The following amendment language "Action Plan for the Gualala River Sediment Total Maximum Daily Load" (Action Plan) revises Chapter 6 of the Water Quality Control Plan for the North Coast Region (Basin Plan). The Action Plan is to be inserted into the Basin Plan following "Action Plan for the Garcia River Watershed Sediment TMDL" and before "Action Plan for the Klamath River Total Maximum Daily Loads, Addressing Temperature, Dissolved Oxygen, Nutrient, Microcystin Impairments in the Klamath River in California and Lost River Implementation Plan."

Headings, tables, and figures numbering for all subsequent sections in Chapter 6 will change to accommodate this amendment language. For example, "Action Plan for the Klamath River Total Maximum Daily Loads, Addressing Temperature, Dissolved Oxygen, Nutrient, Microcystin Impairments in the Klamath River in California and Lost River Implementation Plan" will change from 6.3.4 to 6.3.5. Figures and tables within these sections will retain their sequence, but their numbering will change to reflect the new order.

6.3.4 Action Plan for the Gualala River Sediment TMDL

6.3.4.1. Gualala River Sediment TMDL and Load Allocations

In 2001 the U.S. EPA established a Total Maximum Daily Load (TMDL) for elevated sedimentation in the Gualala River Watershed[1]. Water quality objectives applied to the Gualala River Sediment TMDL are listed in Table 6.3.4-1.

Table 6.3.4-1: Water quality objectives addressed in the Gualala River Sediment TMDL.

Parameter	Water Quality Objective
Suspended Material	Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.
Settleable Material	Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.
Sediment	The suspended sediment load and suspended sediment discharge rate of surface water shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
Turbidity	Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution with which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

The Gualala River Watershed Sediment TMDL assigns sediment load allocations based on the total loading of sediment that the Gualala River and its tributaries can receive without exceeding water quality standards[2]. The goal of this Action Plan is to establish measures to achieve the TMDL load allocations. Sediment sources and TMDL load allocations are detailed in Table 6.3.4-2.

[1] The Gualala River Total Maximum Daily Loads for Sediment (2001) contains a problem statement, source analysis, numeric targets, load allocations, linkage analysis, and margin of safety. Please see the U.S. EPA *Gualala River Total Maximum Daily Load for Sediment*; *Gualala River Watershed Technical Support Document for Sediment*; and the *Staff Report Supporting the Gualala TMDL Action Plan* for more information.

[2] The load allocations provide a watershed view of the type of effort which will be required in the Gualala watershed, however, the North Coast Water Board notes that a site-specific approach for implementation may vary the specific reductions needed on different ownerships or land areas due to erosion sources or cost-effectiveness.

Table 6.3.4-2: Sediment source loading allocations for the Gualala watershed as a whole.

Sediment Source	Current Load (tons/mi^2/year)	Load Allocation (tons/mi^2/year)	Percent Load Reduction Needed
Natural Landslides	180	180	0
Natural Streambank Erosion	200	200	0
Road-Related Landslides	370	56	85%
Road-Stream Crossing Failures	50	5	90%
Road-Related Gullies	150	8	95%
Road-Related Surface Erosion	140	7	95%
Skid Trail Surface Erosion	30	5	83%
Other Harvest Related Delivery	100	14	86%
TOTAL	**1220**	**475**	**61%**

The following actions constitute a program of implementation for the Gualala River Watershed Sediment TMDL and are consistent with the *Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region* (Sediment TMDL Implementation Policy) as well as the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (NPS Policy).

6.3.4.2. Implementation

Table 6.3.4-3 describes the specific implementation actions that shall be taken to achieve the TMDL and meet sediment-related water quality standards in the Gualala River watershed. Table 6.3.4-3 is organized by topic or source and by responsible party. Individual landowners and responsible parties may find that more than one implementation action is applicable to their unique circumstances.

The implementation actions are designed to encourage and build upon on-going and proactive efforts in the watershed. Additionally, the implementation actions described in Table 6.3.4-3 are necessary to fulfill Basin Plan obligations of controlling all controllable

factors[3] as well as the NPS Policy[4] and the Sediment TMDL Implementation Policy.[5] In addition to the actions described in Table 6.3.4-3, the Basin Plan contains a Region-wide prohibition in the *Action Plan for Logging, Construction, and Associated Activities in the North Coast Region*, which applies to activities in the Gualala watershed..

