatory Conservation Strategy measurable objectives. Rather, DWR supported multi-benefit projects in the regional and basin-wide plans that contributed to the measurable objectives. This also is consistent with the SSIA, and recognizes constraints such as working with willing sellers and consistency with local land use plans (see response to Comment 6 above).

California Farm Bureau

Comment 4

Lastly, as part of the 2016 Conservation Strategy Stakeholder Advisory Committee process, and in public scoping comments on the Supplemental Programmatic Environmental Impact Report (“Supplemental PEIR”), Farm Bureau commented extensively on the need for updated and expanded mitigation measures, including agricultural land stewardship planning tools. Here, we are pleased to see that many of these recommendations appear to be incorporated in the Public Review Draft Supplementation PEIR. Beyond that, our only additional comment would be to echo our previous comments urging the Department to deploy the full range of updated agricultural mitigation strategies in a regional context, including potential pilot deployment of the agricultural land stewardship planning concept in Phase 1 focus areas including the Yolo Bypass.

Response 4

Comment noted. Yes – the Supplemental PEIR includes new language to expand the range of potential agricultural mitigation measures, including use of DWR’s Agricultural Land Stewardship Workgroup toolkit.

Green Mountain Engineering

Comment 1

Green Mountain Engineering is a Delta Levee Engineer for seven Non Project Reclamation Districts; RD 2024 Orwood and Palm Tract, 2072 Woodward Island, 2039 Upper Jones Tract,

RD 2038 Lower Jones Tract. RD 684 Lower Roberts Island, RD 548 Terminous Tract and RD 1007 Pico and Naglee.

These levees are affected by the State Plan of Flood Control as it affects the Delta Flood Stage and we also are concerned about flood control within the Urban Stockton Area.

The components that effect these levees and the Environmental impacts that will be discussed below are 1) The Smith Canal Dam/Gate/Dads Point Levee 2) 14 Mile Slough Gate (combined (The gates) and 3) The Paradise Cut Bypass. 4) The Mormon Slough Channel Bypass. There are others that the time allowed for review is not sufficient to review and comment. These projects are identified in the Table 3-4 of the CVFPP as Key Projects for the Urban Portfolio and should be taken out or allowed to be modified upon a thorough review of more beneficial alternates.

Response 1

This comment letter includes specific references to individual projects that may be constructed under the umbrella of the CVFPP. For the most part, Master Response B applies; the level of detail suggested by the commenter is not appropriate for a program-level document. The CVFPP and 2017 CVFPP Update describe potential projects and categories of projects as program features, but do not authorize any of these projects or exempt them from project-level analysis when (and if) they are advanced. Detailed consideration of the topics raised by the commenter, including the evaluation of alternatives, will occur during project-level review.

Comment 2

The Lower San Joaquin River Feasibility Study should also be reevaluated as to these defective components.

Response 2

See Master Response B, Master Response C, and the response to Green Mountain Engineering's Comment 1 above.

Comment 3

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

The Gates will introduce significant **liability** for the State of California. Reducing the channels to 50 ft. will introduce velocity increases, hydraulic jumps, wave and wind run up, boat and ship wakes. These changes to the existing natural waterways will cause boat accidents over the life of the project and it will be difficult to defend that the gates did not cause the accident. The Paterno case clearly identified the States responsibility for flood control structures of the State of California.

Response 3

See Master Response B and Master Response F. The PEIR evaluated the types of impacts raised by the commenter. For example, see PEIR Impact HYD-4 (“the project proponent... would analyze the potential of the project to locally impede flow or transfer flood risk by causing changes in river velocity, stage, or cross section.”). Consistent with these requirements, the project proponent would study these potential impacts using appropriate hydrodynamic models.

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Comment 4

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

The Gates place substantial fill (the dams) within the existing Delta Floodplain, which will increase the flood stage in the River. Reducing the opening or closing off Atherton Cove/Smith Canal/14 mile slough will also increase the flood stage in the Delta. This is an important factor and should be analyzed further prior to incorporation into the CVFPP and approval of the EIR.

Response 4

See response to Green Mountain Engineering's Comment 3.

Comment 5

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

When the gates are closed they will prevent water from flowing into the natural floodplains of the Atherton Cove, Smith Canal and the 14 mile Slough which combined is a substantial amount of flood storage.

Response 5

See response to Green Mountain Engineering's Comment 3.

Comment 6

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

The reduction in tidal exchange will affect water quality and all associated components such as temperature, residence time, algae blooms, hyacinth growth, vector growth, and habitat for all forms of fish and wildlife.

Response 6

See Master Response B. The PEIR evaluated the types of impacts raised by the commenter. For example, the analysis of surface water quality impacts (PEIR Section 3.21) considered how altering drainage patterns could result in an increase in the availability and mobilization of sediments and associated contaminants. Consistent with these requirements, the project proponent would study these potential impacts using appropriate hydrodynamic models.

Comment 7

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

Marine access will be eliminated as a method of emergency response and or maintenance for the Smith Canal and 14 Mile slough levees in that large barges will not fit through the 50 ft. openings.

Response 7

See Master Response B. The project proponent will determine appropriate navigation access and aids to navigation based on U.S. Coast Guard and California Department of Boating and Waterway standards.

Comment 8

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

The Gates will at all times require boating restrictions such as traffic control and safety as two boats will not be able to safely pass through a 50 ft. opening. These headaches will impact property values and boating use for Delta Waterfront properties along Smith Canal, Atherton Cove and the North Side of Brookside. These effects will also have a negative and financial impact on the Louis Point Boat Launch, Garlic Brothers restaurant and the Lincoln Village Marina. River rage will become an issue for the county sheriff. Lincoln Village West marina is the nicest waterfront facility in the Delta. They were not even aware of the Gate not the EIR process. Please present the elements to them in person before this plan gets adopted.

Response 8

See response to Green Mountain Engineering's Comment 7.

Comment 9

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

The gates do not provide and Urban Level of protection. The EIR for the Smith Canal Gate, which has is currently included in the EIP and UFRR program and facing many obstacles states:

“Isolation from the Smith Canal would contribute toward ultimate 200-year level of performance in combination with other area projects, in compliance with State law”

It will take significant other projects to get 200 year protection which would eliminate the need for the gate altogether. Many alternates exist that will provide the desired 200 year level of protection that should be evaluated.

Response 9

See Master Response B. The 2017 CVFPP Update describes Stockton area urban improvements in general, with some specific actions mentioned based on the San Joaquin BWFS and the Lower San Joaquin River and Delta South RFMP. The intent of these urban improvements is to provide a 200-year level of protection to the Stockton urban area – it is not the intent that each individual component provide a 200-year level of protection in and of itself.

Comment 10

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

SJAFCA goal to provide 200 yr. is not achieved by the installation of the Smith Canal Gate alone. Significant improvements will still be required to achieve this very stringent State Mandated requirement.

Response 10

See response to Green Mountain Engineering's Comment 9.

Comment 11

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

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The Gates can actually increase the flood Stage in the Smith Canal and 14 mile slough. If the gates are closed to protect from high delta flood stages and significant rainfall is experienced in Stockton the City pump stations discharge into the canal and slough and will be restricted from flowing out to the Delta thereby increasing the stage in the canal and slough. FEMA retracted the Conditional Letter of Map (CLOMR) for the Smith Canal Gate for this very reason.

Response 11

See response to Green Mountain Engineering's Comment 3. The project proponent would undertake appropriate hydrodynamic modeling to determine potential impacts taking into account factors such as tributary inflows.

Comment 12

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

The Delta is a beautiful place and recreational boating a major asset to the City of Stockton. The Gates will be a major eyesores and should be accurately represented in the EIR. This is not mitigatable or avoidable. The gates are not shown anywhere in the EIR or the CVFPP. The EIR should show the most offensive views accurately such that the public knows what and eyesore is being proposed.

Response 12

See Master Response B. The PEIR evaluated the types of impacts raised by the commenter. For example, see PEIR MM VIS-4 requires project proponents to establish and require conformance to lighting standards, and to prepare and implement a lighting plan.

Comment 13

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

The Smith Canal Gate will convert the Dads Point Recreation area into a project levee. This area is likely the most handicapped accessible fishing spots in the Delta which will be degraded when made into a project levee.

Response 13

See Master Response B. The PEIR evaluated the types of impacts raised by the commenter. For example, see PEIR MM REC-1: "Where recreational facilities or access must be displaced by levee reconstruction or improvements, facilities and access will be restored on site as part of the project design. If the facilities and access cannot be replaced at the project site, they will be replaced as close as possible to the original project site."

Comment 14

The Smith Canal Dam/Gate/Dads Point Levee and the 14 Mile Slough Gate

The gates require acquisition of lands from the Stockton Deep Water ship Channel, the state Lands commission, Stockton Golf and Country Club and landowners on Delta Islands and Reclamation Districts.

Response 14

See Master Response B. PEIR MM LU-5a requires the project proponent to provide financial compensation for property loss and relocation expenses to any person displaced because of the acquisition of real property.

Comment 15

The Paradise Cut By-Pass PCBP

The CVFPP shows the map of the PCBP however it does not show the downstream area to which all this water will flow, specifically the RD 1007 Pico and Naglee Reclamation District.

Response 15

Map 3-5 in the 2017 CVFPP Update simply illustrates the conceptual footprint of the Paradise Cut multi-benefit improvements; it is not intended to convey information about upstream or downstream hydrologic conditions. The text states “A more detailed feasibility study and additional stakeholder engagement will need to be completed to inform the design, permitting, and implementation of the bypass extension in future phases.”

