TMDL Program's End of the Year Essay, Fiscal Year 2012-2013 Accomplishments and Challenges

Rebecca Fitzgerald

This summary identifies the accomplishments and challenges of the TMDL program in the North Coast Region from July 2012 through June 2013. Program priorities are focused on TMDL implementation, addressing impaired waters through existing and new policies and permits, and developing TMDLs where source assessment analyses are needed.

The development of TMDLs is necessary when pollutant impacts, sources, and potential solutions are poorly understood. Within the North Coast region, this is the case for impairments to the Laguna de Santa Rosa, Russian River, and Elk River, which were the focus of 3.4 position in FY 12/13.

In regards to TMDL implementation, staff efforts to maintain momentum on implementation of projects to achieve tangible water quality improvements continued in earnest. In FY 12/13, approximately 3 positions from the TMDL program were devoted directly to implementation projects in the Klamath, Shasta, Scott, Salmon and Garcia Rivers, and other sediment impaired watersheds of Mendocino County.

The Region also focused on addressing impaired waters through the implementation of regulatory tools in advance of (and hopefully in place of) technical TMDL development where pollutant sources and control options are well understood. Several regulatory permits are now in place to help address the Region's wide-spread sediment and temperature impairments. These include a five-county roads general permit (adopted this year), general permits for timber harvesting, a U.S. Forest Service permit, and a dairy permit program. Additional tools under development in FY 12/13 and continuing into the next fiscal year, include the regional Temperature Policy, regional Agricultural Lands Discharge Program, and statewide Grazing Regulatory Action Plan. Approximately 1.7 positions from the TMDL program were spent on these three projects.

Additional information on each of the region's TMDL projects can be found at the following website, along with staff contact information:

http://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/.

ACCOMPLISHMENTS

TMDL Development - Elk River Sediment TMDL

Staff divided the Elk River watershed into three water body segments: Upper Elk River watershed (primarily industrial timberland), Lower Elk River watershed (grazing and urban land uses), and Little South Fork Elk River (un-managed segment which staff propose to delist). For the Lower Elk River watershed, staff worked with the State Board to designate the City of Eureka as a Phase II Municipal Separate Stormwater Sewer System entity, which will ensure the development of a stormwater program to help address sediment impacts. For the Upper Elk River watershed, staff continues to develop the TMDL and the implementation program. The Peer Review Draft of the Technical TMDL for the Upper Elk River was submitted for scientific peer review in April with comments received in May 2013. Staff also developed an implementation and approval strategy that relies on adoption of a watershed Waste Discharge Requirement (WDR) permit for timber harvest and related activities via a "single action" by the Regional Water Board. A WDR development team was assembled in late FY 12/13 with plans to prepare a draft permit ready for consideration before the Board in FY 13/14. Additionally, staff secured partnerships and funding to identify feasible restoration actions to address impairments related to stored instream sediment deposits. Outreach efforts this year included extensive engagement with key landowners, maintaining a webpage, regular informational e-mails, Regional Water Board updates in August 2012 and May 2013, and briefings of Regional and State Board staff and members.

TMDL Development & Early Implementation - Laguna de Santa Rosa TMDLs

Staff continued to conduct technical analyses for the development of phosphorus, nitrogen, dissolved oxygen, temperature, and sediment TMDLs for the Laguna de Santa Rosa. In FY 12/13, staff reviewed available temperature data and prepared a draft temperature source analysis. Similar planned efforts for sediment were stalled due to the loss of intern support staff due to statewide layoffs. Staff also collected new data on nutrient concentrations in benthic sediments in order to develop a clearer understanding of legacy nutrient sources and to identify candidate reaches for possible instream restoration.

