

## CHAPTER 10. REASSESSMENT

### Key Points

- The TMDL has a duration of 40 years to achieve water quality objectives.
- Regional Water Board staff will report back to the Regional Water Board at least yearly on status and progress. The annual review will occur in a public forum designed to include all stakeholders including downriver communities, tribes, sport and commercial fishermen.
- The Regional Water Board is likely to reassess the Shasta River TMDL Action Plan every three years during the Basin Planning Triennial Review process.
- For activities that rely on encouragement as a first step, a formal assessment of effectiveness of these efforts will be completed within 5 years from the date of U.S. EPA approval of this TMDL.
- The Regional Water Board will conduct a more extensive and focused reassessment after the Shasta River TMDL Action Plan has been in effect for ten years, or sooner, if the Regional Water Board determines it necessary.

This chapter describes the process the Regional Water Board will take to review, reassess, and possibly revise the TMDL Action Plan for the Shasta River watershed.

It is estimated that the water quality objectives addressed by this TMDL can be achieved within 40 years of approval of this TMDL Action Plan. Many actions can be completed early in the life of the TMDL, and can have immediate beneficial impacts on water quality. These include, for example, reductions in tailwater return flows resulting from water reuse. Other actions may be initiated in the near-term, but may not show effects on water quality for some time. These include, for example, restoration of riparian shade. While activities that enable shade to develop may be short-term, the development of shade has a long timeframe associated with the growth of woody vegetation. This key element of achieving TMDL water quality objectives controls the time estimated for TMDL actions to result in meeting water quality objectives.

Regional Water Board staff will report back to the Regional Board at least yearly on the status and progress of implementation activities, and on whether current efforts are reasonably expected to achieve water quality standards in the life of the TMDL. The Regional Water Board is likely to reassess the TMDL Action Plan every three years during the Basin Planning Triennial Review process. For activities that rely on encouragement as a first step, a formal assessment of effectiveness of these efforts will be completed within 5 years from the date of U.S. EPA approval of this TMDL. A more extensive and focused reassessment will occur after the TMDL Action Plan has been in effect for ten years.

During the reassessment, the Regional Water Board is likely to consider how effective the TMDL Action Plan is at meeting the dissolved oxygen and temperature TMDLs, achieving dissolved oxygen and temperature water quality objectives, and protecting the beneficial uses of the Shasta River watershed. In order to help determine the effectiveness of the TMDL Action Plan, the Regional Water Board and staff will ask a series of questions. These questions are listed below in Table 10.1, along with possible approaches to answering the questions, and steps to take if revision is found to be necessary.

Although the Regional Water Board and staff will attempt to answer the questions listed in Table 10.1 while conducting the reassessment, it is important to note that the questions and possible revisions are not requirements of the Regional Water Board. It may not be feasible to fully assess the TMDL Action Plan due to limited resources or data. For example, the amount of time and funding required to conduct a new dissolved oxygen or temperature source analysis may not be available during reassessment.

Table 10.1: Reassessment Considerations

Topic	Questions to Ask During Reassessment	How to Answer the Question	Steps to Take if Revision is Necessary
Problem Statement	Are dissolved oxygen and temperature water quality objectives still not being met? Are the beneficial uses associated with cold water fish still negatively impacted by low dissolved oxygen concentrations and high water temperatures? Are nutrient and other oxygen consuming material waste discharges and elevated water temperatures still the cause of the reduction in quality and quantity of instream habitat capable of supporting salmonids and other beneficial uses? Are there other beneficial uses adversely affected by depressed dissolved oxygen concentrations and high water temperatures?	Review compliance and trend monitoring data, and any other valid, instream water quality and salmonid data. Review scientific research, data, and literature published since 2005.	If the answers are all no, the Shasta River may be considered high quality waters. Delisting the River from the 303(d) List will likely be appropriate. Consider amending the Basin Plan to revise, lessen, and perhaps eliminate dissolved oxygen and temperature control requirements. Consider amending the Basin Plan to relax dissolved oxygen and temperature control requirements.  If any answer is yes, consider amending the Basin Plan to increase and tighten dissolved oxygen and temperature control requirements. Consider requiring Grazing, Riparian, and Water Use Management Plans from more dischargers.
Desired Conditions	Are the desired conditions no longer appropriate? Are there any parameters that should be added, revised, or removed?	Review scientific research, data, and literature published since 2005.	If the answer is yes, consider amending the Basin Plan to update the desired conditions.
Desired Conditions	Are the monitoring and sampling requirements still accurate and understandable?	Review scientific research, data, and literature published since 2005. Consider monitoring experiences.	If the answer is no, consider developing a monitoring and sampling guidance document that is separate but supplemental to the TMDL Action Plan.
Dissolved Oxygen Source Analysis	Are the sources identified in the dissolved oxygen source analysis still accurate?	Review Grazing, Riparian, and Water Use Management Plans, Memoranda of Understanding, and waste discharge requirements. Review scientific research, data, and literature published since 2005. Conduct a new dissolved oxygen source analysis.	If the answer is no, consider amending the Basin Plan to update the dissolved oxygen source analysis. Consider revising the TMDL and load allocations.
Temperature Source Analysis	Are the sources identified in the temperature source analysis still accurate?	Review timber harvest plans (private and US Forest Service), Ranch , Riparian, and Water Management Plans, Memoranda of Understanding, and waste discharge requirements. Review scientific research, data, and literature published since 2005. Conduct a new temperature source analysis.	If the answer is no, consider amending the Basin Plan to update the temperature source analysis. Consider revising the TMDL and load allocations.
TMDL	Are the TMDLs accurate?	Review scientific research, data, and literature published since 2005. Conduct new source analyses.	If the answer is no, consider amending the Basin Plan to update the TMDL(s). Consider revising the load allocations.
Load Allocations	Are the load allocations accurate?	Review scientific research, data, and literature published since 2005. Conduct new source analyses	If the answer is no, consider amending the Basin Plan to update the load allocations.