Comment 16

The Paradise Cut By-Pass PCBP

RD 1007 protects portions of the City of Tracy as well as the Interstate 205. The impacts of protecting Stockton, Lathrop and Manteca at the expense of the City of Tracy and the I 205 should be further evaluated. I 205 is the major evacuation Route for the bay areas.

Response 16

The State does not understand how the 2017 CVFPP Update protects Stockton, Lathrop, and Manteca “at the expense of the City of Tracy and the I-205.” However, this comment appears to be introducing the key issue in Green Mountain Engineering’s Comment 18; see below.

Comment 17

The Paradise Cut By-Pass PCBP

The Old river along the RD 1007 levee is as pristine a Delta Water way as there exists in the Delta as there are old growth sand bar islands, tule marsh and old growth trees in abundance. The levee is also large enough to allow for vegetation and native species to coexist with the works of the Reclamation District.

Response 17

This comment appears to be introducing the key issue in Green Mountain Engineering’s Comment 18; see below.

Comment 18

The Paradise Cut By-Pass PCBP

Historically the Old River was a navigational channel to transport produce (Primarily Sugar Beets) from the Delta to the available land transport at Tracy. The existing “Sugar Cut” served

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Holly sugar for years. Due to sedimentation entirely from the San Joaquin River, the channel is now navigable only at high tide. For the last three years it has been 90% non-navigable with the abundance of hyacinth that grows in this shallow warm water and gets trapped with the reduced flows caused by sedimentation and abundance of overhanging trees and vegetation. Increasing the flows past the RD 1007 levees will require restoration and maintenance of the Old River Channel depth for navigation. With the increased sediment from the bypass levee maintenance will require the Old River along the Rd 1007 levee to be maintained.

Response 18

See Master Response B. The PEIR evaluated the types of impacts raised by the commenter. For example, see PEIR Impact HYD-4 (“the project proponent...would analyze the potential of the project to locally impede flow or transfer flood risk by causing changes in river velocity, stage, or cross section.”). Consistent with these requirements, the project proponent would study these potential impacts using appropriate hydrodynamic models. For this specific case, it would appear that hydrodynamic modeling boundaries for the Paradise Cut multi-benefit improvements should be extended downstream to include RD 17 waterways. However, that is a decision for project-level review.

Comment 19

The Paradise Cut By-Pass PCBP

The Reclamation District is not opposed, at this time, to a bypass and would be willing to provide in kind services (dredge spoil sites, habitat enhancement, ground water recharge, engineering and cost share contributions) if the level of protection can be maintained into the future.

Response 19

Comment noted.

Comment 20

The Mormon Slough Bypass

The Mormon Slough bypass does not seem like a viable flood control benefit. The Stockton Diverting canal was constructed to alleviate flooding and reduce the risk in the Central Stockton area from this slough. The State should not be adding levees to the State Plan of Flood Control that increase previously identified risk.

Response 20

See Master Response B. Project objectives would be stated during project-level review, but note the following text from the Lower San Joaquin River and Delta South RFMP: “Mormon Channel was blocked off in the early 1900s by the USACE to reduce sedimentation in the Stockton Ship Channel. With upstream dams now in place, sedimentation of the Stockton Ship Channel from Mormon Slough is no longer a concern.”

Comment 21

The Mormon Slough Bypass

It is not economically feasible to convey 1,200 cfs in the original Mormon Slough for the partial list of reasons:

- 1) The Interstate undercrossing are two confined to be engineered to carry 1,200 cfs Mormon Slough. Working in the Caltrans Right of Way will require retrofits.
- 2) The Morelli Boat Ramp and the Larson Marina are not designed to withstand the type of velocities generated.
- 3) Bridges/utilities will require raising, scour protection etc.
- 4) Homeless people will require relocations.

Response 21

See Master Response B.

Comment 22

The Mormon Slough Bypass

The Mormon Slough does provide many opportunities for multi-benefits such as:

- 1) Habitat and fish restoration.
- 2) Recreation activities (trails and parks)
- 3) River restoration.
- 4) Ground water recharge
- 5) Low income housing

Response 22

See Master Response B.

Sites Project Authority

Comment 1

The Sites Project Authority (Authority) welcomes the opportunity to work with our related agencies and integrate our project for the benefit of flood control and water management throughout California. This letter is written in response to your release of the Draft Supplement Program Environmental Impact Report (Draft SPEIR) for the 2017 Central Valley Flood Protection Plan Update (SCH#2010102044).

As you may know, the proposed Sites Reservoir Project (Sites) would consist of a new offstream storage reservoir and associated water management facilities near the town of Maxwell, California. Sites (previously known as the North of Delta Offstream Storage Project, or NODOS) was identified in the CALFED Bay-Delta Program approved in 2000 as an important potential surface water storage project warranting further consideration. Pursuant to the ROD, the Department of Water Resources (DWR) issued a Notice of Preparation for an EIR under California Environmental Quality Act (CEQA) in November 2001 (SCH# 2001112009). That notice described the proposed project as an offstream reservoir and associated facilities near Maxwell, California, with two main dams – one constructed on Funks Creek and one constructed

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on Stone Corral Creek – and up to nine saddle dams. The NOP also explained that the Sites Reservoir could include a number of source and conveyance options, including use of the existing Glenn-Colusa Irrigation District Canal and Tehama-Colusa Canal as well as a new diversion and conveyance facility near the Moulton Weir. Following many years of detailed analysis by DWR and the US Bureau of Reclamation and consistent with the Authority’s purpose and in accordance with the provisions of Chapter 8 of California Proposition 1 (November 2014), which governs the Water Storage Investment Program (WSIP) administered by the California Water Commission, the Authority is now acting as the CEQA lead agency for the Sites in lieu of DWR. In February 2017, the Authority published a supplemental NOP and established that it would serve as the lead agency under the CEQA for the preparation of an EIR on the proposal to construct and operate a new offstream water storage reservoir and associated facilities. When fully implemented, the Sites would reduce flood flows in the Mid-Upper Sacramento Region by diverting up to 6,000 cfs. of water from the main stem of the Sacramento River, capture flood waters on Stone Corral and Funks Creeks, and store up to 1.8 million acre-foot for later use. Should the California Water Commission select Sites for funding, up to half of that water could be used for public benefits, including a water supply for new habitat conservation efforts envisioned in the CVFPP.

Response 1

Comment noted. See also the response to the Authority’s Comment 2 below.

Comment 2

Small-Communities and Rural-Agricultural Area Flood Protection: Based on our flooding experience in Maxwell, Interstate Highway 5 (I-5), and the surrounding areas in February, it is unfortunate that progress on the NODOS project has been delayed and that several of the components of the Basin-Wide Feasibility Studies have not been implemented. Had the Site been in place, the flooding on Stone Corral Creek would have been captured and the damage in Maxwell and the disruption to I-5 averted. We understand that Maxwell and other communities outside of the formal Statewide Plan of Flood Control and therefore not formally covered by your plans. However, we encourage the Central Valley Flood Protection Board to integrate your plans with other the water management plans as you update your evaluations of the ongoing risks associated with a major flood event on the main stem rivers. We would hope that those updates would include planning to consider floods that adversely impact major infrastructure components and adjacent small communities from the smaller tributary streams that feed into your planning area. Such an analysis should incorporate flood damage reduction strategies for critical, statewide, infrastructure such as I -5 and the adjacent small communities. Please include alternative flood management strategies, like the Sites Reservoir Project, as a component to protect communities and critical infrastructure as an applicable flood risk reduction measure in Section 2.3.2 and 2.3.3 or as an applicable component of the integrated ecosystem restoration with flood risk reduction projects (Section 2.3.6) of the Draft SPEIR.

Response 2

As described in the CVFPP, the State’s focus is on improving integrated flood management and flood risk reduction to areas currently protected by SPFC facilities. The commenter is correct in that the areas discussed are not protected by SPFC facilities; therefore, the CVFPP and 2017 CVFPP Update do not include management actions in these areas. For this reason, DWR cannot add the Sites Reservoir Project to the discussion of management actions in Supplemental PEIR

Section 2.3 or Section 2.4. Note, however, that the Supplemental PEIR includes Sites Reservoir in the list of reasonably foreseeable probable future projects (see Supplemental PEIR Chapter 4, Cumulative Impacts).

The commenter is referred to SB 5, which includes provisions that may be helpful in this case. Water Code Section 9611 states the following:

“Upon completion of the Central Valley Flood Protection Plan pursuant to this part, the department may identify and propose to the board additional structural and nonstructural facilities that may become facilities of the State Plan of Flood Control, consistent with the Central Valley Flood Protection Plan.”

The criteria for inclusion include providing significant systemwide benefits for managing flood risks (Section 9611(b)), and eligible facilities include bypasses, floodway corridors, floodplain storage, and “other projects that expand the capacity of the flood protection system.”

Although the Sites Reservoir Project is not included in the 2017 CVFPP Update, it can be addressed in future CVFPP update cycles. DWR looks forward to continuing to work the Sites Project Authority as part of its ongoing efforts to improve integrated flood management planning in the Sacramento Valley.

Comment 3

Impact on Surface Water Supplies: The Authority is deeply concerned about the integration of conservation plans and conveyance related management actions related to the Yolo Bypass. While we strongly support the need for improved flood management and protection program components and we understand and support the planning of ecosystem improvements, the water supply requirements of those improvements and effects on the water supply reliability of prior right and State-reserved rights is not fully considered in the Draft SPEIR. Development of the type and intensity of habitat improvements described will result in the consumptive use of water. It does not appear that the annual consumptive use of nearly 20,000 acre-feet on lands within the Yolo Bypass has been evaluated in this or other CVFPP CEQA documents and it has not been considered by the State Water Resources Control Board for a permit or license for appropriation or consumptive use. While this Draft SPEIR evaluates the impacts to groundwater resources we see no evaluation of surface water supplies and the cumulative impact of conservation efforts on those supplies during normal, below normal, dry and critical water supply years.

