3.2 Federal Agency Comments and Responses

F_NMFS1

	Commentor	Commentor Agency	Contact Email	Document	Chapter/ Section	Page No.	Comment
F_NMFS1-01	Julie Wolford	NOAA's National Marine Fisheries Service (NMFS)	Julie.Wolford@noaa.gov	2012 Public Draft CVFPP	4.2	4-14	The Life Cycle Management (LCM) strategy helps to protect large woody vegetation on levee systems only for the near future. In the distant future this strategy will result in a loss of riparian habitat on Central Valley levee systems. The LCM strategy will ultimately result in a huge reduction of shaded riverine aquatic habitat (SRA) as the major source of recruitment will be removed and will also result in a disruption of the food web productivity and result in a decrease of invertebrates available for listed fish.
F_NMFS1-02					4.3	4-16	It is stated, "As the SSIA is implemented, some features of the SPFC may prove to be obsolete and slated for removal, while other features may be added".
F_NMFS1-03					4.4.5	4-26	It is stated, one of the programs actions will be to isolate, stabilize or remove mercury and other heavy metals, polychlorinated biphenyles, and other long-lasting ecosystem contaminants.
F_NMFS1-04					4.4.6	4-27	It is stated, "The 2017 CVFPP update will be prepared in close coordination with USACE."
F_NMFS1-05					4.5	4-28	There are mentions of an emergency response exercise with environmental resource and regulatory agencies
F_NMFS1-06					4.5.2	4-32	It's stated that continued engagement with partners and stakeholders will occur
F_NMFS1-07					4.6.1	4-33	Table 4-1, summarizes costs to implement various elements of the SSIA
F_NMFS1-08					4.6.1	4-34	Table 4-2, SSIA Cost Estimates by Region
F_NMFS1-09					4.7.2	4-39	Table 4-3, SSIA Range of Investments Over Time
F_NMFS1-10	Kenneth Cumming	NMFS	Kenneth.Cumming@noaa.gov	2012 Public Draft CVFPP	1.1		DWR needs to give value to Environmental Safety as it does for human safety. After all, humans can't live without the environment, but the environment can live without humans. There is a lack of seriousness about the necessity of ensuring the continued well-being of this critical human support system. This document treats the environment as an after thought, when it is every bit as valuable as an asset as the people and their properties. More space and thought should be given to developing an economic assessment of the worth of environmental units such as one juvenile salmon or an acre of tule marsh. As long as we ignore the intrinsic worth of the biota and their habitat, we will never measure the real worth of our repairs and restorations.
F_NMFS1-11					1.3		Is there a measure of the buildup of sediment in the Sacramento Basin over time since the gold mining began? What is the present accrual of sediment since these operations have stopped?
F_NMFS1-12					1.4		The sideboard note is vague as a definition. How about an example?
F_NMFS1-13					1.7		This quote needs a citation.
F_NMFS1-14					1.7		Figure 1-6 should be located closer to the text reference in 1.3 line 8.
F_NMFS1-15					1.6.2		Expand the primary goal to include "environmental" safety as in 1 above.
F_NMFS1-16					1.6.3		Typo in par. 1 line 1 "for"
F_NMFS1-17					2.2		On page 2-3 par. 2 line 1, "To effectively evaluate" is a split infinitive. This use is also found in several other places in the text.
F_NMFS1-18					2.6.1		Typo on page 2-16 in par. 1 line 8.

F_NMFS1-19					3.6.1		Close up the end of the sentence in par.1 on page 3-19 line 8.
F_NMFS1-20					4.2		The last par. On page 4-15 needs clarification for riparian forest corridors. What are these?
F_NMFS1-21					4.4.1		Where are the FPZ items on page 4-21?
F_NMFS1-22					4.5		Typo on page 4-28 under "Floodplain Management" lines 3,4
F_NMFS1-23	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	Attachement 2: Conservation Framework	1.2	1-7	It is stated, "environmental stewardship can reduce flood project regulatory delays, lower long-term operation and repair costs, provide greater public benefits, and strengthen public support."
F_NMFS1-24					2.2.3	2-12	In the second paragraph, changes to aquatic habitat are discussed.
F_NMFS1-25					2.2.3	2-15	Table 2-3: Representative Sensitive Wildlife Species of Riverine, Wildland....
F_NMFS1-26					2.4.4	2-23	More should be added to the discussion of impacts from invasive species.
	Kenneth Cumming	NMFS	Kenneth.Cumming@noaa.gov	Attachement 2: Conservation Framework			General Comments
F_NMFS1-27							There is a need for framing the various agency authorities, jurisdictions, and an arbitration service to settle agency concerns as they arise.
F_NMFS1-28							Mitigation Banks need more explanation in the text.
F_NMFS1-29							There doesn't seem to be a discussion of enforcement actions and their operation.
F_NMFS1-30							A number of the topics are incompletely described and should have concept teams assigned to explore the topic development.
F_NMFS1-31							The protocol for setting up partnerships and valuing their productivity should be explored.
F_NMFS1-32							With the sequential development of higher levels of permits (site, reach, corridor, region etc.), there is a need to examine how they will be enforced.
F_NMFS1-33							There is a need for a schematic of agency relationships, especially as they deal with different levels of authority and decision making (IWG, Collaborative, Advisory Commission).
F_NMFS1-34							With the proliferation of documents, there is a need for a centralized repository and method of access.
F_NMFS1-35							There should be more discussion on the role and control of encroachments (agriculture, treated water, housing, invasive plants and animals).
F_NMFS1-36							Possibly there ought to be a guideline for engagement civility.
F_NMFS1-37							Specific Comments
F_NMFS1-38						4-14	Add fish screens on diversion structures.
F_NMFS1-39						5-11	Develop and present pallet information suitable plants and trees for the lower waterside slope.
F_NMFS1-40						5-19	Discuss how research on Best Management Practices would be carried out.
F_NMFS1-41						5-28	Include fish species in the list.

National Marine Fisheries Service

Response

F_NMFS1-01

As stated in Master Response 16, although it is true that implementing the LCM approach will result in the gradual loss of important terrestrial and upper waterside riparian habitat throughout the SPFC levee system, the CVFPP's VMS includes the early establishment of riparian forest corridors that are expected to result in a net gain of this habitat over time. These riparian forest corridors will be established adjacent to existing and new levees such that riparian corridor functions and wildlife habitat will be maintained or improved for the system as a whole. This approach will allow replacement habitat to develop and mature over time, while existing trees within the vegetation management zone are allowed to live out their normal life cycles on the levee slopes.

Levee vegetation subject to removal through LCM will be quantified using the best available information. Specific rates and species types for replanting and other details of implementation of LCM will be determined through collaboration with the appropriate agencies as part of the long-term Conservation Strategy. Appropriate compensation and/or mitigation for the loss of habitat will also be addressed, in consultation with the resource agencies, as the Conservation Strategy is developed.

The CVFPP's VMS is an adaptive approach, and ongoing and future research will include evaluating effects on riparian ecosystem functions from eliminating natural recruitment under LCM. This research may include a monitoring program to determine whether LCM affects species composition and recruitment, and the survival of lower waterside vegetation.

Also, the vegetation loss under the LCM strategy generally will occur passively, over a period of decades. The State is assuming that LCM will be a necessary, and generally sufficient, condition for USACE to issue a regional vegetation variance that will allow most waterside vegetation to be retained. If this assumption proves incorrect and an adequate vegetation variance is not forthcoming from USACE, the appropriateness of the LCM strategy could be reevaluated. Generally, the effects of applying the LCM strategy in the near term, while a vegetation variance is being pursued, should be fully reversible if the strategy is modified or eliminated at a later date.

Several sections of the CVFPP DPEIR include specific evaluations of the potential environmental effects of the VMS and LCM, while others, such as

the discussions of air quality and climate change and GHG emissions, incorporate implementation of the VMS into their overall assessment of program effects.

For additional details, see Master Response 16.

F_NMFS1-02

At this time, none of the features listed in the CVFPP as proposed for removal from the SPFC are included as mitigation components in the DPEIR. If additional SPFC facilities are identified for removal in the future, the potential environmental effects of their removal will be addressed further, if needed, in a project-level CEQA document, as applicable. The comment is noted.

F_NMFS1-03

As stated in Master Response 14, the CVFPP is a conceptual plan for flood system improvements, and additional post-adoption work is needed to refine its individual elements. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies, completion of project-level proposals and environmental compliance, development of the Conservation Strategy, and State and USACE permitting. Appropriate methods and techniques to address contaminants within the flood management system will be identified as part of site-specific studies. The comment is noted.

F_NMFS1-04

As stated in Master Response 14, DWR and the Board are the State lead agencies for implementing the CVFPP and preparing the 5-year CVFPP updates, and will engage agencies, interest groups, stakeholders, and the public in post-adoption activities. Specific to the VMS, DWR intends to coordinate with State and federal resource agencies, including USACE, in implementing the VMS. For additional details, see Master Response 16.

F_NMFS1-05

The CVFPP recognizes emergency preparedness and response as an important aspect of managing residual flood risks. DWR regularly conducts and participates in emergency response exercises and training activities, and appreciates concerns related to the potential effects of floodfighting and other emergency response activities on the environment. DWR has coordinated with NMFS and other resource agencies on its efforts to enhance environmental integration in emergency response activities, including training activities. DWR's Hydrology and Flood Operations Office works continuously and closely with many local agencies on flood preparedness. DWR has initiated work with local and federal agencies to

improve flood emergency preparedness and response throughout California. An important component of the flood emergency preparedness and response is the Local Flood Emergency Preparedness and Response Programs. The purpose of these grant program is to provide funding (Proposition 84, 2006) for local emergency responders to work with the DWR to improve local flood emergency preparedness and response. Under this grant program, DWR will provide financial assistance through a grant agreement with participating agencies, so that local agencies have a robust flood emergency plan in place, with adequate flood preparedness and response capacity and resources. However, DWR has not prepared a specific emergency response plan or guidance document related to this comment.

F_NMFS1-06

Coordination with resource and regulatory agencies will occur, as appropriate, as part of the various post-adoption implementation activities described in Master Response 14. The specific text change to the CVFPP has been considered and is noted; however, no change to the CVFPP text was made. For additional details, see Master Response 14.

F_NMFS1-07

Environmental restoration is integrated into the regional and system improvements of the CVFPP, and is embedded in the preliminary, planning-level cost estimates presented in the CVFPP. See Appendix A in CVFPP Attachment 8J, “Cost Estimates,” for additional information on cost assumptions. The comment has been considered and is noted; however, no change to the CVFPP was made.

F_NMFS1-08

A map of the nine CVFPP implementation regions is included as Figure 4-3 of the CVFPP. The comment has been considered and is noted; however, no change to the CVFPP was made.

F_NMFS1-09

See response to comment F_NMFS1-07.

F_NMFS1-10

As stated in Master Response 19, the California Central Valley Flood Protection Act of 2008 (SB 5) defined multiple objectives for the CVFPP, codified in CWC Section 9616, to be achieved wherever feasible. Goals for the CVFPP were collaboratively drafted by DWR, its partners (the Board and USACE), and interested parties through an extensive communications and engagement process, capturing the guidance and objectives provided

by CWC Section 9616. As a result of this process, one primary goal and four supporting CVFPP goals (described below) were established and provided guidance in forming specific CVFPP policies and physical elements.

The primary goal of the CVFPP is:

- *Improve Flood Risk Management*—Reduce the chance of flooding and damages, once flooding occurs, and improve public safety, preparedness, and emergency response through the following:

  – Identifying, recommending, and implementing structural and nonstructural projects and actions that benefit lands currently receiving protection from facilities of the SPFC

  – Formulating standards, criteria, and guidelines to facilitate implementation of structural and nonstructural actions for protecting urban areas and other lands of the Sacramento and San Joaquin river basins and the Delta

Two of the secondary goals of the CVFPP are to:

- *Promote Ecosystem Functions*—Integrate the recovery and restoration of key physical processes, self-sustaining ecological functions, native habitats, and species into flood management system improvements.

- *Promote Multi-Benefit Projects*—Describe flood management projects and actions that also contribute to broader integrated water management objectives identified through other programs.

For additional information on CVFPP goals and DPEIR objectives, see Master Responses 8 and 19, respectively. The CVFPP describes the integration of ecosystem restoration into all regional and system flood management improvements in the SSIA; this integration is further described in Appendix E in CVFPP Attachment 2, "Conservation Framework." The Central Valley Flood System Conservation Strategy, anticipated 2017, will build on the Conservation Framework to describe ecosystem restoration associated with the flood management system in greater detail.

The commenter recommends developing an economic assessment of the worth of environmental units. Such an analysis is beyond the scope of the CVFPP and is not required under CEQA. This comment has been considered and is noted; however, no change to the CVFPP was made.

F_NMFS1-11

Analysis of historical sedimentation in the Sacramento River Basin was not conducted as part of development of the 2012 CVFPP. Geomorphologic evaluations may be conducted as part of post-adoption implementation activities, as appropriate, to support efforts such as basin-wide feasibility studies, the Central Valley Flood System Conservation Strategy, and site-specific improvement projects.

F_NMFS1-12

The recommendation for an example has been considered and is noted; however, because the comment was not specific about which text box and which example should be added, no change to the CVFPP text was made.

F_NMFS1-13

The referenced section does not appear in the draft CVFPP.

F_NMFS1-14

Although Figure 1-6 is located four pages after the referring text, it is placed as close as practicable because two other figures and a table are referenced previously on the same page.

F_NMFS1-15

See response to comment F_NMFS1-10. The recommendation to revise the primary goal is noted; however, no change to the CVFPP text was made.

F_NMFS1-16

The typographical error in the CVFPP noted in this comment has been corrected as shown in Appendix B, “Central Valley Flood Protection Plan Errata.”

F_NMFS1-17

The use of a split infinitive has been considered and is noted; however, no change to the CVFPP text was made. Most modern English usage guides have dropped the objection to the split infinitive.

F_NMFS1-18

The typographical error in the CVFPP noted in this comment has been corrected as shown in Appendix B, “Central Valley Flood Protection Plan Errata.”

F_NMFS1-19

The typographical error in the CVFPP noted in this comment has been corrected as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_NMFS1-20

The specific text clarification has been considered and is noted; however, no change to the CVFPP text was made. Although "riparian corridor" is not defined in the text of the CVFPP, Attachment 4, "Glossary," includes the following definition for "riparian area":

> Riparian areas are transitional between terrestrial and aquatic ecosystems and are distinguished by gradients in biophysical conditions, ecological processes, and biota. They are areas through which surface and subsurface hydrology connect water bodies with their adjacent uplands. Riparian areas include portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems (i.e., a zone of influence). Riparian areas are adjacent to perennial, intermittent, and ephemeral streams, lakes, and estuarine-marine shorelines.

"Riparian corridor" is meant to refer to a strip of riparian area, often connecting two or more larger habitat areas, through which organisms may travel over time.

F_NMFS1-21

The title of CVFPP Figure 4-3 has been revised as shown in Appendix B, "Central Valley Flood Protection Plan Errata." The flood protection zones were used to delineate the CVFPP implementation regions; no change to the map will be made.

F_NMFS1-22

The typographical error in the CVFPP noted in this comment has been corrected as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_NMFS1-23

The comment has been considered and is noted; however, no change to the CVFPP text was made. As stated, "providing greater public benefits" broadly captures the commenter's suggested text.

F_NMFS1-24

The comment has been considered and is noted; however, no change to the text was made. The beneficial functions of floodplains are described in various sections of CVFPP Attachment 2, "Conservation Framework."

F_NMFS1-25

The listing status of delta smelt has been corrected in CVFPP Volume I as shown in Appendix B, "Central Valley Flood Protection Plan Errata." The correction reflects both the federal and California listing statuses of delta smelt (federally listed as threatened and California listed as endangered).

F_NMFS1-26

The commenter does not provide any additional text to be considered in the discussion of impacts from invasive species. The specific text change has been considered and is noted; however, no change to the text was made.

F_NMFS1-27

As discussed in Master Response 14, DWR is collaborating with an Interagency Advisory Committee (DWR, DFG, USFWS, NMFS, and USACE) on development of a long-term Conservation Strategy. The Conservation Strategy will build on the Conservation Framework developed for the 2012 CVFPP, and will provide a comprehensive approach for the State to (1) achieve the environmental goals and objectives of the Central Valley Flood Protection Act of 2008 (SB 5), FloodSAFE, and the CVFPP; and (2) implement DWR's environmental stewardship policy within the flood management system. The Conservation Strategy will integrate measures to mitigate potential impacts on environmental resources resulting from improvements to the SPFC, along with other ecosystem restoration activities implemented within the SFPC footprint.

Development of the Conservation Strategy will continue in close coordination with, and will support development of, 5-year updates to the CVFPP. This collaborative development provides environmental planning, policy, and technical support to develop public outreach and engagement; to identify opportunities to solve flooding problems with environmental approaches; and to provide a solid scientific foundation for improving environmental conditions and trends. The Conservation Strategy will be developed through engagement with the Board, partnering agencies, and environmental, recreational, agricultural, and other interests.

The Interagency Advisory Committee is intended to continue as the forum to engage with State and federal natural resource and regulatory agencies. At this time, DWR does not intend to engage an arbitration service.

F_NMFS1-28

As discussed in CVFPP Attachment 2, "Conservation Framework," RAMP has been in preparation by a multiagency work group since 2008. RAMP is focused on developing mitigation processes that integrate project-specific mitigation with regional and statewide conservation priorities, and that offset unavoidable impacts of planned infrastructure projects before the prospects are constructed. To develop advance mitigation in the SPA, the State would work with regulatory agencies to estimate the range of mitigation needs early in the timelines of multiple projects. This process minimizes permitting and regulatory delays and reduces mitigation costs by securing and conserving valuable natural resources at an economically efficient scale and before potential mitigation lands are converted to incompatible land uses. Having RAMP-sponsored mitigation sites in strategic locations throughout the SPA could speed approvals for the State's infrastructure agencies when the agencies seek permits for "take" of endangered species, fill of wetlands, or disturbance to streambeds and their banks. Adopting a strategic, forward-looking, and regional approach, in which natural resources agencies are encouraged to identify mitigation needs early, can provide a vehicle for identifying solutions that address conservation priorities in ways that are coordinated and take into account agricultural communities and land uses.

RAMP will continue to be refined as part of the development of the Conservation Strategy. Additional details about RAMP can be found in Attachment 9A, "Regional Advance Mitigation Planning," of Appendix A "Central Valley Flood Protection Plan" and at the RAMP Work Group Web site, https://rampcalifornia.water.ca.gov (2011b). Additional explanation in the text on mitigation banks is not deemed necessary, and no change to the CVFPP was made.

F_NMFS1-29

The commenter provides no specific context or areas where enforcement actions and operations should be discussed. Development of a long-term Conservation Strategy is discussed in response to comment F_NMFS1-27. The comment has been considered and is noted; however, no change to the CVFPP was made.

F_NMFS1-30

The commenter provides no specific documentation of which topics are incompletely described. Development of a long-term Conservation Strategy is discussed in response to comment F_NMFS1-27. The comment has been considered and is noted; however, no change to the CVFPP was made.

F_NMFS1-31

As discussed in Master Response 14, anticipated post-adoption activities include development of the Conservation Strategy, and completion of project-level proposals and environmental compliance. Projects will likely have unique partnerships, valuations of the productivity of those partnerships, and implementation. Development of a long-term Conservation Strategy is discussed in response to comment F_NMFS1-27. The comment has been considered and is noted; however, no change to the CVFPP was made.

F_NMFS1-32

As discussed in Master Response 14, anticipated post-adoption activities include development of the Conservation Strategy, and completion of project-level proposals and environmental compliance. Projects will have unique aspects to their permitting and regulatory requirements; therefore, additional information is necessary at the project level to examine enforcement issues, as necessary. Development of a long-term Conservation Strategy is discussed in response to comment F_NMFS1-27. The comment has been considered and is noted; however, no change to the CVFPP was made.

F_NMFS1-33

At this time, DWR does not intend to develop a schematic of agency relationships as they relate to the Conservation Strategy. As discussed in Master Response 14, anticipated post-adoption activities include development of the Conservation Strategy, and completion of project-level proposals and environmental compliance. Projects will likely have unique agency relationships with differing levels of authority and decision making protocols.

The Conservation Strategy will be developed through engagement with the Board, partnering agencies, and environmental, recreational, agricultural, and other interests. For additional information about development of a long-term Conservation Strategy, see response to comment F_NMFS1-27.

F_NMFS1-34

A file-sharing site is in development for members of the Interagency Advisory Committee.

F_NMFS1-35

The comment does not provide sufficient information about the referenced “encroachments” or identify specific insufficiencies in the text. The comment is noted, but no changes to the document are made.

Supporting documents to the Conservation Framework included in Appendix E document key stressors that have contributed to historical ecosystem decline. For example, Attachment 9B, "Status and Trends of the Riparian and Riverine Ecosystems of the Systemwide Planning Area," in Appendix A, "Central Valley Flood Protection Plan," focuses on describing key relationships among the Sacramento Valley's and San Joaquin Valley's river flows, geomorphic processes, and ecosystem responses that are relevant to understanding how these ecosystems function and how key stressors have modified these ecosystems historically and continue to modify them today. It also identifies key data gaps regarding stressors and current status and trends.

Encroachments, in relation to the potential for programmatic permitting and the Board's existing authority, are described in CVFPP Attachment 9G, "Regional Permitting Options."

F_NMFS1-36

Work groups and subcommittees involved in the development of the 2012 CVFPP operated from charters that included protocols and standing ground rules for participant conduct during meetings. Similar protocols and ground rules may be used in development of the Conservation Strategy.

F_NMFS1-37

The comment does not contain enough information to allow for a response. The comment is noted.

F_NMFS1-38

The addition of fish screens on diversion structures has been considered and is noted; however, no change to the Conservation Framework text was made.

F_NMFS1-39

The request to develop and present information about suitable plants and trees for the lower waterside slope has been considered and is noted; however, no change to the CVFPP text was made.

As stated in Master Response 14, DWR is collaborating with an interagency advisory committee (DWR, DFG, USFWS, NMFS, and USACE) on development of a long-term Conservation Strategy. The Conservation Strategy will build on the Conservation Framework developed for the 2012 CVFPP, and will provide a comprehensive approach for the State to (1) achieve the environmental goals and objectives of the Central Valley Flood Protection Act of 2008 (SB 5), FloodSAFE, and the CVFPP; and (2) implement DWR's environmental

stewardship policy within the flood management system. The Conservation Strategy will integrate measures to mitigate potential impacts on environmental resources resulting from improvements to the SPFC, along with other ecosystem restoration activities implemented within the SFPC footprint.

For additional details, see Master Response 14.

F_NMFS1-40

BMPs are not discussed in Section 5 of the Conservation Framework; no change to the Conservation Framework text was made.

F_NMFS1-41

The species on the list were only intended to be examples; the list is not exhaustive. Fish species will be in the list included in the Conservation Strategy. The addition of fish species to the list has been considered and is noted; however, no change to the Conservation Framework text was made.

F_NMFS2

	Commentor	Commentor Agency	Contact Email	Document	Chapter/ Section	Page No.	Comment	Proposed Modification
F_NMFS2-01	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	Draft Programmatic Environmental Impact Report (DPEIR)	3.5	3.5-1	The Biological Resources - Aquatic section seems to be limited on the discussion of delta smelt. This is concerning due to the fact that they are in the Sacramento River. More discussion should be included regarding the potential affects to this state listed endangered fish species.	
F_NMFS2-02	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-3	It is stated, "the Sacramento River is one of California's largest and most important aquatic ecosystems". Furthermore, it should be stated that the Sacramento River is California's largest river system.	
F_NMFS2-03	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-5	It is stated, "Setback levees exist along portions of the river upstream from Colusa, but leeves become much narrower along the river's edge as the river continues south to the Delta". This statement is not entirely true as levees do not become "narrower" instead, levees are built closer to the river's edge thus creating a more confined channel.	
F_NMFS2-04	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-5	It is stated, "Most of the levees along the lower Sacramento River are lined with riprap, which reduces the ability of the levees to contribute erodible substrate, reduces habitat variability, and nearly eliminates the processes that lead to the development of complex shaded riverine aquatic (SRA) habitat preferred by native species...". Due to the creation of poor habitat conditions it is of great importance that future plans for habitat enhancement be implemented in these reaches of the river. Every avenue for the construction of new setback levees in areas where feasible should be explored.	
F_NMFS2-05	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5, line 15	3.5-5	"Shaded riverine aquatic", has been defined and previously abreviated and should be abbreviated in the rest of this section.	
F_NMFS2-06	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5, line 42	3.5-5	There is no such species as the "Feather River Chinook salmon". Rather, this should be stated as Chinook salmon in the Feather River.	
F_NMFS2-07	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5, line 2	3.5-6	"pools/ponds", the forward slash should be spelled out and replaced with the word "and" instead	
F_NMFS2-08	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-6	The scientific name should be included for green sturgeon.	
F_NMFS2-09	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-6	It should be noted that the Daguerre Point Dam acts as a fish barrier for salmon as well as salmon cannot all pass over the ladder at all times of the year.	
F_NMFS2-10	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-9	It's stated that there are no spawning anadromous salmonids in the San Joaquin River. This is an inaccurate as there are both spawning California Central Valley Steelhead and Fall run Chinook present.	
F_NMFS2-11	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-41	NMFS agrees that implementing the vegetation management strategy (VMS) will result in a gradual reduction of existing riparian habitats. A vegetation variance should be applied for on proposed project sites. This is especially important in the State System Wide Improvement Area (SWIA) as a large percentage of this area is designated as critical habitat and essential fish habitat (EFH) for listed fish species. The eventual die off of levee vegetation without allowing for vegetation recruitment could lead to jeopardizing the future existence of these ESA listed fish species. The VMS would create a situation where all project related actions may not be able to be mitigated for.	
F_NMFS2-12	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-45	More analysis needs to be included regarding negative impacts to fish resulting from the removal of levee riparian forests. For instance, this would include a reduction in the reproductive productivity of invertebrates which is a food source for many fish species, loss of SRA, loss of large woody material (LWM) and debris as a refuge for fish and escapement of fish predators.	
F_NMFS2-13	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-48	It is stated, "it cannot be assured that in all instances fisheries impacts would 8 be mitigated to a less-than-significant level". Further mitigation efforts will be a requirement of the regulatoury agencies to ensure impacts to listed fish species are not at a significant level thus, additional mitigation will need to be conducted.	
F_NMFS2-14	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-58	Scientifically engineered land grading on newly designed floodplains will need to graded allow for proper drainage as floodplains recede in order to prevent fish entrainment.	

F_NMFS2-15	Julie Wolford	NMFS	Julie.Wolford@noaa.gov	DPEIR	3.5	3.5-59	It is stated that, as a result of future operational changes in multiple Central Valley reservoirs, flow patterns could benefit fish in some instances and adversely affect them in other instances. If these operational changes result in adverse effects on listed fish species then this will contradict legislative direction to improve habitat for the future existence of listed species. Legislative direction is given in the CVFP Act of 2008 Water Code Section 9616 (a) (Act) that mandates system improvements to be made in water conveyance practices which will promote natural ecosystem functions. More specifically, "promote natural dynamic hydrologic and geomorphic process as to promote the recovery and stability of native species populations and overall biotic community diversity". Therefore, any changes in water conveyances that will result in redd scouring, change in water temperatures or increases siltation as specified in the DPEIR will not be consistent with the environmental objectives set forth in the Act and is also clearly stated as goals in the CVFPP Conservation Framework.	

National Marine Fisheries Service (F_NMFS2)

Response

F_NMFS2-01

This comment indicates that the discussion of delta smelt in the PDEIR is limited and requests additional discussion of this species, including the potential impacts of the proposed program on delta smelt. The analysis in this PEIR combined all sensitive species of fish together. This approach is valid because the avenues of potential impact are similar for all the various species of fish. Although a project outside the Delta would not have direct impacts on delta smelt, changes in water quality or quantity could affect the species. To clarify the approach that was taken, the text of the DPEIR has been revised as shown in Chapter 4.0, "Errata," of the FPEIR. This edit does not change the analysis or conclusions of the DPEIR.

F_NMFS2-02

The comment requests that the DPEIR recognize the Sacramento River as California's largest river, instead of using the current statement that it is "one of" California's largest rivers. As requested by the commenter, the text of the DPEIR has been revised as shown in Chapter 4.0, "Errata." This edit does not change the analysis or conclusions of the DPEIR.

F_NMFS2-03

The comment indicates that the statement on DPEIR page 3.5-5 that "levees have become much narrower along the river's edge" is not technically correct because levees do not "become narrower"; rather, they are built closer to the river's edge, thus creating a more confined channel. As requested by the commenter, the text of the DPEIR has been revised as shown in Chapter 4.0, "Errata." This edit does not change the analysis or conclusions of the DPEIR.

F_NMFS2-04

The comment indicates that because of poor habitat conditions along the lower Sacramento River created in part by installation of riprap, habitat enhancement and new setback levees are especially important in this area. DWR generally agrees with this statement; however, as noted in DPEIR Chapter 1.0, "Introduction," this PEIR is intended to inform DWR and the Board for future planning and feasibility studies that will allow selection of site-specific actions. Future studies should evaluate conditions, including fish habitat, and make recommendations that meet the guidelines of the CVFPP. This comment does not provide any new information or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts to support the comment. Therefore, it does not result in

new significant environmental impacts or in a substantial increase in the severity of an environmental impact, nor does it create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. For these reasons, no changes to the DPEIR are necessary.

F_NMFS2-05

The comment points to several locations within Section 3.5, "Biological Resources—Aquatic," of the DPEIR where the term "shaded riverine aquatic" habitat was used in addition to the abbreviation "SRA." The abbreviation was defined in Section 3.5 and was also listed in DPEIR Chapter 9.0, "Abbreviations and Acronyms." Therefore, DWR believes that both the term and the abbreviation are clear and no changes to the DPEIR are required.

F_NMFS2-06

The comment states that contrary to what is stated on page 3.5-5 of the DPEIR, the species "Feather River Chinook salmon" does not exist. The text of the DPEIR has been revised as requested by the commenter as shown in Chapter 4.0, "Errata."

F_NMFS2-07

The comment requests that the slash mark between the phrase "pools/ponds" be replaced with the word "and." This is purely an editorial request that has no effect on the meaning or intent of the analysis or the conclusions contained in the DPEIR; no revisions to the text are required.

F_NMFS2-08

The comment indicates that the scientific name for green sturgeon should be included on page 3.5-6. Scientific names are typically provided at first use of the species' common name. In the DPEIR, this occurs on page 3.5-4, not page 3.5-6 as indicated in the comment; however, on page 3.5-4, the first use is not correctly identified. Therefore, the text of the DPEIR has been revised as shown in Chapter 4.0, "Errata." This edit does not change the analysis or conclusions of the DPEIR.

F_NMFS2-09

The comment states that the DPEIR should indicate that Daguerre Point Dam is also a barrier to salmon at some times of year. The text of the DPEIR has been revised as requested by the commenter as shown in Chapter 4.0, "Errata."

