

Regional Water Quality Control Board
North Coast Region

Executive Officer's Summary Report
Thursday, August 17, 2017
Regional Water Board Office
Santa Rosa, California

ITEM: 7

SUBJECT: Update on Implementation of the Elk River TMDL (*Chuck Striplen and Lance Le*)

BOARD ACTION: This is an informational item. No action will be taken by the Regional Water Board.

INTRODUCTION: On May 12, 2016 the North Coast Regional Water Quality Control Board (Regional Water Board) adopted the *Action Plan for the Upper Elk Sediment TMDL* (TMDL Action Plan) as an amendment to the Water Quality Control Plan for the North Coast Region (Basin Plan). On August 1, 2017, the State Water Resources Control Board (State Water Board) will consider the approval of the TMDL Action Plan. At this time, the Executive Officer's Summary Report is unable to report on the outcome of the State Water Board meeting, but staff will provide an update on the State Water Board's action during the August 17th presentation to the Regional Water Board. The TMDL Action Plan requires staff to report to the Regional Water Board annually on the status and progress of TMDL implementation activities. The purpose of this item is to update the Board on the outcome of the August 1st State Water Board action and on the important progress on each of the TMDL Program of Implementation elements and discuss how this constellation of efforts will evolve in future years toward the goal of restoring beneficial uses in the Elk River.

The Program of Implementation in the TMDL Action Plan contains three main components: Waste Discharge Requirements (WDRs) or waivers to minimize sediment loads from new and existing sediment sources in lands in the Upper Elk River Watershed, and two non-regulatory components designed to be integrated, adaptive, and leveraged to inform an effective restoration strategy: the Elk River Recovery Assessment and the Elk River Watershed Stewardship Program. On November 30, 2016 the Regional Water Board adopted Order No. R1-2016-0004 for Humboldt Redwood Company. Staff are in the process of revising Green Diamond Resource Company's South Fork Elk River Management Plan.

The **Elk River Recovery Assessment** (ERRA) is being implemented by California Trout, Inc. (CalTrout) through a contract with State Water Board using Cleanup and Abatement Account funds. ERRA is a feasibility and computational modeling study to investigate the current conditions of Elk River and to identify potential remediation actions to support beneficial uses and abate nuisance flooding conditions. The project domain for the ERRA extends from the mouth of Elk River at Humboldt Bay and into the South and North Forks, whose upper bounds are at the confluences of Tom Gulch and Bridge Creek, respectively.

The **Elk River Watershed Stewardship Program** (Stewardship Program) is supported by a Clean Water Act (CWA) Section 319(h) grant and is designed to engage community and institutional stakeholders from the entire Elk River watershed in the planning and design of restoration activities associated with regaining beneficial uses in the Elk River, reducing nuisance flooding, and developing alternatives for domestic and agricultural water supplies in the most impaired areas, collectively referred to as the “impacted reaches.” Additionally, the AB 1492 Timber Regulation and Forest Restoration Fund will fund two pilot sediment remediation projects on the North Fork of the Elk River. These projects will treat 3,750 linear feet of the river, removing at least 18,000 yd³ of sediment. If proven cost-effective, full scale projects may be considered in the future.

BACKGROUND: The Elk River is the largest freshwater tributary to Humboldt Bay and historically provided quality salmonid habitat and clean domestic water supply to residents. Managed timberlands, agriculture, livestock grazing, tree fruit, dairy, and residential are the main land uses in the watershed. Fragile geology and high rainfall make this watershed particularly susceptible to landscape disturbances. After accelerated timber harvest activities in the 1990s, cumulative impacts starting in the Upper Elk River led to excessive sedimentation documented in 1997 as impairments to multiple beneficial uses, including: cold water fishery habitat; domestic water supply; agricultural water supply; and recreation. Excessive sedimentation also has caused nuisance flooding resulting in permanent, temporary loss, or reduced use of both private and public property, as well as risks to the health and welfare of the local community. Elk River was placed on the federal Clean Water Act (CWA) 303(d) list of impaired waters in 1998, leading to the development of a Total Maximum Daily Load (TMDL) and a Program of Implementation to satisfy the Porter-Cologne Water Quality Control Act. Two decades of studies and public engagement have culminated in the development and adoption of the TMDL Action Plan. Complete incorporation of the TMDL Action Plan into the Basin Plan requires approval from: the State Water Board; Office of Administrative Law (OAL); and US EPA.