Response 3

Water supply impacts were addressed in the PEIR; see Section 3.13, Hydrology. As stated in the PEIR, the specific CEQA threshold is whether the program would “substantially reduce water supplies in a manner that would require new or expanded supplies to meet existing demands.” Using the models prepared for the CVFPP, the analysis focused on reservoir operations and determined that impacts would be less than significant. For a programmatic CEQA document, this is an appropriate level of analysis and the general conclusion of the PEIR remains valid – no updates are needed in the Supplemental PEIR. Also see Master Response E.

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DWR anticipates that additional water supply impact analysis will be required at a project level, certainly for projects that may have water supply impacts (not limited to reservoir operations). As the commenter points out, water supply impacts can take many forms, including increased consumptive use from ecosystem restoration projects. Although this is too detailed a question for a programmatic CEQA document, DWR would like to point out that many restoration actions are expected in areas currently in agricultural production – water use for ecosystem restoration may or may not be greater than baseline agricultural water use.

The commenter specifically asks about water supply impacts associated with habitat restoration in the Yolo Bypass. As described in Supplemental PEIR Section 2.4.1, the Sacramento River BWFS identified the following ecosystem restoration opportunities in the Yolo Bypass:

- Inclusion of up to 2,400 acres of marsh in Little Egbert Tract. This includes 282 acres of seasonal grassland needing irrigation establishment – the rest is open water and tidal marsh.
- Ecosystem improvements that include up to 2,408 acres of riparian habitat requiring irrigation establishment (of which 480 acres are perennial or seasonal grasslands) and up to 1,143 acres of marsh habitat using existing freshwater sources.
- Inundated floodplain expected annual habitat for a 2-year return interval of up to 3,992 acres, which does not require irrigation establishment.
- SRA cover increase of up to 1.6 miles, or roughly 10 acres of plantings.

In response to this comment, DWR studied the potential water use required to establish and maintain these areas of restored habitat. Based on the information known at this time, these Yolo Bypass projects are conservatively expected to use approximately 3,700 acre-feet of irrigation water for consumptive use per year during the initial restoration period (typically about 3 years). Once the new, native vegetation is established (naturalized), irrigation would drop to zero and the only water use would be from plant evapotranspiration from seasonally available soil moisture and groundwater. Again, *net* water use is likely to decrease as most of the proposed restoration sites are presently irrigated for agriculture at higher use rates. Note that DWR was not able to verify the commenter’s statement regarding the “annual consumptive use of nearly 20,000 acre-feet on lands within the Yolo Bypass.”

The PEIR describes California Water Rights as part of Section 3.13.2, Regulatory Setting (see PEIR at p. 3.13-68). The potential for individual projects to require a water rights proceeding by the State Water Resources Control Board will be determined on a project-by-project basis. This would include the various individual actions, including ecosystem restoration actions, that may be advanced within the Yolo Bypass.

Comment 4

Cumulative Effects: While additional cumulative analysis may be required for the CVFPP Draft SPEIR, both the Site and the CVFPP benefit from the coordinated and updated operation of existing reservoirs in the Sacramento Valley watershed (identified as Forecast-Coordinated Operations). Later this summer, through the submission of an application to the California Water Commission for the funding of public benefits through WSIP, the Sites Project will provide

specific details regarding the benefits of coordinated reservoir operations for the benefit of fish and wildlife. These existing reservoirs could be operated in a more coordinated fashion to further augmented flood control, especially in light of anticipated climate change conditions. The Sites Project Authority staff are available to work with your staff to develop these analyses including the integrated operation of other projects anticipated to be evaluated under WSIP.

Response 4

DWR looks forward to continuing to work with the Sites Project Authority as part of its ongoing efforts to improve integrated flood management planning in the Sacramento Valley.

Notwithstanding the questions of the Authority's Comment 2, DWR recognizes certain boundary conditions in its hydrologic models including upstream inflows that may be altered, for example, by a new Sacramento River diversion to (and releases from) Sites Reservoir. Boundary conditions will be updated as things change – for example, future conditions will need to be updated if the Sites Reservoir Project is selected to receive Water Storage Investment Program (WSIP) funding. The commenter is referred to the 2017 CVFPP Update supporting documents, primarily the Scenario Technical Analysis Summary Report. The Scenario Technical Analysis Summary Report provides high-level information about flood damage estimates and life loss in the areas protected by SPFC facilities, which is appropriate for a programmatic CEQA document.

Individuals

Francis Coats – Letter 1

Comment 1

Public Access: the Public Trust Doctrine; Art. I Sec. 25 Cal. Const; Pub. Res. Code Sec. 6210.4, 6210.5

Please remember that the effect on the public trust uses must be considered in any decision making process; and, that adverse effects on public access and use of the public trust lands and waters must be avoided whenever feasible. Public Trust lands include recreationally navigable waters and the adjacent temporarily dry lands along them up to the ordinary high water mark. Agencies are obligated to consider the effect of projects on public trust uses; to avoid interfering with public trust uses whenever feasible; to do this in a public process; and, to document this consideration. *San Francisco Baykeeper, Inc., v. State Lands Commission, Hanson Marine Operations, Inc.*, (November 2015) 242 Cal. App. 4th 202; 194 Cal. Rptr. 3d 880; 2015 Cal. App. LEXIS 1024

Also remember that CVFPB and SSJDD are obligate to reserve in the public the absolute right to fish on land owned by the State when sold or transferred. This includes both land received by the State from the federal government as sovereign lands and land purchased from private parties of specific uses. See *State v. San Luis Obispo Sportsmans' Assc.*, (1978) 22 Cal. 3d. 440. There is no exception for land purchased and used for specific purposes. There is an exception on the use of land currently owned by the State: the public has the right to fish on land owned by the State, with the sole exceptions being land being used for purposes which are incompatible with public fishing, examples being prisons and mental institutions.

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Also, when selling land on or near a navigable river, Board and SSJDD must consider reserving an access easement under Public Resources Code section 6210.4. When selling land that provides convenient access to other land owned by the state, the agency must consider reserving an easement for access to the other state land.

Response 1

The potential for recreational use of the flood control system has long been recognized. As in 2012, it is a focus of the 2017 CVFPP Update to promote multi-benefit projects and specifically recreational opportunities within the planning area including opportunities and incentives for expanding or increasing the use of floodway corridors (California Water Code Section 9616(a)(12)).

The SSIA involves floodplain reconnection and floodway expansion, which would improve ecosystem functions, fish passage, and the quantity, quality, and diversity of natural habitats, all of which would contribute to an increase in recreation opportunities and augment the aesthetic values of those areas. Expanding habitat areas would increase opportunities for fishing, hunting, and wildlife viewing.

DWR, as a public agency, considers the effect of projects on public trust use and continues to promote recreational use of the flood control system. Potential impacts to recreation access was considered in the PEIR – see PEIR Impacts REC-1 through REC-5. The 2017 CVFPP Update does not include new information that would require update to these PEIR measures.

Francis Coats – Letter 2

Comment 1

As always, please do not forget the obligation to consider, and avoid adversely affecting where feasible, public trust uses including recreational navigation.

Response 2

See response for Francis Coats – Letter 1.

Public Hearing Testimony

Justin Fredrickson, California Farm Bureau

Comment 3

On the Yolo Bypass, hopefully you'll be getting input -- some input in one of those meetings from the folks immediately in that area. And one of the things that I discussed recently with the county of Yolo, and apparently there's some -- there's a lot of thinking by different people coming together around this idea, is the idea of some kind of an ag management -- or ag steward -- ag land stewardship plan type approach, where you look at the impacts on agriculture regionally, and sort of programmatically, and then drill down on how those get addressed within the, you know, the larger plan of what's -- what's contemplated for that -- for that area.

Response 3

See response to the California Farm Bureau Federation's letter above – see Comment 4.

Comment 4

And I haven't looked at what's in the Supplemental PEIR, but it looks -- it looked like there was some beefing up there. And that was one of the things we were asking for in terms of avoidance, minimization, and mitigation for agricultural impacts. And so -- and so I think that's a good thing.

Response 4

See response to the California Farm Bureau Federation's letter above – see Comment 4.

Ronald Stork, Friends of the River (Transcript)

Comment 1

Which I already covered. That was the issue of mitigation on -- associated with the life-cycle policy on levees of gradually losing some of the woody vegetation there.

Response 1

See response to American Rivers's letter above – see Comment 4.

Dante Nomellini, Reclamation District 171

Comment 1

The time deadline that you've set for comment I think is artificially narrow, because we don't have all the elements that I think are necessary to see what your plan is, and you have recommendations that are rather specific... I would ask that your comment period be extended, so that you don't make a recommendation until you complete a CEQA document.

Response 1

See Master Response C.

Tribes

Shingle Springs Band of Miwok Indians

Comment 1

I wanted to let you know that I have only just now been able to go over the Supplemental PEIR. I wanted to say that the implementation of the Cultural Awareness training is a great piece to add to the document. Also, the obvious addition of AB52. We are pleased with the wording and the new additions.

Response 1

Thank you for reviewing the document and indicating your positive reaction to the Cultural Awareness training provision.