F_NMFS2-10

The comment states that fall-run Chinook and steelhead spawn in the San Joaquin River, contrary to what is indicated in the DPEIR. Chinook and steelhead are found in the Merced, Tuolumne, and Stanislaus rivers (SJRRP 2010), the major tributaries to the San Joaquin River (DPEIR, Section 3.5), which means that they must be in the San Joaquin River to migrate to and from these locations. However, readily available current scientific information indicates that there is a population of Chinook or steelhead spawning in the San Joaquin River upstream of the confluence with the Merced River, and no such information was provided with the comment. The text of the DPEIR has been revised to clarify this issue as shown in Chapter 4.0, "Errata." This edit does not change the analysis or conclusions presented in the DPEIR.

F_NMFS2-11

This comment states that NMFS is in agreement with the analysis contained in the DPEIR relating to the VMS. NMFS recommends that a vegetation variance be applied for on the project area. The comment states that if vegetation is allowed to die off without being replaced, it could jeopardize the future existence of ESA-listed species in the project area and create conditions for which no mitigation is possible. The DPEIR concludes that the VMS program would result in potentially significant and unavoidable impacts if implemented as proposed, even after the application of mitigation (Section 3.5, "Biological Resources—Aquatic"). The history of the vegetation variance is presented in Section 2.3.7, "Vegetation Management Strategy and Life-Cycle Management." This comment does not provide any new information or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts to support their comment. It therefore does not result in new significant environmental impacts or in a substantial increase in the severity of an environmental impact, nor does it create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. For these reasons, no changes to the DPEIR are necessary.

F_NMFS2-12

The comment asserts that the analysis needs to include more details of potential impacts on fish from removal in levee riparian forests, specifically invertebrate production, loss of SRA, large woody material, debris, and escape or refuge habitat. Most of these elements are recognized as part of SRA habitat in the DPEIR (Section 3.5, "Biological Resources—Aquatic"). The DPEIR recognizes that the effects of vegetation removal would vary depending on the locations of any specific project (see Section 3.5) and the quality and amount of riparian habitat at that location. The DPEIR

discusses beneficial effects on SRA and associated functions and species that could result from the proposed program (Section 3.5).

As noted in Chapter 1.0, "Introduction," the DPEIR is a program-level document that is intended to inform DWR and the Board in future planning and feasibility studies that will allow selection of site-specific actions. A detailed analysis of changes to those functions discussed in the comment would require site-specific information and project designs that are not appropriate for this level of analysis. Future studies should evaluate conditions, including potential effects on fish habitat, and make recommendations that meet the guidelines of the CVFPP while also minimizing long-term and cumulative adverse affects (see Chapter 4.0, "Cumulative Impacts") on sensitive species and habitats. This comment does not provide any new information or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts. It therefore does not result in new significant environmental impacts or a substantial increase in the severity of an environmental impact, nor does it create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. For these reasons, no changes to the DPEIR are necessary.

F_NMFS2-13

The comment states that because impacts on sensitive species of fish cannot be mitigated to a less-than-significant level, NMFS will have to make additional mitigation efforts to ensure that impacts are reduced to a less-than-significant level. This comment is made in reference to the conclusion for Impact BIO-A-2 (NTMA) in Section 3.5, "Biological Resources—Aquatic," which addresses the impacts of the VMS. The first mitigation measure for this impact requires that all State and federal permits be obtained and that the requirements of those permits be implemented (Mitigation Measure BIO-A-2a (NTMA)). The second mitigation measure requires full compensation for loss and function of riparian habitat altered by the VMS (Mitigation Measure BIO-A-2a (NTMA)). As indicated in Section 3.5 of the DPEIR, these two measures in combination would reduce some of the impacts to less-than-significant levels. As noted in the DPEIR, because of the broad scope of the project area, it is possible that mitigation for site-specific impacts occurs at different locations; this could result in changes in distribution of riparian habitat within the study area and different net effects on different areas, some beneficial and others some adverse (Section 3.5). Further complicating the matter are the possible restrictions on installation of vegetation within the floodway (Section 3.5). Because of these uncertainties as to whether feasible mitigation is available to completely offset the entire scope of possible impacts, the DPEIR concludes that this

impact would be potentially significant and unavoidable. The comment does not suggest a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. Therefore, no changes to the DPEIR are necessary.

F_NMFS2-14

The comment refers to the evaluation of potential stranding of fish on newly accessible floodplains for LTMAs and notes that grading would be required to ensure proper drainage to minimize stranding. Impact BIO-A-6 (NTMA) in Section 3.5, "Biological Resources—Aquatic," contains a detailed discussion of stranding and mitigation, which is referenced in Impact BIO-A-6 (LTMA). Mitigation Measure BIO-A-6 (NTMA) requires that the topographic and hydrologic characteristics of the new floodplain be evaluated and the site be sloped, including recontouring if necessary, toward the main channel or slough so that complete drainage is possible. Mitigation Measure BIO-A-6 (LTMA) requires the implementation of Mitigation Measure BIO-A-6 (NTMA). Therefore, the LTMA impact would be reduced to a less-than-significant level. No changes to the DPEIR are necessary.

F_NMFS2-15

The comment asserts that any changes in operation of reservoirs that could result in an adverse effect on native species of fish would be in direct conflict with the legislative direction, specifically CWC Section 9619(a) and the CVFPP Conservation Framework. The reoperation of the State and federal water project reservoirs within the Central Valley is one of the LTMAs that is proposed in the CVFPP and evaluated in the DPEIR. If this were proposed, detailed operational modeling of the entire system would be required to determine how flows could change, when those changes could occur, and what sort of adjustments would have to be made to minimize adverse effects on sensitive resources. The analysis in Section 3.5 of the DPEIR addresses the concept of reoperation and the potential outcomes. Conclusions about the actual level of impact on sensitive species of fish are speculative at best (as stated in Section 3.5 of the DPEIR) and therefore are not required to be presented in detail. Although the DPEIR does present a range of possible impacts, none are considered actual determinations.

The comment does not provide any new information or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts to support this comment, nor does the comment offer a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. As noted in DPEIR Chapter 1.0, "Introduction," this program-level document is intended to inform DWR and the Board in future planning and feasibility studies that will allow selection of site-

specific actions. Future studies should evaluate conditions, including fish habitat, and make recommendations that meet the guidelines of the CVFPP. For these reasons, no changes to the DPEIR are necessary.

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
650 Capitol Mall, Suite 5-100
Sacramento, CA 95814-4700

APR 2 2012

F_NMFS3

Jay S. Punia, P.E.
Executive Officer
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, California 95821

Dear Mr. Punia:

F_NMFS3-01 This letter is in response to the Central Valley Flood Protection Board's (CVFPB) and California Department of Water Resources' (DWR) release of the 2012 Public Draft Central Valley Flood Protection Plan (CVFPP) and Attachments. As part of the public review process, NOAA's National Marine Fisheries Service (NMFS) is providing comments to be included as part of the record and for consideration by the CVFPB prior to adoption of the CVFPP in July 2012. The comments are focused on the main document and Attachment #2: Conservation Framework (CF). The draft CVFPP and CF were developed by DWR and in part fulfills terms of the State of California's 2008 Central Valley Flood Protection Act. The CVFPP is to be updated every five years with the next update occurring in 2017. By 2017, a more comprehensive Conservation Strategy will be completed and will replace the 2012 CF. The CVFPP encompasses the Systemwide Planning Area (SPA) which contains most river channels and floodplains of the Sacramento and San Joaquin rivers and their major tributaries. The main objective of the CVFPP is to provide protection to high risk communities from flood events by meeting a 200 year flood protection in urban areas and small communities.

The Federal lead for the CVFPP is the U.S. Army Corps of Engineers (USACE), and the state leads are DWR and the CVFPB. In addition to completing the CVFPP, the lead agencies will also be fulfilling requirements as for Section 14 of the Rivers and Harbors Act (known as Section 408), and Section 404 of the Clean Water Act, and the Federal and state Endangered Species Acts (ESA).

NMFS has reviewed the information provided with the draft CVFPP. Some comments on the draft CVFPP and CF (found below) are general in nature, others relate to specific language in the draft CVFPP and CF.

F_NMFS3-02 **VEGETATION REMOVAL AND VARIANCE COMMENTS**

NMFS encourages incorporating environmental stewardship as part of the CVFPP and CF. This can reduce flood project regulatory delays, lower long-term operational costs, provide greater benefits to the public, restore ecological functions, and assist in the recovery of listed species. In particular, NMFS' Public Draft Recovery Plan for the evolutionarily significant units of the

Sacramento River winter-run Chinook salmon (*Oncorhynchus tshawytscha*), Central Valley (CV) spring-run Chinook salmon (*O. tshawytscha*), and the distinct population segment of California CV steelhead (*O. mykiss*), discusses improving and connecting existing riparian corridors as a priority recovery action.

F_NMFS3-03 CV levee vegetation has significant ecosystem importance. Vegetation along levees provides critical fishery habitat and is ecologically significant to numerous ESA listed and protected species, including the Sacramento River winter-run Chinook salmon, CV spring-run Chinook salmon, California CV steelhead, and North American green sturgeon (*Acipenser medirostris*). Enhancement of the remaining riparian corridors and providing connectivity is necessary and vital for the survival and recovery of listed fish species. The removal of levee vegetation will also have negative consequences for California Department of Fish and Game (DFG) and U.S. Fish and Wildlife Service (FWS) listed species.

Some draft CVFPP alternatives will result in a direct loss of vegetation as a result of implementing the USACE vegetation policy. NMFS agrees that this would lead to significant negative impacts to the environment, ecosystems, and numerous plant, fish, and wildlife species. NMFS recommends pursuing a formal vegetation variance or project alternatives (such as setback levees) that avoid the removal of waterside vegetation. Any large scale removal or significant net loss of riparian vegetation as compared to baseline conditions will not be mitigable. This situation could result in permitting difficulties which leads to project delays and increased costs. The potential for jeopardy biological opinions also exists. The CVFPP needs to propose how vegetation will be replaced in areas where it will be removed as part of the USACE Engineering Technical Letter 1110-2-571 "Guidelines For Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams, and Appurtenant Structures" adopted April 10, 2009 (ETL). It is important to note that any removed vegetation as part of the CVFPP will need in-place and in-kind replacement.

Aside from the possibility of a variance, the draft CVFPP offers little detail regarding how a project applicant will mitigate for resource impacts from implementation of the ETL. The final CVFPP should include a thorough mitigation plan in the event of full implementation of the ETL and in the absence of a variance.

F_NMFS3-04 **STANDARDIZED ASSESSMENT METHODOLOGY (SAM) COMMENTS**

The SAM is a modeling and tracking tool developed by Stillwater Sciences and was originally used by the USACE's analysis of the Sacramento River Bank Protection Project. The SAM evaluates bank protection alternatives affecting threatened and endangered fish species. The CVFFP should contain an analysis using SAM when specific projects are developed. That analysis should include the removal of any shaded riverine aquatic (SRA) habitat. NMFS recommends that prior to, and during the process of any construction that the project applicant use SAM to evaluate the response to habitat features affected by bank protection projects. By identifying and quantifying the response of fish species to habitat conditions over time, users can determine necessary measures to avoid, minimize, or fully compensate for fish impacts for various life stages.

SAM has been used at numerous levee sites along the mainstem Sacramento River and San Joaquin River. Modeling outcomes revealed long-term habitat losses and their impact on listed fish. SAM also demonstrated the need for commensurate compensation measures and habitat enhancement such as: installing in-stream wood material for habitat complexity, planting riparian vegetation to stabilize the bank, and providing a source of shade and cover for channel margin habitat.

F_NMFS3-05

MITIGATION COMMMENTS

The draft CVFPP contains an analysis of costs for various alternatives and options, including those that were considered but eliminated from further consideration. In this analysis, and elsewhere in the CVFPP, there is only generic discussion on potential mitigation costs. This is understandable as the draft does not have a specific list of proposed projects. However, mitigation costs can be significant and can play a major role in overall project costs. Implementation of the ETL may result in large-scale vegetation removal and will have high mitigation costs when compared to alternatives that maintain baseline vegetation conditions. For full disclosure, a hypothetical discussion of proposed project impacts and mitigation for those impacts and estimates of mitigation costs should be included in the analysis as part of the final CVFPP and Conservation Strategy.

F_NMFS3-06

The CVFPP should also include a discussion on what plans exist to mitigate for the potential for lost SRA habitat as a result of the potential removal due to ETL compliance. Not all impacts can be mitigated via mitigation banks. In area where setback levees will not occur and vegetation is to be removed, the CVFPP needs to contain a detailed plan on how to mitigate for these losses. The CVFPP should include a discussion of the potential implications of jeopardy biological opinions resulting from vegetation removal. This will add cost and time.

F_NMFS3-07

SETBACK LEVEES

An alternative that includes extensive setback levees should be considered as the preferred approach. NMFS feels that the preferred approach should be one that best protects, preserves, and enhances historic, cultural, and natural resources. If the CVFPP includes substantial areas of setback levees, it is possible that resource impacts could be decreased to less than significant or perhaps be considered beneficial. The CVFPP should make it clear that the project applicant will need to fully explore funding opportunities to pay for the costs of constructing setback levees.

The potential exists to integrate setback levees along a substantial percentage of the SPA. The present detail about the type and list of projects that will be included in the implementation of the CVFPP, their potential impacts, and mitigation including a full cost-benefit analysis have yet to be reviewed or evaluated. Setback levees will reduce mitigation costs, reduce future costs in the event of a flood, reduce time and money spent during consultation with the resource agencies, and reduce future maintenance costs. Setback levees also provide other benefits, such as an increase in recreational opportunities.

Section 4.2.9 of the CF discusses the merits of setback levees. NMFS acknowledges that the initial cost of setback levees is normally more costly than in-place levee repairs. The construction of new setback levees within the flood management system would provide multiple benefits both by improving ecosystems as well as improving flood control. Setback levees would allow for the retention of all levee vegetation. The preservation of SRA habitat in particular is of great importance for the recovery of listed fish species. From a flood management prospective, setback levees can reduce the overall flood risk of an area, potentially leading to a huge cost savings in the event of a flood. NMFS strongly encourages DWR and CVFPB to further explore the possibility of setback levees as part of the CVFPP and to fully explore all potential funding available for their construction. Furthermore, setback levees may still allow for agricultural use, thus preserving tax dollars for the respective counties.

F_NMFS3-08 **BYPASS EXPANSION**

NMFS supports the objective of the CVFPP to expand and create more floodplain habitat. The proposed bypass expansions should be engineered and designed to allow for adequate drainage after high flows have subsided in order to prevent fish entrainment from occurring. Any bypass expansion should be designed in order to avoid the introduction of fish barriers and should allow for unimpeded fish migration. Numerous studies have demonstrated that both aquatic and terrestrial ecosystems benefit from dynamic connectivity between rivers and their floodplains. Salmonids benefit by having access to the floodplain for foraging, spawning, and as a refuge from high velocities found in the river during high flow events (Moyle *et al.* 2007). Seasonal floodplain habitats have been shown to support higher growth rates for juvenile Chinook salmon than permanent in river habitats (Jeffres *et al.* 2008).

F_NMFS3-09 **GOVERNANCE COMMENTS**

The CVFPP and the CF discuss conservation and advanced mitigation as key components to the overall plan. NMFS supports this idea as it can help expedite project development and the permitting process. However, the CVFPP and CF do little to define how the conservation and mitigation projects will be funded and offers little assurance regarding the completion of these projects. There is mention of the Flood System Financing Plan, but detail on how funds will be appropriated for conservation and mitigation are lacking.

The CVFPP does not discuss the process for how resource conservation will be developed and implemented. At a minimum, the final CVFPP should have a general discussion on how conservation actions will be funded, what assurances will be provided to ensure completion, how they will be developed, and how they will be managed in the long-term. In order for conservation and mitigation actions to be successful, there needs to be money and a plan for long-term management and the ability to adaptively manage the resource.

SPECIFIC COMMENTS

2012 Public Draft CVFPP

F_NMFS3-10 Throughout the document it is stated that without the levee repairs and upgrades flood risk will continue. While NMFS agrees with this statement, it is important to note that even with the improvements that are a part of the proposed CVFPP, there will still be potential flooding and risk of levee failure in the proposed project area; this should be clearly stated in the final CVFPP.

F_NMFS3-11 Page 1-7: Is there a measure of the buildup of sediment in the Sacramento Basin over time since the gold mining began? What is the present accrual of sediment since these operations have stopped?

F_NMFS3-12 Page 1-26: Expand the primary goal to include "environmental" safety in addition to human and property safety. The concept of environmental safety would include added measures to protect the health of the environment.

F_NMFS3-13 Page 4-14: The Life Cycle Management (LCM) strategy helps to protect large woody vegetation on levee systems only for the near future. In the future this strategy will result in a loss of riparian habitat in the CV. The LCM strategy will ultimately result in a vast reduction of SRA habitat, as the major source for vegetative recruitment will be removed, thus eliminating vegetation. This will lead to a disruption in the food web productivity and consequently result in a decrease of invertebrates available for listed fish species, as well as contributing to numerous other negative impacts to both aquatic and terrestrial species.

F_NMFS3-14 Page 4-16: It is stated, "as the SSIA is implemented, some features of the SPFC may prove to be obsolete and slated for removal, while other features may be added". NMFS and other Federal and state resource agencies will need to be consulted if any features that pertain to ecological restoration are slated to be removed or added.

F_NMFS3-15 Page 4-26: It is indicated, "one of the programs actions will be to isolate, stabilize or remove mercury and other heavy metals, polychlorinated biphenyles, and other long-lasting ecosystem contaminants." How will this be achieved? The techniques should be stated.

F_NMFS3-16 Page 4-27: It is specified, "the 2017 CVFPP update will be prepared in close coordination with USACE". Coordination should occur with the Resource and Regulatory Agencies during the 2012 CVFPP and Conservation Strategy update. It would benefit DWR to have all other agencies involved in close discussions.

Page 4-32: It is stated, "continued engagement with partners and stakeholders will occur." The continued engagement and coordination with the Resource and Regulatory Agencies should be added here.

F_NMFS3-17 Table 4-1: Cost estimates for ecological restoration should be included.

F_NMFS3-18 Table 4-2: This should include a map indicating each of the nine regions along with the estimated costs for that region's improvements.

F_NMFS3-19 Table 4-3: Estimates for ecological restoration need to be included.

Attachment 2: Conservation Framework

F_NMFS3-20 Page 1-7: It is stated, "environmental stewardship can reduce flood project regulatory delays, lower long-term operation and repair costs, provide greater public benefits, and strengthen public support". It should be added that environmental stewardship will help to restore ecological functions and have positive effects towards the recovery of listed species.

F_NMFS3-21 Page 2-12: In the second paragraph, changes to aquatic habitat are discussed. It should be added that when floodplains are inundated this also functions to slow river velocities, thus the loss of floodplain-river connectivity has resulted in increased river velocities.

F_NMFS3-22 Table 2-3: The state listing for delta smelt is incorrect. This fish species listing should be California listed as endangered and not threatened (1-20-2010).

F_NMFS3-23 Page 2-23: More should be added to the discussion of impacts from non-native species. It should be included that non-native fish species can prey on native fish and pose a threat to native species by competing with them for resources, such as food and habitat.

F_NMFS3-24 Page 4-14: It is advised that fish screens be added on all diversion structures.

F_NMFS3-25 Page 5-11: Develop and present information for suitable plants and trees for the lower waterside slope.

F_NMFS3-26 Page 5-19: Discuss how research on Best Management Practices would be carried out.

F_NMFS3-27 Page 5-28: Listed fish species should be included in the list of animal species.

F_NMFS3-28 This documents NMFS comments on the 2012 Public Draft CVFPP and CF. NMFS comments are intended to help guide the development of the final CVFPP and future ESA Consultations. If you have any questions regarding this correspondence contact Julie Wolford either by telephone at (916) 930-3710 or by email at Julie.Wolford@noaa.gov.

Sincerely,

Maria Rea
Supervisor, Central Valley Office

cc: Copy to file – ARN 151422SWR2011SA00378

NMFS-PRD, Long Beach, California

cc: Benjamin F. Carter, President
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, CA 95821

cc: Jeremy Arrich, Chief
Californian Department of Water Resources
Central Valley Flood Planning Office
901 P Street, Room 411A
Sacramento, CA 95814

cc: David Carlson
California Department of Water Resources
901 P Street, Room 411A
Sacramento, CA 95814

cc: Marc Hoshovsky
Environmental Program Manager 1
California Department of Water Resources
Floodway Ecosystem Sustainability Branch, FloodSAFE
901 P Street, Room 411A
Sacramento, CA 95814

References

Jeffres CA, Opperman JJ, Moyle PB. 2008. Ephemeral floodplain habitats provide best growth conditions for juvenile Chinook salmon in a California river. Springer Science and Business Media B.V. 2008.

Moyle PB, Crain PK, Whitener K. 2007. Patterns in the use of a restored California floodplain by native and alien fishes. San Francisco Estuary and Watershed Science 5 (3):1–27. http://repositories.cdlib.org/jmie/sfews/vol5/iss3/art1

National Marine Fisheries Service. 2009. NMFS' Public Draft Recovery Plan for the Evolutionarily Significant Units of the Sacramento River Winter-Run Chinook Salmon, Central Valley Spring-Run Chinook Salmon, and the Distinct Population Segment of California Central Valley Steelhead, Sacramento, California. http://swr.nmfs.noaa.gov/ocap.htm. October 2009.

National Marine Fisheries Service (F_NMFS3)

Response

F_NMFS3-01

DWR and the Board appreciate the time that NMFS has taken to review and comment on the CVFPP and the DPEIR. This comment does not present any information that necessitates a change in either document.

F_NMFS3-02 and F_NMFS3-03

The response to these two comments has been combined because they focus on the same issue, vegetation management on levees in relation to fish.

As stated in Master Response 16, USACE ETL 1110-2-571, *Guidelines for Landscape Planting and Vegetation Management at Levees, Floodwalls, Embankment Dams and Appurtenant Structures* (2009), treats vegetation as introducing unacceptable uncertainties into levee performance. USACE direction in ETL 1110-2-571 states that these uncertainties must be addressed through vegetation removal and/or engineering works. A preliminary assessment of USACE's approach by DWR concluded that the complete removal of existing woody vegetation along the 1,600-mile legacy Central Valley levee system would be enormously expensive, would divert investments away from more critical threats to levee integrity, and would be environmentally devastating. State and federal resource agencies find that the ETL itself, and the potential impacts of widespread vegetation removal with strict enforcement of that regulation, pose a major threat to protected species and their recovery. Similarly, local agencies are concerned about negative impacts on public safety from rigid ETL compliance if limited financial resources were redirected to lower priority risks. The CVFPP proposes the State's comprehensive, integrated VMS for levees to meet both public safety and environmental goals in the Central Valley.

USACE has proposed a policy for issuing variances from the strict vegetation removal requirements of the ETL. The State intends for the VMS, including LCM, to serve as the basis for a regional variance application that would generally allow vegetation to remain on the waterside of Central Valley levees up to a line 20 feet below the waterside levee crown. The State considers this vegetation to be particularly important for providing habitat while also promoting levee integrity. Although the most recent version of USACE's draft variance policy casts considerable doubt on the viability of such a regional variance that would achieve the State's objective of retaining most waterside vegetation, the

VMS has been retained in the CVFPP to support a continued dialogue with USACE, including a likely variance application.

The DPEIR contains an evaluation of the potential impacts of the VMS on sensitive resources. See Impact BIO-A-2 (NTMA and LTMA) in Section 3.5, "Biological Resources—Aquatic"; and Impact BIO-T-7 (NTMA and LTMA) in Section 3.6, "Biological Resources—Terrestrial."

As further stated in Master Response 16, the impacts of LCM on forestry resources (riparian forest), aquatic biological resources, and terrestrial biological resources were considered potentially significant because of the increased sensitivity of these resources to losses of riparian habitat and the thresholds of significance used to assess these impacts. These impacts were also considered potentially significant because it could not be assured that implementing the VMS would replace riparian habitat in sufficient quantities, at appropriate times, and/or in appropriate locations to fully replace the functions and values of the riparian vegetation removed.

For additional details, see Master Response 16.

Mitigation for impacts on vegetation resources was proposed in the DPEIR (see Mitigation Measures BIO-A-2a and BIO-A-2b (NTMA)), but it cannot be assured that in all instances fisheries and wildlife impacts would be mitigated to a less-than-significant level. Therefore, impacts on these resources from implementing the VMS and LCM would be potentially significant and unavoidable. Because both the CVFPP and the DPEIR are program-scale planning documents, it is not possible to accurately predict where specific projects or mitigation could occur. The level of analysis is adequate for both the CVFPP and the DPEIR at this program level. For this reason, no changes to either document are required.

F_NMFS3-04

Regional flood management planning, to be conducted in each of nine regions identified in the 2012 CVFPP, is an important next step in identifying specific improvements to rural-agricultural areas, small communities, and urban areas consistent with the SSIA. One of the outcomes of this effort will be specific projects. Specific project features ultimately implemented for the SSIA will depend on a host of factors that include the results of detailed project feasibility studies; designs and cost estimates; environmental benefits and impacts; interaction with other local projects and system improvements; participation by local, State, and federal agencies in project implementation; and changing physical, institutional, and economic conditions. The Standardized Assessment Methodology tool could certainly be used during the regional planning process. However, for the regional planning effort undertaken for the CVFPP, the project-specific

information required for the model at this stage was not readily available. Therefore, no changes to the CVFPP or the DPEIR are required.

F_NMFS3-05

As stated in Master Response 16, DWR will continue a dialogue with USACE regarding plan formulation concepts that recognize the agencies' shared responsibility for addressing vegetation issues (along with traditional levee risk factors), within a systemwide risk-informed context intended to enable continued progress on critical cost-shared flood system improvements. As stated in Master Response 15, in recognition of current funding limitations, State investments under the SSIA would be prioritized commensurate with risks to people and property and opportunities to achieve multiple benefits. Consequently, State investments under the 2012 CVFPP would vary from region to region, depending on the assets at risk (people, property, and infrastructure) and severity of flood risk (frequency and depth).

For additional details, see Master Responses 15 and 16.

Mitigation is required in the DPEIR (Mitigation Measures BIO-A-2a and BIO-A-2b (NTMA)) that would ensure full compensation for loss of riparian habitat. Costs of mitigation are not required by CEQA to be included in the DPEIR. For a program-level planning document, DWR and the CVFPP recognize that mitigation costs can be substantial, but their inclusion would have been extremely speculative at best, given the lack of specifics for projects that could require mitigation and the scope of the planning document. No changes have been made to the DPEIR or CVFPP as part of this comment.

F_NMFS3-06

SRA habitat is recognized as an important resource in the DPEIR's evaluation of impacts of the proposed program on aquatic and terrestrial resources (see Impact BIO-A-2 (NTMA and LTMA) and Impact BIO-T-7 (NTMA and LTMA)).

As stated in Master Response 16, the impacts of LCM on forestry resources (riparian forest), aquatic biological resources, and terrestrial biological resources were considered potentially significant because of the increased sensitivity of these resources to losses of riparian habitat and the thresholds of significance used to assess these impacts. These impacts were also considered potentially significant because it could not be assured that implementing the VMS would replace riparian habitat in sufficient quantities, at appropriate times, and/or in appropriate locations to fully replace the functions and values of the riparian vegetation removed.

As stated in Master Response 14, regional flood management planning, to be conducted in each of nine regions identified in the 2012 CVFPP, is an important next step in identifying specific improvements to rural-agricultural areas, small communities, and urban areas consistent with the SSIA. Upon CVFPP adoption, DWR will work closely with local entities to collect on-the-ground information regarding flood risks and needs, identify potential local and regional improvement projects, assess the performance and feasibility of these projects, and develop proposals that reflect the priorities of local entities in reducing flood risks. Each regional plan will present an assessment of proposed project costs and benefits, considering potential contributions to an integrated and basin-wide solution.

For additional details, see Master Responses 14 and 16.

Mitigation is required in the DPEIR (Mitigation Measures BIO-A-2a and BIO-A-2b (NTMA)) that would ensure full compensation for loss of riparian habitat. Though not explicitly stated in the master response (referenced above), mitigation planning would be one element of the regional planning process. At this time, the program-level nature of the CVFPP makes a more detailed discussion of mitigation costs extremely speculative. No changes to the CVFPP are required.

F_NMFS3-07

As stated in Master Response 1, the CVFPP's recommended approach—the SSIA—includes proposals for new bypasses and expansions as a potentially cost-effective, systemwide approach to (1) provide flood protection benefits to large areas throughout the SPFC planning area (including rural-agricultural areas, small communities, and urban areas); (2) provide opportunities to improve ecosystem functions and continuity and contribute to mitigation for proposed structural improvements, as well as mitigation for operations and maintenance of flood management facilities; and (3) provide flexibility to adapt to future change in climate and improved system resiliency.

As stated in Master Response 9, the SSIA was formulated by assembling the most promising, affordable, and timely elements of the three preliminary approaches to best meet legislative requirements and identified CVFPP goals. The SSIA reflects a balanced and fiscally responsible approach, which will be developed further as DWR completes more detailed studies and designs for site-specific capital improvements and develops other, systemwide flood improvement projects. The Central Valley Flood Protection Act of 2008 (SB 5) requires a systemwide approach for developing the CVFPP (CWC Section 9603) and requires inclusion of multiple benefits, where feasible (CWC Section 9616). Not all

potential SSIA benefits have been detailed or quantified (e.g., avoided damage to infrastructure and/or life loss, ecosystem restoration), and the planning-level cost estimates remain preliminary; therefore, it is inappropriate to analyze the benefit-cost ratio using information contained in the high-level 2012 CVFPP. During post-adoption activities (e.g., regional flood management planning, development of basin-wide feasibility studies, and development of a financing plan for the CVFPP), DWR will refine the physical elements of the CVFPP and confirm their feasibility, including the costs and benefits of site-specific improvements.

For additional details, see Master Responses 1 and 9.

Setback levees will be one of the suite of possible solutions addressed in the more specific regional planning that will occur after approval of the CVFPP. No changes to the CVFPP or DPEIR are required.

F_NMFS3-08

As stated in Master Response 1, expansion of the Sutter, Yolo, and Sacramento bypasses were identified as examples of increasing the overall capacity of the flood management system to convey and attenuate large flood events. Peak flood stages could be reduced along the Sacramento River, and to a lesser extent, along its tributaries. Lowering flood stages throughout much of the system would benefit urban, small-community, and rural-agricultural areas alike. Constructing new bypasses, such as constructing a bypass from the upper Feather River to the Butte Basin and expanding Paradise Cut from the San Joaquin River into the south Delta, would further contribute to reducing peak flood stage along reaches of the Feather River and lower San Joaquin River.

Several factors would be considered in the design and operation of bypass improvement elements: existing land uses, hydraulic considerations, ecosystem restoration features and benefits (including conservation and restoration of aquatic and floodplain habitats), and continued compatible agricultural land uses within the bypass.

Specific dimensions, capacities, and alignments for expanded and new bypasses have not been determined as part of the preliminary analyses conducted for the 2012 CVFPP. The analyses contained in the 2012 CVFPP are intended to be conceptual only; they were included as a basis for a program-level analysis that would allow broad comparisons of various flood management options. Potential locations and preliminary sizes described in the plan were identified using information obtained from previous studies and through discussions with local agencies and stakeholders.

