

**NOAA Fisheries**  
**Comments on the draft Lower SJ/Delta South Regional Flood Management Plan (RFMP):**

Specific Comments:

- (1) Section 3.1: It should be noted that there was no mention of integrating the Conservation Strategy into the objectives or purpose.
- (2) A key question is whether multi-benefit projects are included in goal three of the RFMP (engage stakeholders in developing a prioritized list of projects).
- (3) The introduction and purpose (section 3.1) states that the RFMP provides a reconnaissance-level assessment of flood risks, and presents a prioritized list of short-term and long-term flood risk reduction projects for the Regions. While Chapters 6 and 7 will list priorities, it seems that the criteria that will be used to rank projects should have been presented before these chapters, so that all the individual projects (or needs) could have been described using those criteria. Perhaps the descriptions of levee condition and flood risks for different jurisdiction already do this, but what information that will be used to ultimately rank projects is not clear. It appears (from looking at the table of contents) that some region wide criteria might also be applied. Likewise, including descriptions of how individual project relate to this criteria might improve clarity of the ultimate ranking process.
- (4) In section 4.1.4: Figure 6, is titled “Riparian Vegetation & Endangered/Threatened Species in the Planning Area”, but the legend includes critical habitat. The map is very difficult to decipher. Perhaps two maps, one with aquatic organisms and the other with terrestrial would be a way to make it less busy. As is, the delta south boundary and steelhead critical habitat are nearly the same color and could find no Chinook critical habitat on the map. It is recommended that the Federal Registry be referenced for accuracy for all listed species critical habitat.
- (5) Chapter 4: Natural Resource Assets, especially section 4.1.4, provides almost no description or overview of the fisheries species for which restoration actions are needed (or planned). Likewise, there is no discussion of the historic distribution or abundance of the species, which would help to further illustrate the precarious nature of the current condition of these species. It is possible that some of this information will be included in the table that will be added to page 163.
- (6) On page 163, in the first paragraph and throughout the document it is recommended that the term ‘listed’ species be used in place of ‘endangered’ or broaden to ‘threatened and endangered’.
- (7) Most of the maps within the RFMP are not legible.
- (8) It is more correct to not capitalize ‘Delta’ when referring to delta smelt.
- (9) ‘Chinook’ should always be capitalized.
- (10) Section 3.1: Typo in the following sentence... "Please Figure 1..."
- (11) Section 3.8: Is it assumed that ecosystem benefits would be a part of "other multi-benefit components"?
- (12) Section 5.6.2.3: Be cautious on the over-reliance on agriculture and its value to various species. Not all mitigation/restoration/conservation needs can be met simply by preserving agricultural lands.
- (13) Section 5.6.3.3: Referring to the following sentence: “...Regions with these other processes, however, it will probably not be possible to resolve the environmental constraints on the flood system improvements in the planning area.” Why?
- (14) Section 5.2: It is stated that there are concerns and challenges pertaining to levee vegetation maintenance. To alleviate some of the conflicts of maintaining vegetation on levees to be in compliance of PL 84-99 while also fulfilling the requirements from regulatory agencies, a Vegetation Variance should be applied for from the Army Corps of Engineers. An approved variance would allow for less strict vegetation maintenance guidelines for levee vegetation maintenance.

