

# CENTRAL VALLEY FLOOD MANAGEMENT PLANNING PROGRAM

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## Public Draft

2012 Central Valley Flood Protection Plan

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## Attachment 9A: Regional Advance Mitigation Planning

January 2012

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# 1.0 Introduction

Sometimes the development of infrastructure can negatively impact habitats and species. Ways to better avoid, minimize, and mitigate these impacts for State Plan of Flood Control (SPFC) facilities is being developed under the Central Valley Flood Protection Plan's (CVFPP) Central Valley Flood System Conservation Strategy (Conservation Strategy). This attachment details the approach for Regional Advance Mitigation Planning (RAMP), which could support the Conservation Framework and the future Conservation Strategy. RAMP attempts to provide a method to achieve faster, less expensive, and better mitigation for unavoidable impacts associated with infrastructure projects proposed within the state.

## 1.1 Background

As authorized by Senate Bill 5, also known as the Central Valley Flood Protection Act of 2008, the California Department of Water Resources (DWR) has prepared a sustainable, integrated flood management plan called the CVFPP, for adoption by the Central Valley Flood Protection Board (Board). The 2012 CVFPP provides a systemwide approach to protecting lands currently protected from flooding by existing facilities of the SPFC, and will be updated every 5 years.

The State of California (State) and federal agencies recognize RAMP as a high-value decision-making process that should be able to identify the best offsite mitigation approach for the types of impacts expected from multiple agencies over multiple years. Several State and federal agencies are collaborating to develop RAMP in California. Participants include infrastructure agencies (DWR and California Department of Transportation [Caltrans]), and State and federal resource agencies including California Department of Fish and Game (DFG), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service, and U.S. Army Corps of Engineers' (USACE) regulatory office. The effort also receives support from The Nature Conservancy and Resources Legacy Fund. These nonprofits have secured several grants from private foundations to keep the RAMP effort moving forward, as well as helping extensively with science and analysis, outreach, policy development, and meeting support. RAMP also works with modeling researchers from University of California, Davis, to aid in development of planning tools.

## **1.2 Report Organization**

Organization of this document is as follows:

- Section 1 introduces and describes the purpose of this report.
- Section 2 describes the RAMP approach and process.
- Section 3 lists acronyms and abbreviations used in this document.

## 2.0 Regional Advance Mitigation Planning

The State's public agencies spend billions of dollars each year on infrastructure projects to meet the State population's growing need for roads, bridges, levees, and other facilities. California hosts a rich array of valuable natural communities and ecosystems that provide habitat for rare and native plants and wildlife. These ecosystems and natural communities are also the source for Californians' drinking water and provide open space for healthy recreation. As California's population grows, it is imperative that this growth occurs in a manner that protects and enhances the State's natural resources.

The existing options for compensatory mitigation are helpful and practical approaches. But RAMP is an innovative approach that builds on existing conservation efforts and mitigation tools while also helping to solve some of the challenges associated with these tools, such as limited funding and protracted timelines. RAMP is investigating innovative ways to leverage multiple funding sources that allow for larger mitigation sites than could be accomplished if only existing funding options were used. RAMP intends to provide a more economical approach for mitigation of infrastructure project impacts on a landscape scale rather than by a project-by-project mitigation. While RAMP concepts have been implemented in some parts of the State (San Diego County, Orange County, and Elkhorn Slough in Monterey County), it is still considered a new approach, but is gaining widespread acceptance among agencies. RAMP requires a change by both infrastructure and regulatory agencies in their approach to the development of new mitigation areas and they will be asked to provide an investment in advance planning, which is intended to provide long-term ecological and financial benefits.

Although still in the development and testing phases, the basic RAMP concept is twofold. First, it establishes a regional framework for identifying existing and potential mitigation approaches in a geographically specific portion of the State that could support the needs of planned infrastructure projects and meet the needs of regulatory agencies. Second, it identifies which mitigation approaches could best create habitat in advance of potential unavoidable impacts of infrastructure projects. Working together, natural resource and infrastructure funding agencies can estimate mitigation needs early in the projects' timelines, avoiding permitting and regulatory delays and allowing public mitigation dollars to stretch further by securing and conserving valuable natural resources on a more

economically efficient scale and before related real estate values escalate. This strategy supports jobs and a vibrant economy – lower mitigation costs lowers overall project costs which frees up funds for additional projects; the certainty provided by RAMP allows infrastructure agencies to deliver on the pipeline of projects more consistently; and it supports jobs in the natural resources sector through restoration and management of natural lands.

Using an approach that emphasizes regional ecosystem needs and priorities, and drawing on the lessons learned from previous experience, DWR and others can explore various mitigation opportunities and make more informed mitigation decisions that hope to maximize conservation within a region while allowing timely construction of necessary infrastructure. DWR and Caltrans are leading development of the RAMP initiative using bond funding, but they will actively seek additional voluntary partners as the structure for long-term funding and governance is more clearly defined. Because this is a multi-agency effort supported by several funding sources, the geographic boundaries of any plan and the schedule for completing documents will be outside of the control of the DWR or Board staff working on the CVFPP effort. The draft work plan for the effort involves the following several general steps (see list below).