Considerable additional work will be required before the bypass projects proposed in the plan are approved and implemented. Details about the dimensions, capacities, and alignments of expanded and new bypasses will be refined during post-adoption implementation activities. These activities include regional flood management planning, development of basin-wide feasibility studies, completion of project-level proposals and CEQA compliance, development of a Conservation Strategy, and State and USACE permitting. As these activities are conducted, the feasibility of proposed bypass elements will be evaluated and opportunities for public engagement and input will become available.

The DPEIR contains analysis of fish stranding (Impact BIO-A-6 (NTMA)) and identifies the potential impact from stranding of fish on floodplains as potentially significant. Mitigation is required in the DPEIR to ensure that floodplains are designed to minimize stranding (Mitigation Measure BIO-A-6 (NTMA)). Because the specific locations of bypasses will be further evaluated in the post-approval process, and because the DPEIR assessed and required appropriate mitigation for the impact on fish, no changes to the CVFPP or DPEIR are required.

F_NMFS3-09

As stated in Master Response 15, in recognition of current funding limitations, State investments under the SSIA would be prioritized commensurate with risks to people and property and opportunities to achieve multiple benefits. Consequently, State investments under the 2012 CVFPP would vary from region to region, depending on the assets at risk (people, property, and infrastructure) and severity of flood risk (frequency and depth). However, most areas protected by the SPFC would realize flood risk management benefits under the SSIA.

In a parallel effort, a systemwide planning process will refine the basin-specific objectives (Sacramento and San Joaquin Basins) identified in the 2012 CVFPP. The most promising system elements will be combined with the prioritized list of regional elements identified in the regional plans to form SSIA “alternatives” for further evaluation in two basin-wide feasibility studies, one in the Sacramento River Basin and one in the San Joaquin River Basin.

Propositions 1E and 84 approved $4.9 billion for statewide flood management improvements. Up to $3.3 billion is allocated to improvements in the Central Valley (i.e., flood protection for areas protected by SPFC facilities). DWR invested approximately $1.6 billion of the bond funds between 2007 and 2011 (along with about $490 million in local investments and $780 million in federal investments), conducting emergency repairs, early-implementation projects, and other improvements.

Up to $1.7 billion of additional bond funding will be available during the next 5 years for CVFPP-related projects. Use of bond funds will be prioritized based on the severity of flood risks, considering proposed project costs and benefits and contributions to basin-wide solutions (consistent with the CVFPP).

The current available bond funding is insufficient to implement the entirety of the recommended SSIA. After the Board adopts the CVFPP, DWR will create a financing plan for potential legislative actions to fund the next increment of capital improvements, O&M, and residual risk management activities for the CVFPP. The CVFPP Financing Plan will be informed by other post-adoption activities, including regional and basin-wide planning.

Flood management projects are typically cost-shared among federal, State, and local government agencies. Under existing federal law, the federal cost-share for construction may be 50–65 percent of the total project cost, depending on the amount of lands, easements, rights-of-way, and relocations necessary for the project. In recent years, many federally authorized projects and studies have not been adequately funded by the federal government.

Under State law, the State cost-share for federal flood projects is currently between 50 and 70 percent of the nonfederal share of the project costs, depending on the project's contributions to multiple objectives. After the passage of Proposition 84 and Proposition 1E, DWR developed interim cost-sharing guidelines for flood projects where the federal government is not currently sharing in the project costs. The State cost-share under these guidelines may range from 50 to 90 percent, depending on the project's contribution to multiple objectives and the degree to which the local area may be economically disadvantaged. Although the State currently has bond funds available for some flood projects, funding at this level may be unsustainable. Insufficient State funds are available to implement all of the SSIA. The CVFPP Financing Plan will address these cost-share formulas and potential new sources of funds to pay the capital costs.

As part of CVFPP implementation, the regional planning process will gather DWR, the Board, and local interests (flood management agencies, land use agencies, flood emergency responders, permitting agencies, environmental and agricultural interests, and other stakeholders) to develop regional plans that will include lists of prioritized projects and funding strategies for each of the nine regions identified in the CVFPP.

For additional details, see Master Response 14.

Because this is a program-level planning document, the level of analysis and information presented is adequate for decision making at this scale. It would appear from this that a portion of the funding for implementation is available and that identification of funding sources and prioritization of projects is part of the post-approval process at multiple levels within the SPFC area. The comment does not raise any new issues or present any new information that requires changes to the CVFPP. Funding issues are specifically excluded from CEQA; therefore, no changes to the DPEIR are required.

F_NMFS3-10

As stated in Master Response 8:

CVFPP Primary Goal:

- *Improve Flood Risk Management*—Reduce the chance of flooding and damages, once flooding occurs, and improve public safety, preparedness, and emergency response through the following:

  – Identifying, recommending, and implementing structural and nonstructural projects and actions that benefit lands currently receiving protection from facilities of the SPFC

  – Formulating standards, criteria, and guidelines to facilitate implementation of structural and nonstructural actions for protecting urban areas and other lands of the Sacramento and San Joaquin river basins and the Delta

As stated in Master Response 5, the requirement for an urban (200-year) level of flood protection is included in SB 5, and through that law is triggered by adoption of the CVFPP. State law (SB 5) requires an urban level of flood protection for urban and urbanizing areas within the Sacramento–San Joaquin Valley (as defined in CGC Section 65007(g)) within a flood hazard zone.

For additional details, see Master Responses 5 and 8.

The primary goal is to reduce risk of flooding, typically to the 1-in-200 chance in urban areas. This is a reduction, but there is still a risk. The CVFPP is relatively clear that flooding risk will remain even after implementation. There are no realistic improvements to the system that could eliminate the risk of flooding. Because of this, no changes to the CVFPP are required.

F_NMFS3-11

There is no mention of sediment accrual on CVFPP page 1-7 as mentioned in the comment. Because it is unclear how this comment relates to the document, no changes to the CVFPP are required.

F_NMFS3-12

As stated in response to comment F_NMFS3_10, the primary goal is to improve flood management risk. It is not possible to add environmental safety as a primary goal, as requested in the comment, when the goals are specifically defined in the legislation driving the process. For this reason, no changes to the CVFPP are required.

F_NMFS3-13

As stated in Master Response 16, several sections of the CVFPP DPEIR include specific evaluations of the potential environmental effects of the VMS and LCM, while others, such as the discussions of air quality and climate change and greenhouse gas emissions, incorporate implementation of the VMS into their overall assessment of program effects. The following DPEIR sections and impact discussions within those sections directly relate to the VMS and LCM:

- Section 3.2, "Aesthetics"; Impact VIS-5 (NTMA and LTMA), "Effects of Other NTMAs/LTMAs on Aesthetic Resources"

- Section 3.3, "Agriculture and Forestry Resources"; Impact AG-6 (NTMA and LTMA), "Effects of Other NTMAs/LTMAs on Forest Land"

- Section 3.5, "Biological Resources—Aquatic"; Impact BIO-A-2 (NTMA and LTMA), "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"

- Section 3.6, "Biological Resources—Terrestrial"; Impact BIO-T-7 (NTMA and LTMA), "Effects of the Vegetation Management Strategy on Sensitive Natural Communities and Habitats, Special-Status Plants and Wildlife, Wildlife Movement, and Local Plans and Policies"

- Section 3.18, "Recreation"; Impact REC-6 (NTMA and LTMA), "Decrease in Quality of Terrestrial and Water-Based Recreation as a Result of Removal of Woody Vegetation from Levees"

Potential impacts of the VMS and LCM on aesthetics and recreation were considered less than significant based on the thresholds of significance used for these resource categories. Consideration of the long-term gradual shift in vegetation conditions resulting from LCM and the fact that the VMS includes replacement plantings to compensate for riparian habitat losses both contributed to this significance conclusion.

However, the impacts of LCM on forestry resources (riparian forest), aquatic biological resources, and terrestrial biological resources were considered potentially significant because of the increased sensitivity of these resources to losses of riparian habitat and the thresholds of significance used to assess these impacts. These impacts were also considered potentially significant because it could not be assured that implementing the VMS would replace riparian habitat in sufficient quantities, at appropriate times, and/or in appropriate locations to fully replace the functions and values of the riparian vegetation removed. Two mitigation measures in the DPEIR address these potentially significant impacts.

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. This is particularly true for forestry resources because the overall acreage of riparian forest habitat would not be reduced, and a net overall increase would likely occur. Therefore, impacts on forestry resources from implementing the VMS and LCM are considered less than significant after mitigation. 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 and wildlife species that benefit from, or are dependent on, waterside riparian vegetation in these river reaches. Potential adverse effects include increased predation risk, increased water temperatures for fish, 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 floodflows 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 and wildlife impacts would be mitigated to a less-than-significant level. Therefore, impacts on these resources from implementing the VMS and LCM are considered potentially significant and unavoidable.

For additional details, see Master Response 16.

As can be seen from the master response above, the DPEIR addresses the potential impacts of the VMS and LCM, and no changes to the DPEIR are required. The comment does not raise any specific questions or information regarding the adequacy of the environmental analysis provided in the DPEIR. The comment does not result in any new significant environmental impacts or a substantial increase in the severity of an impact, nor does the comment create a feasible project alternative or mitigation measure that would clearly lessen the environmental impact. Therefore, no changes to the DPEIR are required.

F_NMFS3-14

As stated in Master Response 14, DWR will engage regional flood planning partners to develop and implement communication strategies with broad interest groups to brief them on flood management planning in their regions. Regional implementing and operating agencies, land use agencies, and interest groups will be invited to participate in the planning process. Each regional planning process will seek input, as appropriate, from agricultural interests, environmental interests, permitting agencies/resource agencies, local emergency responders, tribes, and other stakeholders. DWR anticipates that a regional flood working group will be formed in each region.

Both the Board and USACE have statutory roles for oversight of modifications to the State-federal flood management system (the SPFC), executed through their respective project review and permitting authorities. In addition to these continued roles, DWR will work closely with USACE and the Board in conducting post-adoption planning activities, including conducting the federal Central Valley Integrated Flood Management Study and State basin-wide feasibility studies to determine federal and State interests in implementation, respectively. The State will also partner with USACE on federal regional feasibility studies and post authorization scope-change investigations aimed at modifying the State-federal flood management system.

For additional details, see Master Response 14.

If the CVFPP is to be successful in meeting its ambitious goals, stakeholder engagement, including federal management agencies, will be a critical and complex component of the basin-wide feasibility studies. NMFS is encouraged to remain involved in the process. No changes to the CVFPP are required.

F_NMFS3-15

The comment makes reference to what are categorized as "no-regret" programs in the CVFPP that are supported by the State in a discussion of the need for coordination, communication, and integration across programs (page 4-26). This is not the appropriate level of document, let alone the right place within the document, to present a detailed discussion of legacy-contaminant management. The point being made is that the State supports such actions and that coordination is required with whoever may implement such a program to minimize duplication, reduce costs, and identify other opportunities. Therefore, the level of discussion with the CVFPP is adequate for this level of planning document and has not been changed as a result of this comment.

For additional details, see Master Response 14.

F_NMFS3-16

See response to comment F_NMFS3-14, which addresses the opportunities for involvement in the upcoming post-approval phase of the process.

F_NMFS3-17

As stated in Master Response 9, not all potential SSIA benefits have been detailed or quantified (e.g., avoided damage to infrastructure and/or life loss, ecosystem restoration), and the planning-level cost estimates remain preliminary; therefore, it is inappropriate to analyze the benefit-cost ratio using information contained in the high-level 2012 CVFPP. During post-adoption activities (e.g., regional flood management planning, development of basin-wide feasibility studies, and development of a financing plan for the CVFPP), DWR will refine the physical elements of the CVFPP and confirm their feasibility, including the costs and benefits of site-specific improvements.

For additional details, see Master Response 9.

Because this is a program-level document, including information about restoration costs for projects that cannot even be predicted would be extremely speculative and inappropriate. For this reason, DWR and the Board believe the text of the CVFPP is adequate, and therefore no changes are required.

F_NMFS3-18

A map of the planning regions is presented in Figure 4-3 on page 4-21 of the CVFPP. Presentation of cost information on this figure would have made the figure complicated and confusing. To ease the reader's

understanding, cost information was not included in Figure 4-3. No changes to the CVFPP are required.

For additional details, see Master Response 14.

F_NMFS3-19

See response to comment F_NMFS2-17 for a discussion of restoration costs and their inclusion in the CVFPP.

F_NMFS3-20

Improvements to habitats for and populations of sensitive species are discussed in Chapter 4 of the Conservation Framework. Although much of the discussion in Chapter 4 is general in nature, it does make the connection between ecosystem restoration and improvements in habitat for various species of fish and wildlife. Many of the conservation efforts that are discussed by planning area in Section 4.3 would directly benefit listed species. Because the CVFPP discusses the benefits to fish and wildlife habitat in general, the listed species are included by reference and do not need to be specifically identified as requested in the comment. Therefore, no changes to the CVFPP are required.

For additional details, see Master Response 14.

F_NMFS3-21

The point of the second paragraph on page 2-12 of the CVFPP is that aquatic habitat has been highly modified in the Central Valley. The discussion of modifications includes the ways in which dams, diversions, levees, etc., have altered habitat for species of fish through a variety of methods. DWR and the Board believe that because the discussion focuses on changes to the habitats of aquatic species, including a discussion in this location about how the system's hydrology has been altered by lack of floodplain connectivity is inappropriate. Changes in velocity resulting from a setback levee are discussed in Section 4.2.9 (page 4-20). Additionally, the DPEIR addresses velocity changes in the impact analysis (see Impact HYD-4 (NTMA) and Impact HYD-1 (LTMA) in Section 3.13, "Hydrology").

Because this topic is discussed within the CVFPP and DPEIR at locations other than requested by the commenter, DWR and the Board believe that the text of the CVFPP, Conservation Framework, and DPEIR are adequate, and therefore no changes are required.

F_NMFS3-22

The correction to the Conservation Framework requested by the commenter has been made as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_NMFS3-23

The text of the Conservation Framework at the end of the first paragraph on page 2-22 states, "Invasive species can also quickly colonize recently disturbed areas, outcompeting and preventing native riparian vegetation from establishing. Nonnative fish species can prey on young native fish species and aquatic invasive invertebrates can displace more nutritious prey species." For this level of planning document, the DWR and Board believe that this discussion is adequate, and therefore no changes to the Conservation Framework are required.

F_NMFS3-24

Programs are already in place to assist with the installation of fish screens on diversions in Central Valley streams. For example, USFWS maintains the Anadromous Fish Screen Program, which was established in 1994 to implement a portion of the CVPIA. According to the California Fish and Game Code (see Sections 5980 et seq., 6020 et seq., and 6100 et seq.), screens are required on any new diversions or at existing diversions where the diversion is enlarged, relocated, or where the season of use has changed on streams supporting State-listed or federally listed species or designated essential habitat of State-listed species or critical habitat for federally listed species. Because fish screens are already required, adding an element to the Conservation Framework would be a duplication of effort that would not serve any larger goals. Therefore, no changes to the Conservation Framework are required.

F_NMFS3-25

As stated in Master Response 16, the State will implement a comprehensive, integrated VMS in the Central Valley that both meets public safety goals and protects and enhances sensitive habitats in the Sacramento and San Joaquin valleys.

Mitigation Measure BIO-A-2b (NTMA) requires DWR to coordinate with the Board and levee maintenance agencies that implement the VMS to develop and implement a plan to record data on riparian vegetation lost or removed because of implementation of the VMS, and to ensure adequate compensation for losses of riparian habitat functions and values. The mitigation measure is written as if a single plan is prepared; however, 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.

The plan must, at a minimum, meet the basic performance standard of "Authorized losses of habitat do not exceed the function and value of available compensation habitat." DWR will coordinate with USFWS and DFG as the plan is prepared and implemented to incorporate into the plan appropriate compensation for effects on special-status species from vegetation management along the levee system.

As stated in Master Response 14, regional flood management planning, to be conducted in each of nine regions identified in the 2012 CVFPP, is an important next step in identifying specific improvements to rural-agricultural areas, small communities, and urban areas consistent with the SSIA. Upon CVFPP adoption, DWR will work closely with local entities to collect on-the-ground information regarding flood risks and needs, identify potential local and regional improvement projects, assess the performance and feasibility of these projects, and develop proposals that reflect the priorities of local entities in reducing flood risks.

For additional details, see Master Responses 14 and 16.

If the Conservation Framework incorporates a performance standard, the plan discussed in Master Response 16 must also contain a planting palette. The conceptual level of planning presented in the Conservation Framework does not require that a specific planting palette be developed at this time. This is especially true given that different species could be more suited to various areas of the state, at different elevations along the floodplains or levees, or be used for specific purposes. The extensive post-approval planning and specific project evaluation process is a more appropriate place for development of specific planting pallets than the program-level Conservation Framework. For this reason, no changes to the Conservation Framework are required.

F_NMFS3-26

There is no mention of BMPs in the Conservation Framework except on Table 6-1 (page 6-10). Presumably the comment is referring to the ongoing and proposed research discussed in relation to vegetation and LCM on levees discussed on page 5-19. The Conservation Framework is not the appropriate place to discuss detailed research plans for specific elements of

levee vegetation management. More important from the conceptual perspective of this framework is the concept that research is ongoing and will continue to inform policy development for future CVFPP updates. DWR and Board believe that the level of discussion in the Conservation Framework is adequate for this level of planning document; therefore, no changes are required.

F_NMFS3-27

The list of species on page 5-28 of the Conservation Framework is presented as "Examples of species in the Central Valley…" that would benefit from targeted species-focused conservation plans (in part because no recovery plans exist for them) and is not intended to be an exhaustive presentation. Additionally, the Conservation Framework states that "DWR will also collaborate with resource agencies to implement existing recovery plans (such as NMFS Central Valley Anadromous Fish Recovery Plan)…" (page 5-28). It would appear, based on information presented in the Conservation Framework, that NMFS will be included in the collaboration to plan actions that benefit a multitude of species. Addition of Central Valley fish species to the list on page 5-28 is not appropriate; therefore, no changes to the Conservation Plan are required.

F_NMFS3-28

This comment does not raise a specific question or provide information regarding the CVFPP, the DPEIR, or any associated documents. Therefore, no changes to these documents are required.

F_USACE1

	Commentor	Commentor Agency	Contact Email	Document	Chapter/ Section	Page No.	Comment	Proposed Modification
F_USACE1-01	USACE	USACE		2012 CVFPP Public Draft	General	N/A	When compared to existing conditions, improvements to upstream levees and/or increased upstream system capacity will likely increase the probability of flood flows being conveyed downstream. The CVFPP does not describe how increased downstream flood probability (relative to existing conditions), will be addressed on a system-wide basis.	
F_USACE1-02	USACE	USACE		2012 CVFPP Public Draft	General	N/A	The term "attenuation" is misused in many locations to describe peak flow reduction from several different processes. Attenuation should refer to flood wave attenuation.	
F_USACE1-03	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Recommend describing what Early Implementation Project (EIPs) are included in the without-project, with-project, conditions used for analysis. Without additional information, it is not clear what assumptions are being incorporated into the document.	
F_USACE1-04	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Many places throughout the document describe USACE policy as requiring removal of all woody vegetation from levee slopes and toe areas. The document does not point out that a vegetation variance may be sought that may allow some woody vegetation to remain.	
F_USACE1-05	USACE	USACE		2012 CVFPP Public Draft	General	N/A	The term "vegetation variance" is used when referring to the August 3, 1949 HQ approval to modify the O&M manual to allow brush and small trees to be retained on the waterward slope… Recommend using the term deviation so it's not confused with the vegetation variance policy currently being used.	
F_USACE1-06	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Document should discuss potential growth inducement associated with the State Systemwide Investment Approach.	Add text addressing potential growth inducement associated with the State Systemwide Investment Approach
F_USACE1-07	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Document should discuss how levee superiority could be incorporated into the State Systemwide Investment Approach.	Add text discussing how levee superiority could be incorporated into the State Systemwide Investment Approach
F_USACE1-08	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Document should address how information from the National Levee Database, developed by the U.S. Army Corps of Engineers is being utilized in the CVFPP.	Add text discussing National Levee Database.
F_USACE1-09	USACE	USACE		2012 CVFPP Public Draft	General	N/A	The CVFPP does not include consideration of endangered and threatened species. Recommend including language acknowledging that site-specific coordination with resource agencies may be required to address impacts to listed species.	
F_USACE1-10	USACE	USACE		2012 CVFPP Public Draft	General	N/A	The CVFPP does not include any processes to analyze the cumulative impacts of permitted and unpermitted encroachments on levees. Encroachments, whether unpermitted or permitted, may present some of the most significant flood risk impacts to public safety within the flood protection system. There are currently over 18,000 permitted encroachments in the system with requests for future permits coming to the CVFPB daily. The State's Plan should address the issue of encroachments in some detail.	
F_USACE1-11	USACE	USACE		2012 CVFPP Public Draft	General	N/A	The CVFPP states that assistance under PL 84-99 has not been cost effective as compared to the dollars spent on rehabilitation assistance in recent years. This analysis does not take into account the losses that could occur if the rehabilitation is not completed in a timely manner after flood events. The cost analysis should be revisited with consideration given to potential losses that may occur if rehabilitation work is not undertaken.	
F_USACE1-12	USACE	USACE		2012 CVFPP Public Draft	General	N/A	To address water resources challenges in California, including flood risk management, an examination of the system from above the rim reservoirs to the headwaters and downstream into the San Francisco Estuary will be required.	
F_USACE1-13	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Instead of proposing to continue the interim standards for vegetation management, the CVFPP should address the proposed long-term approach to vegetation management as contemplated in the February 2009 Framework agreement. The Corps expected for the Central Valley Flood Protection Plan to update or provide the basis for creating a new Framework document to address continued extensions of eligibility under the RIP and Pub. L. No. 84-99 for California.	
F_USACE1-14	USACE	USACE		2012 CVFPP Public Draft	General	N/A	The CVFPP frequently refers to "USACE Feasibility Studies." All US Army Corps of Engineers feasibility studies are conducted with a non-Federal cost-sharing partner. The California Department of Water Resources and/or the Central Valley Flood Protection Board often, but not always, fill that role.	
F_USACE1-15	USACE	USACE		2012 CVFPP Public Draft	General	N/A	There is no discussion within the CVFPP regarding the approach for encroachment enforcement. There have been widespread identification of unauthorized encroachments that are negatively impacting levee stability and a plan for moving forward is appropriate.	Recommend adding an encraochment section
F_USACE1-16	USACE	USACE		2012 CVFPP Public Draft	General	N/A	There are many stream gages listed in the O&M manuals. For example, I street gage is required for operation of Sacramento Weir. Are these also part of the SPFC? If so, what is their status relative to standard operating procedures, data quality, completeness, etc?	
F_USACE1-17	USACE	USACE		2012 CVFPP Public Draft	General	N/A	The comparison of performance should describe the overall performance throughout the system, for a range of flood events. From a flood risk management perspective, the critical performance is the flood frequency at which flood damages are likely to occur and this varies throughout the system. Suggest describing the performance of each alternative by reach. For example, describe performance by the frequency of the flood that would exceed a reaches capacity. Reach capacity could be defined for, overtopping, freeboard encroachment, or 90% Conditional Non-Exceedance Probability.	

F_USACE1-18	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Suggest differentiating flood risk between geotechnical performance and hydraulic/hydrologic capacity. The focus of Hydraulic/hydrologic capacity is the size of features (width of conveyance, height, etc) and overtopping related flood risk. The focus of geotechnical performance (fragility curves) is reliability.	
F_USACE1-19	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Operations and maintenance cost are repeatedly described as "high" throughout the document. Recommend that specific thresholds or general ranges are defined for the use of general terms such as "low", "medium", and "high."	
F_USACE1-20	USACE	USACE		2012 CVFPP Public Draft	General	N/A	The term "chronic erosion" is used throughout the document without definition. The USACE does not understand how this term is being used as applied. Please include a definition.	
F_USACE1-21	USACE	USACE		2012 CVFPP Public Draft	General	N/A	In several locations the document uses the term 100-yr storm when it should be 100-yr flood. The term storm event refers to the precipitation event. A flood event is the result of precipitation in combination with antecedent conditions (snow pack, infiltration, etc). In most cases used in this document, the term 100-yr storm should actually be 100-yr flood. See http://ga.water.usgs.gov/edu/qafloods.html for description.	
F_USACE1-22							Comment Removed per request of Commentor	
F_USACE1-23	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Because the CVFPP's goals are different for urban and non-urban areas, recommend providing maps describing urban and non-urban areas.	
F_USACE1-24	USACE	USACE		2012 CVFPP Public Draft	General	N/A	Recommend providing maps describing residual floodplain risk for each approach within the CVFPP. Also include a description of the residual risk of each approach compared to FRM objectives for urban and non-urban areas.	
F_USACE1-25	USACE	USACE		2012 CVFPP Public Draft	General	N/A	In order to relate inadequate conveyance capacity to other potential system hazards, it would be helpful to highlight the history of geotechnical instability and seepage induced (i.e. non-overtopping) failures in the system. This would provide a very meaningful context for understanding the relative risk of the overtopping hazard.	
F_USACE1-26	USACE	USACE		2012 CVFPP Public Draft	General	N/A	The state has also started a Climate Change pilot study that will examine the sensitivity of climate change variables and reservoir inflow in the Feather-Yuba river system and in the Merced River system. The results of this study will not be available until the fall of 2013. The remaining reservoir locations in the Central Valley will be examined in FY 13 and Fy14 resulting in a sense of the sensitivity of climate change to reservoir inflow and a possible shift in flow frequency at downstream locations. The threshold study and the preliminary pilot study correctly discern the possible effects that climate change will have on the Central Valley flood protection system. The Corps has no additional comment on the Climate Change attachment.	
F_USACE1-27	USACE	USACE		2012 CVFPP Public Draft	1	Page 1-1	Potential for failure is described as "high" in the document. Recommend that specific thresholds and criteria are defined for the use of general terms such as "low", "medium", and "high."	
F_USACE1-28	USACE	USACE		2012 CVFPP Public Draft	1/1.1	1-1	There is reason to question the Hydrology appendix, section 1.1, page 1-1, 3rd paragraph, "Hydrology from the Comprehensive Study is applicable for use in the 2012 CVFPP because no major flood has occurred in the Sacramento and San Joaquin river basins to modify the hydrology since development of the Comprehensive Study". The hydrologic flow frequency estimates can also change because of new methods of analysis. For instance the USGS "Regional Skew for California, and Flood Frequency for Selected Sites in the Sacramento-San Joaquin River Basin, Based on Data through Water Year 2006", Scientific Investigations Report 2010-5260, will influence the skew coefficients used in development of new flow frequency curves. The state has begun a study of the Central Valley to refine flow frequency curves which is not yet ready for the 2012 CVFPP report, however new methods of analysis and an additional 10+ years of record will certainly result in some changes to the hydrology of the Central Valley.	
F_USACE1-29	USACE	USACE		2012 CVFPP Public Draft	1/	Page 1-3	Second sentence is incomplete. The sentence refers to five locations but describes the latitude of Chico.	
F_USACE1-30	USACE	USACE		2012 CVFPP Public Draft	1/	Figure 1-3	Figure should note if these are regulated or unregulated flows (or both). Assuming it is both, the historical records shown in figure 1-3 can be misleading because they are based on non-uniform hydrologic conditions. The document notes that 3-day values are used, presumably to approximate a uniform record with reservoirs. Suggest noting on figure when upstream reservoirs were completed.	
F_USACE1-31	USACE	USACE		2012 CVFPP Public Draft	1/	Page 1-6	Recommend the term "regulate flood flows" rather than "moderate flows"	
F_USACE1-32	USACE	USACE		2012 CVFPP Public Draft	1/	Page 1-16	Recommend revising the following sentence. "In addition, as the moderating effects of snowpack on runoff decrease..." The word "moderating" does not seem to apply and the description of the issue is unclear. It is more clear in chapter 4, attachment 7 because of the information in the supporting paragraph.	
F_USACE1-33	USACE	USACE		2012 CVFPP Public Draft	1/	Page 1-18	Another impact of concern is the potential transfer or increase in flood risk to other locations within the system. For example, increasing upstream capacity to convey a larger flood would reduce upstream overtopping and allow larger floods to be conveyed downstream.	
F_USACE1-34	USACE	USACE		2012 CVFPP Public Draft	1/1.4.1	page 1-19	FEMA's ongoing flood risk mappping program is an effort to consolidate better information and knowledge of increasing flood risk. The notable current trendis the increased flood risk, not the mapping program.	

