Staff Report Supporting the Gualala River Sediment TMDL Action Plan

State of California

North Coast Regional Water Quality Control Board

5550 Skylane Boulevard, Suite A

Santa Rosa, California 95403

707-576-2220

www.waterboards.ca.gov/northcoast

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1. Introduction and TMDL Background

1.1 Overview

In 1994, the entire Gualala River watershed was listed on section 303(d) of the federal Clean Water Act as impaired for excessive sedimentation/siltation. Excessive sediment in the Gualala River watershed impairs Beneficial Uses associated with the Gualala River's salmonid fishery and habitat. In 2001, the U.S. Environmental Protection Agency (U.S. EPA) established the *Gualala River Sediment Total Maximum Daily Load* (Gualala River Sediment TMDL) for sediment in the Gualala River Watershed, supported by the *Gualala River Watershed Technical Support Document for Sediment* (TSD), which was developed by North Coast Regional Water Quality Control Board (North Coast Water Board) staff.

Pursuant to section 13242 of the California Water Code, North Coast Water Board staff have developed the *Action Plan for the Gualala River Sediment TMDL* (Action Plan) and this *Staff Report Supporting the Gualala River Sediment TMDL Action Plan* (Staff Report). The Action Plan and Staff Report reference and summarize key components of the Gualala River Sediment TMDL (Appendix A) and the Technical Support Document (Appendix B). The Action Plan and Staff Report provide an implementation strategy to achieve the TMDL load allocations through various measures to manage sediment sources and attain water quality standards.

The contents of each chapter in this Staff Report are outlined here:

- Chapter 1: Introduction and TMDL Background
- Chapter 2: Program of Implementation
- Chapter 3: CEQA Substitute Environmental Analysis
- Chapter 4: Economic Considerations
- Chapter 5: Antidegradation Analysis
- Chapter 6: Public Participation Summary
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1.2 Project History and Status

The Gualala River watershed was listed on the Section 303(d) list of impaired waters due to elevated sedimentation in 1993. Development of a TMDL was necessary to quantify the natural and management-related sediment sources in the watershed, determine the loading capacity of the watershed for sediment, and establish the sediment load allocations necessary to return water quality to a condition supportive of beneficial uses. A lawsuit settled in federal district court in 1997 between 14 environmental and fishing industry groups and the U.S. EPA (consent decree) established a schedule by which TMDLs would be completed for sediment and

temperature impaired waters in the North Coast Region[1]. North Coast Water Board staff developed a Technical Support Document (TSD) evaluating sediment conditions in the Gualala River watershed, which U.S. EPA used as the basis for establishing the Gualala River Sediment TMDL in 2001.

In 2005, the North Coast Water Board adopted, as an amendment to the Water Quality Control Plan for the North Coast Region (Basin Plan), the Sediment TMDL Implementation Policy, which incorporates by reference Resolution R1-2004-0087 Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region (Sediment TMDL Policy Statement). Implementation actions for all north coast sediment TMDLs, including U.S. EPA established TMDLs, are addressed through the adopted Sediment TMDL Implementation Policy and by extension, the findings of the Sediment Implementation Policy Statement. Specifically, the Sediment TMDL Implementation Policy states that the North Coast Water Board will rely upon all its existing authorities and programs to implement TMDLs established for sediment impaired waters in the North Coast Region. The Sediment TMDL Policy Statement also envisioned that, at the Executive Officer's discretion, U.S. EPA established TMDLs would be brought before the North Coast Water Board for future consideration as amendments to the Basin Plan, pointing to the requirements of Sections 303(d)(2) and 303(e)(3) of the Clean Water Act as foundational.

In 2021, a lawsuit was filed against the North Coast Water Board by Friends of the Gualala River (FoGR), contending that the Gualala River Sediment TMDL had not been incorporated into the Basin Plan as required under Sections 303(d)(2) and 303(e)(3) of the Clean Water Act. The North Coast Water Board and FoGR came to a stipulated settlement agreement to resolve the matter. The agreement was entered as a Stipulated Judgment in Mendocino County Superior Court on April 6th, 2023, and included, in part, a requirement for the North Coast Water Board to undertake a public process to incorporate the Gualala Sediment TMDL into the Basin Plan.