1. Develop support among infrastructure and regulatory agencies of a statewide region-based advanced mitigation approach and identify policy and funding issues with a timeline for resolving them (this will be described in a document currently entitled “Statewide Framework for RAMP in California,” which is under internal review and will be widely available in the fall of 2012).
2. Develop geographically specific plans that (1) assess expected habitat mitigation demand (from multiple planned infrastructure projects), and (2) identify possible mitigation approaches in advance of any impacts (these will be described in documents currently entitled “Regional Assessment”). This advance planning should result in expedited permit reviews of infrastructure projects because all alternatives for mitigation would have already been evaluated at the regional level, eliminating the need to perform this analysis for a single project. There should also be a time savings for regulatory agency staff who would be making a decision on a few large sites versus several small sites.
3. Identify and describe a mitigation option that will be potentially pursued for the benefit of multiple infrastructure agencies (in documents entitled “Action Plan”). During development of the Action Plan, secure regulatory agency acceptance and approval of the RAMP mitigation approach and identify partners willing to sign cost-share

agreements to fund its implementation. While the contents of an Action Plan are still undefined, the RAMP Work Plan calls for the development of standardized outlines and budgets for their development over the first quarter of 2012.

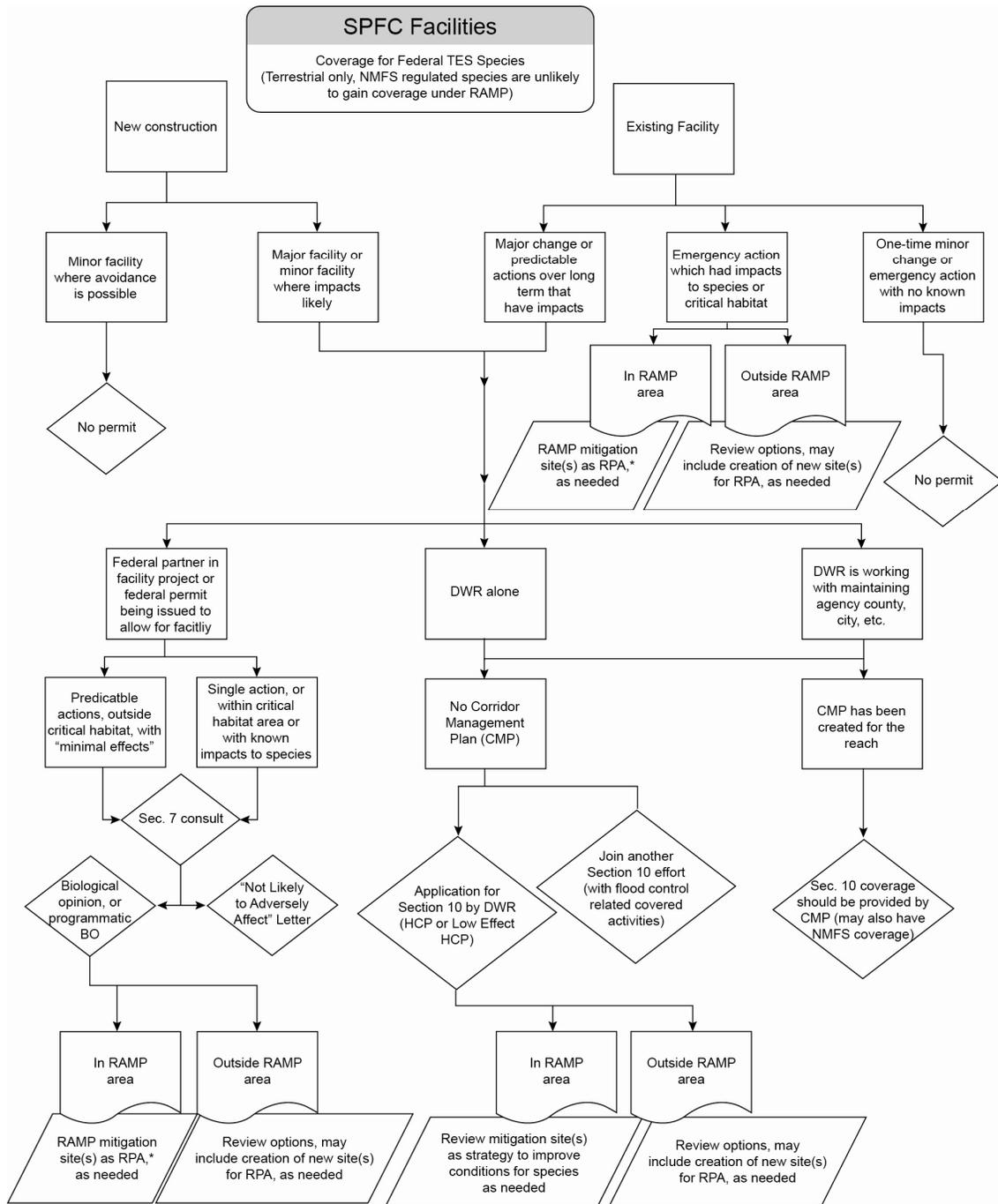
4. Secure monetary support for the approved Action Plan and gain agreement on the financial reporting procedures to ensure transparent billings and transactions. Note that RAMP partners are anticipating that funding for implementation of the Action Plan would be independent of any line item from an individual infrastructure project's budget. Instead, funding for Action Plan implementation is based on a conservative estimate of a bundled multi-agency and multi-year projected "demand," as identified in both the Regional Assessment and the Action Plan. Ideally, funds would come from a "revolving fund" that has been established through legislation specifically for advance mitigation development.
5. Reevaluate mitigation approaches to continually provide sufficient and appropriate habitat to meet expected infrastructure project mitigation needs.