Laguna de Santa Rosa upstream of Occidental Rd. Photo by Rebecca Fitzgerald. April 2013

In addition to significantly increasing stakeholder outreach and education efforts in FY 12/13, staff took advantage of several opportunities for early TMDL implementation. These include assisting permit staff develop renewed permits for two wastewater treatment facilities in the Laguna watershed, coordinating with staff developing the agricultural program, and coordinating with staff developing the Klamath Tracking and Accounting Program and the Klamath Basin Monitoring Program, both of which may be used as models for TMDL

implementation in the Laguna watershed. Staff participated on the technical advisory committee for the development of a water quality credit trading market for the Laguna watershed and supported local Resource Conservation Districts developing nutrient management plans and implementing environmentally-friendly conservation practices on rural properties. Additionally, staff supported joint efforts by the EPA, the SWRCB, and the San Francisco Estuary Institute to conduct a basin-wide wetland resource assessment in the Laguna watershed, which may be used as a means by which to prioritize and monitor future wetland and riparian restoration efforts. The levels of effort necessary for these early implementation initiatives were greater than originally anticipated for FY 12/13, and the development of the TMDL will take longer as a result. However, the water quality and administrative benefits to be gained through these early implementation efforts are substantial and worthwhile.

TMDL Development - Russian River Pathogens TMDL

TMDL staff recently completed an intensive, two-year sampling effort to assess the geographic extent, timing, and potential sources of pathogens and fecal indicator bacteria in the mainstem Russian River and tributary streams. In FY 12/13, staff collected the samples needed for the Onsite Wastewater Treatment Systems Impact Study, which will help estimate contributions from septic systems. Staff collected storm water runoff from 15 sites and analyzed 87 fecal indicator bacteria samples in the Region's in-house laboratory. Concurrent samples were also collected for analysis using microbial source tracking methods such as quantitative PCR for Bacteroides, stable isotope analysis, and Phylochip. Staff began writing the evidence of impairment for the TMDL, analyzed trends in the data, and began the linkage analysis using load duration curves. Staff also maintained a webpage and participated in stakeholder outreach efforts with the public, local community groups, and at technical and watershed conferences. Coordination with the county Board of Supervisors and department staff to consider long-term solutions to septic system challenges in the lower Russian River is ongoing.

Russian River at Monte Rio Beach.
Photo by Steve Butkus. July 2013

Data Assessment - 2012 Integrated 303(d) & 305(b) Report

The assessment of Region 1 water quality data is almost complete. Regional Water Board staff developed over 50 lines of evidence and reviewed and commented on over 4,800 lines of evidence generated by State Water Board staff. Staff anticipate bringing the updated Integrated Report to the Board in the summer of 2014.

TMDL Implementation - Garcia River Sediment TMDL

In FY 12/13, Regional Water Board staff continued to coordinate the implementation of the Garcia River TMDL, which continues to progress as landowners across more than 75% of the watershed (55,000 acres) are now participating in the program. The Garcia

River was designated this year as a "priority watershed" in the North Coast Region and received 319 grant funding to implement erosion and sediment control actions on four additional properties. The Natural Resources Conservation Service also funded projects through the National Water Quality Initiative to further assist landowners addressing controllable sediment sources on their land. During the summer of 2012, staff continued the watershed-wide water quality monitoring program being conducted through a partnership between the Regional Water Board and The Nature Conservancy. Approximately 65 permanent monitoring reaches were revisited to assess whether or not conditions in the watershed have been improving since the monitoring program's inception in 2007.

Steelhead and Coho Salmon in the Garcia River. Photo by Jonathan Warmerdam. September 2012

TMDL Implementation - Mendocino County Sediment TMDLs

One mechanism to help reduce sediment discharges in nine sediment-impaired watersheds in Mendocino County is the Mendocino County Permit Coordination Program, which will establish a one-stop-shop for landowners to obtain permits for restoration and sediment control work and receive technical and financial support. In FY 12/13, staff began preparing a waiver of waste discharge requirements and general 401 water quality certification for the program, which will be considered for adoption in late 2013. Staff has continued to coordinate these efforts with the Mendocino County Resource Conservation District and the Natural Resources Conservation Service.