This Staff Report, serving as the substitute environmental documentation (SED), supports the development of a Basin Plan amendment and watershed specific Action Plan to implement the Gualala River Sediment TMDL. The underlying TMDL itself has already been established by U.S. EPA, and this report focuses solely on its implementation.

This Staff Report references and summarizes key components of the Gualala River Sediment TMDL and the TSD. It provides no new scientific data but instead summarizes

[1] *Pacific Coast Federation of Fishermen's Associations, et. Al. v Marcus*, No. 95-4474 MHP, 11 March 1997

and reinforces the scientific findings and assumptions already established in the TSD. The Action Plan is designed to implement the U.S. EPA established Gualala River Sediment TMDL as it was originally written, without introducing new assumptions or modifications. Therefore, values and information appearing in Tables 2, 3, 4, and 6 of this Staff Report are drawn, respectively and directly, from Tables 2-1, 4-2, 5-2, and 3-1 of the Gualala River Sediment TMDL. The primary purpose of this Staff Report is to guide the incorporation of the existing TMDL into the Basin Plan, adhering to the regulatory and scientific frameworks already established by U.S. EPA.

1.3 Physical Setting

The Gualala River flows into the Pacific Ocean near the Town of Gualala approximately 114 miles north of San Francisco (Figure 1). The Gualala River watershed drains approximately 298 square miles, or 190,720 acres, of mostly mountainous and rugged terrain in both Sonoma and Mendocino Counties. The Mendocino-Sonoma County boundary runs down the center of the Mainstem Gualala River. The primary population centers are the towns of Gualala, Sea Ranch, Stewarts Point, Annapolis and Plantation and are concentrated along the Pacific coastline.