RAMP does not supply permits for infrastructure projects; rather, its purpose is to provide a more efficient and cost-effective option for supplying mitigation within existing permitting processes. It can aid DWR and also its RAMP partners (see text box) in successfully completing the federal endangered species permitting process (see Figure 2-1), federal wetland permitting process (see Figure 2-2), and State lake and streambed alteration permitting process (see Figure 2-3). Infrastructure agencies will individually apply for their permits to perform actions. Within the application materials, they could reference an advance mitigation site created through RAMP. These sites may be authorized by the resources agencies using the same methodology as a private commercial mitigation bank and other agencies or authorized using alternative methods supported by these same agencies. RAMP will be successful if the advance mitigation sites are used expeditiously, indicating that RAMP is an effective planning method and provides a return on investment to infrastructure agencies. The success of RAMP's first Action Plan will allow more RAMP-sponsored mitigation to be developed in the region.

### **The RAMP Work Group**

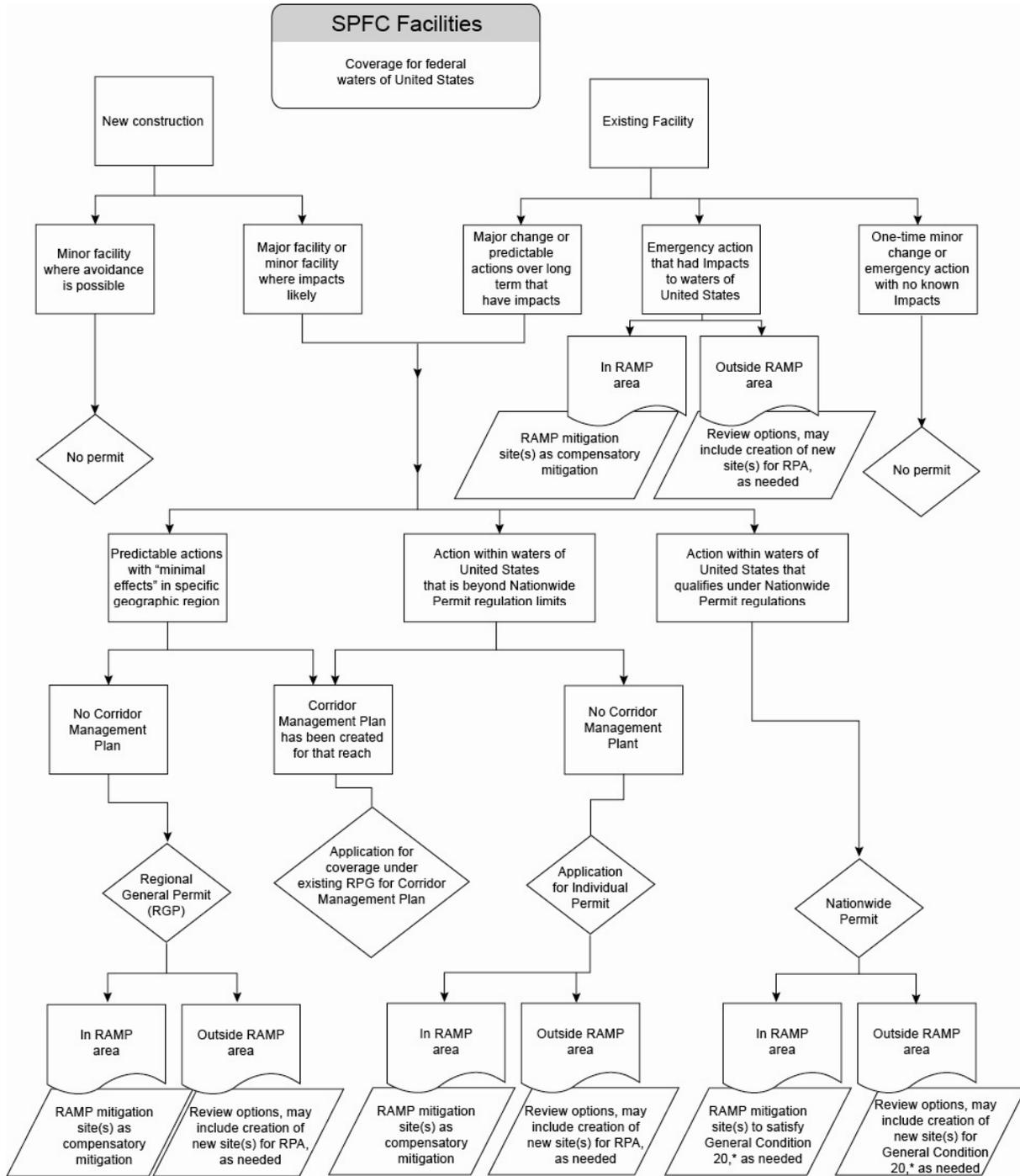
In 2008, several agencies came together to figure out a better way to mitigate for infrastructure projects that is faster, more effective, and yields larger scale conservation outcomes in California as compared to project-by-project mitigation. In 2009, leadership of the various agencies signed or supported a Memorandum of Understanding including: DWR, Caltrans, U.S. Environmental Protection Agency, USFWS, USACE, National Oceanic Atmospheric Administration (National Marine Fisheries Service), DFG, California Wildlife Conservation Board, Natural Resources Agency, and the California Business, Transportation & Housing Agency