TMDL Implementation - Klamath River TMDLs

Staff continue to make progress implementing the Klamath River temperature, dissolved oxygen, nutrient, and microcystin TMDLs and coordinating control efforts throughout the basin. Staff played a lead role in the Klamath Basin Monitoring Program, served as vice-chairperson, and helped initiate the development of watershed stewardship reports for the Shasta Valley and the Upper Klamath Basin. Staff has also continued to be active in the Klamath Hydroelectric Settlement Agreement Interim Measure (IM) Committees, which have worked on the conceptual feasibility analysis of water quality improvement projects for the Upper Klamath Basin (IM-10), water quality improvement pilot projects (IM-11), and water quality monitoring for assessment of status, trends, and public health along the Klamath from the Link River to the estuary (IM-15). The IM-10 draft report was completed in FY 12/13 and will be finalized in August 2013. Progress also was made on the implementation of the Klamath Tracking and Accounting Program with the award of two 319 grants to fund local lead entities to develop tracking and accounting infrastructure. The Regional Water Board has also continued discussions with the U.S. Bureau of Reclamation and the U.S. Fish and Wildlife Service regarding the Management Agency Agreement (MAA) for implementation of water quality

improvement projects within the Tulelake basin. The MAA has taken the form of a watershed stewardship agreement and additional partners are included in the framework. The final agreement will be based on the project recommendations included in the IM-10 report.

TMDL Implementation - Salmon River Temperature TMDL

Staff continued to implement the 2005 temperature TMDL in the Salmon River watershed and worked closely with the U.S. Forest Service, which manages over 98% of the watershed. Staff also worked with the Salmon River Restoration Council and partially supported their efforts through TMDL contract funds. The focus of TMDL implementation has been evaluating restoration opportunities on mine tailings sites along the river and identifying potential areas where a comprehensive floodplain restoration project could be constructed.

TMDL Implementation - Scott River Sediment and Temperature TMDLs

In FY 12/13, staff completed revisions to the Scott River TMDL Conditional Waiver of Waste Discharge Requirements. A public workshop was held in Fort Jones in August and the waiver was adopted in October 2012. Staff began implementing the Scott TMDL Waiver and developed a fact sheet, which is posted online, to help educate and inform stakeholders about TMDL implementation requirements. Routine regulatory activities continued, including investigations of complaints and implementation of the U.S. Forest Service, private timber, 401 dredge and fill certification, and Caltrans storm water programs – all of which are part of implementing the Scott River TMDLs. In this fiscal year, staff also developed a contract with the Siskiyou Resource Conservation District (SRCD) for the development of ranch plans, and managed grants awarded to SRCD for riparian restoration and the collection of information in support of groundwater studies. Additionally, staff continued to manage a contract with UC Davis to develop a groundwater study of Scott Valley. Staff reviewed draft products and provided comments, including the "Scott Valley Integrated Hydrologic Model: Data Collection, Analysis, and Soil Water Budget." Staff attended meetings of the Scott Valley Groundwater Advisory Committee and participated in planning discussions.

TMDL Implementation - Shasta River Temperature and Dissolved Oxygen TMDLs

Staff continued implementation efforts in the Shasta River watershed with a focus on the spring-fed coho salmon refugia areas downstream of Lake Shastina, in Parks Creek and in the Little Shasta River. Staff worked with stakeholders and managed contracts and grants to help identify and reduce tailwater discharges, restore riparian areas, and develop ranch plans to reduce impacts. Staff are also supporting the Shasta Valley RCD with implementation of the watershed stewardship approach, which is a collaborative adaptive management framework initiative of the Klamath Basin Monitoring Program (KBMP). The Regional Water Board is providing assistance in all phases of the approach and is currently conducting data analysis on fifteen years of water quality information previously unanalyzed. To complement the existing conditions analysis the Water Board staff is also working with the RCD to complete a comprehensive inventory of existing and planned water quality improvement projects. In addition to the Shasta Valley RCD and the Regional Water Board watershed stewardship partners includes the City of Yreka stormwater program, CA Fish & Wildlife, US Fish and Wildlife, CA Trout, NOAA National Marine Fisheries Service, and US