United Auburn Indian Community of the Auburn Rancheria

Introductory Response

The 2012 CVFPP PEIR contained a 38-page section discussing potential impacts on cultural and historical resources. It included a discussion of the prehistoric and historic occupancy by more

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than a dozen Native American tribes in the CVFPP extended planning area. As noted in the PEIR, the Central Valley and Clear Lake areas were among the most densely populated areas in California prior to European contact, with a population estimate of 160,000 people at one time. Multiplying this by the many generations that made the Central Valley their home, it can be estimated that several million Native Americans lived (and died) in the area at one time or another.

The PEIR also recognized that much of this activity occurred on or near the banks of Central Valley rivers, including villages, culturally significant activities, and burials. This, of course, overlaps with the location of many of the facilities of the SPFC. Specifically, it is recognized that many of those facilities, particularly levees, may have been built on top of, incorporated, or disturbed, what were labeled in the PEIR as Tribal Cultural Properties (TCPs). Extensive agricultural development on the landside of the levee system also disturbed (or destroyed) many TCPs. Nonetheless, even when the archaeological integrity of some of these places has been compromised, they still hold cultural value and the integrity of intention of burial and prayer to UAIC.

The PEIR evaluated the potential impacts of the full range of CVFPP activities on these TCPs. In doing so, it generally applied a threshold of significance that reflected the then-applicable CEQA Guidelines criteria that focused on TCPs as archaeological resources of scientific and academic value. The PEIR concluded that many activities could be mitigated so that the resulting impact would be less than significant. However, the PEIR concluded that some activities could result in the damage to or destruction of these resources that could not be mitigated to a less than significant level, and that the resulting impact would be potentially significant and unavoidable.

Two years after the completion of the PEIR, the California Legislature adopted Assembly Bill (AB) 52, which changed CEQA's treatment of Native American resources in four key respects:

- First, it expanded the definition of tribal resources to encompass “tribal cultural resources” (TCRs) that take into account tribal cultural values in addition to scientific and archaeological values when a lead agency determines impacts and mitigation measures.
- Second, in order to take into account tribal concerns in decisions affecting TCRs, AB 52 established a formal consultation process to be undertaken as part of the CEQA review of projects.
- Third, it established the standard of significance to be applied by lead agencies in evaluating the significance of impacts to TCRs, specifically whether the project “may cause a substantial adverse change in the significance of a tribal cultural resource.” This standard has subsequently been incorporated in the CEQA Guidelines, Appendix G.
- Fourth, AB 52 requires that: “Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource.” It gives several examples of potential mitigation measures to accomplish this goal.

AB 52 also defined TCRs to include either of the following:

- A resource included in or determined to be eligible for inclusion of the California Register of Historical Resources or on a local register of historical resources.
- A resource “determined by the lead agency, in its discretion and supported by substantial evidence, to be significant” pursuant to the criteria set forth in Public Resource Code Section 5024.1. In making this decision, the lead agency is directed to “consider the significance of the resource to a California Native American tribe.”

Although the PEIR was unchallenged and is now conclusively presumed adequate in the absence of project changes, changed circumstances or new information, DWR considers AB 52 to reflect a changed regulatory circumstance. AB 52 also establishes new requirements for lead agencies. As a result, a principal purpose of the 2017 Supplemental PEIR is to update the PEIR to incorporate the new requirements of AB 52. Generally, the 2017 supplement expands the impact analyses and conclusions to include both TCPs and TCRs, specifically retaining the conclusion that some impacts would be potentially significant and unavoidable despite the application of feasible mitigation measures. DWR has also undertaken the required consultation process.

Generally, the PEIR and draft Supplemental PEIR take a broad programmatic approach; implementation actions will undergo more detailed project-level environmental review. Please refer to Master Response B for a more detailed discussion of the programmatic nature of the PEIR and Supplemental PEIR. Given the various implementing management actions, the geographic areas of specific projects, and the various Native American tribes that may be affiliated within the geographic areas for implementing projects, the appropriate approach for the Supplemental PEIR is to develop summaries or frameworks to be used or considered at the project level. Additionally, some comments appear to reflect the views of United Auburn Indian Community (UAIC), but not necessarily all Native American tribes that are culturally or traditionally affiliated with the program area. Frameworks developed in the Supplemental PEIR must be developed in a manner that can flexibly address the needs of all Native American tribes that are affiliated to the program area. Projects implemented under the plan also may include federal partners, which could trigger National Environmental Policy (NEPA) and Section 106 processes. Any processes agreed upon at the CVFPP program level need to be drafted broadly enough to accommodate these federal requirements and processes. These topics, as well as many of the topics discussed below, are addressed in MM CUL-4b, which commits DWR to future project-level consultations and establishes a non-exclusive menu of topics and parameters for those consultations.

UAIC (an association of Miwok and Southern Maidu or Nisenan people) timely submitted an extensive comment letter addressing many topics. With this introduction on these key comments submitted by UAIC, additional comments included in UAIC’s letter are addressed individually below.

Comment 1

The United Auburn Indian Community is comprised of Miwok and Southern Maidu (Nisenan) people who are traditionally and culturally affiliated with the geographic area within your agency's geographic area of jurisdiction. The Tribe's area of geographic traditional and cultural

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affiliation encompasses all of Amador, El Dorado, Nevada, Placer, Sacramento, Sutter, and Yuba counties, as well as portions of Butte, Plumas, San Joaquin, Sierra, Solano, and Yolo counties; which includes the project area.

DWR is mandated to maintain and operate on behalf of the State of California per California Water Code Sections 8361 and 12878 et seq., and in accordance with federal requirements, certain levees, channels, and on appurtenant structures of the Sacramento River Flood Control Project (SRFCP) along the Sacramento River and tributaries that are within the Tribe's ancestral territory. The Central Valley Flood Protection Plan (CVFPP) was adopted in 2012 to reflect a system-wide approach to improve integrated flood management on lands protected by the State Plan of Flood Control. The CVFPP is the document used to guide State participation and influence federal and local participation in managing flood risk along the Sacramento River and San Joaquin River systems. Environmental Impacts and Mitigation Measures discusses the environmental effects of the long-term management activities (LTMA) and near-term management activities (NTMA), and identifies mitigation measures for significant environmental effects.

Given the very high tribal cultural value of the area, it is imperative for DWR and the Tribe to continue to consult on the issue of identifying how our ancestral cemetery sites extend into the project area, and may be avoided and the appropriate restoration of the sites following project activities, before DWR finalizes its proposal.

Over the past few centuries, the Miwok and Nisenan in the local tribal communities have revered areas within the project boundary as sacred places.

Response 1

UAIC's comments describing the cultural affiliations of the Tribe, describing the State's role in maintaining and operating the SRFCP, and the nature of the CVFPP are noted.

Comment 2

The CVFPP Update is subject to AB 52. UAIC (1) formally requested AB 52 consultation with DWR for any proposed projects within the Tribe's geographic area of traditional and cultural affiliation on October 30, 2015, (Attachment 1) and (2) formally requested AB 52 consultation for the CVFPP draft SPEIR on April 13, 2016, (Attachment 2) and DWR notified the Tribe of the opportunity to consult on CVFPP under AB 52 on March 18, 2016. On October 10, 2016, UAIC THPO Matthew Moore, UAIC Cultural Resources Manager Marcos Guerrero, and other UAIC staff met with DWR staff to discuss specific concerns related to the CVFPP, as well as to recommend changes to the draft SPEIR to better identify, evaluate, avoid and protect Tribal Cultural Resources (TCRs). The SPEIR should also make more effort to present a meaningful consultation record while protecting confidential information. Simply stating that "outreach has been initiated" (draft SPEIR page 3-23) is insufficient.

Response 2

UAIC's comments regarding the consultation process are noted. Specifically, DWR agrees that the Supplemental PEIR should present a meaningful consultation record while protecting confidential information. DWR also agrees that additional updates of the narrative framework,

mitigation approaches, and conclusions from the 2012 PEIR are appropriate; those additional updates are presented as revisions to the cultural resources chapter.

Comment 3

The Tribal Areas and Boundaries graphics from the March 2012 document need updating (draft SPEIR Figures 3.8-1 and 3.8-2). UAIC has provided a boundary of its Geographic Area of Traditional and Cultural Affiliation (Attachment 1). UAIC GIS boundary files are available upon request.