F_USACE1-35	USACE	USACE		2012 CVFPP Public Draft	1/1.4.1	Page 1-19-20	The USACE project delivery process, including project formulation, design, and funding, are largely defined by Federal law and regulation. Those constraints affect the scope of responsibilities that the State, or any non-Federal sponsor, is able to assume.	
F_USACE1-36	USACE	USACE		2012 CVFPP Public Draft	1/1.4.1	Page 1-19-20	Multipurpose projects have an evaluation process that does take into account the values of ecosystem restoration. The reason for the disparity between urban and rural projects is the difference in the economic value of urban residences and structures vs. agricultural crops - not environmental restoration.	Recommend revising text to accurately reflect Federal regulatations with regard to integrating ecosystem restoration projects.
F_USACE1-37	USACE	USACE		2012 CVFPP Public Draft	1/1.6	page 1-21	The CVFPP was not prepared in coordination with the USACE. The USACE did not participate in the composition of the draft CVFPP or the analysis of the supporting data. The USACE is therefore not in a position to determine whether the CVFPP is a defensible document from the perspective of the federal government. Ultimatley, in order to make that determination, the various elements of the CVFPP will need to be evaluated through the USACE project planning process. The USACE has provided comments on the CVFPP through the public commenting procedures. USACE comments provided are not exhaustive and should not be read to be an endorsement or support of the CVFPP as a whole.	
F_USACE1-38	USACE	USACE		2012 CVFPP Public Draft	1/Box Inset: Coordination with other programs and projects	page 1-29	It is USACE's understanding that the California Water Plan is California's umbrella strategic document for water resource management in California. Coordination efforts specific to coordination between the CVFPP and The California Water Plan Updates should be addressed.	
F_USACE1-39	USACE	USACE		2012 CVFPP Public Draft	2/	page 2-1	EAD as related to NED should not include local business losses. Business losses are usually accounted for in the Regional Economic Development (RED) account as most times these losses are viewed as transfers on a national level. Business Losses should not be added on to NED losses to establish the No Project condition damages.	
F_USACE1-40	USACE	USACE		2012 CVFPP Public Draft	2/2.3.1	Page 2-4	Suggest including levee height increases as possible method to restore or enhance system capacity. Given the physical constraints, there may be locations where this is the only feasible method. In addition, there may be locations where this would promote higher geomorphic stability than other methods. Levee height increases are described in the technical documentation.	
F_USACE1-41	USACE	USACE		2012 CVFPP Public Draft	2/2.4.1	Page 2-7	The USACE does not determine federal interest based on achieving protection from any particular flood event. Pursuing projects based on achieving a targeted level of protection may not be a viable approach for projects where California is expecting federal participation through the USACE.	
F_USACE1-42	USACE	USACE		2012 CVFPP Public Draft	2	Page 2-7 and 2-29	There is no federal standard of flood protection defined for developed vs: undeveloped areas. FEMA uses a 100-yr base floodplain to define the Flood Insurance and floodplain management requirements necessary for a community to be included in the NFIP; however, NFIP does not distinguish between developed and undeveloped areas.	
F_USACE1-43	USACE	USACE		2012 CVFPP Public Draft	2/;2.5.1	Page 2-12	Given the physical constraints, at what event(s) would 32,000cfs be diverted through the bypass identified in the first bullet point on the page? Please elaborate.	
F_USACE1-44	USACE	USACE		2012 CVFPP Public Draft	2/2.6.1	Pages 2-14-15	USACE projects are generally required to incorporate non-structural methods of achieving flood risk reduction. To the extent that USACE participation is expected in projects included in the CVFPP, the consideration of non-structural approaches to flood risk reduction should be incorporated.	Add non-structural elements to at least one of the three preliminary approaches.
F_USACE1-45	USACE	USACE		2012 CVFPP Public Draft	2/	Table 2-2	Recommend that similar levels of forecasting and notification be included in all three approaches.	
F_USACE1-46	USACE	USACE		2012 CVFPP Public Draft	2/2.6.1	Page 2-17	Note: The draft CVFPP uses the terms "ecosystem mitigation" and "ecosystem restoration" interchangeably. In order for the CVFPP to be integrated with the Corps' planning process, the CVFPP text should be revised for clarity and consistency. Mitigation is generally meant to compensate for loss of habitat due to the implementation of the project. Restoration is when habitat is restored above and beyond the compensation required for project impacts.	The CVFPP text should be revised for clarity and consistency with USACE terminology.
F_USACE1-47	USACE	USACE		2012 CVFPP Public Draft	2/2.6.1	Page 2-18	Text notes that modeling considers levee condition and the probability of levee failure. These assumptions are critical to assessing flood risk and potential methods to reduce risk. Recommend describing these assumptions.	
F_USACE1-48	USACE	USACE		2012 CVFPP Public Draft	2/	Figures 2-3 and 2-4	Stage sensitivity for a 1% Annual Chance Exceedance Flood are provided. The values are highly dependent on the hydraulic assumptions. However, the assumptions are not described. Suggest describing the assumptions in the document. In addition, comparison of stage for a single event does not reflect the residual flood risk for each approach.	Figure 2-6. This graphic would be helped by the addition of a no project column for comparision purposes. Comment valid for Figure 3-6 and 4-1.
F_USACE1-49	USACE	USACE		2012 CVFPP Public Draft	2/2.7	pages 2-25 thru 2-28	The preferred approach- Enhanced Flood System Capacity – may be achievable over a long term approach, due to extremely high cost. Until then the State, Levee Maintenance Agencies, and USACE may spend a large amount of funding enhancing the existing system by improving structurally the existing flood control projects to provide a certain level of protection considering the existing system capacity. Some funding may be without any regrets but some of the expense may be not justified on long run, such as deep seepage cut-off walls for levees that may be later relocated, expensive seepage and stability berms designed for a water elevation that may be much higher than the design water elevation after the enhancement of the flood capacity, and other improvements like that.	

F_USACE1-50	USACE	USACE		2012 CVFPP Public Draft	2/2.7	pages 2-25 thru 2-28	Achieving SPFC Design Flow capacity may provide protection for the agriculture area as long as the levees are functioning normally. However, these levees were not properly designed and constructed and may breach before the basin will reach its new design capacity. Some structural improvements of these levees may be still required.	
F_USACE1-51	USACE	USACE		2012 CVFPP Public Draft	2/	Page 2-26	It is likely that the Protect High Risk Communities Approach would also provide ancillary benefits to rural agricultural flood risk reduction. In many cases there is no hydraulic boundary between urban and non-urban areas.	
F_USACE1-52	USACE	USACE		2012 CVFPP Public Draft	2/	Page 2-27	Notes significant increases to stage but figures show max 1.2 feet increase. In comparison to the total flood depth along the levee, 1.2 feet does not as significant. Recommend also providing the depth of water to use as a relative comparison.	
F_USACE1-53	USACE	USACE		2012 CVFPP Public Draft	2/	Page 2-29	There is no minimum level of flood protection (100-yr flood) required for participation in the NFIP.	
F_USACE1-54	USACE						Comment Removed per request of Commentor	
F_USACE1-55	USACE	USACE		2012 CVFPP Public Draft	3/	Figure 3-1	Figure shows Feather River Bypass diverting out of Thermalito Afterbay. Flows would be limited to 17,000cfs by the Thermailito power canal. How would 32,000cfs be diverted?	
F_USACE1-56	USACE	USACE		2012 CVFPP Public Draft	3/	page 3-4	Versions 1.2.4 and 1.2.5 of HEC-FDA are the Corps certified Flood Risk Management Planning Center of Expertise models.	Specify which version of HEC-FDA was used.
F_USACE1-57	USACE	USACE		2012 CVFPP Public Draft	3/	page 3-4	Explain how levee fragility was accounted for in HEC-FDA analysis.	Revise text per comment.
F_USACE1-58	USACE	USACE		2012 CVFPP Public Draft	3/		The CVFPP lacks clarity as to real estate requirements for purposes of implementation. There are cases where there is no title or any easement for the flood protection structure and operation and maintenance or any improvement of these existing structures is impossible due to lack of a minimum easement. The plan should include achievement of an easement for the footprint of the levee plus some additional area along the levee toes for proper inspection, operation and maintenance of these flood control structures.	
F_USACE1-59	USACE	USACE		2012 CVFPP Public Draft	3/3.2		Interior drainage is not addressed in the CVFPP. However, interior drainage is required to be addressed for FEMA certification. Also interior drainage structures may have a negative impact on the flood control structure.	
F_USACE1-60	USACE	USACE		2012 CVFPP Public Draft	3/		One of the major issues and weaknesses of the existing flood protection is the encroachments and control of the existing encroachments. Some encroachments are not authorized and some of them are reducing the levee integrity. The plan does not indicate how will be this issue addressed.	
F_USACE1-61	USACE	USACE		2012 CVFPP Public Draft	3/3.3	pages 3-9 thru 3-10	It is not clear how small communities and rural areas will receive increase flood protection through improvements focused on adjacent urban areas. As an example, it is not clear how the RD1001, on the north side of the Natomas Cross Canal and the 3 rural levees on the west side of the Sacramento River will benefit from the improvement made on Natomas levees (on the south side of the Natomas Cross Canal and east side of the Sacramento River) which include raising the levees to 200 year of protection. These rural levees will remain weaker than before the Natomas Basin and susceptible to overtopping due to increase in elevation of the Natomas Basin levees.	
F_USACE1-62	USACE	USACE		2012 CVFPP Public Draft	3/	page 3-15	Specify what tool/program was used to estimate building costs per square foot by structure type.	Revise text per comment.
F_USACE1-63	USACE	USACE		2012 CVFPP Public Draft	3/	page 3-16	It is standard USACE practice to use guidance specified in IWR Report 95-R-9 (April 1995) for the purposes of estimating depreciation.n The CVFPP should include a rationale for utilizing the M&S method.	Provide rationale for utilizing M&S method for the CVFPP analysis.
F_USACE1-64	USACE	USACE		2012 CVFPP Public Draft	3/3.5	pages 3-12 thru 3-18	The system wide improvement consisting of widening the existing bypasses and construction of new bypasses does not solve the biggest issues of the Central Valley Flood Control System which are the weakness of the existing flood control features either due to inadequate construction methods and materials; to foundation issues; to existing encroachments and penetrations; and due to woody vegetation on levee slopes.	
F_USACE1-65	USACE	USACE		2012 CVFPP Public Draft	3/3.5.7	page 3-18	Suggest including levee height increases as potential method to mitigate for flood stage increases. Given the physical constraints, there may be locations where this is the only feasible method. In addition, there may be locations where this would promote higher geomorphic stability than other methods.	
F_USACE1-66	USACE	USACE		2012 CVFPP Public Draft	3/3.7	page 3-21	Thirty samples may not be adequate to provide a statistically significant result, especially when you are using sample sizes greater than 30 for structure characteristics.	Step 6-7: Suggest conducting sensitivity using greater than 30 sampled parcels for empty parcels.
F_USACE1-67	USACE	USACE		2012 CVFPP Public Draft	3/3.10	pages 3-25 thru 3-29	The leading paragraph of section 3.10 states "The following provides context for the USACE policy and the State's resultant levee vegetation management strategy described in Section 4." USACE does not agree that sections 3.10/3.10.1 accurately provide context for the USACE policy.	Section 3.10 should be completely rewritten to summarize ETL 1110-2-571, the draft policy guidance letter for vegetation variances which outlines proposed policy for regional variances as required by WRDA 1996, Section 202(g), and the 1949 deviation to the Sacramento River Flood Control Project Standard O&M manual.

F_USACE1-68	USACE	USACE		2012 CVFPP Public Draft	3/3.10.2	page 3-29	The intent of paragraph 3.10.2 is unclear.	The section should be completely rewritten to summarize the State's intent for vegetation compliance within rural-agricultural areas. To provide a complete picture, the revised section should not only address whether the State intends to comply with PL 84-99 inspection standards, but also if the State intends to comply with the requirements of the O&M manuals for these areas. If the State's intent is not to comply with the O&M manuals, the State should be clear what options may be pursued to meet the commitments of the original assurances provided for the authorized project (eg. Deauthorization, regional vegetation
F_USACE1-69	USACE	USACE		2012 CVFPP Public Draft	3/3.11	page 3-30	It is not clear whether the cost estimates for the three approaches discussed in Section 4 include costs for residual risk management. The last sentence of Section 3.11 of the draft CVFPP states: "investments in residual risk management must continue." That implies that costs for residual risk management have been included. Revisions for clarity are needed.	
F_USACE1-70	USACE	USACE		2012 CVFPP Public Draft	3/3.13.2	page 3-36	Section 3.13.3 states, "Table 3-7 summarizes contributions of the SSIA to the five CVFPP Goals, compared with No Project." It is not clear where the five goals fit in the referenced table, which includes three major headings and eight subheadings, none of which are clearly identified as the five goals in question. Further, there are contradictions between the text and table, for example, the text states that SSIA woudl reduce economic damages by 75%, while the table identifies a 67% reduction.	
F_USACE1-71	USACE	USACE		2012 CVFPP Public Draft	3/3.14	page 3-38	For the Federal government to share in the cost of a project, the Corps would typically identify the National Economic Development Plan (NED). The NED Plan is the basis for Federal cost share. Business production losses are not included in the computation of NED. Modeling should include a scenario that excludes business production losses.	
F_USACE1-72	USACE	USACE		2012 CVFPP Public Draft	3/3.14.1	page 3-39	Provide specific project information for the "Final Economic Reevaluation Report (2008)" that is referenced in text.	Revise text per comment.
F_USACE1-73	USACE	USACE		2012 CVFPP Public Draft	3/3.14.4	page 3-41	First Bullet, Text specifies that Expanded floodways would create space for river meandering, sediment erosion and deposition. River meandering does not appear to be applicable to setbacks along the bypsss reaches. During development of the improvement approaches, were levee setbacks evaluated along the Sacramento river where river meandering is applicable?	
F_USACE1-74	USACE	USACE		2012 CVFPP Public Draft	3/	page 3-42	Need to clarify that not all crops would sustain losses based on the 5 day trigger point. Generally, field crops, alfalfa and other legumes, truck crops, and other basic crops can be evaluated using the 5 day trigger point. Orchards and vineyards, due to their deep root zones have a larger tolerance for flooding on average.	Consider an adjustment to the mortality rates on orchards and vines
F_USACE1-75	USACE	USACE		2012 CVFPP Public Draft	4/4.1.1	Page 4-2	Section 4.1.1. does not thoroughly address the need to and strategy for informing the public during floods. Successful emergency response programs hinge on communication with the public. Please consider adding additional details to this section.	
F_USACE1-76	USACE	USACE		2012 CVFPP Public Draft	4/4.1	page 4-2 to 4-10	The "Three Amigos" project is a non-structural alteration to the existing project. While a portion of the levees would be removed through breaching, the area behind the levees will become part of the Federal flood control project as a floodway. So there is still a Federal flood control feature at that location and the State of California will have to maintain this feature (i.e., floodway) in accordance with the revised O&M Manual that will be provided following completion of the project. The Three Amigos project is not a deauthorization of any portion of the flood control project, it is simply a change to it. The last sentence of the first paragraph is factually incorrect. The USACE has procedures in place for breaching the levees at Three Amigos but before this can occur, compliance with NEPA must be updated due to the lapse in time since the project started. Additionally, USACE and the USFWS will conduct outreach to landowners who will be affected again due to the amount of time that has passed since outreach was originally conducted. Once these steps are accomplished, the levee can be breached and the	
F_USACE1-77	USACE	USACE		2012 CVFPP Public Draft	4/4.1	page 4-2	The FY11 Federal Discount rate was 4.125% and the FY12 Federal Discount rate is 4%.	Explain why discount rate of 7.625% was used.
F_USACE1-78	USACE	USACE		2012 CVFPP Public Draft	4/4.1	Page 4-2	Suggest that the state also coordinate and maintain archive of post processed quality controlled flow and hydrologic data for use in engineering studies. Current CDEC real-time data are not quality controlled, have missing data when communication links are broken, etc. This limits the usefulness for engineering studies.	
F_USACE1-79	USACE	USACE		2012 CVFPP Public Draft	4/4.1.2		The Operation and Maintenance program should address flood protection structures within a basin which are not part of the program such as non-program non-urban or urban levees, highways and railroad embankment. These levees and embankment are part of the flood protection system but are not maintained or operated by the CVFPB. Some of these structures are not designed and constructed for flood reduction purposes (i.e. highway and railroad embankments), there is no access for inspection or flood fighting and their poor maintenance may lead to flooding of the entire basin.	

F_USACE1-80	USACE	USACE		2012 CVFPP Public Draft	4/4.1.4	Page 4-7	The USACE now identifies our projects as flood risk management projects. Although modification of a Federal flood risk management project does require approval by the USACE, the USACE will not necessarily participate in any projects that receive that approval. With regard to feasibility studies that the Corps is conducting in the Central Valley, the USACE cannot anticipate or guarantee that any particular study will lead to either Congressional authorization or	
F_USACE1-81	USACE	USACE		2012 CVFPP Public Draft	4/4.1.5	Page 4-12	Recommend refining approach based on potential for system impacts. This may not be related to the size of project. For example, modification of flood control diagrams may impact water supply storage and would need to be evaluated as a system.	
F_USACE1-82	USACE	USACE		2012 CVFPP Public Draft	4/4.2	page 4-14	The first two bullets appear to be the same. Please clarify or consolidate	
F_USACE1-83	USACE	USACE		2012 CVFPP Public Draft	4/4.2	page 4-14	3rd bullet: How is this final bullet going to be achieved given the real estate challenges DWR has revealed regarding planting. A discussion should be included regarding updating easements to reflect current language if this is a goal	
F_USACE1-84	USACE	USACE		2012 CVFPP Public Draft	4/4.2	page 4-15	2nd bullet: Recommend deleting the second sentence of this bullet because it doesn't relate to the issue raised in the first sentence of this bullet. Furthermore, USACE is not in agreement with the second sentence. Finally, the second sentence seems to conflict with the life cycle management approach as described elsewhere in the CVFPP.	
F_USACE1-85	USACE	USACE		2012 CVFPP Public Draft	4/4.2	page 4-15	3rd bullet: The first sentence is unclear. What is the accepted engineering practice or how will it be developed?	
F_USACE1-86	USACE	USACE		2012 CVFPP Public Draft	4/4.2		Through inspections, both DWR and USACE have identified many areas where landscaping does not meet the visibility and accessibility standard. A discussion on how this will be handled should be included	A discussion on how this will be handled should be included
F_USACE1-87	USACE	USACE		2012 CVFPP Public Draft	4/4.2	4-13 thru 4-16	There is no reference to the updating of California Code of Regulations, Title 23, Waters technical sections to be consistent with the CVFPP	Add a section suggestion that CCR Title 23, Waters technical sections be update to reflect the CVFPP, as adopted
F_USACE1-88	USACE	USACE		2012 CVFPP Public Draft	4/4.2	Section Wide	Note: The last sentence of this comment isn't very clear. It suggests addressing vegetation under the Framework, but my understanding of the Framework is that is sets out interim actions pending completion of the CVFPP which would address more long term solutions. This comment seems to suggest continuing the interim actions...which is at odds with the comment at line 9 above.	
F_USACE1-89	USACE	USACE		2012 CVFPP Public Draft	4/4.2.1	page 4-16	Change the word "indefinitely" to "while working on higher priority risks" as that seems to better reflect DWR's described intent	
F_USACE1-90	USACE	USACE		2012 CVFPP Public Draft	4/4.4	page 4-18	"These feasibility studies will be prepared in coordination with the USACE and in conjunction with its CVIFMS." CVIFMS is a cost-shared study being led by USACE, DWR, and the Central Valley Flood Protection Board.	
F_USACE1-91	USACE	USACE		2012 CVFPP Public Draft	4/4.5	Section Wide	Note: Adding a specific reference to the relevant section of the Framework Agreement would help to clarify this comment.	
F_USACE1-92	USACE	USACE		2012 CVFPP Public Draft	4/4.6		The cost of implementation of the Framework requirements should be included.	
F_USACE1-93	USACE	USACE		2012 CVFPP Public Draft	4/4.7.1	Page 4-38	Figure 4-7 appears to assume a Federal contribution of 46% to the total CVFPP costs. It is premature to assume any Federal contribution that has not already been appropriated. Because federal interest has not yet been established in many elements of the CVFPP, the USACE is not in a position to determine whether this conjecture, or any other assumption regarding future federal participation, is reasonable. Further, because Operation and Maintenance costs are always 100% the responsibility of the local sponsors of federal projects, no federal participation in the long-term cost of the project should be assumed.	
F_USACE1-94	USACE	USACE		2012 CVFPP Public Draft	4/4.7.1	page 4-38	The description of financing in the draft CVFPP appears to rely on several assumptions regarding Federal participation and cost-sharing. Those assumptions should be identified and explained. Because federal interest has not yet been established in many elements of the CVFPP, the USACE is not in a position to determine whether this conjecture, or any other assumption regarding future	Add text regarding assumptions for Federal cost share.
F_USACE1-95	USACE	USACE		2012 CVFPP Public Draft	4/4.9	page 4-42	With regard to the list of federal program policies and permitting identified on Page 4-42: This is clearly not an exhaustive list of the federal programs, policies, and permit requirements. Recommend removing this entire sub-section. Rather, recommend summarizing in one bullet that there are many federal, state and local programs, policies and permits that will be required to achieve the goals of the CVFPP. In some instances these programs may be in conflict and a lot of collaboration will be necessary to achieve the goals.	
F_USACE1-96	USACE	USACE		Attachment 7 Plan Formulation	General	N/A	Suggest noting the date or version of any design criteria utilized (for example levee design criteria). The various criteria are evolving and reference needs to be clear.	
F_USACE1-97	USACE	USACE		Attachment 7 Plan Formulation	General	N/A	Suggest describing the no project conditions in the no project conditions section (section 7.2) Most of the technical detail describing the no-project condition is distributed throughout each project approach (sections 7.3 and 7.4). Terms and metrics used in earlier sections are not explained until later sections.	
F_USACE1-98	USACE	USACE		Attachment 7 Plan Formulation	General	N/A	Each table or figure should describe the condition (no project, or the project approach).	
F_USACE1-99	USACE	USACE		Attachment 7 Plan Formulation	General	N/A	Comparisons of stage are presented for a 1% Annual Chance Exceedance Flood. However, stage may show more sensitivity at other frequencies. A flood stage comparison for a 5% ACE flood might be contained by the levee and increase by 5 feet. However, the 1% flood might exceed the levee capacity and only increase 0.5 feet.	

F_USACE1-100	USACE	USACE		Attachment 7 Plan Formulation	General	N/A	Recommend providing maps that describe the improvements for each approach.	
F_USACE1-101	USACE	USACE		Attachment 7 Plan Formulation	2/	Page 2-13	Frazier Creek/Strathmore Creek and White River/Deer Creek are located in the Tulare Basin, which is outside the CVFPP study area.	
F_USACE1-102	USACE	USACE		Attachment 7 Plan Formulation	3/	Page 3-8	Recommend including description of Butte Basin Overflow area. Similar to reservoirs, the approximately 1 million acre feet of transitory storage within this area is extremely important to the operation of SPFC facilities.	
F_USACE1-103	USACE	USACE		Attachment 7 Plan Formulation	3/	Page 3-17	Recommend describing how current flood protection requirements specified in the California Code of Regulations would affect population growth and development.	
F_USACE1-104	USACE	USACE		Attachment 7 Plan Formulation	5/	Page 5-9	Description of section 9616 of the California water code includes the wording "eliminating" the levee threat factors. The term "Elimination" does not convey the concept of residual risk.	
F_USACE1-105	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-2	Suggest changing the word "room" to "capacity" in the sentence - "This approach combines most of the features of the above two approaches and provides more room within flood conveyance channels. ."	
F_USACE1-106	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-6	Generally, business losses should not be added to Structure/Content/Agriculture losses as they are in different categories (Regional vs. National).	Revise text per comment.
F_USACE1-107	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-7	3rd bullet. Suggest clarifying this sentence. These fragility curves are for existing levees. Not new levees.	
F_USACE1-108	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-10	Was the Feather River Star Bend setback levee included?	
F_USACE1-109	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-12	Last Paragraph, If applicable, suggest noting that remedial actions would be based on the latest design criteria.	
F_USACE1-110	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-14	Last sentence No changes in reservoir operations rules or in the way is unclear. Suggest rewording the sentence.	
F_USACE1-111	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-15	Recommend providing more technical details on the ULE and NULE since this forms basis for each plan approach. For example, how were the ULE and NULE reaches identified? How does Low, Moderate, High relate to the levee design criteria.	
F_USACE1-112	USACE	USACE		Attachment 7 Plan Formulation	7/	7-15	USACE does not believe that business losses of $101 million is a correct estimate. That number should be verified and supporting information should be provided in the CVFPP.	Confirm that totals are correct.
F_USACE1-113	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-30	Figure 7-14 and 7-15 and other similar maps. Are the reduction in damages color coded by basin or is this the amount for all areas of that color? The amount of benefits within the Butte Basin(largely agricultural) is shown to have a similar benefits as the Sacramento urban area. Recommend verifying those numbers.	
F_USACE1-114	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-34	Suggest moving the discussion of threats earlier in the document where it is first discussed.	
F_USACE1-115	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-54	Costs associated with F-CO/F-BO are included but description of alternative on page 7-47 specifies that F-CO/F-BO are not included in the alternative.	
F_USACE1-116	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-55	Would the plan also include increased levee elevations in some areas?	
F_USACE1-117	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-61	For the proposed Feather River Bypass, recommend describing the flood frequency these flows would be bypassed.	
F_USACE1-118	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-62	Figure 7-25 shows Feather river bypass from Thermalito afterbay. Is this correct?	
F_USACE1-119	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-63	Suggest clarifying that transitory storage is not comparable with reservoir storage. Attenuation of flood waves attributable to levee setback transitory storage is likely to be very minor relative to the same storage provided as flood space.	
F_USACE1-120	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-64	Figures 7-26 and 7-27. Note at top of graphic specifies increased flood storage at Lake Oroville/New Bullards Bar. Is the storage being increased or is this the "equivalent flood storage" mentioned in the text. Recommend not using the term "equivalent flood storage". Describe the actual component, for example reoperation. Figure uses the term "attenuate flood peak". Is flood wave attenuation the primary reason for the stage decrease or is it the result of increased conveyance area and/or change in diversions.	
F_USACE1-121	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-68	Figure 7-30. The project diverts 32,000cfs from the Feather River into the Butte Basin. However, damages are shown to be reduced. Is this correct?	
F_USACE1-122	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-72	Recommend that similar levels of forecasting and notification be included in all three approaches.	
F_USACE1-123	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-73	The following sentence "LOP is defined as the amount of flood protection able to withstand flooding for AEP" is not clear. Recommend revising sentence.	
F_USACE1-124	USACE	USACE		Attachment 7 Plan Formulation	7/	Page 7-75	Figures 7-32 and 7-33 What are the numbers at the top of each bar chart? It appears they are the total for the bar but there are more numbers than bars.	
F_USACE1-125	USACE	USACE		Attachment 7 Plan Formulation	8/	Page 8-28	The 1997 event delta stages would have been greater under a sea level rise scenario. The 1997 flood event stages may serve as a sea level rise surrogate for smaller flood simulations (less than 1997 event), but would be the opposite for large flood events(greater than 1997 flood).	
F_USACE1-126	USACE	USACE		Attachment 7A Regional and Local Project Summaries	1/	Page 1-145	David VanRijn is no longer with USACE.	Replace with Brandon Muncy.
F_USACE1-127	USACE	USACE		Attachment 7A Regional and Local Project Summaries	1/	Page 1-148	William Edgar is no longer with the Sutter Butte Flood Control Agency.	Insert name of his replacement.
F_USACE1-128	USACE	USACE		Attachment 7A Regional and Local Project Summaries	1/	Page 1-154	The USACE understands that the Project proponent of the West Stanislaus, Orestimba Creek project is the City of Newman, not the City of Woodland. The document should be corrected.	Revise text per comment.

F_USACE1-129	USACE	USACE		Attachment 7A Regional and Local Project Summaries	1/	Page 1-156	An EA/IS is being developed for the West Stanislaus, Orestimba Creek project; no EIs/EIR is being developed. The proposed segment with adverse effects has been removed from the study. The bullet point regarding Adverse Environmental Effects should be removed from the draft CVFPP.	Revise text per comment.
F_USACE1-130	USACE	USACE		Attachment 7A Regional and Local Project Summaries	1/	Page 1-156	Redirected Hydraulic Impact - language should be changed to read: "localized increased in the depth of flooding up to half a foot may occur in areas outside of the chevron levee"	Revise text per comment.
F_USACE1-131	USACE	USACE		Attachement 8A Hydrology	1/	Page 1-1	The lack of major flooding in the last 10-yrs is not a reasonable rationale to forego re-evaluation of the hydrologic frequency analysis. A more appropriate rationale would be that extension of the hydrologic record length to include recent data would not substantially increase the record length and computed statistics.	
F_USACE1-132	USACE	USACE		Attachement 8A Hydrology	1/	Page 1-2	Text and figure 1-1 indicate that the points shown are the storm centers. These are not the "centers" These locations are the hydrologic index points for which a storm centered upstream produces the critical flow (or stage) at that location.	
F_USACE1-133	USACE	USACE		Attachement 8A Hydrology	2/	Page 2-6	Suggest replacing the term "maximum allowable flow" rather than the term "maximum regulated flow."	
							Comment removed per request of Commentor	
							Comment removed per request of Commentor	

	Commentor	Commentor Agency	Contact Email	Document	Chapter/ Section	Page No.	Comment	Proposed Modification
F_USACE1-134	USACE	USACE		Attachment 7A	General	General	Water Resource studies and projects conducted by the USACE are always joint Federal-non-Federal efforts. USACE serves as the lead Federal agency. The non-Federal study or project partner is the lead non-Federal agency.	
F_USACE1-135	USACE	USACE		Attachment 7A	General	General	The Delta Islands and Levees Feasibility Study is an active USACE-DWR feasibility study/ The study area is the legal Delta and adjacent floodplains. The authorized study purposes are ecosystem restoration, flood risk management and other related water resources purposes. The USACE POC is the Project Manger, Dennis Clark.	
F_USACE1-136	USACE	USACE		Conservation Framework	1	1	"This Conservation Framework…will complement the federal Central Valley Integrated Flood Management Study (CVIFMS)." The CVIFMS is being conducted as part of a Federal-State partnership: USACE is the Federal partner; DWR and CVFPB are the non-Federal partners.	
F_USACE1-137	USACE	USACE		Conservation Framework	General	General	The relationship between the CVFPP and the Conservation Framework and Strategy is not clear. Since the EIR is not yet available, it is also unclear if the Conservation Framework will be addressed in the EIR.	
F_USACE1-138	USACE	USACE		Conservation Framework	5	5-32	Recommend this section include a discussion of how the new lead scientist and the CVFPP science and adaptive management programs would interface/integrate with other existing or planned monitoring, science, and adaptive management programs and their lead scientists . Key examples include: Delta Science Program and Lead Scientist, Interagency Ecological Program and Lead Scientist, State and Federal Water Contractors Lead Scientist, BDCP adaptive management plan and governance structure.	
F_USACE1-139	USACE	USACE		Conservation Framework	5.7 & 7	5-28, 7-2	"Improving environmental scientific and technical basis for informing flood management decisions." How will this effort interface with the Interagency Ecological Program?	
F_USACE1-140	USACE	USACE		Conservation Framework	7	7-2	Bullet 3 - Recommend including "synthesis" in the following sentence: "Improvements are made through inventory, analysis and modeling, monitoring, management oriented-research, and information management and access. Recommend also including "synthesis" in Section 5.7 (page 5-28).	
F_USACE1-141	USACE	USACE		Conservation Framework	7	7-2	Bullet 3 -Consider encouraging timely information transfer through conference presentations, and through publication in credible peer-reviewed publications. Recommend also considering this for inclusion in Section 5.7.	
F_USACE1-142	USACE	USACE		Conservation Framework	General	General	While the Conservation Framework provides support for the CVFPP's goals by identifying environmental guidelines for flood project planning and previewing the long term conservation strategy to be completed in 2017, the strategy for vegetation management on levees does not sufficiently describe the plan for achieving consistency with Corps standards for control of wild growth on levees, including identifying areas where variances may be requested. The Conservation Framework also fails to recognize the State's responsibility for fulfilling the assurance agreements for operation and maintenance of the local flood protection projects that have been legislated into the Federal system or transferred in the traditional manner after a cost shared project has been constructed and conveyed to the State. The term "Levees with Preexisting Legacy Levee Vegetation" and the definition of this term will require further discussion with the Corps before being incorporated in the Conservation Strategy because this term is not used in the Corps' ETL 1110-2-571 or draft variance guidance. The vegetation maintenance strategy should focus on reducing risk to public safety. The life cycle management strategy can be an acceptable approach to reducing risk and complying with environmental values. Continuing to collaborate with the Corps and resource management agencies in adopting variance policy (and other	

F_USACE1-143	USACE	USACE		VOL IV Attachement 8F	3	3-46	It is understood that the period of inundation of flood waters will affect the motality of the crops in question. The mortality is expected to vary depending on the season of the year and the crop type. Annual crops are very vulnerable to flooding and be killed with as little as 3 days of flooding or less. Orchards and vine crops are typically more resilient and can to subjected to floods in excess of 30 days during certain times of the year without noticable effects. The analysis presented makes a sweeping statement to all crops which is too general in nature; especially when one considers that the re-establishment of the orchards and vine constitute a significant part of the damages estimated in the analysis.	
F_USACE1-144	USACE	USACE		VOL IV Attachement 8F	3	3-48	To accommodate the variability in prices received and prices paid, one could use an @Risk software program. This program could provide for uncertainty in the prices as well as the variability in seasonal plantings. This is easiliy accomplished and will handle the uncertainty issues around the prices and seasonal variability.	
F_USACE1-145	USACE	USACE		VOL IV Attachement 8F	3	3-53	The section "Business loss per flood event" addresses the affect of interrupted business to the brick and mortar businesses easily identified in the micro- economic arena. It is my contention that these losses also will also be felt by industries in the area. Specifically, impacts to hydropower generation and gas powered generation facilities could be impacted by floodwaters through restriction of access to manage these industrial plants. Additionally, the pumps that pump water from the Delta may be affected by floods, either from the direct impact of flooding to the facilities or by the necessity of the pumps to re-operate based on the impacts that floods cause to salt water intrusion, to name just one effect. Loss to recreation and tourism is another area that would be impacted. The industrial impacts, either directly or indirectly, can create a significant burden on the economy and should, at a minimum, be noted in the report.	