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Topic	Questions to Ask During Reassessment	How to Answer the Question	Steps to Take if Revision is Necessary
Implementation	Are the requirements clear and easily understandable by the regulated dischargers?	and rework the TMDL calculations. Consult with dischargers. Consult with other agencies involved with the TMDL Action Plan.	If the answer is no, consider developing a guidance document. Consider amending the Basin Plan to revise unclear or confusing language.
Implementation – Water Temperature	Are sources of elevated water temperatures effectively being prevented, minimized, and controlled?	Review Grazing, Riparian, and Water Use Management Plans, timber harvest plans, waste discharge requirements, and monitoring data.	If the answer is no, consider requiring more landowners/dischargers develop and implement Riparian, Grazing, and Water Use Management Plans. Consider increasing the number of waste discharge requirements and/or enforcement actions on activities that remove shade-producing vegetation. Consider amending the Basin Plan to add a prohibition against the removal and/or suppression of vegetation that provides shade to a water body in the Shasta River watershed.
Implementation – Discharges Contributing to Low Dissolved Oxygen Concentrations	Are existing nutrient and other oxygen consuming waste discharges effectively being prevented, minimized, and controlled?	Review Grazing, Riparian, and Water Use Management Plans and instream monitoring data.	If the answer is no, consider requiring more landowners/dischargers to develop and implement Grazing, Riparian, and Water Use Management Plans. Consider amending the Basin Plan to increase and tighten dissolved oxygen control requirements.
Implementation – Water Use	Has/is the State Water Resources Control Board studying the surface water issues, particularly watercourse flows vs. appropriations, in the watershed? Has/is the State Water Board taking the findings of the study into consideration and acting accordingly to protect water quality standards?	Consult with the State Water Resources Control Board.	If the answer is no, consider increasing Regional Board efforts to ensure such actions are taken. Consider funding appropriate studies from water quality funds.
Implementation – Grazing Activities	Are nutrient and other oxygen consuming waste discharges and elevated water temperatures caused by grazing activities being prevented, minimized, and controlled?	Review Grazing, Riparian, and Water Use Management Plans and instream monitoring data.	If the answer is no, consider requiring more landowners/dischargers to develop and implement Grazing, Riparian, and Water Use Management Plans. Consider amending the Basin Plan to increase grazing related implementation actions.
Implementation – Bank Stabilization	Are bank stabilization projects causing elevated water temperatures?	Review 401 Certification permits issued since 2005. Review instream monitoring data.	If the answer is yes, consider waste discharge requirements for such activities.
Implementation – Shasta Valley Resource	Have implementation practices subscribed to by sub-permittees in the Shasta RCD’s Coho Incidental Take Permit been effective at	Review the terms, conditions, and management practices agreed to by sub-permittees participating in the Coho Incidental Take Permit program. Review	If the answer is no, enter into negotiations with the CDF&G (the CEQA lead agency for the Incidental Take Permit) and the Shasta Valley RCD to review

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Conservation District	preventing, minimizing, and controlling nutrient and other oxygen consuming waste discharges and elevated water temperatures in a manner beneficial to the viability of the cold water fish of the Shasta River watershed?	available compliance and trend monitoring data. Conduct dissolved oxygen and temperature source analyses.	reasons for compliance failures and/or inadequacies to protect water quality. Jointly improve existing, or synthesize new management practices that assure dissolved oxygen and temperature TMDL allocations are attainable. Review monitoring and reporting program(s) of incidental take sub-permittees to assess if program specifics are still topical.
Implementation – Shasta Valley CRMP	Have the strategic actions described in the Shasta Restoration Plan (Shasta CRMP 1997) been effective at preventing, minimizing, and controlling nutrient and other oxygen consuming waste discharges and elevated water temperatures?	Review the Shasta CRMP’s effectiveness monitoring data. Review available compliance and trend monitoring data. Conduct dissolved oxygen and temperature source analyses.	If the answer is no, consider revising strategic actions. Consider requiring landowners/dischargers to implement nutrient and other oxygen consuming waste, and temperature control practices.
Implementation – Urban and Suburban Nonpoint source Pollution:	Is there sufficient information to ascertain if urban and suburban sources of nonpoint source stormwater pollution containing nutrients and other oxygen demanding substances from the Lake Shastina Development and the City of Yreka are not negatively impacting the water quality of local watercourses and the Shasta River?	Review available nonpoint source pollution control strategies and plans, if any, implemented by the Lake Shastina development and the City of Yreka.	If the answer is no, consider requiring the submission of Stormwater Pollution Prevention Control Plans containing nonpoint source pollution control strategies having accurate monitoring and reporting protocols.
Monitoring	Is there enough information available to determine if nutrient and other oxygen-consuming constituent waste discharges and sources of elevated water temperatures are being controlled?	Review submitted and available monitoring data.	If the answer is no, consider requiring additional monitoring and the submission of monitoring reports and data.
Monitoring - Compliance & Trend	Is there enough information available to determine if the quality and quantity of instream salmonid habitat is improving?	Review submitted and available monitoring data associated with instream effectiveness monitoring and compliance and trend monitoring.	If the answer is no, consider requiring additional compliance and trend monitoring and the submission of monitoring reports and data. Consider funding additional monitoring stations.