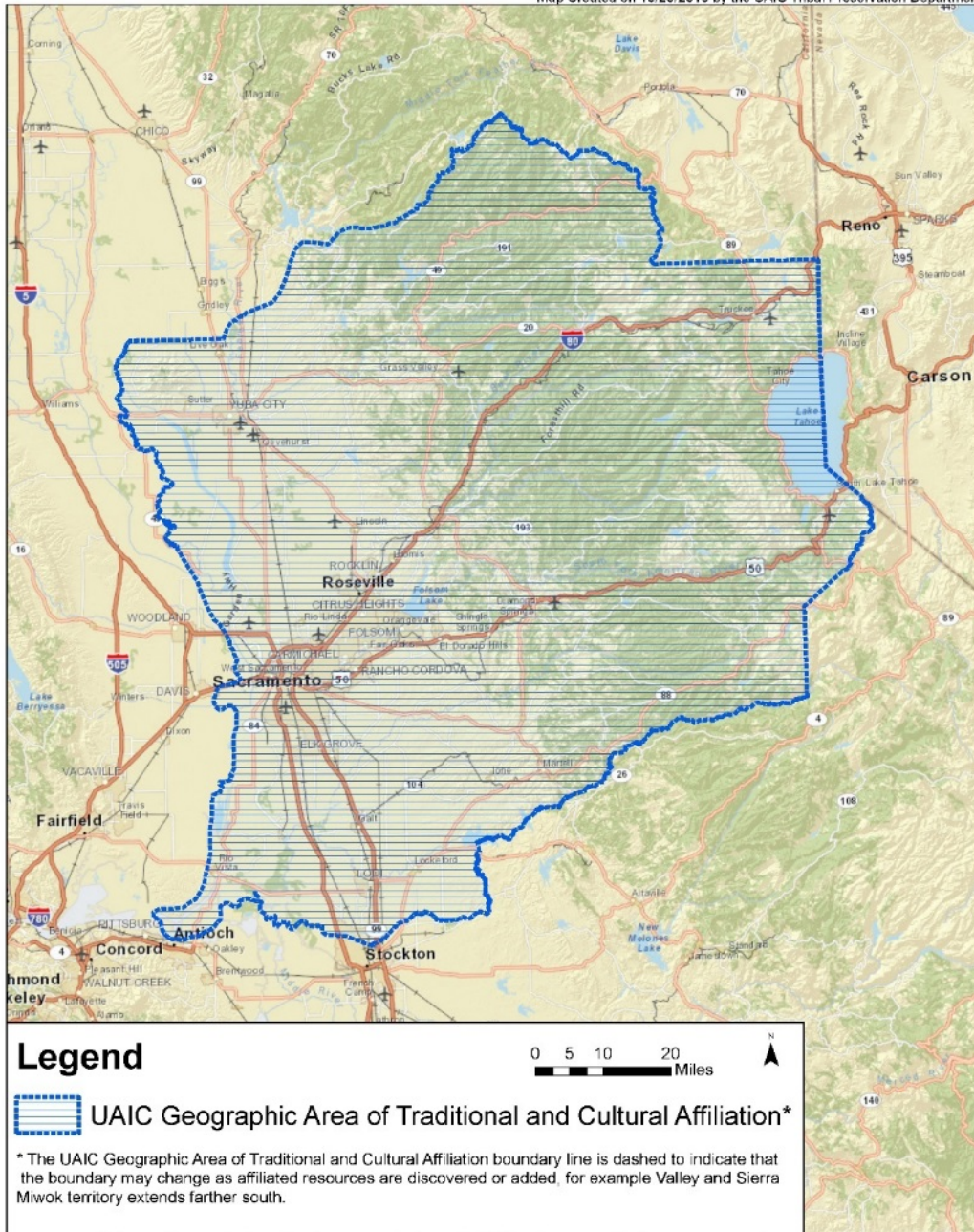
Response 3

The draft SPEIR does not have Figures 3.8-1 and 3.8-2. However, a jpg file describing UAIC Geographic Area of Traditional and Cultural Affiliation is included in this response and thus is included in the Final SPEIR.

UAIC Geographic Area of Traditional and Cultural Affiliation (for the purposes of California AB 52)

This area includes all of Amador, El Dorado, Nevada, Placer, Sacramento, Sutter and Yuba counties as well as portions of Butte, Plumas, San Joaquin, Sierra, Solano, and Yolo counties.

Map Created on 10/28/2015 by the UAIC Tribal Preservation Department



This map is no substitute for direct consultation with UAIC prior to considering any proposed project or commencing any archaeological activities in or around sensitive areas.

Note: While we make every effort to identify Tribal Cultural Resources that exist within the UAIC Geographic Area of Traditional and Cultural Affiliation, it is highly probable that there are additional, older sites that we have not yet identified due to restricted access or other reasons or that agricultural or construction activities have distributed burials and cultural materials beyond the previously known boundaries of these sites. Even if these materials are in a disturbed condition, they still retain cultural value to UAIC and should be respected and protected. Because of this, thorough survey with a qualified Native American Monitor to confirm site boundaries and search for unknown sites is critical. This survey should be conducted after consultation with the Tribe and prior to the final determination of the type of environmental document to be used.

Comment 4

Because the project area is within an area that is sacred to the Miwok and Nisenan, the Tribe has a keen interest that the draft SPEIR be complete and adequately investigate all the issues related to Tribal concern. Accordingly, below are items the Tribe respectfully requests be studied in the revised SPEIR and integrated into the Plan Update. If certain project details cannot be determined at this time, at least programmatic summaries and solutions should be proposed combined with a commitment to consult with the Tribe once specifics can be ascertained or a specific project is proposed for project-level environmental review. The Tribe also looks forward to consulting with DWR on a project-specific basis in the future.

Response 4

As discussed in the introductory response above, DWR recognizes the importance of complete and adequate investigations of issues of concern to Tribes. DWR also agrees with the suggestion that these investigations take place as part of project-level environmental reviews and associated consultations. MM CUL-4b provides that DWR will comply with the AB 52 (2014) consultation process and DWR Tribal Engagement Policy for subsequent projects implemented under the CVFPP. For some projects, DWR will be partnering with other entities, including federal agencies, which implicate federal law and process with respect to cultural resources. Thus, by necessity, programmatic frameworks and solutions need to be drafted in general terms.

Comment 5

Accordingly, the Draft SPEIR should reference the entirety of the CEQA Appendix G updated by OPR pursuant to AB 52 (Attachment 3) and demonstrate its consistency with all of it. This includes demonstrating consultation with tribes regarding the level of environmental review, identify and address potential adverse impacts to TCRs and reduce the potential for delay and conflict in the environmental review process. It also includes outlining the framework for additional, future consultation with the Tribe and environmental documentation to tier off the programmatic framework.

Response 5

See the introductory response above. The new Appendix G checklist questions regarding TCRs were added as thresholds of significance, and so they are already included as part of the Supplemental PEIR. DWR agrees that it is desirable that methods be developed that will reduce the potential for delay and conflict in the environmental review process. MM CUL-4b provides a framework for additional, future consultations with Tribes in connection with project-level environmental documentation.

Comment 6

Regulatory Section

The Regulatory Section needs updating relative to the jurisdiction and mandate of the NAHC. For example, the State Native American Historical Resources Protection Act does more than require "engagement," "coordination" or "cooperation" with the NAHC (draft SPEIR pages 3.8-20 and 3.8-21). Language should be added from the NAHC sections of the PRC statute regarding free expression or exercise of Native American religion and prevention of harm to ancestral remains and ceremonial sites on public lands (PRC section 5097.5), that human remains may be an inhumation or cremation and in any state of decomposition of skeletal completeness and any

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associated items that are placed or buried with them are to be treated in the same manner as the remains (PRC section 5097.98), and that additional consultation with the MLD may be required if additional or multiple human remains are located or suspected in the project area providing a basis for additional treatment measures (PRC section 5097.98). These important points of law should also be integrated in the mitigation measures.

The Regulatory Section also needs updating relative to California NAGPRA (CA NAGPRA) and revisions to it pursuant to SB 83 (2015). While CA NAGPRA may be largely "consistent" with federal NAGPRA, there are also aspects that go further than federal NAGPRA. (For example, the NAHC may order the repatriation of remains and cultural items, mediate disputes, has power of subpoena for discovery, power to enforce agreement documents, and impose civil penalties for willful or intentional noncompliance, etc.). Moreover, it should be stated that repatriation is the policy of the State of California. (PRC section 5097.991). There should also be discussion of the role of Tribal preferences for culturally appropriate and dignified treatment of ancestral human remains. *People v. Van Horn* (1990) 218 Cal. App.4d 1378 (in disagreement about whether burial related objects were to be treated as grave goods by Indians or scientific artifacts by archaeologists, court held the statute did not intend to give archaeologists any statutory powers with respect to Native American burials). These important points of law should also be integrated with the mitigation measures.

These revisions to the regulatory section are particularly important relative to state-federal projects as they help to clarify how ancestral remains and grave goods located on other than federal lands are to be addressed and to reduce the potential for mistakes in treatment to occur.

Response 6

Comments noted. The requested updates regarding regulatory matters have been included in the revised cultural resources chapter. DWR also has incorporated the regulatory requirements into mitigation measures as appropriate, taking into consideration the following: a) the variety of projects and programs that may be implemented under the CVFPP; b) the various Native American Tribes that are culturally and traditionally affiliated with the large footprint of the CVFPP; and c) for some projects, DWR will be partnering with other entities, including federal agencies, which implicate federal law and process with respect to cultural resources.

Comment 7

Native American Consultation

As noted above, the draft SPEIR references the Tribe's ongoing consultation with DWR (SPEIR, page 3-23). However, the draft SPEIR should also reflect the recommendations that were made by the UAIC during consultation, and how those recommendations were incorporated into the draft SPEIR and an explanation for recommendations that were not incorporated. This is an important aspect of meaningful consultation to us.

UAIC met with DWR on December 14, 2016. Since this meeting, UAIC has provided DWR with its Geographic Area of Traditional and Cultural Affiliation, various plans and protocols that the Tribe also shared with DWR for the Environmental Permitting for Operations and Maintenance Project (EPOM) Plan, and a confidential site map and list of known cultural resources in the Project area. During this meeting, UAIC also identified the types of maintenance activities that

have the potential to impact TRCs based on the Tribe's experiences and observations in the field and requested that the SPEIR be modified to address these impacts. On March 17, 2017, UAIC also submitted a comment package to DWR for the EPOM Project (Attachment 4) which also included a draft Operations and Management Plan (O&M plan) with detailed descriptions. The Tribe agrees with the statement in the SPEIR (page 2-7) that a robust and fully funded O&M program is fundamental to the proper functioning of the SPFC. Full funding should include benchmarks for effective monitoring and management of TCRs within the project area including by affiliated tribes.