U.S. Army Corps of Engineers

Response

F_USACE1-01

As stated in Master Response 12, the State is sensitive to the potential effects of repairs or improvements to SPFC facilities that may result in redirected hydraulic impacts upstream or downstream from these facilities, and is developing more detailed policies to minimize and mitigate potential impacts. Based on current evaluations (see Section 3.13; Attachment 8C, "Riverine Channel Evaluations"; and Attachment 8D, "Estuary Channel Evaluations," in Appendix A, "Central Valley Flood Protection Plan"), implementing the SSIA as a whole would not result in adverse systemwide hydraulic effects, including any in the Delta. Peak floodflows may increase slightly (over current conditions) in certain reaches, but the expansion of conveyance capacity proposed in the SSIA would attenuate flood peaks and result generally in reduced peak flood stages throughout the system.

Future feasibility studies are needed to refine the proposed elements of the SSIA, and the ultimate configuration of facilities may vary from those presented in the 2012 CVFPP. Only at that time will the State have project-specific modeling results that indicate the specific magnitude and extent of hydraulic impacts, if any, from planned improvements within the system. Cost estimates for the SSIA in the 2012 CVFPP include an allowance for features to mitigate potential significant hydraulic impacts caused by project implementation.

The issue of potentially redirecting hydraulic impacts is also addressed in Section 3.13, "Hydrology," in the DPEIR under Impact HYD-2 (NTMA), Impact HYD-4 (NTMA), Impact HYD-2 (LTMA), and Impact HYD-4 (LTMA). As indicated in these impact discussions, any project proponent implementing a project consistent with the SSIA that would affect flood stage elevations would need to obtain various applicable permits before project implementation (such as Section 408 and 208.10 authorization from USACE and encroachment permits from the Board). The project proponent would need to analyze the potential for the project to locally impede flow or transfer flood risk by causing changes in river velocity, stage, or cross section. Projects would not be authorized if changes in water surface elevation, and thus flooding potential, would increase above the maximum allowable rise set by these agencies for given conditions. If the design of a project would result in an unacceptable increase in flooding potential, a project redesign or other mitigation would be required to meet agency standards before the project could be authorized and implemented.

For additional details, see Master Response 12.

F_USACE1-02

DWR believes that the use of "attenuate" in the CVFPP (pages 2-12, 2-13, 2-28, and 3-12) is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-03

The following five EIP projects are included in the baseline for purposes of evaluating costs, benefits, and hydraulic comparisons: LD1—Lower Feather River Setback Levee at Star Bend, RD 2103 Bear River North Levee Rehabilitation Project, the TRLIA Feather River Levee Improvement Project, the WSAFCA Three Rivers and CHP Academy project, and the SAFCA Natomas Levee Improvement Project. The CVFPP included these projects in the baseline for evaluating costs, benefits, and hydraulic baselines used in the formulation of the three preliminary approaches and the SSIA. Implementation of the CVFPP will be undertaken in phases, similar to how the DPEIR evaluates the CVFPP and its programs. The CVFPP refers to Phases I, II and III of implementation while the DPEIR uses near-term management actions (NTMAs) and long-term management actions (LTMAs). Both Phase I in the CVFPP and the NTMAs in the DPEIR include those activities that are likely to occur during the first 5 years after adoption of the CVFPP. The remaining EIP programs not included in the baseline definition are likely to be completed within this time frame and are evaluated as NTMA or Phase I actions assessed in the with-project conditions. These include RD 17 100-year Levee Seepage Area Project; WSAFCA Southport; Stockton Hood Canal; Knights Landing Ridge Drainage District Levee Repair; Smith Canal Improvement; and TRLIA Feather River Levee Improvement Project. The State's EIP program is no longer accepting new grant proposals in anticipation of new programs and funding mechanisms to be developed through regional and basin-wide flood management planning efforts. These implementation programs are discussed in Section 4.1.5 of the CVFPP as "Flood Risk Reduction Projects Program," with "High Risk Flood Risk Reduction Projects" identified as the replacement for the EIP program. As these future projects are developed, new assumptions and baselines will be determined for specific proposals.

DWR believes that the meaning of the document is clear and that the information requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-04

CVFPP page 4-16 describes DWR's interest to work with USACE in developing and implementing a flexible, systemwide regional variance that would be consistent with the State's VMS. As stated in Master Response

16, USACE has proposed a policy for issuing variances from the strict vegetation removal requirements of the ETL. The State intends for the VMS, including LCM, to serve as the basis for a regional variance application that would generally allow vegetation to remain on the waterside of Central Valley levees up to a line 20 feet below the waterside levee crown. The State considers this vegetation to be particularly important for providing habitat while also promoting levee integrity. Although the most recent version of USACE's draft variance policy casts considerable doubt on the viability of such a regional variance that would achieve the State's objective of retaining most waterside vegetation, the VMS has been retained in the CVFPP to support a continued dialogue with USACE, including a likely variance application. DWR's evaluation of the issues presented by the USACE's most recent variance proposal was presented in comments submitted to USACE on April 13, 2012, which are incorporated by reference into this response (DWR 2012). As stated in those comments, limitations in the most recent variance proposal (for example, limiting variances to levees that are overbuilt) would severely restrict or preclude variances in most Central Valley situations. However, DWR intends to continue to work with USACE to resolve the vegetation question in a way that appropriately addresses the situation in the Central Valley. For additional details, see Master Response 16.

DWR believes that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP related to this comment are required. However, note that some changes to text of the public draft CVFPP and Attachment 2, "Conservation Framework," concerning the VMS have been made as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-05

DWR believes that the August 3, 1949, USACE Headquarters letter referenced in the comment, which authorized modification of the O&M manuals in California to allow waterside vegetation, established a variance for vegetation management that was consistent with the practice of allowing trees to remain on the levee. To the extent that such trees did not interfere with access and inspection, both USACE and the State allowed these trees to remain on the levee until USACE proposed a revised policy in. In that context, USACE ETL 1110-2-571, adopted in 2009, represented a significant change in policy for the Central Valley. USACE's position in recent litigation is that the 2009 ETL did not reflect a change in policy. DWR disagrees with that characterization. The "deviation" label may not be more accurate than the "variance" label. In USACE's draft variance policy, variance is a defined term, but deviation is not. DWR disagrees with the implication in the comment that the 1949 letter did not establish a

variance. As a result, DWR believes that the meaning of the text is clear and accurate, and that the edit requested by the commenter is not justified. No changes to the text of the CVFPP are required.

F_USACE1-06

Section 3.16, "Population, Employment, and Housing," of the DPEIR discusses the potential inducement of population growth, either directly or indirectly, through an increase in regional economic output (see Impact PEH-1 (NTMA) on pages 3.16-57–3.16-59). Various potential mechanisms for indirect growth inducement generated by the proposed program, including indirect growth inducement from construction-related and permanent employment opportunities, changes in water supply, and implementation of the 2007 Flood Legislation Requirements for an urban level of flood protection, are discussed in Chapter 6.0, "Other CEQA-Required Sections and Additional Material," of the DPEIR. No changes to the text of the CVFPP are required.

F_USACE1-07

The 2012 CVFPP is a conceptual plan; consequently, specific facility design features such as levee superiority and levees that can withstand overtopping are not explicitly included in the plan. However, the CVFPP describes the State's preference for including design features that consider the consequences of catastrophic failure and promote greater system resiliency, particularly in urbanized areas. For example, CVFPP page 3-8 states, "The State strongly supports consideration of features that offer greater system resilience, such as levees that can withstand overtopping without catastrophic breaching. Another example is to build compartmentalized floodplains (the use of secondary levees, berms, or elevated roadways within protected areas to reduce the geographic extent of flooding when a failure occurs)." Page 3-8 of the CVFPP also references USACE recognition of the effects of catastrophic failure, as witnessed following Hurricanes Katrina and Rita. Further, Urban Levee Design Criteria include design guidance for withstanding overtopping. Future feasibility studies will refine the conceptual elements included in the CVFPP, as described in Master Response 14, including designs for levees, and may consider levee superiority and other design elements commensurate with risks. The comment is noted; no change to the CVFPP is required.

F_USACE1-08

The comment has been considered and is noted; however, no changes were made to CVFPP text.

The commenter requests that the CVFPP discuss how the National Levee Database developed by USACE is being utilized. The levee database used as a basis for the CVFPP (including the SPFC Descriptive Document and FCSSR, incorporated by reference) includes information from the National Levee Database and the California Levee Database.

F_USACE1-09

Appendix E, "Conservation Framework," of the CVFPP addresses federal ESA compliance and special-status species in several places, most notably in the "Endangered Species Act Compliance" section on pages 5-7 and 5-18. On page 4-24, ESA permitting is discussed: "Beyond seeking project-specific permits, DWR will work with regulatory agencies to develop regional strategies for environmental permitting, which may include NCCPs, HCPs, or programmatic ESA Section 7 consultations (see Section 5.6.4, Regional Permitting)." One of the key aspects of the CVFPP's Conservation Framework is the consideration of endangered and threatened species and coordination with resource agencies.

Section 3.6, "Biological Resources—Terrestrial," of the PDEIR discusses the impacts of the proposed program on federally listed and State-listed endangered species. Mitigation Measure BIO-T-3b (NTMA) states that "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; and applicable State and/or federal permits will be secured and permit requirements will be implemented" (see page 3.6-82 of the DPEIR). Mitigation Measure BIO-T-3c (NTMA) states that "The project proponent will consult or coordinate with USFWS under the federal ESA and DFG under the CESA regarding potential impacts on listed plant and wildlife species and associated critical habitat. The project proponent will implement any additional measures developed through the ESA and CESA consultation processes, including conditions of Section 7 biological opinions and Section 2081 permit" (see pages 3.6-84–3.6-85 of the DPEIR).

F_USACE1-10

The commenter states that the CVFPP should address the impacts of permitted and unpermitted levee encroachment and address the process for identifying cumulative impacts of this encroachment. More than 18,000 encroachment permits have been issued by the Board since its inception. A permit may be for a single encroachment or multiple encroachments. Many current encroachments are properly maintained. However, numerous permitted encroachments are not properly maintained, and numerous unpermitted encroachments exist on or within SPFC levee rights-of-way.

AB 1165 was passed in October 2009, which gave the Board greater authority for encroachment enforcement. The Board recently developed regulations to implement its new enforcement authorities. The Board has the authority to request removal of unpermitted or inadequately maintained encroachments. In response, the Board created a new Floodway Encroachment and Enforcement Branch to permit, regulate, and enforce the Board's decisions regarding the significant number of encroachments on levees, in floodplains, and near regulated streams within the SPFC.

Although efforts are underway to create a GIS database of historical encroachment permits, current inspection reporting does not distinguish between permitted or non-permitted encroachments. It is also difficult for inspectors to determine whether observed encroachments are located within existing easement or right-of-way boundaries. A more thorough evaluation of encroachment status would include a complete inventory of permitted and non-permitted encroachments and associated documentation, along with project-specific hydraulic modeling to assess the potential impact of encroachments on water surface elevation and levee integrity.

The *Flood Control System Status Report*, which is incorporated by reference as part of the CVFPP, provides a discussion of encroachments and the Board and DWR's assessment and remediation approach, including ongoing efforts noted above. Until many of these efforts are complete, insufficient information is available to provide an analysis of cumulative impacts or to address the issue of encroachments in greater detail.

Chapter 4 of the CVFPP broadly describes the various programs and projects DWR intends to use to implement the CVFPP, including those to address encroachments. The comment is noted; no changes to the text of the CVFPP are required.

F_USACE1-11

The CVFPP explains in Chapter 3 the limitations of Public Law 84-99 to effectively and efficiently assist levee rehabilitation the Central Valley, and suggests that assistance under this federal program may decrease in the future. These statements are supported by a summary of historical Public Law 84-99 expenditures, but the text does not present a detailed analysis. DWR believes that the meaning of the text is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-12

Because of the interconnected nature of flood management, water supply, and land use management decision making, the CVFPP study area

encompasses most of California. Section 1.3, "Geographic Scope of the CVFPP," of the DPEIR describes the coverage area, which is generally consistent with the commenter's request. As described in Master Response 14, DWR is partnering with USACE in developing updated hydrology for the watersheds tributary to the Central Valley; DWR plans to incorporate this data and analysis, if completed by USACE, into analyses supporting post-adoption feasibility studies and the 2017 CVFPP update. The comment is noted; no change to the CVFPP is required.

F_USACE1-13

As stated in Master Response 16, the State will implement a comprehensive, integrated VMS in the Central Valley that both meets public safety goals and protects and enhances sensitive habitats in the Sacramento and San Joaquin valleys. The CVFPP's VMS represents the State's current approach to addressing levee vegetation in the context of USACE ETL 1110-2-571 governing vegetation on federal flood management facilities. However, DWR continues to advocate having USACE participate as a true partner in addressing legacy levee vegetation issues, jointly considering the environmental and risk-reduction implications of vegetation remediation within the context of prudent expenditure of limited public funds. DWR will continue a dialogue with USACE regarding plan formulation concepts that recognize the agencies' shared responsibility for addressing vegetation issues (along with traditional levee risk factors), within a systemwide risk-informed context intended to enable continued progress on critical cost-shared flood system improvements. For additional information, see Master Response 16.

The State's VMS is not merely a continuation of the interim inspection standards, but rather a long-term strategy built upon the interim inspection standards. The long-term strategy includes several new requirements and details not addressed in the interim inspection standards, including the following: (1) the VMS will be adapted to experience and research; (2) a size standard for immature trees is provided; (3) root removal requirements are detailed; (4) the vegetation management zone is defined in several situations, and expanded to include up to 15 feet landward of the levee; and (5) inspection for trees that pose an unacceptable threat is required, along with their removal.

However, DWR also believes that the vegetation management approach established under the 2009 Framework Agreement and reflected in the interim inspection standards (particularly with these improvements) is fundamentally sound and appropriately addresses the management of risks from levee vegetation in the California context. As a result, the VMS as described in the CVFPP (including LCM) reflects DWR's proposal for a

long-term resolution of the vegetation management issue as anticipated in the 2009 Framework Agreement.

DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required. However, note that some changes to text of the public draft CVFPP and Attachment 2, "Conservation Framework," concerning the VMS have been made as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-14

The comment has been considered and is noted; however, no change was made to CVFPP text. As stated in Master Response 14, both the Board and USACE have statutory roles for oversight of modifications to the State-federal flood management system (the SPFC), executed through their respective project review and permitting authorities. In addition to these continued roles, DWR will work closely with USACE and the Board in conducting post-adoption planning activities, including acting as a State sponsor in the federal CVIFMS with USACE and conducting the State-led basin-wide feasibility studies to determine federal and State interests in implementation, respectively. The State will also partner with USACE on federal regional feasibility studies and post-authorization scope-change investigations aimed at modifying the State-federal flood management system through State, local, and USACE partnerships. For additional details, see Master Response 14.

F_USACE1-15

See response to comment F_USACE1-10. DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-16

The commenter states that many stream gauges are listed in the O&M manuals, and asks whether the I Street stream gauge is part of the SPFC and what its status is relative to standard operating procedures, data quality, and completeness.

The SPFC as fully described in the *State Plan of Flood Control Descriptive Document*, November 2010, and is defined in various sections of the California Water Code. The SPFC encompasses facilities, lands, O&M, conditions, and programs associated with flood control projects in the Sacramento and San Joaquin watersheds and facilities identified in CWC Section 8361for which the Board or DWR has provided assurances of nonfederal cooperation to the United States. Page 3-1 of the *State Plan of*

Flood Control Descriptive Document (DWR 2010), which is incorporated by reference to the CVFPP, documents the inclusion in the SPFC of gauges that are described in facility operations and maintenance manuals.

Under CWC Section 236, "The department, either independently or in cooperation with any person or any county, state, federal, or other agency, is authorized to collect hydrologic data necessary for river forecasting, to make forecasts of stream flow, to provide for flood warning, and to provide for communication necessary for the collection and dissemination of such information."

DWR's River Forecasting Section works with the National Weather Service's California-Nevada River Forecast Center to provide year-round daily forecasts of reservoir inflows, river flows, and water levels throughout California and in parts of Nevada. These forecasts are used by the Flood Operations Branch and the National Weather Service to determine the level of joint Federal-State flood response activation and operations. DWR manages only a portion of the gages that provide data used to generate these forecasts but manages the CDEC to provide a centralized database to store, process, and exchange real-time hydrologic information gathered by various cooperators through the State. There are approximately 140 cooperating agencies who provide data to its vast inventory of information.

DWR's four regional districts—Northern, North Central, South Central, and Southern—under each of their Surface Water Data sections regularly maintain these gauges under USGS standards. DWR's DFM provides support for the data storage including some post-collection processing of data from these real-time gauges. Limits are checked post-process, though there are some checks done at the instrumentation level. Data that are out of limits are flagged. The flagging varies depending on the type of data. However, much of the real-time data when posted on CDEC have not been reviewed, and are preliminary and used primarily to monitor current weather and hydrologic conditions as they relate to river forecasting and water supply. As real-time data, they are provisional and should not be considered data of record and are not an official source of historic climate data. Data of record are located at the Western Region Climate Center.

The CVFPP describes the State's vision for a sustainable flood management system in the Central Valley and is a high-level planning effort. A discussion of the quality control/quality assurance or the standard operating procedures for DWR gauges is outside the plan's scope of detail. The *State Plan of Flood Control Descriptive Document*, November 2010, provides a further general discussion of DWR and USGS real-time gauges and the State-federal Flood Operations Center in Sections 5.5.1 and 5.5.2.

Further information on DWR's CDEC system is available at http://www.water.ca.gov/floodmgmt/docs/CDEC_Brochure.pdf.

F_USACE1-17

The comparison of performance will not be changed for the 2012 CVFPP, but the suggestions made in the comment will be considered for use in the basin-wide feasibility studies and in the 2017 CVFPP. In the 2012 CVFPP, the performance of each approach is shown by Damage Area in Attachment 8F, "Flood Damage Analysis," Tables 4-2 and 4-4. Each Damage Area is a unique, contiguous floodplain located along a reach of stream or waterway, consistent with USACE analysis methodology. HEC-FDA was utilized to estimate expected flooding return period and damages for each Damage Area based on its corresponding levee performance curve and overall systemwide performance upstream of the damage area. Inputs to HEC-FDA were based on a range of flood events (floods of six frequencies centered at multiple locations throughout the watershed) and over 300 updated levee performance curves developed using data from DWR's ULE and NULE program. The methodology for development of the levee performance curves was vetted by an expert panel of representatives from USACE, DWR, and consultants. The results in Tables 4-2 and 4-4 are shown in a bracketed ranges rather than discrete numbers, commensurate with the reconnaissance level of the CVFPP technical effort.

F_USACE1-18

As described in its various technical attachments, analysis for the 2012 CVFPP and formulation of the SSIA considered flood risks with respect to system capacity and geotechnical performance (levee fragility). The SSIA includes both system elements (such as bypass expansion) to improve the overall capacity of the system to convey floodflows, as well as regional improvements (such as levee reconstruction) to reduce the risk of facility failure. As described in Master Response 14, post-adoption planning and feasibility studies will further analyze flood risks and refine the conceptual improvement elements included in the SSIA. The comment is noted; no change to the CVFPP is required.

F_USACE1-19

Costs presented in the 2012 CVFPP are preliminary planning-level estimates. No specific estimates for current O&M costs were included in the CVFPP, primarily because historical expenditures are largely dependent on funding availability and are not necessarily indicative of O&M needs. References in the CVFPP to the high cost of system maintenance were intended to recognize that the flood management system, as currently designed and configured, and in light of current regulatory requirements, is

very costly to maintain. The comment is noted; no change to the CVFPP is required.

F_USACE1-20

Use of the phrase "chronic erosion" refers to sites or reaches that have historically experienced repeated or persistent damage due to erosion. As noted in Chapter 1 of the CVFPP, many features of the existing flood management system were designed to flow at high velocities to flush sediment from hydraulic mining. While this aspect of system design has been effective in flushing sediment and supporting navigation, high flow velocities contribute to channel and bank erosion and pose maintenance challenges. The comment is noted; no change to the CVFPP is required.

F_USACE1-21

The suggested terminology change has been made as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-22

This comment was removed at the commenter's request.

F_USACE1-23

CVFPP Figure 2.2 includes a map of urban areas and small communities included in the Protect High-Risk Communities Approach. In general, nonurban areas are those outside the urban areas delineated in this figure. Section 3.14 of the DPEIR, which addresses land use, includes maps of urban, agricultural, and native land uses within the planning area. Further, Figures 3-4, 3-6, and 3-7 of the *Flood Control System Status Report* (DWR, December 2011), incorporated by reference to the CVFPP, illustrate urban and non-urban SPFC levees. DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-24

DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

The SPA is defined in the CVFPP as including lands subject to flooding under the current facilities and operation of the Sacramento–San Joaquin River Flood Management System, as defined in CWC Sections 9611 and 9614(d, e). The SPFC Planning Area contains the lands currently receiving protection from the SPFC as defined in CWC Section 9651(g) and is fully contained in the SPA. The State's flood management responsibility is limited to this area. Figure 1-9 of the CVFPP illustrates both these areas.

The SPFC Planning area is equivalent to and defines the residual floodplain risk area. As noted in several locations within the CVFPP, and described on page 2-17, even with the realization of major physical improvements to the flood management system, the risk of flooding can never be completely eliminated. Unanticipated facility failures or extreme flood events may still cause flooding. This remaining threat is called "residual risk" and may occur in any locations subject to flooding under current facilities and operation of the SPFC flood management system. Table 2.2 of the CVFPP includes a summary of risk management actions included in the preliminary approaches, including that for the Protect High-Risk Communities Approach. In general, areas protected by levees that receive major improvements will generally require lower levels of residual risk management compared with levees that are not improved.

The CVFPP describes the State's vision for a sustainable flood management system in the Central Valley and is a high-level planning effort, and residual risk is described in the context of the SSIA in Section 3.11. An analysis that further defines residual risk in the detail requested by the commenter outside the conceptual scope of the current plan, but may be forthcoming in future regional flood management planning efforts. The additional information requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-25

Channel conveyance capacity is more extensively discussed in the *Flood Control System Status Report* (DWR 2011), which is incorporated by reference in the CVFPP. However, the information provided in the FCSSR focuses primarily on the estimated current capacities of SPFC channels to sufficiently convey design flows defined in the operations and maintenance manuals or design capacities calculated from design profiles. Preliminary estimates of current channel capacities and their sources are detailed in Appendix B of the *Flood Control System Status Report*. Because of uncertainties associated with estimating channel capacities throughout the system, described in greater detail in the FCSSR, data used for the results in the FCSSR could not be used to conclusively identify specific locations of channel conveyance capacity inadequacies. DWR is currently developing updated and new hydrologic and hydraulic models for major rivers and tributaries as part of the Central Valley Floodplain Evaluation and Delineation Program. These models will provide a more current data set to more support an assessment of channel conveyance capacity inadequacies as part of post-adoption planning activities. In addition, DWR is using newly acquired surface elevation data LiDAR and creating project-level hydraulic models for the SRFCP that may reveal additional hydraulic capacity issues.

As described in Master Response 14, regional flood management planning, to be conducted in each of nine regions identified in the 2012 CVFPP, is an important next step in identifying specific improvements rural-agricultural areas, small communities, and urban areas consistent with the SSIA. Upon CVFPP adoption, and with the availability of additional technical information, DWR will work closely with local entities to collect on-the-ground information that will include an assessment of regional flood risks. Further investigations may result from these nine regional studies where specific reach histories will be evaluated in greater detail and in the context of flood risk assessment and management actions (projects) to reduce these risks. No changes to the text of the CVFPP are required.

F_USACE1-26

The commenter indicates that the State has initiated a climate change pilot study that will examine the sensitivity of climate change variables and reservoir flow in the Yuba-Feather River system and Merced River system, but results will not be available until fall 2013. The comment is noted.

F_USACE1-27

The potential for levee failure within the SPFC is summarized on CVFPP pages 1-12 through 1-14 and described in greater detail in the *Flood Control System Status Report* (DWR 2011), which is incorporated by reference to the CVFPP. DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-28

The comment has been considered and is noted; however, no changes were made to CVFPP text.

The text in question is not a rationale to forgo reevaluation of the hydrology; it is simply a description of why a new analysis was not undertaken, especially in light of the direction to use existing data and analyses for the 2012 CVFPP. In fact, the commenter describes ongoing hydrologic studies and then notes that they were not ready for the 2012 CVFPP.

F_USACE1-29

The commenter states that the second sentence on page 1-3 of the draft CVFPP is incomplete. However, the text referenced by the commenter appears to be located at the bottom of page 1-3, and reads “The Sacramento River bypass system was federally authorized in 1917. It includes a system of flood relief structures and weirs that release Sacramento River flows into the bypass system when flows exceed downstream channel capacity at five

locations; from the latitude of Chico to Sacramento (see Section 1.2.1)." DWR believes that the meaning of the text is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-30

DWR concurs with the commenter in that regulated and unregulated flows are not identified in Figure 1-3. The context of Figure 1-3 is within the discussion of the historical setting of the Central Valley flood management system. DWR believes that the level of detail of Figure 1-3 is appropriate in this context. Upstream reservoirs completion dates are available in Table 2-3 of the *State Plan of Flood Control Descriptive Document* (DWR, November 2010, incorporated by reference), which provides more detailed system information. DWR believes that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-31

It is recognized that various large, multi-purpose reservoirs regulate their outflow under controlled conditions. However, inflows into the major rivers and streams of the Central Valley combine both regulated outflow with flows from numerous unregulated streams. The text recognizes that the operation of the multi-purpose reservoirs can help moderate but not completely control the total, combined inflows into Central Valley rivers. DWR believes that the meaning of the text is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required

F_USACE1-32

The comment has been considered and is noted; however, DWR believes the meaning of the text is clear and no changes were made to CVFPP text.

F_USACE1-33

As described in Sections 2 and 3 of the CVFPP, and in greater detail in CVFPP Attachment 8, systemwide analyses conducted to support CVFPP development considered the potential for improvements to transfer flood risks to other locations in the system. These analyses were performed at a systemwide scale, consistent with the conceptual level of detail of the CVFPP. For the SSIA, these effects are described in Sections 3.13 and 3.14. DWR believes that information on the commenter's topic of concern is adequately addressed in the CVFPP and its supporting documentation, and no changes to the text of the CVFPP are required.

F_USACE1-34

The comment is noted. However, DWR believes that the meaning of the text is clear, and no change to the CVFPP is required.

F_USACE1-35

DWR recognizes the USACE project delivery process and follows federal law and regulations. Post-adoption activities will comply with those federal laws and regulations. As stated in Master Response 14, both the Board and USACE have statutory roles for oversight of modifications to the State-federal flood management system (the SPFC), executed through their respective project review and permitting authorities. In addition to these continued roles, DWR will work closely with USACE and the Board in conducting post-adoption planning activities, including acting as a State sponsor in conducting the CVIFMS with USACE, and State basin-wide feasibility studies both carried out under federal principles and guidance to determine federal and State interests in implementation, respectively. The State will also partner with USACE on regional feasibility studies and post-authorization scope-change investigations aimed at modifying the State-federal flood management system through State, local and USACE partnerships. For additional details, see Master Response 14. The comment is noted.

F_USACE1-36

The commenter is correct in describing the economic methodology behind the cost benefit ratio used to assess federal project feasibility. Page 1-24 of the CVFPP describes the State's intent to provide a framework for a much broader benefits analysis than is included in the traditional federal NED approach, which relies heavily on a monetarily based benefit-to-cost ratio to guide federal investments. As described in the CVFPP, the State promotes integrated flood management planning that incorporates multipurpose goals. While not explicitly stated, the text on page 1-20 describes the benefits of integrating environmental restoration in the context of rural flood risk reduction projects, recognizing incorporation of National Economic Restoration in the federal planning and decision making process. The State supports the integration of environmental restoration into site-specific flood risk reduction projects stemming from the CVFPP as a means of supporting both State and federal environmental interests, including achieving the supporting goals of the CVFPP. Post-adoption activities, described in Master Response 14, describe the detailed planning activities needed to identify potential benefits and evaluate the feasibility of site-specific CVFPP implementation projects.

The comment is noted. However, DWR believes that the meaning of the text is clear, and no change to the CVFPP is required.

F_USACE1-37

The commenter states that the CVFPP was not prepared in coordination with USACE and that USACE did not participate in the composition of the draft CVFPP or the analysis of the supporting data. The comment is noted, however, no change is made to CVFPP text. Many government entities are mentioned in the paragraph in question and not just USACE. The description of coordination does not imply agreement, but only that the agencies were invited to participate in work groups, workshops, public meetings, and document review.

When speaking of the future role of USACE in conjunction with the CVFPP, Master Response 14 states that DWR will continue to work closely with USACE and the Board in conducting post-adoption planning activities, including conducting the federal Central Valley Integrated Flood Management Study and State basin-wide feasibility studies to determine federal and State interests in implementation, respectively. The State will also partner with USACE on federal regional feasibility studies and post authorization scope-change investigations aimed at modifying the State-federal flood management system.

Various existing Federal programs, policies, and permitting processes administered by USACE will affect CVFPP implementation. One example is Section 14 of the Rivers and Harbors Act of 1899 (33 USC 408), which stipulates that modifications to a federal project must not be injurious to the public interest. Another example is Section 104 of the WRDA of 1986, as amended (33 USC 2214), and Section 2003 of the WRDA of 2007, which amended Section 221 of the Flood Control Act of 1970 (33 USC 1962d–1965b) to provide guidance for obtaining federal funding credit for early implementation of projects.

F_USACE1-38

The commenter inquired about the relationship between the CWP and the 2012 CVFPP. The comment has been considered and is noted; however, no change was made to CVFPP text.

The State has a strong interest in coordinating and implementing integrated projects that achieve multiple benefits. Effective integration across planning efforts means that all programs and projects, when implemented, work together to achieve key goals in a cost-effective manner; are sequenced and prioritized appropriately; and do not adversely affect or interfere with intended benefits. Although effectively integrating planning across programs while considering multiple benefits can be challenging, doing so can also provide opportunities to share knowledge and identify

mutually beneficial solutions that might not have been considered otherwise, thus minimizing duplication and reducing costs.

The CWP provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California's water future. The plan, updated every 5 years, presents the status and trends of California's water-dependent natural resources; water supplies; and agricultural, urban, and environmental water demands for a range of plausible future scenarios. The CWP also evaluates different combinations of regional and statewide resource management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. The evaluations and assessments performed for the CWP help identify effective actions and policies for meeting California's resource management objectives in the near term and for several decades to come.