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\*RPA = Reasonable and Prudent Alternative – alternatives prescribed by USFWS to aid the recovery of species

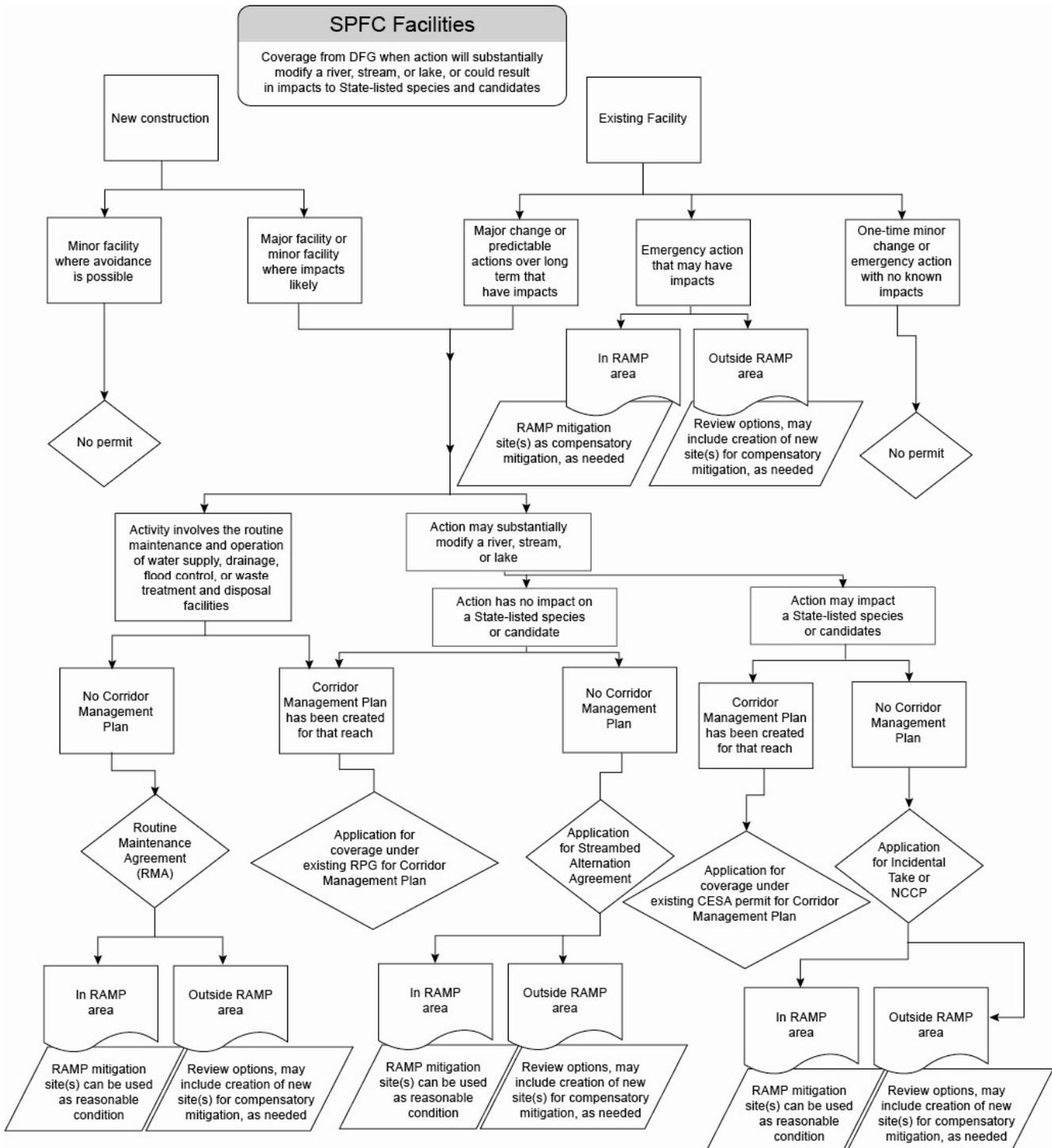
**Figure 2-1. Hypothetical Use of RAMP-Sponsored Mitigation Sites During Federal Terrestrial Endangered Species Permitting**