The DWR Tribal Outreach cover letter dated February 9, 2017, stated that some materials provided by my staff seemed "too detailed and specific" to DWR for inclusion in the programmatic level environmental document. An important aspect of consultation to the Tribe would be to understand which specific documents fall into this category and for us to further negotiate on these points and for DWR to understand the Tribal perspective on why these materials were provided at this point in time. Given these points, UAIC believes that additional consultation and revisions to the SPEIR are required before AB 52 consultation may be properly concluded.

Response 7

Following the close of the public comment period on the draft Supplemental PEIR, DWR continued the consultation with UAIC regarding the 2017 CVFPP Update and associated Supplemental PEIR. A summary of that consultation has been prepared (some portions of this record are considered confidential). The comments in this paragraph of UAIC's letter are noted and are being addressed in the revised cultural resources chapter. UAIC's comments on the Draft EIR for the Environmental Permitting for Operations and Maintenance (EPOM) project are being addressed in the CEQA process for that document and will not be repeated here. However, some text edits to the EPOM Draft EIR suggested by UAIC were adapted and included in revisions to the Supplemental PEIR. Also, given the relationship of the CVFPP and EPOM, EPOM was discussed in a general way during the CVFPP consultations and DWR is coordinating the revisions to the two EIRs.

Comment 8

Tribal Views on Human Remains, Grave Goods and Tribal Cemeteries

The Tribe's view on human remains, grave goods and tribal cemeteries is that they should be preserved in place with no disturbance, invasive testing or destructive analysis and testing. This view extends to ex situ, disarticulated or disturbed human remains (including cremations) as well as sacred objects, objects of cultural patrimony, grave goods and burial soils. PRC section 5097.98 (b)(2)(d)(1) and (2) supports that view in defining Native American remains to include inhumation or cremation, and remains in any state of decomposition or skeletal completeness. Intact burials of scientific or academic interest to archaeologists therefore are only one kind of a legally covered burial.

These authorities and view, however, are not reflected in the 2017 CVFPP SPEIR/2012 Plan.

Second, while we agree with the draft SPEIR's statement that the project area is sensitive for tribal cemeteries and that such cemeteries will likely be disturbed (Effect CUL-4

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[NTMA/LTMA]), we do not agree that mitigation measures CUL-MM-4a,b,c (NTMA/LTMA) would reduce the severity of this effect to less-than-significant. There are no mitigation measures consistent with PRC section 5097.98 to fully lessen the impact under CEQA. While some tribal cemeteries may have been previously evaluated by archaeologists as prehistoric archaeological properties, the Most Likely Descendent (MLD) has the authority to identify appropriate treatment for burials and for *cemeteries*. The Tribe's views are also supported by caselaw. See *People v. Van Horn* (1990) 2018 Cal.App.4d 1378 (in disagreement about whether burial related objects were to be treated as grave goods by Indians or scientific artifacts by archaeologists, court held the statute clearly give the choice of preservation or reburial to Native Americans and the Legislature did not intend to give archaeologists any statutory powers with respect to Native American burials). A Mitigation Measure should be added to make it clear that the MLD has the authority to identify appropriate treatment for the entire cemetery site, rather than just an individual burial. Such treatment could include an archaeological evaluation, but the decision should be at the MLD's discretion.

The Tribe's views on the culturally-appropriate treatment of ancestral human remains and grave goods, as well as AB 52 authority and guidance, should be included in the SPEIR and any technical studies that support that document. Some of these views may need to be placed into a confidential section of the SPEIR and confidential part of the project administrative record pursuant to Government Code sections 6254.10, 625(r), CEQA Guidelines section 15120(d) and *Clover Valley Foundation v. City of Rocklin* (2011) 197 Cal.App.4th 200. Should there be any questions about this, my staff has experience with this and are happy to discuss this with you.

Response 8

DWR acknowledges and respects UAIC's view that human remains, grave goods and tribal cemeteries be preserved in place with no disturbance, invasive testing or destructive analysis or testing. It is anticipated that this view will guide future project-level consultations with UAIC. If other Tribes have a different view (for example, preferring establishment of a secure reburial site), those views will be respected in the consultations with those Tribes. DWR recognizes that human remains include inhumation or cremation, and any state of decomposition or skeletal completeness (Public Resource Code 5097.98(d)(1) and (2)). The disposition of grave goods is governed by Public Resources Code 5097.98, like human remains.

UAIC incorrectly states that the residual impact determined for cultural resources impact CUL-4 was less than significant. As described in the introductory response above, this impact was identified as Potentially Significant and Unavoidable in the 2012 PEIR, a conclusion carried forward into the 2017 Supplemental PEIR. DWR stands by its conclusion that the mitigation measures for this impact (particularly with the addition of expanded MM CUL-4b regarding project-level consultations) will reduce impacts to a less than significant level in many (if not most) situations, but that there will be some situations where a significant impact (as defined by AB 52 and the CEQA Guidelines) will remain even after mitigation.

Comment 9

Insufficiencies of Prior Identification and Investigation Efforts

The draft SPEIR states that cultural resources surveys were not conducted (draft SPEIR pg. 3.8-25). The SPEIR states that DWR will complete an inventory, evaluation, findings of effect and

implement treatment as necessary for cultural resources that may occur in the NTMA's and LTMA's areas (draft SPEIR pg. 3.8-25-26). However it is not clear if such inventory work has actually been completed or when it will be completed. In contrast with the framework for future biological surveys described in detail in the draft SPEIR, there is little consideration of the protocols for future archaeological and TCR surveys. Please explain. Please provide copies of all cultural resources reports and environmental sections. The Tribe requests a timeline for this mitigation measure and to be invited to participate in this inventory, evaluation, assessment, finding of effect and treatment implementation process. UAIC does not agree with DWR relying on prior surveys that are often outdated or have significant limitations such as being bounded to only a particular project area, not having the benefit of qualified Native representatives or monitors on the pedestrian surveys, and that were likely limited to only archaeological identifications as opposed to including TCR surveys which include items and places that may be non-archaeological.

Response 9

Regarding UAIC's objections that the cultural resources surveys supporting the SPEIR were insufficient, DWR believes that, given the geographic area and scope of the plan, comprehensive surveys would be impossible and it is most effective to perform more complete surveys and inventories on a project-level basis. The process of conducting surveys and completing inventories has been included in the framework of MM CUL-4b that will be used at the project level.

Comment 10

History of the Project Area and Cumulative Impacts

The SPEIR should explore the history of the project area, including its significance to the Native American community. The SPEIR must also examine the prior impacts to the project area that occurred because of prior levee work and development. What might be the effects of the proposed levee work be to the remaining tribal cemeteries and sacred sites? Might this work increase the potential for pot hunting and other damage to the sites? Could the levee work be scoped and modified at the early planning, alternatives and project stages to better avoid or reduce impacts to tribal cemeteries and sacred sites? My staff is available to work with you on these proactive approaches which would reduce the potential for conflict and project delays and potential impacts to sites.

We note that such analysis and mitigation is absent in the environmental documents for this project and that no TCR-specific cumulative analysis or mitigation has been added in the SPEIR despite the passage of AB 52 and the introduction of a new category of resources (TCRs) in CEQA (draft SPEIR pages 4-1 to 4-4). We also note that a long list of prior, current and reasonably probable future projects is in the document; certainly these projects, which includes the DWR EPOM project, will have cumulatively considerable impacts to TCRs. This impact and mitigation needs to be specifically analyzed.

Response 10

The 2012 PEIR and 2017 Supplemental PEIR generally explore the history of the project area, with an Environmental Setting section that reflects the effects of past activities. It is also acknowledged that prior, current, and future levee work and development have affected and will

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affect cultural resources in the project area. More detailed information regarding these topics should be developed for specific future project areas in the context of project-level consultations.

With regard to cumulative effects, the commenter is correct in that Cumulative Impacts section was not updated as it should have been given the other changes made in response to AB 52. In response to this comment, Supplemental PEIR Chapter 4, Cumulative Impacts, has been revised in several areas to reflect the cumulative impacts of past, present, and reasonably foreseeable future projects on TCRs in addition to archaeological resources, historical resources, and TCPs.

Comment 11

Visual Impacts

Visual and aesthetic resources are a component of tribal values and can contribute to a site's significance. Visual simulations from and towards the project area from key viewpoints selected through consultation with the Tribe should be performed and included in the SPEIR. Impacts to setting and context for the area and tribal practices must also be considered.

Response 11

DWR acknowledges that visual and aesthetic resources can contribute to a site's significance in certain circumstances. This consideration is best addressed in future project-level environmental documents and consultations where the particular resources and circumstances can be considered.

Comment 12

Biological and Natural Resources

Biological and natural resources are a component of traditional ecological knowledge (TEK), as are tribal values and Cultural Landscapes pursuant to NPS guidance and can contribute to a site's significance. The Biological section of the draft SPEIR mentions substantial impacts to Native plants, Woodlands, Salmon, and Wildlife Movement Corridors that could affect Tribal Cultural Resources (i.e., draft SPEIR sections 3.2 and 3.3) and could include loss of vegetation on approximately 1,300 acres within the levee Vegetation Management Zone (VMZ). These aspects of the Tribal cultural property must be considered in the SPEIR and in the eligibility determinations as well as be factored into VMZ strategies (draft SPEIR pages 2-8 to 2-9) and Conservation Elements (draft SPEIR page 2-16).

Response 12

Similar to the response immediately above, DWR acknowledges that biological and natural resources can contribute to a site's significance in certain circumstances. This consideration is best addressed in future project-level environmental documents and consultations where the particular resources and circumstances can be considered.

