



FILE:CF/15-0-9 STREAM MAINTENANCE PROGRAM (2010)

March 20, 2011

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**Re: Sonoma County Water Agency Comments on Order R2-2011-XXXX**

Thank you for the opportunity to comment on the San Francisco Regional Water Quality Control Board (Board) proposed Waste Discharge Order (Order) for the Sonoma County Water Agency's (SCWA) Stream Maintenance Program (SMP). These comments are intended to provide suggested alterations to the Order to help meet the shared goals of SCWA and the Board, as well as develop a regulatory approach that works well with the approach established in coordination with the Regional Water Boards, the Army Corps, National Marine Fisheries Service and U.S. Fish and Wildlife during the six years the program was conceived. Two general comments are presented first followed by comments on specific items in the Order. The comments are organized by item in the order they occur in the draft WDR. Text from the Draft order is in italics SCWA comments follow each item.

General Comments:

1. SCWA requests that the Board utilize methodology to regulate the SMP that involves working toward an agreed upon arrangement of plants in the channel and along the upper bank, rather than a specific hydraulic capacity. The arrangement is based on the conceptual planting design, intended to maximize habitat values to the extent feasible while preserving an adequate hydraulic capacity in the given flood control facility. SCWA will work with the Board to develop roughness and hydraulic capacity levels represented by this arrangement to further inform the SMP when maintenance is needed.
2. SCWA requests that modeling and data collection needs associated with the Order be limited to establishing current baseline conditions to determine roughness characteristics of the conceptual planting arrangement (both in seral development as well as already established), hydraulic loss in capacity represented by the conceptual planting arrangement, and what levels of sedimentation in channels will trigger a need to conduct sediment removal. Further modeling to determine precise losses to channel capacity from year to year events are largely irrelevant if the channel exceeds the level of sedimentation that triggers a need for maintenance. SCWA would be pleased to work further with the Board to document the need for maintenance but as, Zone 2A and 3A represent 4 miles of the 71 miles of engineered channels under SCWA management, realistically, the level of effort required to accomplish work in this zone should be proportional to the funding available and the amount of work conducted.

## Findings:

37. *The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) lists the following existing and potential beneficial uses for surface waters within the geographic scope of the SMP which includes surface waters within the Petaluma River and Sonoma Creek Watersheds. The Applicant conducts maintenance activities on seven creeks within the Petaluma River Watershed including the following creeks; Lichau, Corona, Capri, Washington, McDowell, Adobe, and Thompson. The Applicant only conducts maintenance on Fryer Creek and the Nathanson Bypass within the Sonoma Creek Watershed.*

**SCWA Comment:** Need to add to list of creeks routine maintenance is performed include: For Zone 2A **Engineered:** Jessie Lane Creek, East Washington Creek, Lynch Creek. **Modified:** Petaluma River, and Ellis Creek.

**For Zone 3A (Sonoma):** modified creeks where we do occasional work include: Rodger's Creek, Lawndale creek, and Verano Creek.

## Discharge prohibitions

### E. Provisions

#### Sediment and Vegetation removal

6. *Channel reconfigurations shall not be attempted on alluvial fan channels under this Order<sup>[1]</sup>.*

**SCWA Comment:** National Marine Fisheries Service has included in the Biological Opinion for the SMP, conservation recommendations to include project elements that improve migratory success of salmonids. Please modify to reflect that channel reconfigurations would be allowed provided there is a known benefit and there is agreement between the agencies regulating the SMP (RWQCB, NMFS, USFWS and CDFG).

15. *Vegetation management shall be conducted using a strategy which maximizes the functions of the vegetation to shade the active channel, stabilizes active channel banks, and provides in-stream habitat*

**SCWA Comment:** This item leaves the planting densities on the channel bottom ambiguous. Suggested text for this item is "Vegetation management and replanting shall be conducted using a strategy that is compatible with standard SMP Manual stream planting designs and maximizes the functions of the vegetation to shade the active channel, stabilize active channel banks, and provide in stream habitat<sup>[2]</sup> while limiting impacts to the specific design discharge capacity of a flood control channel. Additionally, SCWA suggests using a strategy that follows a set vegetation pattern outlined in an agreed upon set of conceptual planting plans for different kinds of channels (high width to depth ratios vs low width to depth ratio channels, presence of low flow access road, road on both side etc).