Forest Service. Additionally, staff worked to revise the Shasta River TMDL Conditional Waiver, which was adopted by the Regional Water Board in October 2012. Implementation of the new Waiver began with staff assessing individual landowner management practices and water quality protection measures. Additionally, staff continued development of a Shasta River monitoring plan to assess compliance with the Shasta River TMDL. One indication that beneficial uses are being restored is the return of approximately 30,000 Chinook salmon to the Shasta River to spawn, and the out-migration of six million smolts to the Klamath River and Pacific Ocean.

Addressing Impairments – Development of the Agricultural Lands Discharge Program

Staff continued work in FY 12/13 to address discharges from row crops, vineyards, orchards, lily bulbs, and other agricultural lands. The stakeholder advisory group, which was formed to provide input on the program, continued to meet and work with staff. Staff held separate meetings with the four subgroups of the advisory group and hosted two full-group webinars during the fiscal year. With the help of the advisory group, staff developed draft requirements for water quality plans and third party programs, draft permit conditions, and two Frequently Asked Questions documents.

Addressing Impairments - Temperature Implementation Policy

In FY 12/13, staff continued to develop a policy and Basin Plan amendment to comprehensively address and prevent temperature impairments region-wide. Staff held CEQA scoping meetings throughout the region, met with stakeholders, updated the Regional Water Board, and developed a draft of the policy, Basin Plan amendment, and staff report. Peer review of the draft documents began in June. At the same time, staff developed a draft Action Plan (which will be proposed as a Basin Plan amendment) to address temperature impairments and implement the completed temperature TMDLs in the Mattole, Navarro, and Eel River watersheds consistently with the draft policy. The Basin Plan amendment is scheduled for Board consideration in November 2013.

Agriculture and Tule Lake Sumps.
Photo credit unkown.

CHALLENGES AND RESPONSES TO CHALLENGES

Eel River Temperature TMDLs Single Action Adoption

A challenge this fiscal year was the delay in adopting two Eel River temperature TMDLs. As originally envisioned in the FY12/13 Work Plan, staff made an effort to adopt two temperature TMDLs (for the Upper North Fork Eel River and the Black Butte and Wilderness Hydrologic Subareas of the Middle Fork Eel River) through the "single action" adoption process. The U.S. EPA developed and established the temperature TMDLs, and the North Coast Regional Water Board has been implementing the actions necessary to achieve the TMDLs through the Waiver of Waste Discharge Requirements for the U.S. Forest Service. Staff and legal counsel proposed that the

TMDLs were incorporated into the state's continuous planning process when the Waiver was adopted. Staff invested time in documenting the single action process and the link between the impairment and the Waiver requirements. Upon further consideration late in the fiscal year, however, it became apparent that additional public process is needed. In order to provide stakeholders with the opportunity to review the implementation actions for these and all sub-watersheds of the Eel River basin at the same time, staff are now planning to incorporate these two TMDLs and implementation actions into the Action Plan to Address Elevated Water Temperatures in the Navarro, Mattole, and Eel River Watersheds. This action plan is proposed as a Basin Plan amendment to be considered by the Regional Water Board in November 2013.

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Klamath Fish Health Assessment Team Heightened Alert and 2013 Coordination Update

Katharine Carter

The Klamath Fish Health Assessment Team (KFHAT) **http://www.kbmp.net/collaboration/kfhat** has been actively sharing information among KFHAT members this summer, due to the higher-than-average possibility of a fish kill in the Klamath River this summer and fall. The alert level has been raised to yellow due to low flows in the Klamath River and its tributaries, due to the dry water year, elevated water temperatures and associated poor water quality conditions, and a run size that is predicted to be above average. The salmonid run for 2013 is predicted to be around 272,000, while the average is 121,000. Thus far, water temperatures are a concern, with temperatures over 21C (69.8F), but to date other water quality parameters are generally suitable for fish in the river. Generally, lower than-average flows and air temperature are affecting overall water quality conditions in the river.