Comment 13

Noise, Light, and Privacy

The Tribe requests that the SPEIR analyze the project's noise and light impacts relative to the Tribal cemeteries and sacred sites and whether the proposed use would adversely impact the intangible, physical or metaphysical cultural use of the site or affect the privacy of practitioners.

Response 13

DWR recognizes that in certain circumstances resources may be intangible, physical or metaphysical in terms of the cultural uses of particular locations, and that noise and light impacts may be relevant to those uses. These considerations are best addressed in future project-level environmental documents and consultations where the particular resources and circumstances can be considered.

Comment 14

Vibration and Compression

Vibration and compression must also be studied in the SPEIR for the potential of construction, maintenance or residual equipment to damage TCRs that remain in the ground. What measures can be taken to reduce the potential for such impacts? Frequently vibration and compression cause damage to buried Tribal cemeteries.

Response 14

Similar to the responses above, the consideration of potential vibration and compression impacts is best addressed in future project-level environmental documents and consultations where the particular resources, impacts and circumstances can be considered.

Comment 15

Need More Specific and Complete Project Description

The SPEIR must completely describe the whole of the project including but not limited to typical construction activities discussed only in the original PEIR section 2.7. This would include the proposed horizontal and vertical extent of the excavations. There also must be a complete description of any PG&E, Utility District, or any other underground work, as well as use of cranes, land leveling, utility pole removal and relocation or replacement, tree replanting and vegetation removal as these are all activities that could pose significant impacts on burials and TCRs.

Response 15

DWR believes that the project descriptions in the PEIR and Supplemental PEIR are adequate at a program level (see Master Response B). The specific details requested by UAIC in this comment (horizontal and vertical extent of excavation, underground utilities, etc.) may well be relevant and important at the project level.

Comment 16

Land Use Restriction and Co-Management

When tribal cemeteries are identified, land use restrictions should be put in place to prevent activities that would now or later in time adversely impact the resources. These restrictions on

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property use must be enforceable. Co-management with the Tribe could also be appropriate. My staff would be happy to consult on such measures.

Response 16

DWR will consider land use restrictions where appropriate. However, it will often be infeasible to establish such restrictions given DWR's need for flexibility in operating, maintaining, and improving the flood risk reduction system.

Comment 17

Public Land

Please provide a map showing any public land in or near the project property. This would include any public easements. Please clearly show and mark any fee acquisition, permanent or temporary rights of way and permanent or temporary easements and indicate whether all these areas have been surveyed with qualified Native American Monitor participation. Public land ownership would trigger public lands analysis under PRC sections 5097.9, 5097.97. This issue is not addressed in the SPEIR but could have profound implications for the project, mitigation and site management. Please note that the NAHC is the state trustee and responsible agency for resources of tribal concern and as such must receive copies of any environmental documents prepared. Please confirm the NAHC was on the distribution list for this project.

Response 17

A comprehensive map of public lands in the planning area is beyond the scope of this PEIR. Otherwise, the comment is noted.

The National American Heritage Commission (NAHC) received notice of the 2017 CVFPP Update and Supplemental PEIR. The CEQA NOP was sent to the NAHC at the start of the Supplemental PEIR scoping process, and the draft Supplemental PEIR was sent at the start of the public review period. In addition, DWR consulted with the NAHC in June, 2016 regarding the list of tribes that have cultural and traditional affiliation with the extended systemwide planning area.

Comment 18

Alternatives to the Project

No new alternatives were identified by DWR for the draft SPEIR (page 3-2). However, given the adoption of AB 52, the Tribe believes that DWR should consider one or more onsite and offsite alternatives that could intrude less upon Tribal cemeteries, areas of high or moderate cultural sensitivity, and with appropriate buffers and these should be studied in the SPEIR. This could be termed a Tribal Cemetery Avoidance Alternative. Additional alternative locations or designs for limiting site impacts and micro siting any development must be considered in the SPEIR given CEQA's preference for avoidance. *Madera Oversight Coalition v. County of Madera* (2011) 199 Cal.App.4th 48 (CEQA documents must explain why preservation in place was rejected in favor of other forms of mitigation).

If a conservation easement or other protective conveyance is considered, Tribal views on appropriate management must be solicited, as well as consideration of endowment for long term

management. In general, the Tribe would want Tribal cemetery areas to be secured from public access for site protection and public health reasons. Tribal concerns could be addressed in a Memorandum of Agreement between DWR and the Tribe. My staff is available to consult about this.

Response 18

UAIC asserts that an additional alternative, which it labels a “Tribal Cemetery Avoidance Alternative,” should have been evaluated. Apart from the fact that this proposed alternative is only vaguely described, DWR believes that the concerns reflected in the comment can best be addressed at the project level, including project-level consultations under AB 52 (2014) and appropriate project-level mitigation. In addition, the “alternative locations or designs” suggested by UAIC often are not feasible given the need to maintain, upgrade, and improve the flood control system as it presently exists (particularly regarding its location).

Comment 19

Tribal Monitors for Investigations

It appears that geotechnical studies may be conducted in support of project development. The Tribe has found that TCRs are often encountered during geotechnical or soils work and therefore requests that paid tribal monitors be required any time ground disturbing studies or surveys are being conducted – even before project approval. Is there any record of tribal consultation or cultural resources being encountered and recorded in any relevant technical reports or elsewhere?

Response 19

UAIC requests that paid tribal monitors be required any time there are ground disturbing studies or surveys. MMs CUL-4a and CUL-4b provide that efforts to identify TCP/TCRs may include the engagement of tribal monitors. The need for a tribal monitor will depend on the facts and circumstances surrounding a particular project.

The comment also implicitly raises the issue of consultations for CEQA-exempt projects (investigations are often exempt and may not be subject to AB 52 (2014)). Revised MM CUL-4b addresses this question and indicates that, even though formal consultations are not required for exempt projects, tribal notification will be made under certain circumstances.

Comment 20

Paleontological Resources

Should paleontological resources be discovered during earth-moving activities, the Tribe recommends the following requirements be followed and incorporated into a SPEIR Mitigation Measure:

Construction will immediately cease and DWR paleontological and cultural resource staff will be notified if any paleontological resources (e.g., fossils) are uncovered.

All earth-moving activities will stop within 100 feet of the find and a paleontologist will be retained to evaluate the resource and prepare a proposed mitigation plan in accordance with Society of Vertebrate Paleontology *Standard Procedures for the Assessment and Mitigation of*

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Adverse Impacts to Paleontological Resources (2010) and *Best Practice Guidelines for Reporting and Disseminating Contextual Data Associated with Vertebrate Fossils* (2016).

The project archaeologist and Tribal Monitors will be afforded an opportunity to review the find to determine if there is a cultural component to the find in accordance with Society of Vertebrate Paleontology guidance.

Response 20

Unexpected paleontological resource finds are covered under MM GEO-6, which addresses most of the issues raised in the comment. Such unexpected finds could also be TCRs, in which case the mitigation measures under impact CUL-4 could apply.

Comment 21

The Tribe requests that DWR consult with the Tribe on mitigation measures, alternatives analysis, and cumulative impacts prior to the preparation of the final SPEIR. UAIC also recommends the Tribe and DWR develop a standard operating procedure, points of contact, timeline and schedule for the project so all possible damages can be avoided or alternatives and cumulative impacts properly assessed.

Because cities and counties located in the Sacramento and San Joaquin valleys and Southern California/Coastal Service Areas of the Central Valley Project (CVP) and State Water Project (SWP) (SoCal/CVP/SWP service areas) will be able to rely on the PEIR for guidance when amending general plans and zoning ordinances (draft SPEIR, page 1-6), this document may have significant SB 18 implications for UAIC. It is therefore imperative that the programmatic mitigation framework work here is as complete and robust as possible. Our comments are intended to improve those frameworks. Similarly, a more complete framework and realistic mitigation can result in more accurate and appropriate planning, cost, time and feasibility efforts to better guide the common, outcome-driven vision that guides State investments.

Given the nature of potential unavoidable and unmitigable project related impacts of concern to the Tribe, any such measures would need to include at a minimum: a burial recovery plan, cultural and Tribal resources management and treatment plan, operation and maintenance plan, sensitivity training, monitoring plan and agreement – each developed through consultation with the Tribe. However, such plans would in no way reduce the project's impacts to less than significant because when a burial or grave good is removed or relocated, it causes a significant and unmitigable impact to that resource and the Tribe.

Response 21

Local land use planning is generally the prerogative of local governments, limited by various state statutes such as the Planning and Zoning Law and SB 18 (2004). Future planning and CEQA processes undertaken by local agencies will remain fully subject to SB 18 (2004), as well as AB 52. Those local agencies will only be able to rely on the information contained in the CVFPP PEIR to the extent allowed by CEQA. Specifically, the program-level mitigation measures contained in the PEIR are not intended to limit the nature or scope of necessary or appropriate project-level mitigation measures. See also Master Response B.

Comment 22

Mitigation Measures CUL-1a and CUL-1b (NTMA and LTMA): Should include consultation with affiliated tribes on evaluations, avoidance and treatment options particularly where a known archaeological site is also a TCR, as the archaeologist will not control the evaluation. Also, the measure should state that if further mitigation is required, affiliated tribes should be consulted on that and it should include the full range of mitigation pursuant to CEQA Guidelines section 15370, which includes compensating for the impact by replacing or providing substitute resources or environments. The measure should also reference being consistent with the March 2015 ACHP letter on the FRWLP including creative mitigation (Attachment 6).