The Program of Implementation, one of the key components of the TMDL Action Plan, identifies a combination of regulatory and non-regulatory actions that will lead to the attainment of water quality objectives; recovery of beneficial uses; protection of high quality waters; and abatement of nuisance conditions in the Upper Elk River Watershed. Due to continued instability in the watershed and the inherent uncertainty with existing sediment transport processes, the Program of Implementation is an adaptive management program that includes sophisticated watershed modeling, collaborative watershed stewardship, and experimental pilot remediation projects. While the TMDL Action Plan delineates the Upper Elk River for sediment source analysis and load allocations, the entire watershed is listed as impaired and the Program of Implementation is designed to also address influences from the lower Elk River. To that end, the ERRA modeling domain starts at the top of the impacted reaches in the South and North Fork Elk River and extends to the outlet at Humboldt Bay. Similarly, the Stewardship Program includes stakeholders from the whole watershed.

DISCUSSION: The ERRA contract includes the following tasks: update and revise existing data; topographic data collection; water data collection; hydrodynamic sediment transport

modeling; convening Technical Advisory Committee (TAC) meetings; a final report on the modeling and recovery implementation framework; and a pilot sediment remediation project.

Tasks related to data collection, data updating and revision are complete. Development and calibration of the model are also complete and the next modeling steps are the development and running of restoration scenarios. The scenarios simulate the watershed response to actions intended to alleviate sediment-related impairments. The “actions” fall under two categories: (1) reduced sediment concentrations and loads from the Upper Elk River and (2) a suite of remediation or hydromodification recommendations from the ERRA with TAC review. Scenarios test which category of actions would lead to recovery of beneficial uses and abatement of nuisance conditions, including whether recovery would occur without any change to the watershed.

An ERRA task contains a pilot project funded by the Coastal Conservancy with cost shares from CalTrout and Humboldt Redwood Company. After a selection process for different projects, the chosen pilot sediment remediation project includes the removal of the road base at the Elk River Steel Bridge and removal of trees and sediment from a portion of the connected floodplain. CalTrout and its subcontractors have submitted and received approval for engineering designs and permit applications. Construction is scheduled to commence at the end of August 2017.

Three TAC meetings have occurred and TAC membership includes representatives from the BLM, NOAA National Marine Fisheries Service, USFWS, USGS, CDFW, Regional Water Board, County of Humboldt, Humboldt State University, CalTrout, Salmon Forever, Green Diamond Resource Company, Humboldt Redwood Company, McBain Associates, Northern Hydrology and Engineering, and Stillwater Sciences. The first meeting was an introduction to the ERRA for TAC members; the second meeting was a discussion of the conceptual model that interprets data collected and represents current watershed conditions; and the third meeting was an introduction to desired watershed conditions that would support beneficial uses and abate nuisance flooding as represented in a model scenario. While the ERRA contract provides for three TAC meetings, additional funding from a CWA 205(j) grant was awarded to CalTrout to bridge the highly technical ERRA to the stakeholder-driven Stewardship Program. 205(j) funded refinement of the conceptual model, one TAC meeting, and meetings with the Stewardship Program Steering Committee. Surface Water Ambient Monitoring Program (SWAMP) funds will be utilized to augment ERRA and Stewardship Program efforts by collecting new topographic and water quality data, especially considering record rainfall from the 2017 water year and its potential impacts to Elk River geomorphology and hydraulics.

The Stewardship Program was initiated on a voluntary basis in late 2014. Stakeholders from the County of Humboldt, UC Cooperative Extension, NRCS, CalTrout, and the Regional Water Board designed a stewardship framework which ultimately became a successful proposal to the State Water Board for 319(h) funds. Composed of the aforementioned stakeholders, the Stewardship Program Steering Committee met more than 15 times, hosted two well-attended public meetings and several work group meetings, built a

Program website and newsletter, and successfully delivered on contractual requirements for the first year's activities. However, after a year of largely successful implementation, the Stewardship Program is currently undergoing a transition. In January 2017, the County of Humboldt informed the Regional Water Board that they no longer wished to participate in leading the proposed grant activities. On July 18, 2017, the Humboldt County Board of Supervisors voted to terminate their grant agreement for the Stewardship Program. Regional Water Board staff are committed to continuing to implement the Stewardship Program and are currently working with State Water Board staff to transfer the remaining funds to another implementing entity.

Finally, the AB 1492 Timber Regulation and Forest Remediation Fund funded two additional pilot sediment remediation projects, which are currently being implemented by CalTrout on two areas of the impacted reach of the North Fork Elk River. Scheduled to commence construction in June 2018, these projects are largely designed to provide tangible, on the ground information to inform larger scale sediment remediation projects in the Elk River. They will test the predictive ability of the ERRA modeling tools; provide minor improvement to flooding severity; evaluate the effectiveness of specific restoration techniques; and provide project proponents with experience navigating the permitting process for future projects in the watershed. Land owner access agreements have been secured for the affected properties; 30% design plans have been completed; and CEQA compliance documents are currently being prepared.

SUPPORTING DOCUMENTS:

1. Links to foundational references and other relevant materials are available at:
http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/elk_river/
2. Elk River Watershed Stewardship website
http://ucanr.edu/sites/Elk_River_Stewardship/