Outmigrating juvenile salmonids are utilizing the refugia in the Klamath River in record numbers, in part due to last year's large adult run size of 302,000 salmonids to date this summer. There have been few clinical signs of fish disease and no large-scale mortalities of juveniles in the refugia. Adults are starting to enter the Klamath River in larger numbers and are moving upstream to the Trinity and Salmon rivers concurrant with reduced flow conditions. As with juveniles, there have been no reports of elevated disease or large-scale mortalities of adults in Klamath River or its tributaries to date. Nonetheless, KFHAT members are monitoring conditions daily.

Salmonids in Klamath River basin. Photo by: Thomas B. Dunklin

Two efforts to augment flow in the basin are currently under way:

- The U.S. Bureau of Reclamation (USBR) is in the process of obtaining the green light to augment flows in the Klamath River to maintain a minimum flow of 2,800 cfs by releasing additional water from Lewiston Reservoir from August 15 to mid/late September in order to

aid adult migration up-river. However, Central Valley water users have threatened to sue if USBR continues with the releases proposed. (http://www.usbr.gov/mp/nepa/nepa_projdetails.cfm?Project_ID=14366).

- The Shasta Valley Resource Conservation District is working with landowners again this year (as in past dry years) to increase flows in the Shasta River. The issue this year is that there appears to be less water available than in past years. According to landowners, springs on some ranches are running 1/3 of normal or less, which is an indication of reduced water availability within the system.

The following websites are good resources for fishery and water quality information in the Klamath basin.

- U.S. Fish and Wildlife Service's Juvenile Disease Updates:

  http://www.fws.gov/arcata/fisheries/projectUpdates.html

- U.S. Fish and Wildlife Service's Klamath Fishery Data & Reports:

  http://www.fws.gov/arcata/fisheries/default.htm

- Klamath Basin Monitoring Program Water Quality Info (Microcystin information, real-time water quality data, flow data, etc.):

  http://www.kbmp.net/

It is a very good sign that, although flows are low this year, there have not been any large-scale outbreaks of disease or fish mortalities to date. KFHAT will remain alert and continue to observe conditions within the refugia, along the mainstem river, and in tributaries to ensure that KFHAT members are aware if a disease outbreak and fish kill is likely or does occur, in which case the members will alert resource agency managers in order to implement a monitoring response and take actions to improve conditions.

Klamath Basin Monitoring Program

CALIFORNIA Water Boards

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Enforcement Report for August 2013 Executive Officer's Report

Diana Henrioulle

Date Issued	Discharger	Action Type	Violation Type	Status as of July 24, 2013
July 8, 2013	Donald and Rogie Shutt	CAO & 13267	Unauthorized instream activities and placement of waste in and adjacent to a watercourse.	Ongoing

Comments: On July 8, 2013, the Executive Officer issued a final CAO/13267 Order to Donald and Rogie Shutt for unauthorized instream work in Gilbert Creek, near Smith River in Del Norte County. Activities included stream diversion, dredging, vegetation removal, filling and modifying of 572 feet of stream channel, and constructing a 130-foot long and 20-foot wide berm of native fill and woody debris in Gilbert Creek. The Order directs the Dischargers to submit technical information and a site restoration and monitoring plan by August 15, 2013.

Date Issued	Discharger	Action Type	Violation Type	Status as of July 24, 2013
June 7, 2013	Henry A. Grishaber	Rescission of CAO	Basin Plan prohibition violations.	N/A

Comments: On June 7, 2013, the Executive Officer rescinded Cleanup and Abatement Order No. R1-1994-0109, issued to Henry A. Grishaber for discharge of organic and earthen materials to Salt Creek and unnamed tributaries thereto, in Mendocino County.