- (15) It is highly recommended that numerous Vegetation Variances from the Corps be applied for and sought in efforts to offset some costs associated with this region correcting levee deficiencies in order to regain PL 84-99 recertification and eligibility.
- (16) Figure 11 – Stockton Area Levee Accreditation Status: Some colors are used more than once to represent different statuses. Also major roadways should be identified on the map in order to be able to tell which levees are being depicted within the large city of Stockton.
- (17) Figure 15 and 16, major highways and major street names should be added for reference points.
- (18) Figures which depict events (e.g. flood events) should include dates. One example where a date should be added is on page 77, Figure XX – Approximate Extents of Residual Flooding Due to Pump Station Deficiencies.
- (19) It is of high importance that the proposed RFMP incorporate components for habitat enhancement and restoration actions into every proposed flood improvement project. The RFMP should include multi-beneficial flood plans that are consistent with the goals of DWR’s Environmental Stewardship Policy. They should also contribute to either the restoration of natural riverine processes through construction of setback levees or removal of levee armoring that has a non-functional purpose. By building in habitat enhancement and restoration components into every proposed project will ensure that these proposed projects have the highest likelihood of being selected by DWR for cost-share funding.
- (20) On page 148, it is stated that there are plans to ‘implement an aggressive vegetation control plan’ and also plans to be in full compliance of the Corps PL 84-99. NMFS advises that these vegetation control plans be targeted towards the removal of non-native vegetation and cautions against the removal of native vegetation. It is also recommended that the Federal Register be referenced as to be informed of areas that contain critical habitat and is therefore protected for the recovery of listed species. NMFS cautions against the removal or destruction of such state and federally protected habitat. Although NMFS does not promote the states preferred vegetation management plan as described in the 2012 Central Valley Flood Protection Plan, our agency believes it to be a less aggressive plan than that of PL 84-99 for managing vegetation on levee systems. The states vegetation management plan and vegetation lifecycle management should be referenced.
- (21) On page 164, it is stated that “channel confinement by levees increases bed shear stresses and velocities of high flows, thereby increasing the frequency of channel bed mobilization and bank erosion and potentially reducing complexity of the river channel.” In addition, this induced bank erosion from confined river systems results in increased flood O&M costs.
- (22) On page 165, it is stated that measuring the value of multi-benefit flood management projects and the quantity and quality of restored riparian and floodplain habitat is a serious challenge. The Standard Assessment Methodology (SAM) is a modeling tool developed by USACE and Stillwater Sciences in consultation with NMFS, USFWS, CDFW and CDWR. The SAM can be used to quantitatively assess the potential effects of bank protection and stream restoration projects. The model compares the existing habitat conditions to the expected with-project conditions and the results inform the user whether an impact (either negative or beneficial) will occur. The SAM employs six habitat variables to characterize near-shore and floodplain habitats of listed fish species. The variables that can be modeled are bank slope, instream structure, floodplain inundation ratio, aquatic vegetation, overhanging shade and bank substrate size. It is recommended that the SAM model be used for future proposed flood management projects to predict potential project impacts to listed fish species and their habitat.
- (23) Section 5.6.3.2, titled Hydraulic and Hydrologic Limitations: Setback levees are said to be too expensive and therefore are not feasible. In order offset some of the costs associated with constructing setback levees, the following should be considered and explored. Setback levees should be considered for stretches of levees that are in poor condition and are in need repairs. Setback levees should be explored as an option in areas where there is enough available land to set them back and that are not in a heavily urbanized area. Cost share funding with the state should be sought out for all potential setback levees as these projects; 1) meet the definition of a multi-beneficial project; 2) will

decrease flood stage levels; 3) decrease future O&M costs; 4) be in alignment with the state's Environmental Stewardship Policy and; 5) help further the goals of the state's Conservation Strategy by creating invaluable floodplain habitat for listed fish species and other wildlife.

General Comments:

- (1) One goal of the plan should be to identify those areas with the greatest potential and benefit for habitat improvements. While it is true that flood managers face the challenge of managing flood system improvements around the needs of endangered species and do not have the ability to make all the changes that are necessary to recover endangered species, this should not be an excuse for not describing the existing ecological condition in such a way that potential improvements can be analyzed. Note such activities would be potential improvements, just as is the list of levee improvements. As currently structured, the plan does not provide adequate information to be used by flood managers, regulatory agencies and others in assessing the value of either floodplain improvements under existing flow conditions, or under revised guidelines.
- (2) It appears that such information is available for at least some portions of the planning area, and improvement potential is well enough understood in other areas (e.g. large areas of the south delta that are too subsided to provide seasonally inundated floodplain) such that potential improvement could be assessed. The plan also, in a general way, describes and ranks the value and probability of increases to inundated floodplain habitat under the section "The best opportunities for floodplain restoration are along the mainstem of the San Joaquin River between Vernalis and Mossdale and along portions of downstream distributaries including Paradise Cut and Old River". Also included in the plan are practical constraints to increasing floodplain habitat in certain areas (e.g. urban areas particularly in the Stockton metropolitan area) and the likely potential for doing so in other areas (e.g. along the Calaveras River (for steelhead), and some agricultural lands). Such factors could also be used in assessing the potential for habitat improvement activities.
- (3) Discussion about the condition of habitat elements other than floodplains that are important to listed fish species and impacted by flood control activities (and by potential improvements) is lacking. Riparian habitat is mentioned, but not displayed or otherwise characterized. In addition to acres of floodplain, metrics currently under consideration as part of the Conservation Strategy include miles of natural bank, miles of bank with adequate SRA, acres of potential river meander and miles of revetment. It is anticipated that these metrics will be used to evaluate alternatives and track conditions (effectiveness of the Conservation Strategy) over time. We believe that it would be beneficial for the plan to include such elements in its description of habitat and recommendations. The approach would assist in the evaluation of alternatives (of flood control, multi-benefit and restoration activities) and just as importantly, provide context for contributions of the planning area to support the species at a system-wide level.