\*General Condition 20 is in effect until March 2012

**Figure 2-2. Hypothetical Use of RAMP-Sponsored Mitigation Sites During Federal Waters of United States Permitting**

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**Figure 2-3. Hypothetical Use of RAMP-Sponsored Mitigation Sites During State Streambed Alteration Permitting (With or Without Species Impacts)**

The Conservation Framework supports the premise that environmental considerations should be taken into account at all levels of flood management planning, as early as possible. In support of that goal, RAMP steers agencies away from (1) only planning mitigation on a project-by-project basis, usually near the end of a project's environmental review, and (2) any mitigation that occurs with insufficient consideration of regional or statewide conservation priorities. Permitting delays can occur when appropriate offsite mitigation sites cannot be easily identified and agreed on, and the cost of mitigation often increases between the time a project is planned and funded and the time mitigation land is acquired. As a result, infrastructure agencies may agree to pay "top dollar" to satisfy mitigation requirements through the quick purchase of credits to keep projects on schedule. Project-by-project mitigation, especially onsite mitigation, can overlook regional conservation needs and ecosystem-scale impacts to sensitive species and habitat, thereby missing critical opportunities for efficient, reliable, and biologically relevant mitigation. Additionally, the opportunity is lost for greater benefits to water and air quality and public health that regional planning would bring.

To address some of these concerns with project-by-project mitigation, the DFG and the USFWS have engaged in Habitat Conservation Plans (HCP) and Natural Community Conservation Plans. The HCP process has authority under Section 10(a)(1)(B) of the Federal Endangered Species Act, and the Natural Community Conservation Planning (NCCP) program is authorized by the Natural Community Conservation Planning Act of 1991, codified as Chapter 10, Division 3, of the California Fish and Game Code (2800 et. seq.). Often, an HCP and NCCP are prepared jointly for covered activities in a particular region. NCCP efforts take a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. Thus, an HCP/NCCP can identify and provide for the regional protection of plants, animals, and their habitats, while allowing compatible and appropriate economic activity. Some HCPs/NCCPs analyze potential future impacts within a single county or can instead perform an analysis of multiple counties. The Central Valley has several such plans in operation or under development. Of these, DWR is currently participating in the multi-county *Bay-Delta Conservation Plan*, which is still in development. The challenges for using these plans for flood project mitigation needs include their incomplete coverage for the Central Valley, and the relatively long time frames (several years of negotiations) for completion.

RAMP can be integrated with and add benefits to conservation planning efforts such as HCPs/NCCPs, which are also attempting to address impacts in advance. Early engagement is already taking place with these planning efforts to identify areas where advance mitigation for impacts could contribute to the plans' goals and provide opportunities for cost sharing or

strategic leveraging of resources. Thus, early engagement should result in larger, more sustainable conservation. DWR and its current partners (see text box on page 2-3) in RAMP are evaluating potential opportunities to work with existing conservation plans to provide mitigation for infrastructure activities, and are exploring development of additional HCPs/NCCPs where none exist. Development or participation in HCPs/NCCPs gives permitting coverage to DWR for action involving the take of federal- or State-listed species. Some HCP/NCCP structures may provide local governance (such as a Joint Power Authority) for managing conservation areas, and allow DWR or its partners to be free of financial obligations relating to the success of any sites developed.

One mitigation approach that future RAMP documents will describe and review for feasibility is the prepurchase of mitigation credits held by private commercial mitigation and conservation banks. Such purchases should increase price predictability, which in turn gives infrastructure project budgets more certainty. Private commercial banks offer mitigation credits from a parcel of land that has been protected and has been rigorously reviewed by the regulatory agencies. Each credit is sold for a fixed price that covers the commercial banker's business expenses to date and allows them a profit. Regulatory agencies have approved and suggested purchases at banks when they are suitable in comparison to other mitigation approaches (after all avoidance and minimization measures have taken place). An advantage to DWR and Caltrans in purchasing credits from certified banks is that it allows the agency to release all further liabilities related to the success of the mitigation site. However, the credits can be more expensive than permittee-responsible (or on site) mitigation and have, on occasion, become a burden on a project's budget. In addition, while the coverage of private commercial banks is ever expanding, gaps exist in the Central Valley, and in some cases appropriate credits are not available for flood management projects. During the development of geographically specific plans (e.g., Regional Assessments), RAMP participants will review options to establish mutually beneficial arrangements with private commercial bankers. At this time there has not been sufficient outreach and discussion to solidify any arrangements.