Date Issued	Discharger	Action Type	Violation Type	Status as of July 24, 2013
May 17, 2013	Liz Seise and Scott Seise	CAO & 13267	Unauthorized in-and near-stream activities, unpermitted grading of more than 1 acre, Basin Plan prohibition violations	Ongoing

Comments: On May 17, 2013, the Executive Officer issued CAO/13267 Order No. R1-2013-0039 for placement of waste earthen material and organic material within and adjacent to watercourses, unpermitted grading of more than 1acre, and construction of an instream pond and dam. The Order directs the Dischargers to submit various technical information, and to submit and implement a site restoration and monitoring plan. The Dischargers submitted the site restoration and monitoring plan by the required deadline; staff review is underway.

Date Issued	Discharger	Action Type	Violation Type	Status as of July 24, 2013
May 24, 2013	City of Eureka, WWTF	ACLC	Sanitary Sewer System Overflow	Ongoing

Comments: On May 24, 2013, the Acting Assistant Executive Officer (AEO) issued Administrative Civil Liability Complaint (ACLC) R1-2013-0037 to the City of Eureka for the March 29, 2012 discharge of approximately 90,000 gallons of untreated sewage from the

City's "O" Street lift station into Martin Slough, tributary to Swain Slough, a tributary to Elk River, which is tributary to Humboldt Bay. The ACLC proposes assessment of $89,122 in penalties. The Discharger has waived its right to a hearing within 90 days of ACLC issuance and has requested to engage in settlement discussions with the Board's Prosecution team.

Date Issued	Discharger	Action Type	Violation Type	Status as of July 24, 2013
May 24, 2013	Larry and Margaret Barcellos, Trinity Dam Mobile Home Park	ACLC	Violation of Cleanup and Abatement Order related to ongoing discharges of untreated sewage	Ongoing

Comments: On May 24, 2013, the Acting AEO issued ACLC R1-2013-0035 to Larry and Margaret Barcellos for failure to comply with the directives of Cleanup and Abatement Order No. R1-2011-0045 (CAO), associated with ongoing discharges of untreated sewage from the Trinity Dam Mobile Home Park. The ACLC proposes assessment of $165,900 in penalties. The Dischargers have waived their right to a hearing within 90 days of ACLC issuance and have requested to engage in settlement discussions with the Board's Prosecution team.

Date Issued	Discharger	Action Type	Violation Type	Status as of July 24, 2013
May 24, 2013	City of Arcata	ACLC	Failure to file a report of waste discharge, and discharge of sediment to surface waters.	Completed.

Comments: On May 24, 2013, the Acting AEO issued ACLC R1-2013-0034 to the City of Arcata for sediment discharges from its West End Road culvert maintenance activities into Janes Creek on October 2 and 3, 2012, as well as for failing to file a report of waste discharge or to apply for a 401 Water Quality Certification for that project. The ACLC proposed assessment of $10,880 in penalties. The City waived its right to a hearing within 90 days of ACLC issuance and opted to pay the penalty as proposed in the ACLC.

Date Issued	Discharger	Action Type	Violation Type	Status as of July 24, 2013
June 12, 2013	Joung Min Yi	NOV	Violation of CAO	Ongoing

Comments: On June 12, 2013, the Acting AEO issued a Notice of Violation to Joung Min Yi for failure to comply with various directives of CAO No. R1-2011-0089. The CAO directed site restoration, revegetation, and monitoring activities to correct Basin Plan prohibition violations associated with placement of substantial volumes of earthen and organic material in a location and manner which resulted in discharges and threatened discharges to surface waters. The Discharger has conducted restoration activities, but has failed to replant/ revegetate restored areas and to submit monitoring reports. The NOV directs the Discharger to comply with all directives of the CAO.

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