

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION**

RESPONSE TO WRITTEN COMMENTS FOR ITEM 6

April 13, 2011 Board Meeting

Adoption of Waste Discharge Requirements and Water Quality Certification for the Sonoma County Water Agency, Sonoma County

Comments were only received from the Sonoma County Water Agency. The Agency provided eight comments, and the Regional Water Board staff responses to these comments are provided below.

Sonoma County Water Agency Comments – March 20, 2011

Comment 1: General Comment - Replace Requirement to Develop Channel Capacity Objectives with Channel Roughness Objectives

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.

Please see Comment 6 for the complete comment and our response

Comment 2: General Comment – Modeling

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 serial 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.

Please see Comment 6 for the complete comment and our response

Comment 3: Addition of Creek Names

Finding 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.

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.

Response to Comment 3

Changes made as requested.

Comment 4: Alluvial Fan Prohibition

Prohibition #6

Channel reconfigurations shall not be attempted on alluvial fan channels under this Order.

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).

Response to Comment 4

Staff removed this prohibition and replaced it with provisions D.12. and 41.c.iv. that require project specific notification for these projects, submittal of grading plans, and an inventory of stream reaches that flow through alluvial fan landscapes. In adding these two new provisions, we also revised the Monitoring and Reporting Program related to post-project monitoring requirements that apply when the Agency conducts geomorphic shaping activities and works in alluvial fan areas.

Comment 5: Planting of In-stream Vegetation

Provision #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.

This item leaves the planting densities on the channel bottom ambiguous. Suggest 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).

Response to Comment 5

We do not support revising this provision. As written, the provision focuses on protecting stream functions and does not require the Agency to plant instream vegetation. The existing language is also not in conflict with the Agency's planting plans or approach to vegetation management.

Comment 6: Replace Requirement to Develop Channel Capacity Objectives with Channel Roughness Objectives

Provision 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

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

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.

Response to Comments 1, 2 and 6

The Agency proposes to primarily use a vegetation management-based system of determining whether to proceed with maintenance as opposed to a system driven primarily by hydraulic

performance. We assert that more emphasis is needed on evaluating localized conditions and influences on the hydraulic dynamics at different reaches. We do support the Agency's efforts to better understand the role of vegetation as it relates to channel roughness and to implement complimentary management techniques. Therefore, staff has revised this provision. However, we did not accept the Agency's proposed new language because it proposes to only model a subset of channels and only develop standard planting templates to determine if maintenance in a specific channel is needed.

During the 30-day comment period, we talked to Agency staff about the need to model all of its channels, at least initially, and further collect new data and revise the model only if there were significant events that altered channel width or depth. We also talked to Agency staff about how existing conditions at each channel need to be taken into consideration, including existing vegetation and hydraulic constrictions, when assessing the need for maintenance. Taking a template approach to planting does not do this. To address the Agency's concerns, we added two sentences to the provision that would require the Agency to develop channel roughness objectives instead of channel capacity objectives. The text added to the end of the provision is noted below.

The analysis shall include reach management strategies using a primary objective to sustain and restore a selected desirable value for vegetative roughness in order to balance the functions of the vegetation for erosion control, shade, temperature control, other water quality parameters, and habitat and flood risk reduction. Selection of roughness values for different reaches shall be approved through the interagency team described in Provision D.12.

The part of SCWA's proposed plan that we very much support is the selection of minimum to maximum ranges for roughness and organizing maintenance plans supporting these objectives. We concur with the objective of maximizing the functionality of existing, future, and planted vegetation to support water quality and habitat and not simply protecting numbers or acreage of trees, shrubs, or particular planting layouts.

Comment 7: Submittal Date for Inventories

Provision 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.*

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.

Response to Comment 7

Board and Agency staff agreed during our March 15, 2011, conference call to not change the submittal dates for these inventories.

Comment 8: Salmonid and Fresh Water Shrimp Management Plans

Provision 52. 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 and be consistent with USFWS and NMFS biological opinions.

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.

Suggested Language at the end of the provision - 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.

Response to Comment 8

We addressed the Agency's concerns by largely accepting the language it suggests. The text added to the end of Provision D.51.c. (formerly Provision 52.c.) is noted below:

These management plans would need to be prepared to be consistent with current SMP permit requirements detailed in CDFG's Master Streambed Alteration Agreement and the USFWS and NMFS biological opinions.