Beyond private commercial banks, State agencies have established mitigation banks on State-owned lands (these are not commercial banks and are termed "single purpose" banks). For example, Caltrans has created banks that satisfy the mitigation needs of several transportation projects over several years; however, these banks currently do not meet DWR's needs for mitigating future flood activities because DWR is not a participant in any of the banks. RAMP will identify methods to create more State-owned mitigation banks, particularly banks that can be shared among more than one infrastructure agency. By leveraging mitigation funds for

multiple projects and directing mitigation to locations that meet conservation priorities, larger landscapes will be protected, rather than isolated islands of mitigation, furthering habitat connectivity, ecosystem function, and climate change adaptation.

One of the benefits of the RAMP effort has been to change the dynamics of building infrastructure from a negotiation-based process to a more collaborative process. Agencies and stakeholders are sharing ideas, goals, and methods with the RAMP Work Group (see text box on page 2-3). The RAMP Work Group in turn is using these ideas to reach the larger goal of mitigation that is faster, less expensive, and more effective than the status quo. The RAMP initiative does not replace any agency functions, programs, or interagency groups, such as the Interagency Flood Management Collaborative Program Management Group.

Since the RAMP effort was launched 4 years ago, much has been accomplished (see Table 2-1):

- State and federal agencies signed a Memorandum of Understanding (see text box on page 2-3) in 2009 committing to design a framework or program that would implement a RAMP and to participate in a pilot project, and they have been meeting regularly to work on the issues.
- Documents are being prepared that outline the RAMP goals and create a policy and financial framework for how a program could work, based on the pilot project, policy research, and other models.
- Legislation was introduced to establish RAMP in the State (but has yet to pass).

**Table 2-1. RAMP Timeline (Past, Present, and Future)**

2008	<ul style="list-style-type: none"> <li>• Data gathered on DWR and Caltrans projects that potentially have impacts (demand analysis)</li> <li>• Pilot area identification process began and initial pilot area identified (CSV)</li> </ul>
2009	<ul style="list-style-type: none"> <li>• MOU signed between agencies (see text box on page 2-3)</li> <li>• Marxan analysis developed (a conservation planning tool) to find suitable mitigation sites in pilot area</li> <li>• “Advance mitigation” legislation developed by The Nature Conservancy</li> </ul>
Q1 2010	<ul style="list-style-type: none"> <li>• Next steps in RAMP discussed, including how to secure funding, create a governance structure, further define the “pilot area,” and document RAMP as a program</li> <li>• Work began on a “Policy Paper” that described RAMP as a program and the obstacles to implementation</li> </ul>
Q2 2010	<ul style="list-style-type: none"> <li>• Contract signed with private consultants to develop three documents for RAMP (Statewide Framework, Regional Assessment (for the pilot area), and RAMP Manual) (DWR)</li> <li>• Contract signed with UC Davis for a Central Valley-wide analysis for suitable mitigation and also a wildlife corridor analysis (DWR)</li> <li>• Contract signed with UC Davis to include more transportation plans into “demand” analysis and perform an optimization analysis with results (Caltrans)</li> </ul>
Q3 2010	<ul style="list-style-type: none"> <li>• Efforts began to capture federal funds through SAMI (Caltrans)</li> </ul>
Q4 2010	<ul style="list-style-type: none"> <li>• Statewide Framework chapters developed by core group</li> <li>• Outreach occurred to Strategic Growth Council and also to other infrastructure agencies</li> </ul>
Q1 2011	<ul style="list-style-type: none"> <li>• Statewide Framework reviewed by geographic-specific staff of the signatory agencies to the MOU (DFG, DWR, Caltrans, etc.) <ul style="list-style-type: none"> <li>– Caltrans met with MPOs and local transportation entities</li> <li>– DWR met with Regional Office staff and Regional Coordinators</li> <li>– DFG, USACE, and USFWS received feedback from Regional Office staff</li> </ul> </li> </ul>
Q2 2011	<ul style="list-style-type: none"> <li>• Meetings began on CSV Regional Assessment (Pilot Project) with signatory agencies</li> <li>• Formal engagement occurred on CSV Regional Assessment with nonsignatories to the MOU (see text box on page 2-3)</li> </ul>
Q3 2011	<ul style="list-style-type: none"> <li>• Formally engage on Statewide Framework with nonsignatories to MOU (see text box on page 2-3)</li> </ul>
Q4 2011	<ul style="list-style-type: none"> <li>• Publish internal draft of the CSV Regional Assessment</li> <li>• Estimate costs for creating Action Plans and related documentation</li> <li>• Write MOU and/or Interagency Agreements to divide planning costs among interested parties (at a minimum between DWR and Caltrans and possibly other agencies that are not on the Statewide MOU but have local infrastructure projects)</li> <li>• Write Action Plan based on Regional Assessment</li> <li>• Create appropriate CEQA documentation and decide on State-preferred alternative for implementation based on Action Plan</li> <li>• Begin work on “Actions Needed” from Statewide Framework (e.g., make changes to agency policy, propose new funding structures)</li> </ul>