The CWP includes a series of Resource Management Strategies for the State, including a Flood Risk Management Strategy with projects and programs that assist individuals and communities across the State to manage floodflows and to prepare for, respond to, and recover from a flood. This strategy is a key element of integrated flood management, a comprehensive approach to flood management that considers land and water resources at a watershed scale within the context of integrated regional water management, employs both structural and non-structural measures to maximize the benefits of floodplains and minimize loss of life and damage to property from flooding, and recognizes the benefits to ecosystems from periodic flooding.

The CWP has established a series of strategic caucuses that includes the IFM Caucus, a statewide topic-based work group designed to support development of CWP Update 2013 through in-depth discussions and deliberations of integrated flood management topics and issues. The IFM Caucus will work closely with the SFMP team to develop a set of integrated flood management recommendations and a roadmap for CWP Update 2013 consistent with DWR's FloodSAFE program and the 2012 CVFPP. Building on CWP Update 2009, the IFM Caucus will provide informational updates to, and receive input from, the State Agency Steering Committee, technical project teams, Public and Tribal Advisory Committees, the Federal Agency Network, and Regional Forums.

Organizationally, DWR's Executive with responsibility for production of the CWP also has oversight of DWR's DFM, Division of Statewide Integrated Water Management, and Division of Integrated Regional Water

Management. This oversight insures institutional collaboration between these three branches. DWR's DFM is home to the FloodSAFE program, which includes the Central Valley Flood Planning Office. These DFM programs coordinate frequently through the Deputy Director's executive steering committee and at staff levels with the Statewide and Regional Integrated Water Management Programs. DWR will work to ensure that the CVFPP and the CWP are well coordinated and supportive of each other.

F_USACE1-39

The comment has been considered and is noted; however, no change was made to CVFPP text. Business income loss represents direct flood damages associated with decreased business activity caused by flooding of nonresidential structures due to temporary loss of use. These business income losses are appropriately considered with other direct damages, including crop and structural damages (refer to CVFPP Attachment 8F, "Flood Damage Analysis"). Regional Economic Analysis for secondary economic effects (ripple effects of direct business losses) is documented in CVFPP Attachment 8H, "Regional Economic Analysis for the State Systemwide Investment Approach."

F_USACE1-40

The comment has been considered and is noted; however, no change was made to CVFPP text. The section referenced by the commenter (Section 2.3.1) is related to the Achieve State Plan of Flood Control Design Flow Capacity preliminary approach. This approach focuses on reconstructing SPFC facilities to meet current engineering criteria without making major changes to the footprint or operation of those facilities. This approach includes major remedial actions to address medium and high threats to facilities of the SPFC, and these actions would primarily include modifications of levees in their current locations, as follows:

- SPFC levees would be modified or reconstructed to address identified adverse geotechnical conditions to provide a high reliability of accommodating design flows.

- Levee height would be increased to achieve design freeboard, where needed, to accommodate the design water surface elevation.

F_USACE1-41

The comment has been considered and is noted; however, no change was made to CVFPP text. State law (SB 5) requires an urban level of flood protection for urban and urbanizing areas within the Sacramento–San Joaquin Valley so that these areas will withstand a 1-in-200-year flood event (CGC Sections 65865.5, 65962, and 66474.5).

The section referenced by the commenter (Section 2.4.1) is related to the Protect High-Risk Communities preliminary approach. As described in Master Response 9, this approach is one of three that were used to explore a range of potential physical changes to the existing flood management system and help highlight needed policies or other management actions. Although none of the three preliminary approaches were found to fully satisfy the legislative requirements and CVFPP goals in a cost-effective manner, the most promising elements of each were combined to formulate the State's preferred approach—the SSIA.

As described in Master Response 14, the SSIA is a conceptual plan for flood system improvements, and additional post-adoption work is needed to refine its individual elements. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies and the CVFPP Financing Plan, completion of project-level proposals and environmental compliance, development of the Conservation Strategy, and State and USACE permitting.

DWR will work closely with USACE and the Board in conducting post-adoption planning activities, including conducting the federal Central Valley Integrated Flood Management Study and State basin-wide feasibility studies to determine federal and State interests in implementation, respectively. The State will also partner with USACE on federal regional feasibility studies and post authorization scope-change investigations aimed at modifying the State-federal flood management system.

F_USACE1-42

The comment has been considered and is noted; however, no change was made to CVFPP text. As stated in Master Response 4, State law (SB 5) requires an urban level of flood protection for urban and urbanizing areas within the Sacramento–San Joaquin Valley so that these areas will withstand a 1-in-200-year flood event (CGC Sections 65865.5, 65962, and 66474.5). Under the terms of SB 5, adoption of the 2012 CVFPP by the Board would trigger the schedule of compliance actions required for cities and counties to make findings related to an urban level of flood protection.

However, the CVFPP does not create any new requirements or assurances for levels of flood protection in the Central Valley; the local findings requirements regarding the required levels of protection were established by the State Legislature with the passage of SB 5. Similarly, the plan does not change existing State requirements related to new development in nonurbanized areas, including small communities, which must continue to meet the national FEMA standard of flood protection (per CGC Sections 65865.5, 65962, and 66474.5). This national standard corresponds to the

minimum level of flood protection (100-year flood) required for participation in the NFIP, and is consistent with the existing Building Code. The Central Valley Flood Protection Act of 2008 further clarifies that the CVFPP is a descriptive document, and neither the development nor the adoption of the CVFPP constitutes a commitment by the State to provide any particular level of flood protection (CWC Sections 9603(a) and 9603(b)). For additional details, see Master Response 4.

F_USACE1-43

The comment has been considered and is noted; however, no change was made to CVFPP text. The CVFPP is conceptual in nature, and the frequency of flows diverted through a Feather River Bypass would need to be evaluated through post-adoption work. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies, and completion of project-level proposals and environmental compliance.

F_USACE1-44

The comment has been considered and is noted; however, no changes were made to CVFPP text.

As stated in Master Response 4, the Central Valley Flood Protection Act of 2008 establishes legislative requirements for the CVFPP. For example, the legislation directs DWR to consider structural and nonstructural methods for providing an urban level of flood protection (200-year or 0.5 percent chance) to current urban areas (CWC Sections 9614(i) and 9616(a) (6)), and encourages wise use of floodplains through a better connection between State flood protection decisions and local land use decisions (CWC Section 9616(a)(5)). The SSIA proposes flood protection investments for rural-agricultural areas, small communities, and urban areas consistent with legislative direction and commensurate with flood risk to people and property.

As stated in Master Response 3, the SSIA describes an approach to managing rural flood risks through a combination of physical improvements and nonstructural actions to protect small communities and support sustainable rural-agricultural enterprises. Implementing the SSIA would increase the percentage of the population receiving at least 100-year (1 percent annual chance) flood protection from the current 21 percent to more than 90 percent (CVFPP, page 3-40). The remaining 10 percent of the population would receive benefits through residual risk management actions. Based on initial planning-level cost estimates developed to evaluate elements of various scenarios considered under the 2012 CVFPP, more than 20 percent of total SSIA investments would support rural-

agricultural and small community improvements, and residual risk management. In addition, systemwide elements (which account for almost 40 percent of total SSIA investments) are anticipated to provide flood stage reduction benefits to many of the areas in the system, including small communities and rural-agricultural areas.

For additional details, see Master Responses 3 and 4.

F_USACE1-45

The comment has been considered and is noted; however, no changes were made to CVFPP text. As stated in Master Response 9, three preliminary approaches were used to explore a range of potential physical changes to the existing flood management system and help highlight needed policies or other management actions: Achieve SPFC Design Flow Capacity, Protect High-Risk Communities, and Enhance Flood System Capacity. The approaches were not addressed or used as alternatives, so there was no need to include the same level of forecasting and notification in each one.

F_USACE1-46

The commenter states that the draft CVFPP uses the terms “ecosystem mitigation” and “ecosystem restoration” interchangeably, and that for the CVFPP to be integrated with USACE’s planning process, the CVFPP text should be revised for clarity and consistency

DWR does not agree that the terms ecosystem mitigation and ecosystem restoration are used interchangeably in the 2012 CVFPP. In the CVFPP, ecosystem mitigation is only mentioned three times and in all instances is referring to mitigation for impacts resulting from timing and sequencing of flood system improvements and implementation of ecosystem restoration as part of the flood system improvements; therefore, no changes are made to the CVFPP.

The SSIA includes the supporting goal of promoting ecosystem functions where feasible on a systemwide basis, using integrated policies, programs, and flood-risk reduction projects that will help to (1) provide ecosystem benefits, (2) move beyond traditional project-by-project compensatory mitigation, and (3) create opportunities to develop flood management projects that may be more sustainable and cost-effective over time. Under the SSIA, ecosystem restoration opportunities are integral parts of flood system improvements, including projects for urban areas, small communities, and rural-agricultural areas. Integrating ecosystem restoration into these flood protection projects will focus on preserving important shaded riverine aquatic habitat along riverbanks and help restore the regional continuity/connectivity of such habitats.

DPEIR Appendix E, "Central Valley Flood Protection Plan Conservation Framework," focuses on promoting ecosystem functions and multi-benefit projects in the context of integrated flood management for near-term implementation. The Conservation Framework provides an overview of the floodway ecosystem conditions and trends and key conservation goals that further clarify the proposed program's ecosystem goal. The Conservation Framework also identifies 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 floodplain.

DWR's goal in integrating ecosystem restoration and enhancement is to achieve overall habitat improvement, thereby reducing, or eliminating the need to mitigate for most ecosystem impacts. In many areas, the CVFPP anticipates a net benefit of the program to aquatic and terrestrial species. At a minimum, mitigation performance standards established in this PEIR will be applied, generally requiring that mitigation avoid a net overall loss of habitat values. All projects will also comply with all applicable permitting and other regulatory requirements. However, despite the fact that the program is intended to provide net benefits overall, depending on the timing of improvements and implementation, some ecosystem mitigation may be required.

F_USACE1-47

The comment has been considered and is noted; however, no changes were made to CVFPP text. CVFPP Attachment 8C, "Riverine Channel Evaluations" (Section 3.0, "Methodology") includes descriptions of the levee failure assumptions for each approach. CVFPP Attachment 8E, "Levee Performance Curves," describes the development of levee performance curves (i.e., levee fragility curves) for the existing levee system in the Sacramento River and San Joaquin River basins.

F_USACE1-48

The comment has been considered and is noted; however, no changes were made to CVFPP text.

CVFPP Attachment 8C, "Riverine Channel Evaluations" (Section 3.0, "Methodology") includes descriptions of the hydraulic assumptions for each approach.

As shown in CVFPP Table 2-4, the expected annual damages include residual risk, as evaluated using HEC-FDA. CVFPP Attachment 8F, "Flood Damage Analysis," includes detailed information on the flood damage analysis methodology and results conducted for the 2012 CVFPP.

CVFPP Figures 2-4 and 2-5 include information on the No Project Condition. DWR believes that the inclusion of No Project Condition information is not necessary in Figures 2-6 and 3-6, and Table 4-1 for the purposes of clarity.

F_USACE1-49

As stated on page 4-26 of the CVFPP, "The State supports investing in "no-regrets" programs and actions that clearly enhance system resiliency, integrate programs and resources, and preserve flexibility for future generations." The comment has been considered and is noted; however, no changes were made to CVFPP text.

As described in Master Response 9, three preliminary approaches were used to explore a range of potential physical changes to the existing flood management system and help highlight needed policies or other management actions: Achieve SPFC Design Flow Capacity, Protect High-Risk Communities, and Enhance Flood System Capacity. Evaluating these preliminary approaches provided information on their costs, benefits, and overall effectiveness. None of the three preliminary approaches were found to fully satisfy the legislative requirements and CVFPP goals in a cost-effective manner. However, the most promising elements of each were combined to formulate the State's preferred approach—the SSIA. The CVFPP and accompanying attachments provide additional details about the formulation and screening of elements included in the SSIA.

As stated in Master Response 14, the 2012 CVFPP describes the State's vision for a sustainable flood management system in the Central Valley that provides a high degree of public safety, promotes long-term economic stability, and supports restoration of compatible riverine and floodplain ecosystems. The SSIA prioritizes State investments and other activities to contribute to achieving this vision on a systemwide scale, recognizing current funding limitations.

The SSIA is a conceptual plan for flood system improvements, and additional post-adoption work is needed to refine its individual elements. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies and the CVFPP Financing Plan, completion of project-level proposals and environmental compliance, development of the Conservation Strategy, and State and USACE permitting.

Some elements of the SSIA have already been implemented (through the Early Implementation Projects Program since 2007, for example). Others may be accomplished before the first update of the CVFPP in 2017, and many will require additional time to fully develop and implement. Ongoing

and new planning studies, engineering, feasibility studies, environmental review, designs, funding, and partnering are required to better define, and incrementally fund and implement, elements of the SSIA during the next 20–25 years.

F_USACE1-50

The comment has been considered and is noted; however, no changes were made to CVFPP text.

As stated in Master Response 6, the Achieve SPFC Design Flow Capacity preliminary approach focuses on reconstructing SPFC facilities to meet current engineering criteria without making major changes to facility footprints or operations. To achieve the design flow capacity, reconstruction is required because the original specifications focused primarily on levee prism geometry, and current evaluations have shown them to be insufficient in passing design flows if geotechnical and other engineering conditions (e.g., underseepage) are not improved. This approach was formulated to address legislation that required DWR to consider structural actions necessary to reconstruct SPFC facilities to their design standard (CWC Section 9614(g)). It also addresses requests from stakeholders to consider reconstructing the existing flood management system in place, or without major modification to facility locations. For additional details, see Master Response 6.

F_USACE1-51

As stated in Master Response 3, the SSIA describes an approach to managing rural flood risks through a combination of physical improvements and nonstructural actions to protect small communities and support sustainable rural-agricultural enterprises. Implementing the SSIA would increase the percentage of the population receiving at least 100-year (1 percent annual chance) flood protection from the current 21 percent to more than 90 percent (CVFPP, page 3-40). The remaining 10 percent of the population would receive benefits through residual risk management actions. Based on initial planning-level cost estimates developed to evaluate elements of various scenarios considered under the 2012 CVFPP, more than 20 percent of total SSIA investments would support rural-agricultural and small community improvements, and residual risk management. In addition, systemwide elements (which account for almost 40 percent of total SSIA investments) are anticipated to provide flood stage reduction benefits to many of the areas in the system, including small communities and rural-agricultural areas. For additional details, see Master Response 3. The comment is noted.

F_USACE1-52

The discussion on page 2-27 of the draft CVFPP documents a range of expected performance changes anticipated with implementation of the SSIA. One of those anticipated changes involves the creation of "significant increases in downstream flood stages over existing conditions by reducing the chance of levee failures upstream." The comment notes that an increase of 1.2 feet over the current stage would not be considered significant. DWR recognizes that the definition of a significant increase in stage could vary depending on specific location and conditions that may exist in the future, and does not believe that it is appropriate at this time to specifically define a significant level of increase in flood stage. The commenter's opinion that a 1.2-foot increase in stage depth is not significant is noted

F_USACE1-53

The commenter identifies an error on page 2-29 of the draft CVFPP, stating that there is no minimum level of flood protection (100-year flood) required for participation in the NFIP. A correction to this text is provided as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-54

This comment was removed at the commenter's request.

F_USACE1-55

The comment has been considered and is noted; however, no changes were made to CVFPP text.

The comment states that Figure 3-1 shows the Feather River Bypass diverting out of Thermalito Afterbay, and that flows would be limited to 17,000 cfs by the Thermalito power canal.

As stated in Master Response 1, considerable additional work will be required before the bypass projects proposed in the plan are approved and implemented. Details about the dimensions, capacities, and alignments of expanded and new bypasses will be refined during post-adoption implementation activities. These activities include regional flood management planning, development of basin-wide feasibility studies, completion of project-level proposals and CEQA compliance, development of a Conservation Strategy, and State and USACE permitting. As these activities are conducted, the feasibility of proposed bypass elements will be evaluated.

F_USACE1-56

The commenter states that Versions 1.2.4 and 1.2.5 of HEC-FDA are the USACE-certified Flood Risk Management Planning Center of Expertise models. The comment is noted.

F_USACE1-57

The specific change has been considered and is noted; however, no changes were made to CVFPP text.

The commenter asks for an explanation of how levee fragility was accounted for in HEC-FDA analyses (see pages 1-28 and 3-38–3-40 in the draft CVFPP). Levee performance (fragility) is accounted for in HEC-FDA through the use of levee performance curves that describe the probability of failure of the levee at an index point at a given water surface elevation. Levee performance curves are discussed in more detail in Attachment 8E, "Levee Performance Curves," and Attachment 8F, "Flood Damage Analysis."

F_USACE1-58

The comment raises questions about issues related to easement or fee title acquisition of properties necessary for CVFPP management actions. These real estate transactions are among many post-adoption activities that will be required to implement the CVFPP. As stated in Master Response 14, the SSIA is a conceptual plan for flood system improvements, and additional post-adoption work is needed to refine its individual elements. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies and the CVFPP Financing Plan, completion of project-level proposals and environmental compliance, development of the Conservation Strategy, and State and USACE permitting.

Some elements of the SSIA have already been implemented (through the Early Implementation Projects Program since 2007, for example). Others may be accomplished before the first update of the CVFPP in 2017, and many will require additional time to fully develop and implement. Ongoing and new planning studies, engineering, feasibility studies, environmental review, designs, funding, and partnering are required to better define, and incrementally fund and implement, elements of the SSIA during the next 20–25 years.

For additional details, see Master Response 14.

F_USACE1-59

The specific change has been considered and is noted; however, no changes were made to CVFPP text.

The comment raises questions about issues related to the accommodation of interior drainage requirements in the design of CVFPP management actions. These further engineering analyses and refinement of project plans, including studies and design to accommodate interior drainage, are among many post-adoption activities that will be required to implement the CVFPP. See response to comment F_USACE1-58 for a response related to post-adoption activities.

F_USACE1-60

The specific change has been considered and is noted; however, no changes were made to CVFPP text.

The comment raises questions about issues related to the consideration and control of encroachments, and the recognition of their effect on levee integrity in the design of CVFPP management actions. See response to comment F_USACE1-10 for a response related to post-adoption activities related to encroachments

F_USACE1-61

The specific change has been considered and is noted; however, no changes were made to CVFPP text.

As stated in Master Response 3, the State supports the continued viability of small communities to preserve cultural and historical continuity and provide important social, economic, and public services to rural populations and agricultural enterprises. The SSIA describes State investment priorities in small community flood protection while avoiding the inducement of imprudent growth within SPFC floodplains. Under the SSIA, many small communities would receive increased flood protection benefits as a result of system improvements focused on protecting nearby urban areas. For example, levee improvements may be constructed upstream from an urban area to prevent a scenario in which floodwaters from an upstream levee breach would flow down gradient into the urban area. The upstream levee improvement that may extend into rural locations would therefore also reduce flood risks for the rural area immediately adjacent to the improved levee segment. Conditions in small communities would also be evaluated on a case-by-case basis to identify appropriate State investments in additional structural and/or nonstructural actions (e.g., levees, flood walls, floodproofing, or relocations).

For additional details, see Master Response 3.

F_USACE1-62

The discussion noted in the comment is not in the CVFPP; thus, no changes were made to CVFPP text.

The commenter asks what tool/program was used to estimate building costs per square foot by structure type, but there is no reference to building costs on page 3-15 in the draft CVFPP. See Attachment 8F, "Flood Damage Analysis," for more information on tools and programs used to estimate building costs.

F_USACE1-63

The discussion noted in the comment is not in the CVFPP; thus, no changes were made to CVFPP text.

There is no reference to the use of the M&S method or other aspects of calculation of depreciation on page 3-16 of the draft CVFPP. See Attachment 8F, "Flood Damage Analysis," for more information on depreciation calculations.

F_USACE1-64

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

As stated on page 3-12 of the draft CVFPP:

> System elements include physical actions or improvements with the potential to provide benefits across large portions of the flood management system, and improve the overall function and performance of the SPFC in managing large floods. These actions enhance the system's overall ability to convey and attenuate flood peaks through expansion of bypass capacity and storage features. System improvements provide flood protection benefits to urban, small community, and rural-agricultural areas by lowering flood stages.

As set forth in the comments referenced in response F_USACE1-04, DWR disagrees that woody vegetation on levee slopes is a significant weakness comparable in degree to the other items listed in the comment (particularly inadequate construction methods and materials, and foundation issues).

F_USACE1-65

The specific change has been considered and is noted; however, no changes were made to CVFPP text.

See response to comment F_USACE-07 for a discussion of the three approaches used to formulate the SSIA; response to comment F_USACE-19 for a discussion of factors that will be considered when implementing specific project features ultimately implemented for the SSIA; and response to comment F_USACE-44, which discusses the Achieve SPFC Design Flow Capacity preliminary approach.

F_USACE1-66

The text noted in the comment is not in the CVFPP; thus, no changes were made to CVFPP text.

F_USACE1-67

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

Section 3.10 on pages 3-25 through 3-29 of the draft CVFPP presents DWR's understanding of USACE policy related to levee vegetation and the State's response to that policy. It is recognized that there may be different interpretations of USACE policy. Discussions between USACE and the State of California regarding levee vegetation management are ongoing.

F_USACE1-68

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

CVFPP Section 3.10.2 describes the State's understanding of the economic implications of compliance or noncompliance with the USACE levee vegetation policy on eligibility for funding under Public Law 84-99. As stated on CVFPP page 3-28, "the State['s] interest is to follow the vegetation management strategy presented in Section 4 [of the CVFPP]." As stated in responses to comments F_USACE1-04 and F_USACE1-05, above, DWR considers the VMS in the CVFPP to be an improvement upon historic levee vegetation management practice that will gradually result in levees being clear of woody vegetation except for the lower waterside levee slope.

As stated in various contexts, including the CVFPP and the comment letter referenced in response to comment F_USACE1-04, above, DWR continues to seek an implementable regional vegetation variance for Central Valley levees. However, as discussed in the comment letter referenced in response to comment F_USACE1-04, above, significant changes to USACE's proposed variance policy will be necessary before this becomes a viable option.

F_USACE1-69

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

As shown in Table 3-4, "Residual Risk Management for State Systemwide Investment Approach," on CVFPP page 3-29, all noted aspects of residual risk management have been included in the estimated costs of SSIA implementation.

F_USACE1-70

The specific change to Table 3-7 has been considered and is noted; however, no changes were made to CVFPP text. There are no contradictions between the text and the table;

The five goals are included in CVFPP Table 3-7, "Summary of Contributions of State Systemwide Investment Approach to Central Valley Flood Protection Plan Goals Compared with No Project." Table 3-7 identifies the primary goal (Improve Flood Risk Management) and four supporting goals (Improve Operations and Maintenance, Promote Ecosystem Functions, Improve Institutional Support, and Promote Multi-Benefit Projects). For additional details regarding CVFPP goals, see Master Response 8.

F_USACE1-71

The comment has been considered and is noted; however, no change was made to CVFPP text. Business income loss represents direct flood damages associated with decreased business activity caused by flooding of non-residential structures. These business income losses are appropriately considered with other direct damages, including crop and structural damages (see CVFPP Attachment 8F, "Flood Damage Analysis"). Regional Economic Analysis for secondary economic effects is documented in CVFPP Attachment 8H, "Regional Economic Analysis for the State Systemwide Investment Approach."

Post-adoption activities will include more detailed assessment of project funding options, including the potential for federal cost-sharing. At the time that projects are proposed under the CVFPP, economic analyses will be undertaken using the currently approved methodology, including use of the NED as appropriate. For additional details regarding post-adoption activities, see Master Response 14.

F_USACE1-72

The text noted in the comment is not in the 2012 CVFPP; thus, no changes were made to CVFPP text.

F_USACE1-73

The comment has been considered and is noted; however, no changes were made to CVFPP text.

The commenter asks whether levee setbacks along the Sacramento River, in areas where river meandering is applicable, were evaluated as the improvement approaches were developed (see the first bullet on page 3-41 in the draft CVFPP). Over 50 miles of setback levees along the Sacramento and San Joaquin rivers and their major tributaries were considered in development of the Enhance Flood System Capacity Approach. While no setback levees on the Sacramento or San Joaquin rivers are specified in the SSIA, setback levee proposals that come out of the post-adoption regional planning effort will be evaluated for implementation as part of the basin-wide feasibility studies.

Setting levees back from rivers is an important approach for solving a variety of flood management and ecosystem problems, while still supporting productive agriculture within expanded floodways. Increasing the distance of levees from the main river channel reduces the erosive force of floodwaters on the levees, which can improve their reliability and reduce repair costs. This shift in levee location increases the overall capacity of the local floodway, which can reduce the velocity of floodwaters, create transitory floodplain storage, and reduce flood stage. In reaches where levees closely follow sinuous river channels, setback levees provide opportunities for significantly reducing overall levee length, which may reduce overall maintenance costs. The CVFPP includes a consideration of setbacks in urban areas, to the extent feasible, based on the level of existing development and the potential benefits.

F_USACE1-74

The text noted in the comment is not in the CVFPP; thus, no changes were made to CVFPP text.

F_USACE1-75

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

As stated on page 4-2 in CVFPP Section 4.1.1, “Flood Emergency Response Program,” “coordinated flood operations among local maintaining agencies, cities and counties, the California Emergency Management Agency, the State-Federal Flood Operation Center, and USACE are critically important in managing and fighting floods, and saving lives and properties.” Such coordinated activities would include public notice during major storm events, as well as during flood events, if

necessary. The CVFPP is a broad-level document that does not attempt to address every aspect of flood management in detail. Emergency response and public communication is a key element of flood operations.

F_USACE1-76

The comment expresses USACE's opinion about aspects of the Three Amigos flood control project. The Three Amigos project is addressed in the CVFPP on page 3-12 as:

- Intermittent SPFC levees along reaches of the San Joaquin River and in the vicinity of the Mariposa Bypass and Deep Slough.

It is described again in Attachment 2 of the CVFPP, "Conservation Framework," on page 4-22 under Section 4.2.10, "SPFC Removal," as follows:

- "For example, many entities are advocating for breaching the levee at Three Amigos (RDs 2099, 2100 and 2102), a site in Stanislaus County within the San Joaquin River National Wildlife Refuge.

The additional project information provided by the commenter is acknowledged. However, the description of the project in the CVFPP calls only for evaluation of the project for removal from the SPFC and the Conservation Framework discusses removal from the SPFC only if specific criteria are met and subject to a case-by-case evaluation. DWR believes that the meaning of the document is clear and that no changes to the text of the CVFPP are required.

F_USACE1-77

The comment has been considered but could not be found in the CVFPP; thus, no changes were made to CVFPP text.

The comment identifies the federal discount rates for fiscal years 2011 and 2012. There is no mention of the federal discount rate in the 2012 CVFPP. At the time that individual projects and other management actions are proposed, the appropriate federal discount rate will be used in the assessment of economic costs and benefits.

F_USACE1-78

The comment has been considered and is noted; however, no changes were made to CVFPP text.

The comment recommends that the State coordinate and maintain an archive of quality controlled and post-processed flow and hydraulic data from the CDEC system that can be available for use in engineering studies

during CVFPP implementation. See response to comment F_USACE-16. DWR's River Forecasting Section works with the National Weather Service's California-Nevada River Forecast Center to provide year-round daily forecasts of reservoir inflows, river flows, and water levels throughout California and in parts of Nevada. These forecasts are used by the Flood Operations Branch and the National Weather Service to determine the level of joint federal-State flood response activation and operations. DWR manages the CDEC to provide a centralized database to store, process, and exchange real-time hydrologic information gathered by various cooperators through the State. There are approximately 140 cooperating agencies that provide data to its vast inventory of information.

DWR provides support for the data storage including some post-collection processing of data from these real-time gages. Limits are checked post-process, though there are some checks done at the instrumentation level. That includes flagging of data that is out of limits. The flagging varies depending on the type of data. However, much of the real-time data when posted on CDEC have not been reviewed, and are preliminary and are used to primarily monitor current weather and hydrologic conditions as they relates to river forecasting and water supply. As real-time data, they are provisional and should not be considered data of record and are not an official source of historic climate data. Data of record are located at the Western Region Climate Center.

F_USACE1-79

The comment has been considered and is noted; however, no changes were made to CVFPP text.

The comment addresses the risk related to not implementing programs to repair non-SPFC facilities that are not currently identified among the approximately 420 miles of private non-SPFC levees closely associated with SPFC levees that may receive consideration for flood risk reduction actions under current CVFPP flood legislation.

The SPA as defined in the CVFPP as including lands subject to flooding under the current facilities and operation of the Sacramento–San Joaquin River Flood Management System and as further defined in CWC Sections 9611, 9614(d), and 9614(e). The SPFC Planning Area contains the lands currently receiving protection from the SPFC as defined in CWC Section 9651(g) and is fully contained in the SPA. The State's flood management responsibility is limited to this area.

These 420 miles of non-SPFC levees for which protection may be provided include either those that abut SPFC levees; those whose performance may affect the performance of SPFC levees; or those that provide flood risk

reduction benefits to areas also being protected by SPFC features. This includes about 120 miles of identified non-SPFC urban levees and 300 miles of identified non-SPFC nonurban levees. See Figure 3.3 of the plan.

The Board may choose to treat some or all these non-SPFC urban levees in a similar manner to SPFC levees for State participation in levee improvements, and potentially add them to the SPFC. Portions of the nonurban, non-SPFC identified levees that meet the criteria may be candidates for being added to the SPFC after preparation of regional plans and feasibility studies.

For all other non-SPFC levees that do not meet the criteria described above, neither DWR nor the Board has the authority to expend SPFC funds on non-SPFC urban levees and nonurban levees. However, the State may consider participation in improvements to these levees and other facilities under other State programs such as the Delta Levees Subvention program, State-wide subventions programs, and regional planning

F_USACE1-80

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

Flood risk management designation for USACE projects will be incorporated in the 2017 CVFPP. It is understood that USACE cannot guarantee Congressional authorization or appropriation. The purpose of this section is to describe that the Board and USACE will actively coordinate moving forward.

As stated in Master Response 14, both the Board and USACE have statutory roles for oversight of modifications to the State-federal flood management system (the SPFC), executed through their respective project review and permitting authorities. In addition to these continued roles, DWR will work closely with USACE and the Board in conducting post-adoption planning activities, including acting as a State sponsor in conducting the CVIFMS and State-led basin-wide feasibility studies carried out under federal principles and guidelines to determine federal and State interests in implementation, respectively. The State will also partner with USACE on federal regional feasibility studies and post-authorization scope-change investigations aimed at modifying the State-federal flood management system through State, local, and USACE partnerships.

F_USACE1-81

The comment recommends that DWR further study and adapt CVFPP implementation to future conditions and information. As stated in Master Response 14, regional flood management planning, to be conducted in each

of nine regions identified in the 2012 CVFPP, is an important next step in identifying specific improvements to rural-agricultural areas, small communities, and urban areas consistent with the SSIA. Upon CVFPP adoption, DWR will work closely with local entities to collect on-the-ground information regarding flood risks and needs, identify potential local and regional improvement projects, assess the performance and feasibility of these projects, and develop proposals that reflect the priorities of local entities in reducing flood risks. Each regional plan will present an assessment of proposed project costs and benefits, considering potential contributions to an integrated and basin-wide solution. DWR intends to provide guidance as well as technical and financial assistance to local agencies to prepare the regional flood management plans, subject to availability of funds.