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<sup>[1]</sup> San Francisco Bay Regional Water Quality Control Board,( 2009) 'Maintenance, Management, and Monitoring Protocols for Stream Projects that Must Take Flood Risk into Consideration' Technical Memorandum and Rapid Assess

<sup>[2]</sup> San Francisco Bay Regional Water Quality Control Board,( 2009) 'Maintenance, Management, and Monitoring Protocols for Stream Projects that Must Take Flood Risk into Consideration' Technical Memorandum and Rapid Assess (See the case studies for Wildcat Creek and the San Lorenzo River)

## **Vegetation Management**

*12. For all proposed sediment and vegetation removal and snagging and clearing projects implemented after May 2015, SCWA shall justify the need for such actions based on the analysis of channel capacity, hydraulic constrictions and roughness. The analysis shall include, but not be limited to, an evaluation of whether in-stream vegetation and/or sediment are contributing to the problem and the short and long term benefits of the proposed removal actions.*

**SCWA Comment:** Suggested replacement text (below) to regulate SCWA toward a planting arrangement rather than a specific hydraulic capacity.

10. SCWA shall conduct vegetation maintenance with the goal of maximizing and increasing riparian canopy on Engineered and Modified Channels over time while continuing to reduce flood risks. In-channel, side bank, and upper bank vegetation shall be maintained to follow SMP vegetation arrangement goals identified in Water Board approved conceptual planting plans. These arrangement goals and planting designs will be assessed for their effect on hydraulic capacity based on an analysis of existing data regarding Engineered Channels (Draft Hydraulic Assessment of Flood Control Channels. (Entrix, 2002)), and by modeling a subset of representative channel types.

**Representative Hydraulic Modeling-** An integration of existing hydraulic data and modeling will be done to determine hydraulic tolerances specific to each channel type. SCWA shall integrate the findings in the Entrix report and conduct additional hydraulic modeling in a subset of representative flood control channels to determine roughness values associated with SMP conceptual planting plans, relative tolerance of channels for hydraulic capacity changes, to refine vegetation arrangement goals, and to establish roughness goals for engineered channels. These data will be used to as feed back to inform and establish vegetation arrangement goals and sediment tolerances for each reach of a given engineered channel.

**Vegetation Arrangement Goals** -Vegetation arrangement goals will be used to standardize the species and locations of riparian vegetation in SCWA Engineered Flood Control Channels. The goals will be based on channel design, roughness, representative hydraulic modeling and the original design level of flood protection provided by a particular channel. The arrangement shall be based on species condition and habits (health, vigor, phenology, structure and environmental tolerances) and site location (with consideration given to propensity to cause scour, accumulate sediment, not block existing outfalls, etc) inside and along the top of bank of the engineered facility. The standard vegetation arrangement goals detailed in the SMP manual shall provide targets used to direct the planting and retention of riparian and upland species during both vegetation activities, as well as, restoration. Vegetation shall be removed, planted and retained during vegetation management and restoration activities to follow plant arrangement indicated in the conceptual planting plans with the intent of establishing vegetation to meet the arrangement goals. The planting approach and planting plans are described in Chapter 8 and Appendix E of the SMP Manual.

**Conceptual Planting Plans** - Vegetation arrangement goals will be detailed in conceptual planting plans that reflect the variety of engineered channel conditions in Flood Control Zones 2A and 3A and the original design level of flood protection provided by a particular channel. The conceptual

planting plans are intended to guide maintenance and restoration activities rather than provide a “one size fits all solution.” Vegetation management goals and conceptual planting arrangements will be based on hydraulic data presented in Draft Hydraulic Assessment of Flood Control Channels. (Entrix, 2002). Larger channels with varying cross sectional morphology (one or two low flow roads, interior levees/berms, etc) provide opportunities for additional planting locations (or planting lines) adjacent to the low flow access roads. SCWA’s restoration and vegetation management shall maximize these additional opportunities to establish native vegetation. Beginning with the 2013 Annual SMP Notification Work Plan, SCWA will include conceptual planting plans, vegetation arrangement, roughness goals and the planned level of protection provided by the facility for each proposed project.