**Table 2-1. RAMP Timeline (Past, Present, and Future) (contd.)**

2012	<ul style="list-style-type: none"> <li>• DWR to submit BCP for first mitigation approach identified in Action Plan (will get \$ in FY 13/14)</li> <li>• Caltrans to secure SAMI funding or write a BCP for first mitigation approach</li> <li>• Begin any negotiations on land (DWR has an 18-month timeline)</li> <li>• Begin any negotiations with regional plan partners under Natural Community Conservation Planning efforts or Habitat Conservation Plans</li> <li>• Begin any negotiations with private commercial mitigation bankers</li> <li>• Publish Statewide Framework, Regional Assessment, and RAMP Manual with lessons learned</li> </ul>
2013	<ul style="list-style-type: none"> <li>• Complete purchase of land and begin permitting work</li> </ul>
2014	<ul style="list-style-type: none"> <li>• Second Regional Assessment for new portion of the State</li> </ul>

Key:

- BCP = Budget Change Proposal
- Caltrans = California Department of Transportation
- CEQA = California Environmental Quality Act
- CSV = Central Sacramento Valley (the pilot area's given name)
- DFG = California Department of Fish and Game
- DWR = California Department of Water Resources
- FY = fiscal year
- MOU = memorandum of understanding
- MPO = Metropolitan Planning Organization, a legally defined entity that is tasked with transportation planning
- Q = Quarter
- RAMP = regional advance mitigation planning
- SAMI = Statewide Advance Mitigation Initiative being performed by Caltrans
- State = State of California
- UC Davis = University of California, Davis
- USACE = U.S. Army Corps of Engineers
- USFWS = U.S. Fish and Wildlife Service

The RAMP Work Group is currently developing a Statewide Framework document intended to convey to lawmakers and agency leaders the goals, benefits, and operational framework of a statewide RAMP initiative. The internal draft of the Statewide Framework has been completed, and a widely circulated version will be available in fall 2012. Outreach related to this document will be directed toward agency staff as well as several outside organizations (e.g., county staff, land trust organizations, nonprofits). The Statewide Framework will have a companion document, the RAMP Manual, which will serve as a comprehensive guidance document for planning and implementing regional advance mitigation throughout California. The manual will be developed to an internal draft in early 2012, and a circulating draft in fall 2012. Development of the RAMP Manual will draw from lessons learned during testing of the RAMP concept through a pilot project. The pilot project will include preparation of the first Regional Assessment (planned completion in spring 2012), which will provide the strategy for implementing advance mitigation in the pilot project region.

The RAMP Work Group has selected a region in the central Sacramento Valley (along the main-stem Sacramento River from approximately the Tehama County line south to Verona and along the Feather River and its tributaries to the east) for the pilot project (Figure 2-4). Outreach to DWR's Regional Offices and Regional Coordinators is in progress. Caltrans, DFG, and USFWS will perform similar outreach with their local offices. Outreach external to DWR, Caltrans, and the RAMP Work Group will take place in spring 2012. In fall 2012, an open forum will be held for nonprofits, county staff, private mitigation bankers, and other potentially affected parties to learn about RAMP, and to provide information on problems and opportunities within the region.

Working together, natural resource and infrastructure agencies can estimate mitigation needs early in the projects' timelines, avoiding delays from permitting and regulatory negotiations and gaining more value for public mitigation dollars by securing and conserving valuable natural resources on a more economically efficient scale. Having advance mitigation sites in strategic locations throughout the State should speed approvals when DWR seeks a decision on jeopardy of endangered species, expects impacts that result in the fill of wetlands, or expects disturbance to streambeds and/or their banks.