Response 22

The referenced mitigation measures under impact CUL-1 focus on archaeological resources as such. Although AB 52 (2014) has directed lead agencies to consider impacts to tribal cultural resources, CEQA still requires that lead agencies address archaeological resources and the academic interests in those resources. TCRs are more specifically addressed in impact CUL-4. To the extent that an archaeological resource is also a TCR (which will frequently be the case), the mitigation measures in impact CUL-4 would apply. DWR realizes that the requirements of AB 52 (2014) regarding TCRs and the requirements of CEQA regarding archaeological resources may be in tension (i.e., whether priority will be given to one or the other), which may need to be addressed through project-level consultations.

Comment 23

Mitigation Measures CUL-2 (NTMA and LTMA): May need more than a 50 foot stop work buffer (page 3.8-27); a 100 foot stop work buffer would be more appropriate and consistent with other similar construction projects. Measure CUL-2 should include consultation with affiliated tribes on evaluations, avoidance and treatment options particularly where a previously undiscovered buried archaeological site is also a TCR, as the archaeologist will not control the evaluation. Also, should further mitigation be required, affiliated tribes should be consulted and it should include the full range of mitigation pursuant to CEQA Guidelines section 15370, which includes compensating for the impact by replacing or providing substitute resources or environments. The measure should also reference being consistent with the March 2015 ACHP letter on the FRWLP including creative mitigation (Attachment 6). Construction monitoring should also reference a Tribal Monitoring Program to be developed with affiliated tribes. The "mounded areas" referenced in this measure are likely Tribal burial mounds that contain ancestral burials, grave good and ceremonial sites that are covered under other mitigation measures including CUL-5a-c. The original measure reference geoarchaeological studies to help determine areas likely to contain buried deposits. Please add other noninvasive tools such as geophysical studies, LiDAR and historic human remains detection canines.

Response 23

MM CUL-2 has been modified to incorporate UAIC's requested 100-foot buffer around unexpected cultural resource finds. See also the response to Comment 22. Unexpected cultural resource finds could also be TCRs, in which case the mitigation measures under impact CUL-4 would apply. Otherwise, the comment is noted, and responses to the various points made are generally included above.

Comment 24

Mitigation Measures CUL-3-a-c (NTMA and LTMA): Regarding built-environmental resources, should also reference Tribal burial mounds, which often were village sites and the first original flood management measures as being higher ground, and incorporated into some levees and other flood control structures. In the FRWLP, UAIC found that tribal burial and village mounds were at times incorporated into subsequent flood control structures. This creates a case of the Tribal historic structure having its own value and also potentially contributing to the value of the extant structure which may also be historic. The engineering and construction abilities of our ancestors should be properly acknowledged. The potential for a historic property to be contained within another property is also the subject of NPS Guidance (*National Register Bulletin, How to Apply the National Register Criteria for Evaluation*). Some of these mounds may be wholly or partially intact; regardless of their archaeological integrity, they maintain cultural integrity to UAIC and must be considered in project planning and eligibility considerations as part of the built environment before project approval. Because of this, any historian who is engaged must be qualified to examine the potential tribal contributions to the potentially historic structure. Moreover, there may also be landscape components which should be considered.

Response 24

Most of the points made in this comment have been addressed above. The potential that a resource may be considered a historic structure does not limit application of the mitigation measures in impact CUL-4 where the resource is also a TCR.

Comment 25

Mitigation Measures CUL-4a-b (NTMA and LTMA): The measures misstate what a Traditional Cultural Property (TCP) is. A *TCP* exists when a community identifies one; an *eligible* TCP exists when an identified TCP qualifies for listing on the National Register. A consultant or agency cannot tell a community that their self-identified TCP does not exist. Please see National Park Service Bulletin 38 and the writings of Dr. Tom King for more on this important distinction. We appreciate the listing of several measures that may help to mitigate impacts to TCPs, however, it should also be stated in the measure that these are only some examples and that consultation with the affiliated tribe is necessary to determine what other measures may exist and what specific measures are appropriate given the circumstances of the impacts. Again, CEQA Guidelines section 15370, which includes compensating for the impact by replacing or providing substitute resources or environments, should be cited.

There also needs to be appropriate CRHP and NRHP definitions, evaluation and eligibility criteria, and appropriate assessment and mitigation measures for historical resources and TCRs (CRHP) and historic and TCPs (NRHP). Both categories of properties will be negatively impacted and adversely effected as a result of the 2017 CVFPP SEIR/2012 Plan. The Tribe expects that properties of concern to it will be evaluated under all four Register criteria. This also should be integrated into the Mitigation Measures.

Mitigation Measure CUL-4a and CUL-4b are proposed in the SPEIR to be revised to merely surgically tack on the TCRs to the existing TCP framework. Please explain why this route was selected versus developing TCR-specific impact analysis and mitigation measures? Again, the new measure incorrectly states who is responsible for identifying TCRs (and TCPs) – again, this rests with the affiliated tribe, with technical support as may be appropriate. The revised measure

also misunderstands the role of tribal representative versus tribal monitors and technical staff (at least as to UAIC): UAIC has a THPO and that office should be consulted regarding identification of TCPs or TCRs and no consultants should be retained or identification efforts scoped or commenced without first contacting the THPO (tribal representative). Tribal Monitors work in the field and have only the authority given to them from the THPO or the Tribal Council.

Response 25

Most of the points made in this comment have been addressed above. Appropriate assessment and mitigation measures for historical resources and TCRs at a program level have been included in the PEIR. Consideration of California Register of Historic Places and National Registry of Historic Places listings will take into account all applicable criteria. Responding to the third paragraph in this comment, the draft Supplemental PEIR has been revised to elaborate on the treatment of TCRs where that differs from the appropriate treatment of TCPs. UAIC's clarification of the relationship between Tribal Monitors and Tribal Representatives (at least as to UAIC) is noted and appreciated.

Comment 26

New Mitigation Measure CUL-4c proposes cultural resources awareness and sensitivity training. This is the only new measure proposed in the draft SPEIR. While an appropriate measure, it should be revised to state any training and materials will be developed in consultation with affiliated tribes. Moreover, pursuant to AB 52, DWR must consult with UAIC on other mitigation measures the tribe may deem appropriate in this update. For example, relative to riparian habitat removal, a process is set out for both tracking and recording the impacted habitat and also addressing compensation for its loss and degradation through the enhancement, restoration or creation of habitat elsewhere (draft SPEIR page 3-7). Such processes, also applied to cultural resources, could help improve understanding of both project and cumulative effects. Consultation with affiliated tribes on an appropriate, potential framework to similarly address impacts to and performance standards for TCRs may be appropriate.

Response 26

Comment noted. DWR agrees that cultural resources awareness and sensitivity training and materials should be developed in formal consultation with interested Tribes. Although there may be some analogies between habitat and cultural resources, the two are in many respects quite different. In particular, while habitat values can often be recreated in another location, UAIC has taken the position that in most circumstances cultural resources, particularly ancestral remains, tribal cemeteries, ceremonial sites and sacred places, are irreplaceable and impacts cannot be mitigated; however, in UAIC's view, this does not excuse projects from making meaningful efforts to lessen the environmental harm and harm to UAIC members caused by such activities. Consideration of the creation of compensating or replacement cultural resources will occur, as appropriate in the context, at the project level. Also, while there may be opportunities to avoid sensitive species due to their movement patterns or seasonal activities, such opportunities may be lacking with respect to TCRs, which of course do not move and are present year-round.

Comment 27

Mitigation Measures CUL-5a-c (NTMA and LTMA): These measures relate to damage or disturbance to human remains, including those interred outside of formal cemeteries. UAIC strongly objects to the conclusions for CUL-5b and c that relocating cemeteries and complying

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with the Health and Safety Code results in a less-than-significant impact. These are real and significant unmitigated impacts to us.

While removal is preferred to complete destruction, it is not an impact-free or even impact-neutral activity; it is more akin to mitigation that itself causes impacts which must also be considered unavoidable and further mitigated in CEQA. See, CEQA Guidelines section 15126.4(a)(1)(D). Burial and other treatment plans with tribes may be appropriate, and should be negotiated prior to project approval wherever possible, and anticipate the nuances of reburials. The mitigation measures related to human remains should also track the statutory framework from the PRC statute regarding prevention of harm on public lands, that human remains may be in any state of decomposition or skeletal completeness, and that additional consultation with the MLD may be required if multiple human remains are located or suspected. Please explain the statement in Mitigation Measure CUL-5c in the draft SPEIR that smaller, localized projects do not require a burial treatment plan. It is UAIC's view that any activity which could affect burials, must be subject to such plans.

Finally, reburial locations must also be in a location not subject to further and future disturbance. (PRC section 5097.98). Thus, remains typically should not be reburied on the water side of levees. With the recent Oroville Dam releases, many water side burials and reburials are being impacted or threatened with impacts and causing stress to the Tribe. Also, the PRC and Health and Safety Codes are separate from CEQA and therefore do not fall under CEQA emergency exemptions and must still be followed. This issue should be considered in the Reservoir Operation and flood release aspects of the project (draft SPEIR, page 2-13).

Response 27

State law sets forth specific provisions for the appropriate treatment of human remains and DWR is committed to complying with those provisions. However, DWR stands by its conclusion that the mitigation measures for impact CUL-5 will reduce impacts to burials, as such, to a less than significant level. Where burials are also TCRs (which will frequently be the case regarding Native American burials), the Potentially Significant and Unavoidable impact conclusion under impact CUL-4 would apply. Otherwise the comment is noted, and most of the points made in this comment are addressed above.



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