Table 6.3.4-3: Action Plan to control excess sediment throughout the Gualala River Watershed

Source or Land Use Activity and Responsible Party	**Implementation Actions**
Timber Harvest on Non-Federal Land – Industrial and Non-Industrial North Coast Water Board	Action: Continue to evaluate compliance with and enforce waste discharge requirements (WDRs) or waivers of waste discharge requirements (Waivers) and make recommendations for additional measures to ensure water quality objectives for sediment are achieved during the timber harvest review process, as necessary. Timeline: Ongoing.
Timber Harvest on Non-Federal Land – Industrial and Non-Industrial Parties conducting timber harvest activities on non-federal land that have the potential to discharge waste.	Action: Comply with WDRs or Waivers issued by the North Coast Water Board, including erosion control measures that meet water quality standards for sediment. Timeline: Ongoing.
Road Maintenance on County Lands North Coast Water Board	Action: Continue to evaluate compliance with and enforce Order No. R1-2023-0034, *Waiver of Waste Discharge Requirements and General Water Quality Certification for Road Management and Activities Conducted Under the Five Counties Salmonid Conservation Program in the North*

[3] Basin Plan section 3.1.1: Controllable water quality factors shall conform to the water quality objectives contained herein. When other factors result in the degradation of water quality beyond the levels or limits established herein as water quality objectives, then controllable factors shall not cause further degradation of water quality. Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the state and that may be reasonably controlled.
[4] The Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program (NPS Policy).
[5] The Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Waters in the North Coast Region (Sediment TMDL Implementation Policy).

Source or Land Use Activity and Responsible Party	**Implementation Actions**
	Coast Region (5C Waiver), and any future revisions or subsequent replacement Orders. If a county does not show intent to comply with the 5C Waiver, develop or enforce other applicable WDRs or Waivers for that county. <u>Timeline</u>: Ongoing.
Road Maintenance on County Lands Mendocino and Sonoma Counties and other counties or dischargers enrolled in the 5C Waiver	<u>Action</u>: Conduct road maintenance in compliance with the 5C Waiver and any future revisions or subsequent replacement Orders. <u>Timeline</u>: Pursuant to the 5C Waiver timelines.
Highway Construction and Maintenance North Coast Water Board	<u>Action</u>: Continue to evaluate compliance with and enforce the California Department of Transportation (Caltrans) Statewide Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (Order No. 2022-0033-DWQ, NPDES No. CAS000003), and any future revisions or subsequent replacement Orders. <u>Timeline</u>: Ongoing.
Highway Construction and Maintenance Caltrans	<u>Action</u>: Comply with the Caltrans MS4 Permit and any future revisions or subsequent replacement Orders including implementing Stormwater Management Plan (SWMP), applying BMPs for road construction, maintenance, and operations, and ensuring stormwater discharges meet water quality standards. <u>Timeline</u>: Pursuant to the Caltrans MS4 Permit timelines.
Construction Activities Requiring Coverage Under the Construction General Permit North Coast Water Board	<u>Action</u>: Continue to evaluate compliance with and enforce the *Statewide NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction

Source or Land Use Activity and Responsible Party	**Implementation Actions**
	General Permit) (Order No. 2009-0009-DWQ, as amended by Order No. 2010-0014-DWQ, Order No. 2012-0006-DWQ, and 2022-056-DWQ), and any future revisions or subsequent replacement Orders. Timeline: Ongoing.
Construction Activities Requiring Coverage Under the Construction General Permit Project Proponents (Dischargers Required to Obtain Coverage Under the Construction General Permit)	Action: Comply with the Construction General Permit and any future revisions or subsequent replacement Orders including preparing and implementing a Storm Water Pollution Prevention Plan (SWPPP), incorporating appropriate best management practices (BMPs) to control sediment and erosion, and conducting required monitoring and reporting. Timeline: Pursuant to the Construction General Permit timelines.
Activities Within or Adjacent to Waters of the State Requiring a Water Quality Certification North Coast Water Board	Action: Continue to develop, issue, and evaluate compliance with General and Individual Water Quality Certifications for potential impacts to waters of the state. Timeline: Ongoing.
Activities Within or Adjacent to Waters of the State Requiring a Water Quality Certification Project Proponents (Dischargers Required to Obtain a Water Quality Certification)	Action: Comply with the appropriate Water Quality Certification, incorporating appropriate best management practices (BMPs) to control sediment and erosion, and conducting required monitoring and reporting. Timeline: Pursuant to the Water Quality Certification timelines.
Road Maintenance and Construction on Private Lands **(Outside of Enrolled Timber Harvest Plans and Appurtenant Roads)**	Action: Issue Waste Discharge Requirements (WDRs) to address discharge of sediment from private roads (outside of enrolled timber harvest plans and appurtenant roads)

Source or Land Use Activity and Responsible Party	**Implementation Actions**
North Coast Water Board	The WDR(s) should require landowners with sediment-generating roads to inventory, assess, prioritize, and treat road-related sediment sources on their property over time. The WDRs can include varying requirements based on the scale and risk of sediment delivery to watercourses. Timeline: Bring Order for North Coast Water Board consideration by <DATE>. Ongoing following order(s) adoption.
Road Maintenance and Construction on Private Lands **(Outside of Enrolled Timber Harvest Plans and Appurtenant Roads)** Landowners with rural roads	Action: Conduct road improvements, maintenance, and monitoring in compliance with applicable road-related WDR(s) described above and any future revisions or subsequent replacement orders. Timeline: Pursuant to timelines established in applicable WDR(s).