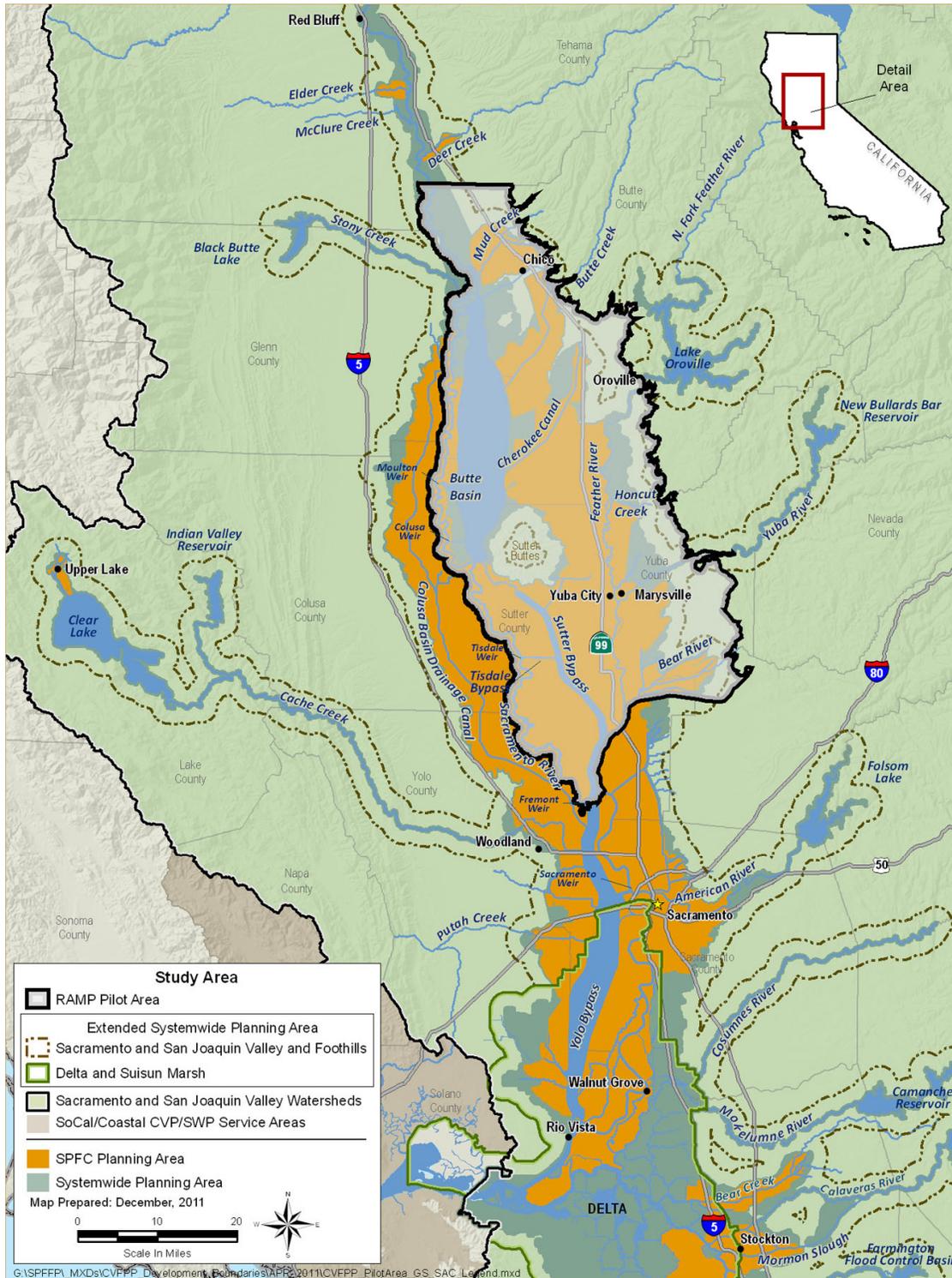


Figure 2-4. RAMP Pilot Area – June 2011

The RAMP Work Group (see text box on page 2-3) has identified numerous benefits that could result from implementing a RAMP program:

- Lower mitigation costs and simplified permitting for the infrastructure funding agency when offsite compensatory mitigation is required
- Fewer permitting or regulatory delays resulting from the need to find mitigation solutions
- Greater ecological and financial predictability
- Mitigation site planning, management, and monitoring efficiencies
- The ability to focus on large-scale conservation to benefit sensitive species through higher quality habitat, improved connectivity between habitat areas, and better long-term protection
- The ability to leverage and assist ongoing conservation efforts taking place at the local and state level
- Greater “co-benefits” to the environment and community, including cleaner water and air, open space and recreational opportunities, and improved public health

Where offsite mitigation is needed, RAMP potentially provides greater ecological and financial predictability and can better align project mitigation with regional conservation priorities. If cost savings are realized via RAMP, it could allow infrastructure bond funding to be used for even more flood protection measures and transportation projects, and result in a higher level of protection for State resources. More information about RAMP is available at <https://rampcalifornia.water.ca.gov>.

# 3.0 Acronyms and Abbreviations

- Board ..... Central Valley Flood Protection Board
- Caltrans..... California Department of Transportation
- Conservation Strategy ..... Central Valley Flood System Conservation Strategy
- CVFPP ..... Central Valley Flood Protection Plan
- DFG ..... Department of Fish and Game
- DWR ..... California Department of Water Resources
- HCP ..... Habitat Conservation Plan
- NCCP ..... Natural Community Conservation Planning
- RAMP..... regional advance mitigation planning
- SPFC ..... State Plan of Flood Control
- State..... State of California
- USACE..... U.S. Army Corps of Engineers
- USFWS ..... U.S. Fish and Wildlife Service

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