Regional flood management plans are anticipated to:

- Assess regional flood risks and management actions (projects) to reduce these risks
- Discuss regional priorities, including criteria used to prioritize individual projects
- Describe specific projects, including their potential costs, regional and systemwide benefits, and beneficiaries
- Provide a financial plan describing how the proposed projects would be funded, including cost sharing and financing for local shares
- Describe regional governance of flood management

Development of regional plans and formulation of specific capital improvement projects will be coordinated with other overlapping planning efforts by identifying common goals and pursuing opportunities to collaborate and reduce potential conflicts. Information and outcomes from the regional planning process will inform the State-led basin-wide feasibility studies, preparation of a financing plan for the CVFPP, and the first update of the CVFPP (scheduled for completion by 2017). This regional effort is scheduled to be launched publicly in June 2012 and is anticipated to continue through 2013.

DWR will engage regional flood planning partners to develop and implement communication strategies with broad interest groups to brief them on flood management planning in their regions. Regional implementing and operating agencies, land use agencies, and interest groups will be invited to participate in the planning process. Each regional planning process will seek input, as appropriate, from agricultural interests,

environmental interests, permitting agencies/resource agencies, local emergency responders, tribes, and other stakeholders. DWR anticipates that a regional flood working group will be formed in each region.

For additional details, see Master Response 14.

F_USACE1-82

DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary. No changes to the text of the CVFPP are required.

F_USACE1-83

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

The comment questions how the State can allow development of appropriate vegetation on the lower waterside levee slope and near the waterside levee toe in light of current real estate challenges with planting. The comment apparently is referring to certain situations in which currently held easements might restrict vegetation planting, as well as situations where necessary property rights are lacking. Obtaining any necessary property rights (including modification of easements where needed) will be part of future implementation activities.

As stated in Master Response 16, the State will implement a comprehensive, integrated VMS in the Central Valley that both meets public safety goals and protects and enhances sensitive habitats in the Sacramento and San Joaquin valleys. The CVFPP's VMS represents the State's current approach to addressing levee vegetation in the context of USACE ETL 1110-2-571 governing vegetation on federal flood management facilities. However, DWR continues to advocate having USACE participate as a true partner in addressing legacy levee vegetation issues, jointly considering the environmental and risk-reduction implications of vegetation remediation within the context of prudent expenditure of limited public funds. DWR will continue a dialogue with USACE regarding plan formulation concepts that recognize the agencies' shared responsibility for addressing vegetation issues (along with traditional levee risk factors), within a systemwide risk-informed context intended to enable continued progress on critical cost-shared flood system improvements.

The VMS in the CVFPP includes a long-term adaptive vegetation LCM strategy. As explained in the CVFPP and DPEIR, the LCM strategy generally will not apply to waterside vegetation up to a line 20 feet below the levee crown, and that waterside vegetation will be retained. Although it

is true that implementing the LCM strategy will result in the gradual loss of important terrestrial and upper waterside riparian habitat throughout the SPFC levee system, the CVFPP's VMS includes the early establishment of riparian forest corridors that are expected to result in a net gain of this habitat over time. These riparian forest corridors will be established adjacent to existing and new levees such that riparian corridor functions and wildlife habitat will be maintained or improved for the system as a whole. This approach will allow replacement habitat to develop and mature over time, while existing trees within the vegetation management zone are allowed to live out their normal life cycles on the levee slopes.

Levee vegetation subject to removal through LCM will be quantified using the best available information. Specific rates and species types for replanting and other details of implementation of LCM will be determined through collaboration with the appropriate agencies as part of the long-term Conservation Strategy. Appropriate compensation and/or mitigation for the loss of habitat will also be addressed, in consultation with the resource agencies, as the Conservation Strategy is developed.

The CVFPP's VMS is an adaptive approach, and ongoing and future research will include evaluating effects on riparian ecosystem functions from eliminating natural recruitment under LCM. This research may include a monitoring program to determine whether LCM affects species composition and recruitment, and the survival of lower waterside vegetation.

Also, the vegetation loss under the LCM strategy generally will occur passively, over a period of decades. The State is assuming that LCM will be a necessary, and generally sufficient, condition for USACE to issue a regional vegetation variance that will allow most waterside vegetation to be retained. If this assumption proves incorrect and an adequate vegetation variance is not forthcoming from USACE, the appropriateness of the LCM strategy could be reevaluated. Generally, the effects of applying the LCM strategy in the near term, while a vegetation variance is being pursued, should be fully reversible if the strategy is modified or eliminated at a later date.

For additional details, see Master Response 16

F_USACE1-84

See response to comment F_USACE1-83.

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

F_USACE1-85

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

Vegetation present in the system will be evaluated based on accepted engineering practice. As part of the routine O&M responsibilities of DWR and other levee maintaining agencies, trees and other woody vegetation will be monitored to identify changed conditions that could pose an unacceptable threat. DWR will develop and incorporate vegetation criteria into its inspection checklist to guide identification of potential threats, as the science becomes available. Any vegetation that has been evaluated and found to present an unacceptable threat will be removed in coordination with the resource agencies.

F_USACE1-86

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

To the extent that the comment is referring to the visibility and accessibility standards described in DWR's interim inspection criteria, the comment is incorrect. As described in the FCSSR, only a small portion of the levee system currently fails to comply with DWR's interim criteria and those situations are being addressed. To the extent that the comment is referring to the standards of the ETL, see responses to comments F_USACE1-04, F_USACE1-05, F_USACE1-13 and F_USACE1-68, above, for a discussion of DWR's proposed approach.

Implementing the SSIA requires a wide range of actions for planning, developing, analyzing, constructing, and managing improvements to the SPFC. This work will be organized into several programs, established and led by DWR and implemented in coordination with local, State, and federal partnering agencies.

CVFPP Section 4.1.2 describes DWR's Flood System Operations and Maintenance Program that includes work to keep specific flood management facilities (as defined in the CWC) in good, serviceable condition so that facilities continue to function as designed. Implementation of the SSIA requires efficient and sustainable long-term operations and maintenance practices through reforming roles and responsibilities; formalizing criteria by which maintenance practices, procedures, and inspections are performed and reported; and implementing strategies to adequately and reliably fund routine activities and streamline permitting. Some of the proposed activities will likely involve legislative action, new institutional arrangements involving local maintaining

agencies, modifications to existing State programs, and additional revenue generation.

F_USACE1-87

The comment has been considered and is noted; however, no change was made to CVFPP text.

The Board has review, permitting and enforcement authority under the California Water Code and CCR Title 23 for any project, including those resulting from the CVFPP that may encroach upon, improve, alter, or affect adopted plans of flood control (including the State-federal flood management systems, regulated streams, and designated floodways under the Board's jurisdiction).

Potential revisions to CCR Title 23 to comply with the CVFPP would be undertaken as a post-adoption activity as necessary to implement the CVFPP.

F_USACE1-88

The comment has been considered and is noted; however, no changes were made to CVFPP text.

See response to comment F_USACE1-04, above. The State's vegetation management strategy is not merely a continuation of the interim inspection standards, but rather a long-term strategy built upon the interim inspection standards. The long-term strategy includes several new requirements and details not addressed in the interim inspection standards, such as: (1) it will be adapted to experience and research, (2) immature trees to be removed are identified as 4 inches or smaller, (3) root removal requirements are detailed, (4) the vegetation management zone is defined in several situations and expanded to include up to 15 feet landward of the levee, and (5) inspection for trees that pose an unacceptable threat is required, along with their removal.

F_USACE1-89

The specific text change has been considered and is noted; however, no changes were made to CVFPP text.

DWR believes that the meaning of the word "indefinitely" is clear because it is preceded by "does not pose an unacceptable threat to levee integrity" and therefore the edit requested by the commenter is not necessary for the 2012 CVFPP. "Indefinitely" was chosen so as to not imply that DWR is committing to meeting the ETL after higher priority risks are addressed. See response to comment F_USACE1-04, above.

F_USACE1-90

The comment regarding the CVIFMS is noted; however, no changes were made to CVFPP text.

F_USACE1-91

The comment has been considered and is noted; however, no changes were made to CVFPP text.

Early discussions regarding ways to address USACE's levee vegetation policy led to the Framework Agreement, dated February 27, 2009. The Framework Agreement allows Central Valley levees to retain acceptable maintenance ratings and Public Law 84-99 rehabilitation eligibility as long as levee trees and shrubs are properly trimmed and spaced to allow for visibility, inspection vehicles, and flood fight access. The Framework Agreement states that "…the eligibility criteria will be reconsidered based on the contents of the CVFPP." The commenter suggests adding a specific reference to the specific section of the Framework Agreement.

F_USACE1-92

Costs presented in the 2012 CVFPP are preliminary, planning-level estimates reflecting the conceptual nature of the plan. The State's VMS is considered a component of the CVFPP, and planning-level cost estimates presented in the plan include allowances for all aspects of implementation, at a level of detail appropriate to the conceptual level of detail of the plan. After the Board adopts the CVFPP, DWR will create a financing plan for potential legislative actions to fund the next increment of capital improvements, O&M, and residual risk management activities for the CVFPP. The CVFPP Financing Plan will be informed by other post-adoption activities, including regional and basin-wide planning.

No change to the text of the CVFPP is required.

F_USACE1-93

Text accompanying Figure 4-7 on page 4-48 of the CVFPP clarifies that the figure presents a potential allocation of SSIA costs based on planning level assumptions for state, federal, and local cost-sharing. Section 4.7.2 further describes the State's intent to work closely with its federal and local partners to pursue potential funding sources, given financial uncertainties. This includes working with USACE and Congress to appropriate federal funds for implementation. See Master Response 15 for additional details on CVFPP financing, and Master Response 14 for additional details on post-adoption activities to refine the conceptual elements of the CVFPP and identify respective State and federal funding interests. DWR believes that the document is clear, and no change to the text of the CVFPP is required

F_USACE1-94

See responses to comments F_USACE1-92 and F_USACE1-93.

F_USACE1-95

The text in the CVFPP acknowledges that many federal programs, policies, and permitting processes administered by USACE could affect implementation of flood risk reduction programs. The bullet list referenced by the commenter is intended to highlight key issues and challenges that the State plans to actively engage USACE to support future implementation, as described in text following the bulleted list. DWR believes that the document is clear, and no change to the text of the CVFPP is required.

F_USACE1-96

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Section 10, "References," of Attachment 7 provides a detailed listing of all documents and sources used in preparation of this attachment, including their completion dates.

Urban Levee Design Criteria are incorporated by reference to the CVFPP. The ULDC were finalized after publication of the public draft CVFPP. The change in status of the ULDC has been noted in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-97

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Section 2, "Systemwide Conditions," of CVFPP Attachment 7 discusses existing (No Project) systemwide conditions, including environmental, physical, social and economic, and policy and institutional conditions. The section summarizes the detailed descriptions of existing (No Project) conditions that can be found in various 2012 CVFPP attachments and companion documents, including the following:

- The PEIR, which includes a detailed description of the environmental setting for the CVFPP.

- The Regional Conditions Report (DWR 2010), which describes biological conditions (terrestrial and aquatic resources), social and economic conditions, cultural resources, institutional, emergency planning, response, and recovery.

- CVFPP Attachment 2, "Conservation Framework," which describes the current floodway ecosystem, including river flow and hydrologic

processes; geomorphic processes and channel and floodplain dynamics; and riparian and riverine habitats and species, invasive species, and fish passage barriers.

F_USACE1-98

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary.

F_USACE1-99

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Additional details on peak flood stage are included in CVFPP Attachment 8C, "Riverine Channel Evaluation," and CVFPP Attachment 8D, "Estuary Channel Evaluations."

F_USACE1-100

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Maps included in Section 7, "Preliminary Approaches," and Section 8, "State Systemwide Investment Approach," of the attachment illustrate the elements and improvements included in each approach, consistent with the conceptual nature of the CVFPP. Additional details on approach elements and associated improvements are included in CVFPP Attachment 8J, "Cost Estimates."

F_USACE1-101

The commenter identifies Frazier Creek/Strathmore Creek and White River/Deer Creek as located in the Tulare Basin, outside of the CVFPP study area. The comment is noted and the correction is reflected in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-102

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Section 3.1.2, "Existing Physical Conditions," of the attachment includes a brief overview of the SPFC, which highlights the Butte Basin overflow area in Figures 3-1, 3-3, 3-4, and 3-5, and in Table 3-1. A detailed description of SPFC facilities, lands, and mode of operations is included in the SFPC Descriptive Document (2011), which is incorporated by reference to the 2012 CVFPP.

F_USACE1-103

The commenter recommends describing how current flood protection requirements specified in the California Code of Regulations affect

population growth and development (see page 3-17 in Attachment 7, "Plan Formulation Report," in CVFPP Volume II). The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Section 1, "Introduction," of the attachment describes how the 2007 flood legislation strengthened the link between local land use planning and flood risk management, and provides a summary of the legislative requirements for the CVFPP. Additional information on urban flood protection requirements associated with the 2007 flood legislation can be found in Master Response 5. Effects on local land use issues are addressed in Section 3.14, "Land Use and Planning," including the potential effects on local jurisdictions related to requirements for the urban level of flood protection."

F_USACE1-104

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Sections 7.5.5 and 8.11, "Residual Risk Management," acknowledge that even with the realization of major physical improvements to the flood management system, the risk of flooding can never be completely eliminated.

F_USACE1-105

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary.

F_USACE1-106

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Business income loss represents direct flood damages associated with decreased business activity caused by flooding of nonresidential structures. These business income losses are appropriately considered with other direct damages, including crop and structural damages (see CVFPP Attachment 8F, "Flood Damage Analysis"). Regional Economic Analysis for secondary economic effects of the SSIA is documented in CVFPP Attachment 8H, "Regional Economic Analysis."

F_USACE1-107

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary.

F_USACE1-108

The commenter asks whether the Feather River Star Bend setback levee was included on page 7-10 in Attachment 7, "Plan Formulation Report," in CVFPP Volume II. The referenced setback levee is included in the first bullet on page 7-10 in Attachment 7:

- "Levee improvements in southern Yuba County implemented by the Three Rivers Levee Improvement Authority (TRLIA) since 2004 (TRLIA, 2011)".

F_USACE1-109

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. DWR believes that the meaning of the text is clear and that the edit requested by the commenter is not necessary.

F_USACE1-110

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. DWR believes that the meaning of the text is clear and that the edit requested by the commenter is not necessary.

F_USACE1-111

The comment is noted has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Additional information on the methods and findings of DWR's Levee Evaluation Program are documented in other CVFPP companion documents, including the *Flood Control System Status Report* (2011); CVFPP Attachment 8E, "Levee Performance Curves"; and CVFPP Attachment 8J, "Cost Estimates."

F_USACE1-112

The commenter asks whether a business loss of $101 million is a correct estimate (see page 7-15 in Attachment 7, "Plan Formulation Report," in CVFPP Volume II), but the commenter does not provide a page reference or specific information on the nature the concern. Detailed information on the methodology, data, and results of the economic analysis is included in CVFPP Attachment 8F, "Flood Damage Analysis." The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text.

F_USACE1-113

Regarding Figures 7-14 and 7-15 on page 7-30 in Attachment 7, "Plan Formulation Report," in CVFPP Volume II, the commenter asks (1) whether the reductions in damages are color coded by basin or is coding the amount for all areas of that color and (2) whether the amount of

benefits within the Butte Basin is similar to the benefits within the Sacramento urban area. The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7. The maps are color coded to show the net change in economic damages within an impact area. These estimates represent totals and are not normalized by area.

F_USACE1-114

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. Section 7.4.2, "Approach Formulation," of the attachment describes the methodology for focusing improvements on small communities with higher flood risks. The discussion of flood hazard assessment for these communities is specific to this preliminary approach.

F_USACE1-115

Regarding page 7-54 in Attachment 7, "Plan Formulation Report," in CVFPP Volume II, the commenter states that costs associated with F-CO and F-BO are included in the description of the alternative described on that page, but that page 7-47 specifies that F-CO and F-BO are not included in that alternative. The commenter asks for clarification. The Protect High-Risk Communities preliminary approach includes no changes in reservoir operations rules or how existing weirs and other control structures function compared to No Project. However, F-CO and F-BO are included in the No Project. A description of F-CO and F-BO has been added to Section 7.2, "No Project," of Attachment 7 in CVFPP Volume II, as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-116

The CVFPP is conceptual in nature. Two of the preliminary approaches (Protect High-Risk Communities and Enhance Flood System Capacity) and the SSIA include achieving protection from a 200-year flood event in urban areas protected by SPFC facilities. Achieving this level of protection will likely require increasing levee height.

Additional post-adoption work is needed to refine individual elements of the SSIA. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies, and completion of project-level proposals and environmental compliance.

F_USACE1-117

The comment has been considered and is noted; however, no change was made to the text of Attachment 7, "Plan Formulation Report," in CVFPP Volume II. The CVFPP is conceptual in nature, and the frequency of flows through a Feather River Bypass would need to be evaluated through post-

adoption work. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies, and completion of project-level proposals and environmental compliance.

F_USACE1-118

Figure 7-25 depicts the major elements of the Enhance Flood System Capacity Approach. The CVFPP is conceptual in nature, and the exact location of a Feather River Bypass would need to be evaluated through post-adoption work. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies, and completion of project-level proposals and environmental compliance.

F_USACE1-119

The comment has been considered and is noted; however, no change was made to the text of Attachment 7, "Plan Formulation Report," in CVFPP Volume II . Transitory storage is defined in CVFPP Attachment 4, "Glossary." Setback levees increase the channel conveyance capacity as well as providing transitory storage, so the flood benefits are not directly comparable to those of upstream reservoirs. See Master Response 10.

F_USACE1-120

The comment has been considered and is noted; however, no changes were made to CVFPP text.

Regarding Figures 7-26 and 7-27 on page 7-64 in Attachment 7, "Plan Formulation Report," in CVFPP Volume II, the commenter asks (1) whether storage is being increased, or is this "equivalent flood storage" mentioned in the text; and (2) whether flood wave attenuation is the primary reason for the stage decrease or the result of increased conveyance area and/or change in diversions.

Flood storage at Lake Oroville/New Bullards Bar in Figure 7-26, and flood storage at reservoirs in the San Joaquin River Basin is equivalent storage resulting from changing the reservoir rule curve to increase the flood storage allocations in the reservoirs. The attenuation of flood peaks is likely a result of many factors, including increased conveyance area in the bypasses.

F_USACE1-121

The comment has been considered and is noted; however, no changes were made to CVFPP text.

The commenter asks whether Figure 7-30 on page 7-68 in Attachment 7, "Plan Formulation Report," in CVFPP Volume II correctly shows that

damages are reduced even though the project diverts 32,000 cfs from the Feather River into the Butte Basin.

The diversion into Butte Basin is accompanied by reconstruction of all SPFC levees to 55/57 profile, levee setbacks on Sutter Bypass, and 200-year urban levees. The combination of all these changes (and others not enumerated) results in lower damages. For additional information on flood damages, see Attachment 8F, "Flood Damage Analysis."

F_USACE1-122

The comment has been considered and is noted; however, no changes were made to CVFPP text.

As stated in Master Response 9, three preliminary approaches were used to explore a range of potential physical changes to the existing flood management system and help highlight needed policies or other management actions: Achieve SPFC Design Flow Capacity, Protect High-Risk Communities, and Enhance Flood System Capacity. The approaches were not addressed or used as alternatives, so there was no need to include the same level of forecasting and notification in each one.

F_USACE1-123

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. The acronym "LOP" is defined in Section 7.1.1, and the abbreviation "AEP" is defined in Section 7.4.1.

F_USACE1-124

The number at the top of each column is the total Expected Annual Damages in $ millions per year. The comment is noted and the figures have been modified to align the numbers with the columns, as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-125

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 7 text. For the 2017 CVFPP update, improved sea level rise information will be used. DWR will develop approaches for addressing sea level rise that may vary depending on the expected range and rate of sea level rise. DWR is also developing a new methodology for estimating the impacts of climate change on flood hydrology. Improved climate change information will allow more detailed evaluation of potential climate change impacts on the SPFC and refinement of approaches to manage higher floodflows and sea levels during preparation of regional plans and feasibility studies.

F_USACE1-126

The comment is noted and the text has been modified to replace David Van Rijn with Brandon Muncy, as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-127

The comment is noted and the text has been modified to replace William Edgar with Mike Inamine, as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-128

The comment is noted and the text has been modified to replace the City of Woodland with the City of Newman, as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-129

The comment is noted and the text has been modified to replace EIS/EIR with EA/IS, as shown in Appendix B, "Central Valley Flood Protection Plan Errata." However, the "Adverse Environmental Impact and Regulatory Issues" bullet under "Implementation Considerations" has not been removed because that item is part of the template used for all project summaries.

F_USACE1-130

The comment is noted and the text has been modified to reflect the suggested text in the "Redirected Hydraulic Impacts" bullet, as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-131

The comment has been considered and is noted; however, no changes were made to CVFPP text.

The comment states that the rationale to forego re-evaluation of the hydrologic frequency analysis should be that extension of the hydrologic record length to include recent data would not substantially increase the record length and computed statistics. While the wording in the comment is better than that in the text, it does not substantially change the meaning of the paragraph, or make it easier to understand. In addition, the text in question is not a rationale to forgo re-evaluation of the hydrology, it is simply a description of why a new analysis is not needed, and fits with the need to use existing data and analyses for the 2012 CVFPP

F_USACE1-132

The comment has been considered and is noted; however, no changes were made to CVFPP text.

DWR believes that the meaning of the document is clear and that it will be understood that the "center" refers to the hydrologic index point, and not the actual center of the storm.

F_USACE1-133

The suggested text change has been considered and is noted; however, no changes were made to CVFPP text.

DWR believes that the meaning of the phrase is clear and that the edit requested by the commenter is not necessary. In addition, it should be noted that some objective release locations (e.g., Ord Ferry for Shasta) there is significant unregulated flow that must be taken into account.

F_USACE1-134

The comment is noted and the project summary template has been adjusted to include "Federal Lead Agency" and "Non-federal Lead Agency" in the "Project Proponents" section, as shown in Appendix B, "Central Valley Flood Protection Plan Errata."

F_USACE1-135

The comment has been considered and is noted; however, no change was made to the text of Attachment 7A, "Local and Regional Project Summaries," in CVFPP Volume II. The information in Attachment 7A is a work in progress. Some information is missing or incomplete, but will be updated in support of the 2017 CVFPP as project concepts are further developed and some projects are implemented in coordination with partner agencies. For more information regarding regional planning and implementation, see Master Response 14.

F_USACE1-136

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 2 text.

F_USACE1-137

The relationships between the CVFPP, Conservation Framework, and Conservation Strategy are specified in DPEIR Appendix E, "Conservation Framework."

The Conservation Framework is the first phase of more comprehensive and integrated planning within the flood management system, leading to a longer term Conservation Strategy. The Conservation Framework provides direction for conservation planning in the context of flood management. The State will use the Conservation Framework to guide conservation actions associated with the CVFPP until the Conservation Framework is replaced by the 2017 Conservation Strategy. During the next 5 years, the State will continue to develop environmental components for the 2017 CVFPP update and Conservation Strategy. The Conservation Strategy will be consistent with this Framework and provide more specifics about integrating flood and conservation actions. This Conservation Strategy may include regional permitting plans (such as NCCPs, HCPs, or programmatic Section 7 consultations).

The DPEIR was circulated for a 45-day public review from March 6, 2012, to April 20, 2012. The DPEIR includes an analysis of the activities proposed as part of the CVFPP, including those identified in the Conservation Framework.

F_USACE1-138

Section 5.6.2, “Collaborating with Existing Regional Conservation Plans,” of CVFPP Appendix E, “Conservation Framework,” discusses the interaction of the Conservation Framework with other similar plans. Implementation of the Conservation Strategy will occur in an environment with many other ongoing overlapping conservation efforts. The State is already conducting regional planning in coordination with other public agencies and ongoing collaborative efforts. This collaboration will continue for areas of common interest and on projects with mutual objectives. DWR needs to communicate with planners of these other efforts to identify common goals, assess opportunities to work together and reduce unintentional conflicts, and seek ways to collaborate and share funding on projects of common interest.

Existing regional conservation plans are generally NCCPs, HCPs, and species recovery plans. More than 30 plans have been identified to date, and are detailed in CVFPP Attachment 9E, “Existing Conservation Objectives from Other Plans.” Ongoing science programs listed by the commenter, such as the Interagency Ecological Program, will interface with the CVFPP lead staff as needed during post-adoption activities.

As stated in Master Response 14, development of regional plans and formulation of specific capital improvement projects will be coordinated with other overlapping planning efforts by identifying common goals and pursuing opportunities to collaborate and reduce potential conflicts. Information and outcomes from the regional planning process will inform

the State-led basin-wide feasibility studies, preparation of a financing plan for the CVFPP, and the first update of the CVFPP (scheduled for completion by 2017). This regional effort is scheduled to be launched publicly in June 2012 and is anticipated to continue through 2013.

DWR will engage regional flood planning partners to develop and implement communication strategies with broad interest groups to brief them on flood management planning in their regions. Regional implementing and operating agencies, land use agencies, and interest groups will be invited to participate in the planning process. Each regional planning process will seek input, as appropriate, from agricultural interests, environmental interests, permitting agencies/resource agencies, local emergency responders, tribes, and other stakeholders. DWR anticipates that a regional flood working group will be formed in each region. Formation of a similar group for ecosystem planning would be considered.

F_USACE1-139

See response to comment F_USACE1-138.

F_USACE1-140

DWR believes that the meaning of the text is clear and that the edit requested by the commenter is not necessary; therefore, no change was made to the CVFPP text.

F_USACE1-141

DWR believes that the meaning of the document is clear and that the edit requested by the commenter is not necessary. The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USACE1-142

See responses to comments F_USACE1-04, F_USACE1-05, F_USACE1-13, and F_USACE1-68, above. The term “Levees with Preexisting Legacy Levee Vegetation” generally is intended to refer to vegetation predating the policy change reflected by USACE’s 2009 adoption of the ETL.

As stated in Master Response 16, the State will implement a comprehensive, integrated VMS in the Central Valley that both meets public safety goals and protects and enhances sensitive habitats in the Sacramento and San Joaquin valleys. The CVFPP’s VMS represents the State’s current approach to addressing levee vegetation in the context of USACE ETL 1110-2-571 governing vegetation on federal flood management facilities. However, DWR continues to advocate having USACE participate as a true partner in addressing legacy levee vegetation

issues, jointly considering the environmental and risk-reduction implications of vegetation remediation within the context of prudent expenditure of limited public funds. DWR will continue a dialogue with USACE regarding plan formulation concepts that recognize the agencies' shared responsibility for addressing vegetation issues (along with traditional levee risk factors), within a systemwide risk-informed context intended to enable continued progress on critical cost-shared flood system improvements. For additional details, see Master Response 16.

F_USACE1-143

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 8F text. Crop flood damages for the 2012 CVFPP were evaluated using the approach developed by the USACE for the Comprehensive Study. The evaluation used the Comprehensive Study agricultural damage spreadsheet as the tool to estimate damage values for the Sacramento and San Joaquin river basins.

The CVFPP economic flood damage analysis considered 20 crop types, including citrus, fruit and nuts, field crops, pasture and alfalfa, rice, vine, and others. For each of the 20 crop types, there are two kinds of unit damage cost per acre: one for short-term flood duration (shorter than 5 days) and one for long-term flood duration (longer than 5 days). Weighted unit damage cost per acre was developed based on the assumed percentage of short- and long-term inundation. Flood duration assumptions were from the Comprehensive Study agricultural damage spreadsheet. Effects of seasonality and flooding duration are considered in the computation of agricultural flood damages for each crop. Monthly data are gathered into a weighted average annual damage estimate based on income, costs, probability of flood in that month, and percent of damages that would occur if there were a flood. Estimates of agricultural damages include cultivation costs (growing costs), harvest costs, establishment costs, land cleanup and rehabilitation costs, and loss of gross income. Table 3-15 of CVFPP Attachment 8F lists the crop types and unit damage costs estimated for CVFPP flood damage analysis.

F_USACE1-144

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 8F text. To account for changes in prices for agricultural inputs and gross income, price multipliers are calculated for each of the 20 crops types considered in the damage analysis. Separate price indices were developed for agricultural inputs (i.e., prices paid) and gross income (i.e., prices received). Prices paid multipliers were used to adjust the estimates for (1) cultivation cost, (2) harvest/post-harvest cost, (3) establishment cost, and (4) land cleanup and rehabilitation cost. To

update these multipliers form 2001 price levels (used in the Comprehensive Study) to 2010 price levels, U.S. Department of Agriculture price indices (2001 to 2010) were considered, and where appropriate moving averages were calculated to account for price variability in agricultural commodities.

F_USACE1-145

The comment has been considered and is noted; however, no change was made to CVFPP Attachment 8F text. Business income loss represents direct flood damages associated with decreased business activity caused by flooding of nonresidential structures, within the study damage areas in the Sacramento and San Joaquin basins (covers the Delta region protected by the SPFC levees). The economic output losses, or business losses, for each nonresidential structure are based on the estimated temporary business interruption days and economic output per day value (industry specific). Capacity utilization factors were used to account for substitute production of unaffected businesses that would be able to meet a portion of demand for flooded businesses' goods and services. These business income losses are considered as direct damages, similar to crops and structural damages (see CVFPP Attachment 8F, "Flood Damage Analysis"). Regional economic analysis for secondary economic effects (ripple effects of the direct business losses) is documented in CVFPP Attachment 8H, "Regional Economic Analysis for the State Systemwide Investment Approach."

The economic analysis for the 2012 CVFPP did not quantify flood related damages associated with infrastructure (transportation, energy, etc.), utilities, loss of public services, and emergency response and recovery costs. The economic analysis for the 2012 CVFPP provides a basis for comparative analysis to identify the advantages and disadvantages of the considered preliminary approaches and SSIA. This economic analysis was not intended to fully quantify the benefits of these approaches because of their conceptual nature. Additional post-adoption work is needed to refine individual elements. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies and the CVFPP Financing Plan, and completion of project-level proposals and environmental compliance. As appropriate, this information will be used and additional analyses will be conducted in support of the 2017 CVFPP.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer To:
08ESMF00-2012-CPA-0100

APR 18 2012

F_USFWS1

Ms. Nancy Moricz
Central Valley Flood Protection Board
3310 El Camino Avenue, Room 151
Sacramento, California 95821

Dear Ms. Moricz:

F_USFWS1-01 We appreciate the opportunity to comment on the Public Draft 2012 Central Valley Flood Protection Plan (Plan). As you are aware, the Fish and Wildlife Service has participated to the extent possible in Plan development by attending various workshops, briefings and providing written comments on various sections of the draft Plan over the past few years prior to its release for the public review process. We believe the California Department of Water Resources (DWR) has brought together a good descriptive document that can be adopted by the Central Valley Flood Protection Board (Board). After adoption by the Board the Plan can move forward

F_USFWS1-02 to feasibility studies and ultimately development of regional planning strategies that will more specifically address projects to lower flood risk in flood prone areas and integrate ecosystem restoration activities. Prioritization and funding of flood risk reduction and ecosystem restoration actions will be a critical component of the Plan's post-adoption processes.