#### **For Sediment Removal:**

SCWA shall conduct sediment maintenance with an overall goal of reducing the frequency and intensity of future removal needs and reestablishing the level of flood protection provided by a particular channel. Where appropriate, SCWA shall prioritize installation of “focused in-stream sediment collection areas” (localized level action) at bridge crossings to “capture” sediment and to reduce the quantity moving downstream. Interim maintenance triggers (evidence of action needed) shall be based on professional opinion and include blocked storm drains, sediment accumulations that compromise the hydraulic capacity, and localized flooding events.

**Representative Hydraulic Modeling-** Starting with the Annual Notification (Workplan) for the 2013 field season, SCWA shall model a subset of Engineered channels in Zones 2A/3A (channels that have a perennial need for sediment removal to restore capacity) to determine what levels of sediment accumulation should trigger a removal for a given vegetation arrangement goal and associated roughness allowable based on the planned level of protection provided by the facility. SCWA shall integrate of existing hydraulic data and modeling will be done to determine hydraulic tolerances specific to each channel type. SCWA shall integrate the findings in the Entrix report and conduct representative hydraulic modeling in a subset of flood control channels to determine roughness values associated with SMP conceptual planting plans, relative tolerance of channels for hydraulic capacity changes, to refine vegetation arrangement goals, and to establish roughness goals for engineered channels. These data will be used to as feed back to inform and establish vegetation arrangement goals and sediment tolerances for each reach of a given engineered channel.

#### **Quantitative Assessments:**

*42. The Applicant shall submit the inventories noted below with the 2012 ANR package. The purpose of the inventory is to guide assessments and determine specific causes of maintenance problems and to develop priority maintenance prevention projects. The inventory and its associated support documentation shall be submitted to the Water Board and approved by the Executive Officer.*

- a) An inventory of the stream reaches with hydraulic constrictions (e.g. under-sized culverts, bridge abutments, rail road trestles, utility crossings, and other natural or human caused obstructions) potentially causing backwater conditions, increased water surface elevations, bank instabilities, and/or fish passage barriers.*
- b) An inventory of stream reaches that are a priority for maintenance based on chronic problems such as sediment accumulation, flooding, and/or excessive erosion. The*

*inventory should include an assessment of the causes of the chronic problems and a corrective action plan.*

- c) An inventory of targeted sediment and vegetation removal areas.*
- d) An inventory of localized sediment and vegetation removal areas where activities occur on an on-going basis. Localized projects that are newly discovered and not listed in the inventory, shall be included in the Annual Notification Report package for that year.*
- e) An inventory of legacy sediment and vegetation removal areas.*
- f) A list of all areas and channels identified as engineered channels and all channels that are subject to routine maintenance activities. Include the specific location of the areas and channels identified.*
- g) An inventory of those reaches that potentially function as migration, spawning, and or high flow refugia habitat for salmonids.*

**SCWA Comment:** Request that SCWA be given more time to complete these inventories by evaluating existing data on the conditions and conducting representative modeling. Request that relevant inventories be submitted with project descriptions presented in the ANR beginning May 2013, with a complete inventory available by May 2015.

*52. The SMP shall be amended no later than May 1, 2015 to include the following information. All amendments shall be subject to approval by the Executive Officer of the Water Board:*

- c) Salmonid and fresh water shrimp management plans for those reaches potentially functioning as migration, spawning, or high flow refugia habitat for salmonids or fresh water shrimp habitat. The management plans are intended to guide maintenance activities in these reaches.*

**SCWA Comment:** As SCWA currently has permits that regulate activities relative to these species, suggest modifying the text of item c) to add the sentence “These management plans would need to be prepared to be consistent with current SMP permit requirements detailed in the CDFG Master SAA and Service (USFWS, NMFS) biological opinions.”

Thank you again for the opportunity to provide comments on this Order. If you have any questions please feel free to call Keenan Foster at 707-547-1941 or e-mail at [kfoster@scwa.ca.gov](mailto:kfoster@scwa.ca.gov), or Jon Niehaus at 521-1845 or e-mail at [jon@scwa.ca.gov](mailto:jon@scwa.ca.gov).

Sincerely,



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