Table 6.3.4-4: Instream and hillslope water quality indicators and targets

Target Category	**Indicator**	**Target**
Short-Term Hillslope	Hydrologic Connectivity of Roads	≤ 5%
Short-Term Hillslope	Stream Diversion Potential at Road Crossings	< 1%
Short-Term Hillslope	Stream Crossings with High Risk of Failure	≤1%
Short-Term Instream	V* - lower order streams (smaller streams)	0.15
Short-Term Instream	Fine sediment volume of active bed matrix	decreasing trend in volume stored
Short-Term Instream	Percent Fines: 0.85 mm	14%
Short-Term Instream	Percent Fines: 6.4 mm	30%
Short-Term Instream	Riffle embeddedness	25% or improving trend
Short-Term Instream	Aquatic Insect Community Measurements	improving trends
Mid-Term Hillslope	Stream Crossing Failures	Decreasing Trend
Mid-Term Hillslope	Annual Road Inspection and Correction	Increased length to 100%

Target Category	Indicator	Target
Mid-Term Hillslope	Road Location, Surfacing, Sidecast	Decreased road length next to stream, increased percent of outsloped and hard surfaced roads
Mid-Term Hillslope	Activity in unstable areas	Avoid or eliminate, unless detailed geologic assessment
Mid-Term Hillslope	Disturbed area	Decrease or decrease in disturbance index
Mid-Term Instream	Turbidity	< 20% above naturally occurring background levels
Mid-Term Instream	Turbidity	decreasing days above threshold
Mid-Term Instream	Suspended Sediment Concentration Rating Curve	Decreasing temporal trend
Mid-Term Instream	V* - higher order streams (larger streams)	15%
Mid-Term Instream	Residual Pool Depth	2 feet - first & second order streams 3 feet - higher order streams
Mid-Term Instream	Thalweg variability	Increasing variation from the mean
Long-Term Hillslope	Road-Related Landslides	Decreasing Trend
Long-Term Instream	Large woody debris	Increasing distribution, volume and number of key pieces
Long-Term Instream	Proportion of Stream Length in Pools	40%

6.3.4.3. Monitoring and Reporting

Knopp (1993)[6] demonstrated that the relationship between stream channel stability and hillslope disturbance can take as long as 40 years to discern. Therefore, initial monitoring efforts should focus on hillslope conditions, as implementation looks to meet hillslope targets identified in the Gualala TMDL by meeting load allocations through sediment reduction projects. Once hillslope conditions are assessed and all controllable factors are controlled, monitoring should focus on the collection of instream data, which

[6] Knopp, C. 1993. Testing indices for cold water fish habitat. Final Report for the North Coast Regional Water Quality Control Board.

can be compared to instream targets and historical data (baseline conditions) to assess progress towards recovery.

Water quality indicators and numeric targets were established for the Gualala River Sediment TMDL by U.S. EPA and replicated in Table 6.3.4-4. Water quality indicators are used to identify trends over time and are interpretations of the water quality objectives expressed in terms of instream and watershed conditions. Indicators and targets are separated based on their expected time duration with short-term meaning on the order of years, mid-term meaning in response to restoration activities and dependent on storm frequency and magnitude, long-term meaning on the order of decades. For each indicator, a numeric or qualitative target value is identified to define the desired condition for that indicator. Water quality indicators serve as translators for narrative water quality objectives, and it may not be necessary to measure all water quality indicators to determine whether recovery has occurred. As new science becomes available and our understanding of these complex systems evolves, numeric targets may be updated as necessary.

For applicable parties and Orders identified in Table 6.3.4-3, monitoring and reporting shall continue to be conducted and may include instream monitoring, verification of best management practice implementation and effectiveness, annual road monitoring and storm assessments, discharge notifications, and annual report submissions. If individual monitoring and reporting is required, the North Coast Water Board's Executive Officer may direct the discharger to develop a monitoring plan and may describe specific monitoring requirements to include in the plan. The North Coast Water Board's Executive Officer will base the decision to require individual monitoring and reporting on various factors such as site-specific conditions, the size and location of the responsible landowners' ownership, and/or the type and intensity of land uses being conducted or proposed by the discharger.