Following are a few general comments and enclosed are some specific comments which we have entered into the excel spreadsheet posted on the Central Valley Flood Protection Board website for receiving comments.

F_USFWS1-03 The California Central Valley Flood Protection Act of 2008 (Senate Bill 5) defined objectives for reducing the risk of flooding in the Central Valley. The Plan was directed to describe means for improving both structural and nonstructural performance and eliminating deficiencies in the State Plan for Flood Control Facilities. Other objectives to meet included promotion of natural hydrologic and geomorphic processes; increasing quantity, diversity and connectivity of riparian, wetland, floodplain and shaded riverine aquatic habitats; promoting the recovery and stability of native species populations and overall biotic community diversity; and identifying opportunities for expanding or increasing use of floodway corridors. Development of these types of multiple benefit projects will be critical for future project implementation actions.

F_USFWS1-04 Development of a comprehensive, long-term financing plan will also be critical. We understand this is currently being worked on and is scheduled to be completed in 2013. A major concern we have is that little funding will be available for implementing actions for the supporting goals, such as promoting ecosystem functions, after the Plan's primary goal of improving flood risk management is fully funded. We believe the Plan should provide assurances that go beyond just

F_USFWS1-05 F_USFWS1-06 mitigation of adverse impacts of any proposed projects, and actually incorporate ecosystem restoration actions. Additionally, as the Plan is adopted by the Board, the Board should make it clear that the adoption includes Attachment 2, the Conservation Framework. We note that the DWR Environmental Stewardship Policy includes provision for DWR to include environmental stewardship and ecosystem protection and restoration as a criterion in project funding decisions for all their programs. We believe this language should be made clear within the Plan. We look forward to working with DWR and others on implementing this policy on proposed projects.

F_USFWS1-07 There are many statements in the Conservation Framework stating that improving ecological conditions in flood systems depends on improving hydrologic and geomorphic processes (i.e., sediment erosion, transport, and deposition). We concur with such statements. However, it should be recognized that the most effective (and realistic) way to enhance ecological conditions downstream of dams and within levee systems, is to explicitly alter both the contemporary hydrologic and geomorphic processes within the floodway to more closely resemble the natural hydrograph. Success or failure of restoration actions within the floodway will be largely dependent on how well a given project is analyzed in relation to such physical processes. In addition, a given ecosystem restoration project should be designed in relation to appropriate alterations to the current flow and sediment transport regime (as controlled by flood control facilities). For example, a restoration project may not function appropriately in the long-term without a combination of periodic gravel augmentation and incorporation of adequate flows to properly maintain the placed gravel.

F_USFWS1-08 Lastly, it is still unclear how the Plan will integrate with other large scale planning efforts taking place in the Central Valley such as regional Habitat Conservation Plans, the Bay Delta Conservation Plan, Delta Stewardship Council's Delta Plan, and San Joaquin River Restoration Plan. The Plan acknowledges these and other efforts, but does not state how the various efforts will be integrated.

We look forward to working with DWR, the Board and others on the regional planning efforts and development of the Conservation Strategy to follow adoption of the Plan. If you have any questions regarding these comments please contact Doug Weinrich at (916) 414-6563.

Sincerely,

Susan Moore
Field Supervisor

Enclosure

cc:
Bay-Delta FWO, Sacramento, CA
Stockton FWO, Stockton, CA
Sacramento NWR Complex, Willows, CA
Mary Ann Hayden, DWR, Sacramento, CA

Commentor	Commentor Agency	Contact Email	Document	Chapter/ Section	Page No.	Comment	Proposed Modification
USFWS	F_USFWS1-09 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	1	1-17	4th bullet regarding work windows. In the second sentence it refers to "new " species. Recommend deleting "new" and replacing it with "additional"	If habitat is improved and increased in and near the flood system, an intended outcome is increases in population sizes and, potentially populations of additional species using restored areas.
USFWS	F_USFWS1-10 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	1	1-18	3rd full paragraph. Recommend deleting the phrase "where feasible" and elsewhere in the document. Without additional information the reader does not know how an effort is evaluated for feasibility.	
USFWS	F_USFWS1-11 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	2	2-12	The USFWS supports the concept of setback levees and widening the floodplain for both environmental and public safety reasons and where future feasibility studies show the benefits. We recognize that these actions can have a detrimental impact on agricultural and other interests and plan to work collaboratively with all involved to develop and implement sound projects.	
USFWS	F_USFWS1-12 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	2.7	2-25	The USFWS concurs and supports the idea of creating a flood system that would lower flood control operations and maintenance costs and may also be compatible with enhancing habitats within and adjacent to the flood system.	
USFWS	F_USFWS1-13 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	2	2-30	6th bullet. We suggest this bullet be strengthened to include the language from the DWR Environmental Stewardship Policy which goes beyond "considering" opportunities for ecosystem restoration.	All levels of project planning and development should include environmental stewardship and ecosystem protection and restoration as criteria in project funding decisions.
USFWS	F_USFWS1-14 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	3	3-7	2nd paragraph. Recommend deleting "to the extent feasible" in the first sentence.	Levee projects in urban areas should consider setbacks based on the level of existing development and the potential benefits.
USFWS	F_USFWS1-15 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	3	3-7	2nd paragraph, 3rd sentence. Recommend deleting "consider" from the sentence.	Other improvements should incorporate ecosystem preservation, restoration and enhancement as funding criteria for project design and funding.
USFWS	F_USFWS1-16 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	3	3-14	Feather River Bypass. The Service manages 10,311 acres of conservation easements and 733 acres of fee-title wetland habitat in the Butte Sink. The Service has concerns on the effect of creating a 32,000 cubic-foot per second bypass on or near Cherokee Canal and how that could affect the wetlands managed by the Service. Four major water delivery and fish passage structures have been built on or near Cherokee Canal and it is unclear how the bypass would effect the function and integrity of these structures.	Coordinate with the Service during the Feasibility stage and the regional planning stages. The Service has a role both as a regulator, responsible for implementing the Endangered Species Act and Fish and Wildlife Coordination Act, and also as a land manager of numerous refuges in the Central Valley.
USFWS	F_USFWS1-17 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	3	3-16	Section 3.5.5, last paragraph. We recommend deleting "where feasible" at the end of the last sentence.	
USFWS	F_USFWS1-18 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	4	4-15	4th bullet. It should be made clear in this bullet that life-cycle management does not apply to the lower 1/3 of the waterside levee slope.	

USFWS	F_USFWS1-19 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	4	4-15	5th bullet. There needs to be some clarification on use of term riparian habitat. Riparian habitat is the interface between the terrestrial and aquatic areas. Therefore, some of riparian forest referred to here would need to occur within floodplain (waterside of the levee). Habitat removed on the landside of the levee and levee crown would generally not be considered riparian habitat although some of the vegetative species may be the same. The upper 2/3 of the waterside levee could be considered riparian depending on the species composition and frequency of inundation.	These are important distinctions which need to be worked out in development of the Conservation Strategy.
USFWS	F_USFWS1-20 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	4	4-26	1st bullet. It should be clarified whether or not a project which does not meet at least one of the criteria listed here for "no-regrets program or action" would truly be considered a no regrets project by the State as it relates to early implentation projects.	
USFWS	F_USFWS1-21 USFWS	Douglas_Weinrich@fws.gov	2012 Central Valley Flood Protection Plan	4	4-35	Phase II. It is disappointing to see that setback levees may not be constructed until Phase II. We understand these take time to plan; however, it seems to imply here that they could not be a part of Phase I. Given that Phase I work is planned for the next 5 years, we would not want to see it discouraged as part of an EIP program.	
USFWS	F_USFWS1-22 USFWS	Douglas_Weinrich@fws.gov	USFWS	USFWS	2-1	The Conservation Framework does not focus on upland areas along with the broader watershed. This limitation could result in the failure of restoration actions. A standard starting point for any riverine restoration project, is to match the project to contemporary flow and sediment transport regime while balancing it with historical flow and sediment transport regime. These historic regimes are controlled by larger-scale geomorphic features. A watershed scale perspective is integral during the design phase of restoration/enhancement projects.	Incorporate a watershed approach to the Conservation Framework and Strategy.
USFWS	USFWS F_USFWS1-23	Douglas_Weinrich@fws.gov	USFWS	USFWS	2-15	Table 2-3. Delta smelt is also State listed.	
USFWS	F_USFWS1-24 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Attachment 2	5	5-3	USFWS fully supports DWRs Environmental Stewardship Policy which includes a provision for DWR to include environmental stewardship and ecosystem restoration as a criterion in project funding decisions for all DWR programs.	
USFWS	F_USFWS1-26 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Attachment 2	5	5-4	USFWS agrees that consolidating meandering levees into shorter setback levees would decrease O&M, and provide improvements in floodplain processes, habitat quality, quantity and connectivity.	
USFWS	USFWS F_USFWS1-27	Douglas_Weinrich@fws.gov	CVFPP-Attachment 2	5	5-4	USFWS concurs designs and budgets for flood projects should include actions that provide ecosystem benefits.	
USFWS	F_USFWS1-28 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Attachment 2	5	5-16	LCM-USFWS reiterates its support for the LCM concept. However, we would expect that any vegetation removed on the waterside of the levee be planted elsewhere in the system on the waterside of the levee.	

USFWS	F_USFWS1-29 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Attachment 2	5	5-22	Collaborating with Existing Regional Conservation Plans	You should also add CDFG Ecosystem Restoration Program and the Central Valley Project Improvement Act's Anadromous Fish Restoration Program.
USFWS	F_USFWS1-30 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	ES.5	ES-19	2nd bullet. We recommend deleting the word "needs" in the last sentence and insert clarifying language.	Each agency has its own requirements, guidance, and role in project implementation, and there are challenges associated with meeting the requirements of State and Federal laws under the jurisdiction of these agencies.
USFWS	F_USFWS1-31 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	ES.6	ES-21	Does the Modified State System wide Investment Approach Alternative include LCM?	
USFWS	F_USFWS1-32 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	ES.6	ES-21	Does the Achieve SPFC Design Flow Capacity Alternative include LCM or a variance proposal?	
USFWS	F_USFWS1-33 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR		ES-37	There is a discrepancy in the language regarding mitigation plantings in the floodplain between Impact BIO-A-2 and Impact BIO-A-3. In A-2 it states: *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 A-3 the statement is: *Any mitigation plantings in the floodway will not be permitted if they would result in* ***increases*** *in flood stage elevations, or* ***alter flows*** *affecting the opposite bank.*	
USFWS	F_USFWS1-34 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR		ES-38	Mitigation Measure BIO-T-1a: Before an NTMSA [or LMTA] is implented, the CNDDB will be searched to determine whether sensitive communities, habitats, and species observation records may be present in or near the project area.	CNDDB is a good tool, but one should not assume species absence based solely on negative search results for particular species.
USFWS	F_USFWS1-35 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR		ES-38	Impact BIO-T-1, 3rd bullet. It would also be appropriate to consult with the USFWS as compliance with the Fish and Wildlife Coordination Act, Migratory Bird Treaty Act, and Bald and Golden Eagle Protection Act may be needed.	
USFWS	F_USFWS1-36 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	1	1-5	line 18, the CVFPP study area does not encompass most of California (see Figure 1-3 on page 1-8).	Recommend the sentence be rewritten to: Because of the interconnected nature of flood management, water supply, and land use management decision making, the CVFPP study area encompasses much of the Central Valley.
USFWS	F_USFWS1-37 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	2	2-12	line 31, suggest deleting "may be" and replace it with "are encouraged to.. This language closely aligns with the bullets on page 2-5.	
USFWS	F_USFWS1-38 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.3.1	3.3-11	The detriments of flooding on agricultural production are discussed, but the reason so much farmland exists on historic floodplain areas is because of the benefits of soil and nutrient replenishment for agricultural crops.	Add a discussion that some agriculture may benefit from occasional flooding.
USFWS	F_USFWS1-39 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.5.4	3.5-42 & 43	There is a discussion regarding the thinning of riparian habitat. Do you mean narrowing or both thinning and narrowing. This could have different affects on different species.	Clarify the meaning of thinning.

USFWS	F_USFWS1-40 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.5.4	3.5-44	The USFWS has concerns for the effect the VMS could have on habitat connectivity. In some reaches of the plan it would be very difficult to adequately offset the loss of vegetation due to VMS because the replacement vegetation would not be located in a way which restores connectivity.	
USFWS	USFWS F_USFWS1-41	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.5.4	3.5-47	We agree with the bullet in line 8, however acreage is also an important component.	You should also be thinking in terms of acreage in addition to function and value.
USFWS	F_USFWS1-42 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.5.4	3.5-47	You discuss providing compensation habitat that has been implemented by a levee maintenance agency or other entity. What other entities are you thinking of?	Clarify what potential other entities may be providing habitat restoration for compensation.
USFWS	F_USFWS1-43 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.5.4	3.5-49	A bullet discusses doing a survey of shaded riverine aquatic (SRA) habitat before construction activities occur. This sounds as though it would be site specific. We believe a survey of the entire system need to be conducted very early on in the planning effort in order to determine the significance of the SRA habitat to the overall system.	Include a mitigation measure to survey SRA habitat for the entire system.
USFWS	F_USFWS1-44 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.6.4	3.6-74	The CNDDB is to be searched to determine what sensitive habitats and species may be present and where. The CNDDB only shows species that have had a positive occurrence due to a survey. This would exclude areas that have sensitive habitats or species, but have not been surveyed and species that can be very difficult to detect even when directed surveys are done.	Examine species ranges and habitat preferences in order to determine what minimization and avoidance measures should be included for NTMAs.
USFWS	USFWS F_USFWS1-45	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.6.4	3.6-76	When discussing compensation habitat, providing an endowment and conservation easement should be mentioned.	
USFWS	F_USFWS1-46 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.6.4	3.6-82	The PEIR assumes that you can offset adverse effects to species and their habitats due to construction-related effects. However, in some cases this could be very costly or even impossible. Widening the bypasses or creating new bypasses could effect a large acreage of existing wetlands and rice. Some of these areas have a conservation easement held by the Fish and Wildlife Service for the protection of migratory birds. Changes in the ability to acquire water, the depth and/or duration of flooding, damage to infrastructure, the need for increased sediment removal, the need for increased invasive plant removal, and increased maintenance costs have not been analyzed.	Include an effect analysis which analyzed the effects on all of the concerns outlined in this comment. We believe that Service land is not the only land that would have these kinds of effects. There are numerous Department of Fish and Game Wildlife Areas that could be affected by bypass expansion or creation, as well as conservation easements and lands held by private conservation organizations.

				3.6.4	3.6-82	Similar to the above comment, the PEIR does not address the effects to habitat that would be used to create or enlarge bypasses. Currently, there are two conservation banks for giant garter snake, which border the eastern levee of the Sutter Bypass. Expansion of this bypass to the east would cause significant effects to these lands which serve as compensation for adverse effects to giant garter snake. While snakes can and do use the bypass during the summer months, adverse effects occur to overwintering snakes when the bypass floods through potential mortality through drowning. In addition to the conservation banks, there is rice habitat adjacent to many bypasses, which provides habitat for giant garter snakes, but would also be negatively affected by incorporating these areas into the bypasses.	Analyze effects of habitat loss to giant garter snake and avoid bypass expansion in areas with high quality habitat.
USFWS	F_USFWS1-47 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.6.4	3.6-84	There is a statement which says "Authorized losses of habitat will not exceed the function and value of available compensation habitat.' It can be difficult to determine the value of habitat to a particular species in order to offset any loss of value. While it is important to look at the quality of the habitat, the sheer loss of quantity of habitat would require that it at least be replaced and depending on temporal effects it may need to be replaced in greater quantity than what is affected.	
USFWS	F_USFWS1-48 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.6.4	3.6-89	As stated above, the USFWS has concerns on the long-term effects of VMS on riparian connectivity. In order to adequately analyze the effects of VMS and LCM to the system, DWR should survey the rivers within the planning area in order to review which areas currently lack connectivity and therefore are negatively affecting riparian species which require connectivity as well as which areas would be degraded and cause fragmentation.	Include a survey of the riparian habitat, in order to analyze the effects of VMS and LCM on riparian habitat connectivity. This would also potentially locate areas for possible setback levees.
USFWS	F_USFWS1-49 USFWS	Douglas_Weinrich@fws.gov	CVFPP-Program EIR	3.6.4	3.6-90	There is a bullet which implies that if there is little to no woody vegetation existing, then the VMS would result in little change from existing conditions. While this is true, it also does not allow for potential to improve conditions. This would permanently create a degraded condition, which may cause the eventual decline of some species (riparian brush rabbit).	Look at the rivers within the planning area as a system and determine where connectivity is needed. These areas would be adversely affected by not allowing vegetation to grow on them in a future condition. This effect should be included in the document.

U.S. Fish and Wildlife Service

Response

F_USFWS1_01

DWR appreciates USFWS's participation in the CVFPP process. The comment does not raise specific questions or information regarding the adequacy of the environmental analysis provided in the DPEIR, nor does the comment specify additional information needed or particular insufficiencies in the DPEIR. The comment is noted.

F_USFWS1_02

The comment does not raise specific questions or information regarding the adequacy of the environmental analysis provided in the DPEIR, nor does the comment specify additional information needed or particular insufficiencies in the DPEIR. The comment is noted.

F_USFWS1_03

The comment does not include specific requests for additional information or concerns with the environmental analysis presented in the DPEIR, nor does the comment specify additional information needed or particular insufficiencies in the DPEIR. The comment is noted. For details about multi-benefit projects, see Master Response 7.

F_USFWS1_04

The Central Valley Flood Protection Act of 2008 (SB 5) sets legislative direction to meet multiple objectives, where feasible, when proposing improvements to flood management facilities, including integration of ecosystem benefits (CWC Sections 9616(a)(7), 9616(a)(9), and 9616(a)(11)). Thus, the CVFPP's primary goal is achieved through implementation of the supporting goals. However, as stated in Master Responses 9 and 15, the current available bond funding is insufficient to implement the entirety of the recommended SSIA. After the Board adopts the CVFPP, DWR will create a financing plan for potential legislative actions to fund the next increment of capital improvements, O&M, and residual risk management activities for the CVFPP. The financing plan may include legislative actions to establish reliable funding for continued implementation of the SSIA in its totality to benefit the entire Central Valley and state of California. For additional detail, see Master Responses 9 and 15.

The comment also states that the CVFPP should provide assurances that go beyond mitigation of adverse impact of any proposed projects and actually incorporate ecosystem restoration actions. As stated above and in more

detail in Master Response 7, the SSIA includes the supporting goal of improving ecological conditions on a systemwide basis, using integrated policies, programs, and flood-risk reduction projects that will help to (1) provide ecological benefits, (2) move beyond traditional project-by-project compensatory mitigation, and (3) create opportunities to develop flood management projects that may be more sustainable and cost-effective over time. Under the SSIA, ecosystem restoration opportunities are integral parts of flood system improvements, and not after-the-fact mitigation. Post-adoption activities, including the development of a Conservation Strategy, will allow for detailed development and review of the conceptual ecosystem restoration targets described in the CVFPP and its attached Conservation Framework. The Conservation Framework focuses on promoting ecosystem functions and multi-benefit projects in the context of integrated flood management for near-term implementation actions and projects. For additional details, see Master Response 7.

F_USFWS1_05

Attachment 2, which includes the Conservation Framework, will be adopted by the Board along with the CVFPP.

F_USFWS1_06

As noted in Appendix B, “Central Valley Flood Protection Plan Errata,” DWR's Environmental Stewardship Policy is referenced in Section 1 of CVFPP Attachment 2, “Conservation Framework.”

F_USFWS1_07

DWR acknowledges this comment in which USFWS concurs with the CVFPP statements that improving ecological conditions in flood systems depends on improving hydrologic and geomorphic processes. The comment does not include specific requests for additional information or concerns with the environmental analysis presented in the DPEIR, nor does the comment specify additional information needed or particular insufficiencies in the DPEIR. The comment is noted.

As described under Section 2.3.6, “Integrating Ecosystem Restoration Opportunities with Flood Risk Reduction Projects,” of the DPEIR, the CVFPP Conservation Framework: (1) focuses on promoting ecosystem functions and multi-benefit projects in the context of integrated flood management for near-term implementation; (2) provides an overview of the floodway ecosystem conditions and trends and key conservation goals that further clarify the proposed program’s ecosystem goal; and (3) identifies 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 floodplain. Therefore, DWR is addressing the commenter's concern through the CVFPP Conservation Framework. As stated in Master Response 15, additional post-adoption work is needed to refine individual elements of the CVFPP and SSIA. Anticipated post-adoption activities include regional flood management planning, development of basin-wide feasibility studies and the CVFPP Financing Plan, completion of project-level proposals and environmental compliance, development of the Conservation Strategy, and State and USACE permitting.

F_USFWS1_08

As stated in Master Response 18, the CVFPP's recommended approach—known as the SSIA—sets forth a strategy for responsibly meeting the State's objectives to improve public safety, ecosystem conditions, and economic sustainability, while recognizing the financial challenges facing local, State, and federal governments today. The SSIA also includes system elements such as potential expansion of the Yolo Bypass to increase system capacity, attenuate peak flow during flood events, and increase opportunities for ecosystem restoration that should be compatible with the BDCP (another major management plan contributing to the Delta Plan). Another system element included in the SSIA is a potential new Lower San Joaquin Bypass to alleviate flood risk to the Stockton metropolitan area and provide opportunities for environmental restoration and agricultural preservation. The CVFPP will be implemented in coordination with other FloodSAFE programs and projects that also address flood risk in the Delta, especially for tidal estuaries and for non-SPFC facilities. Among these programs and projects are the Delta Levee Maintenance Subventions Program, the Delta Levees Special Flood Control Projects, and the Delta Emergency Operations Plan.

The CVFPP will be integrated with other large plans within the context of its primary goal to improve flood management in the SPFC planning area by considering an urban level of flood protection against a 200-year (0.5 percent annual chance) flood for urban and urbanizing areas; structural and nonstructural options for protecting small communities from a 100-year (1 percent annual chance) flood; and flood protection options for rural-agricultural areas, with a focus on integrated projects that achieve multiple benefits and help preserve rural-agricultural lands from urban development. Additional project-level study and coordination with local, State, and federal governments and agencies, and with local major programs and projects, is necessary to implement many of the elements proposed in the CVFPP.

For additional details regarding the relationship between the CVFPP and BDCP, the Delta Plan, and SJRRP, see Master Response 18.

F_USFWS1_09

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_10

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_11

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_12

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_13

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_14

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_15

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_16

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_17

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_18

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_19

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_20

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_21

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_22

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_23

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_24

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_25

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_26

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_27

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_28

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_29

The specific text change has been considered and is noted; however, no change to the CVFPP text was made.

F_USFWS1_30

As requested by the commenter, the text of the DPEIR has been revised as shown in Chapter 4.0, "Errata." This edit does not change the analysis or conclusions of the DPEIR.

F_USFWS1_31

As stated in Section ES.6.1, "No Project Alternative—Continued Operations Scenario," in the DPEIR, "The VMS, including the LCM component, would be implemented with or without the adoption of the CVFPP." Therefore, DWR believes that both the term and the abbreviation are clear and no changes to the DPEIR are required.

F_USFWS1_32

As stated in Section ES.6.1, "No Project Alternative—Continued Operations Scenario," in the DPEIR, "The VMS, including the LCM component, would be implemented with or without the adoption of the CVFPP." Therefore, DWR believes that both the term and the abbreviation are clear and no changes to the DPEIR are required.

F_USFWS1_33

As requested by the commenter, the text of the DPEIR has been revised as shown in Chapter 4.0, "Errata." This edit does not change the analysis or conclusions of the DPEIR.

F_USFWS1_34

As requested by the commenter, the text of the DPEIR (pages ES-38) has been revised, as shown in Chapter 4.0, "Errata." This edit does not change the analysis or conclusions of the DPEIR.

F_USFWS1_35

Consultation with USFWS is already implied under Impact BIO-T-3 in the DPEIR. The commenter does not provide any new information or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts to support this comment, nor does the comment offer a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. Therefore, no changes to the DPEIR are necessary.

F_USFWS1_36

As requested by the commenter, the text of the DPEIR has been revised as shown in Chapter 4.0, "Errata." This edit does not change the analysis or conclusions of the DPEIR.

F_USFWS1_37

This is purely an editorial request that has no effect on the meaning or intent of the analysis or the conclusions contained in the DPEIR; no revisions to the text are required.

F_USFWS1_38

As requested by the commenter, the text of the DPEIR (lines 25–26 on page 3.3-11) has been revised as shown in Chapter 4.0, "Errata." This edit does not change the analysis or conclusions of the DPEIR.

F_USFWS1_39

Narrowing of the riparian habitat is a more accurate description. The text of the DPEIR on page 3.5-43 (lines 30 and 36) and on page 3.5-44 (lines 13 and 18) have been revised, as shown in Chapter 4.0, "Errata." These edits do not change the analysis or conclusions of the DPEIR.

F_USFWS1_40

The comment presents USFWS's concerns about the impact of the VMS on habitat connectivity. Specifically, the commenter is concerned about the potential difficulty of offsetting the loss of vegetation from the VMS sufficiently to preserve habitat connectivity. The DPEIR reaches essentially the same conclusion, stating that implementation of the VMS as proposed would result in potentially significant and unavoidable impacts, even after the application of mitigation (page 3.5-48, line 10). The history of the vegetation variance is presented in DPEIR Chapter 2.0, beginning on page 2-17, line 32. Therefore, no changes to the DPEIR are necessary.

F_USFWS1_41

The comment requests that acreage be included in the bullet of minimum performance standards (DPEIR page 3.5-47, line 8) addressing the contents of the mitigation plan to be prepared to help minimize impacts of the VMS. The DPEIR already requires that the "DWR will track habitat compensation efforts and 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" (page 3.5-46, line 39, through page 3.5-47, line 4).

Compensation on an acre-for-acre basis may not always achieve the mitigation goals of the program and therefore could be overly restrictive. For example, removal of a number of acres of low-quality habitat in an area with an abundance of higher quality habitat may be adequately mitigated with an area of equal, or even smaller, size with higher functions and values. Replacing lost functions and values may ensure creation of functional habitat during mitigation, rather than simple provision of acreages. The project proponent would be required to coordinate with USFWS and DFG to ensure that the effects on special-status species are adequately addressed. For the reasons stated above, DWR believes that the mitigation measures contained in the DPEIR are appropriate, and no changes to the DPEIR are necessary.

F_USFWS1_42

The comment requests a clarification as to other entities that may be providing habitat restoration for compensation. The item being referred to in the comment is a list of potential mechanisms for providing compensation habitat. They are included as performance standards, and are provided as examples of possible avenues by which impacts from the VMS may be mitigated. There are a variety of federal, State, and local entities that may be in a position to provide mitigation projects. These include but are not limited to DFG, USFWS, NMFS, DWR, USACE, levee management organizations, irrigation districts, and Reclamation. Because the bullet list in the DPEIR was properly identified as a partial list and the DPEIR appropriately provides mitigation at a program level with the inclusion of performance standards, no changes to the DPEIR are necessary.

F_USFWS1_43

The comment recommends that Mitigation Measure BIO-A-3 (page 3.5-49) in the DPEIR be revised to require a complete SRA survey of the entire project area to accurately determine the importance of SRA in the system.

A survey of SRA habitat for the entire system would be an enormous undertaking. For a program-level document of this scale, requiring a systemwide survey of the existing SRA as a mitigation measure would be infeasible and not necessary to identify potential impacts. Furthermore, performing a survey would not reduce the magnitude of the impact. The comment is noted; however, no changes to the DPEIR are necessary.

F_USFWS1_44

As requested by the commenter, the text of the DPEIR (pages 3.6-74–3.6-75, lines 34–35 and 1–11) has been revised as shown in Chapter 4.0,

"Errata." This edit does not change the analysis or conclusions of the DPEIR.

F_USFWS1_45

As described under Mitigation Measure BIO-T-1a (NTMA), DWR will consult with the appropriate State and federal agencies, where resources, habitats, or species under their jurisdiction may be adversely affected. This consultation often involves a negotiation of measures to protect compensation habitats in perpetuity, including endowments and conservation easements. The commenter does not provide any new information or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts to support this comment, nor does the comment offer a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. Therefore, no changes to the DPEIR are necessary.

F_USFWS1_46

As noted in Chapter 1.0, "Introduction," the DPEIR is a programmatic document that is intended to inform DWR and the Board in future planning and feasibility studies that will allow selection of site-specific actions. A detailed analysis of changes to those functions discussed in the comment would require site-specific information and project designs that are not appropriate for this level of analysis. Future studies should evaluate conditions, including potential effects on giant garter snake habitat, and make recommendations that meet the guidelines of the CVFPP while also minimizing long-term and cumulative adverse affects (see Chapter 4.0, "Cumulative Impacts") on sensitive species and habitats. This comment does not provide any new information or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts and therefore does not result in new significant environmental impacts, a substantial increase in the severity of an environmental impact, or create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. For these reasons, no changes to the DPEIR are necessary.

F_USFWS1_47

DWR acknowledges this comment, but believes that the statement in the PDEIR is not contradictory with the commenter's observation. The commenter does not provide any new information or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts to support this comment, nor does the comment offer a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. Therefore, no changes to the DPEIR are necessary.

F_USFWS1_48

As stated in Master Response 12, levee vegetation subject to removal through LCM will be quantified using the best available information, and CVFPP will rely on ongoing and future research (including monitoring) to evaluate the effects on riparian ecosystem functions from eliminating natural recruitment under LCM. The impacts of LCM on terrestrial biological resources were considered potentially significant because of the increased sensitivity of these resources to losses of riparian habitat and the thresholds of significance used to assess these impacts. These impacts were also considered potentially significant because it could not be assured that implementing the VMS would replace riparian habitat in sufficient quantities, at appropriate times, and/or in appropriate locations to fully replace the functions and values of the riparian vegetation removed. Because the SSIA is a conceptual plan for flood system improvements, additional post-adoption work is needed to refine its individual elements, including regional flood management planning, development of basin-wide feasibility studies and the CVFPP Financing Plan, completion of project-level proposals and environmental compliance, development of the Conservation Strategy, and State and USACE permitting. As noted in DPEIR Chapter 1.0, "Introduction," this programmatic document is intended to inform DWR and the Board in future planning and feasibility studies that will allow selection of site-specific actions. Future studies should evaluate conditions, including fish habitat, and make recommendations that meet the guidelines of the CVFPP. Therefore, DWR has adequately analyzed the effects of VMS and LCM at the programmatic level. This comment does not provide any new information or references offering facts, reasonable assumptions based on facts, or expert opinion supported by facts to support the comment and therefore does not result in new significant environmental impacts, a substantial increase in the severity of an environmental impact, or create a feasible project alternative or mitigation measure that would clearly lessen environmental impacts. For these reasons, no changes to the DPEIR are necessary. For additional details, see Master Responses 12 and 14.

F_USFWS1_49

The DPEIR examines impacts of the proposed action, the CVFPP (including implementing the VMS), relative to existing conditions. To examine the effects of removing baseline conditions (including existing levee maintenance practices) goes beyond the scope of the DPEIR. For these reasons, no changes to the DPEIR are necessary.