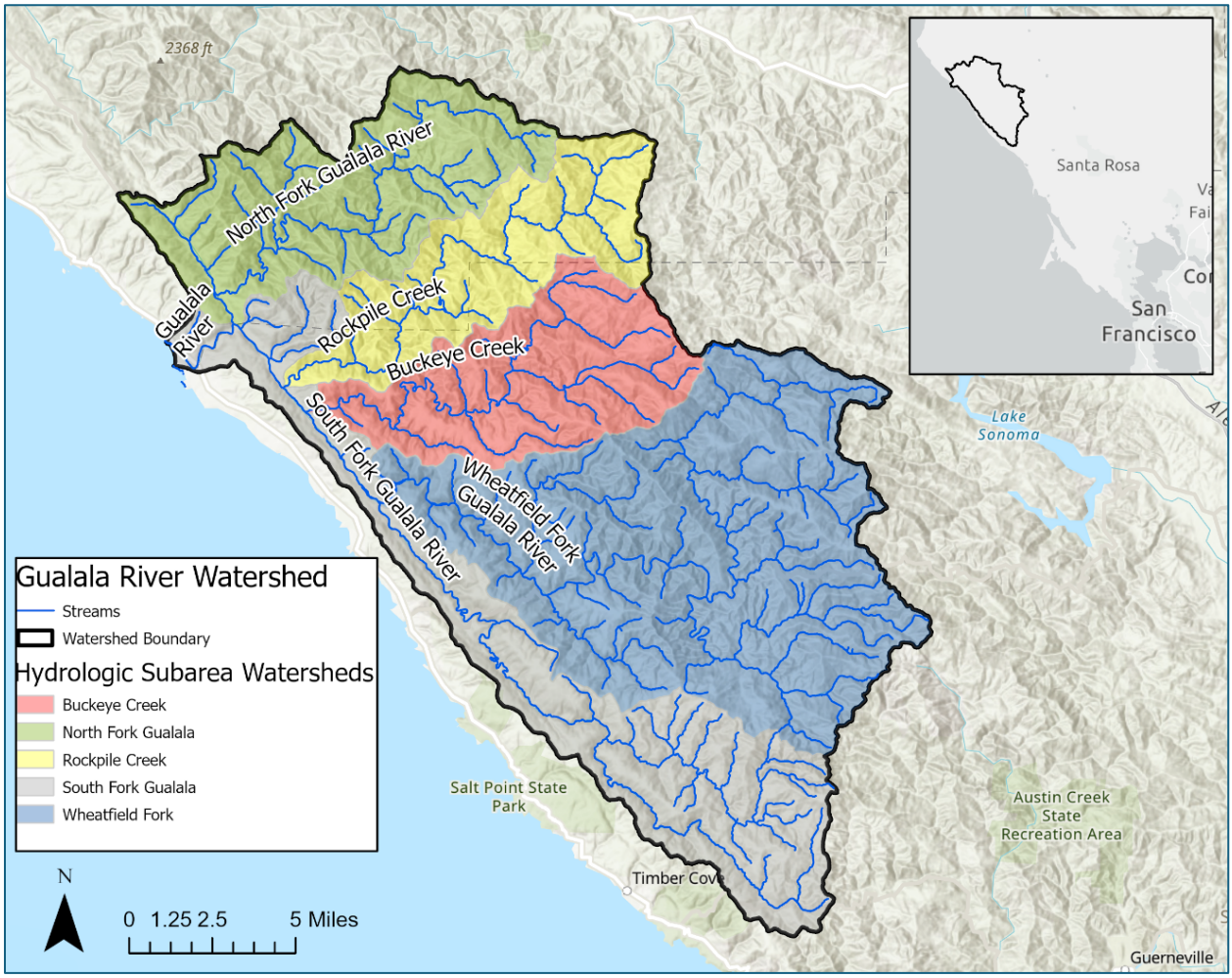

Figure 1: Gualala River watershed, streams, and subwatershed boundaries.

The Gualala River watershed consists of five subwatersheds (Table *1* and Figure 1). These include the North Fork, Rockpile Creek, Buckeye Creek, Wheatfield Fork, and the South Fork. The Mainstem Gualala River runs for approximately three miles from the confluence of the South Fork and North Fork to the Pacific Ocean.

The Gualala River watershed consists of a complex network of streams characterized by rugged terrain. The San Andreas Fault cuts through the west side of the watershed and straddles the mainstem which flows to the northwest. The watershed experiences high rates of natural erosion and landslides due to its unstable geological conditions, steep gradients, and significant precipitation. This makes the land highly susceptible to activities that exacerbate erosion. For more information on the Gualala River watershed physical setting, see section 2.0 of Appendix B.

Table 1: Gualala River Watershed's subwatersheds and proportional areas (Gualala TSD).

Subwatershed (Calwater Number)	Area (square miles)	Area (acres)	Percent of Watershed
North Fork (113.81)	48	30,700	16%
Rockpile Creek (113.82)	35	22,400	12%
Buckeye Creek (113.83)	40	25,800	14%
Wheatfield Fork (113.84)	112	71,500	37%
South Fork and Mainstem (113.85)	64	40,800	21%
Gualala River Watershed Total (113.8)	299	191,200	100%

1.4 Regulatory Framework

1.4.1 Clean Water Act

Clean Water Act (CWA) Section 303(d)(1)(A) requires states to identify waters not meeting water quality standards due to insufficient effluent limitations which are then prioritized for attainment of water quality standards based on pollution severity. CWA Section 303(d)(1)(C) mandates that TMDLs be established for waters identified as impaired. A TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards. This calculation also includes a margin of safety and consideration of seasonal variations. In addition, the TMDL contains the load reductions needed to meet water quality standards and allocates those reductions among the pollutant sources in the watershed. The Gualala River Sediment TMDL established by U.S. EPA in 2001 fulfills federal TMDL requirements and was a U.S. EPA Final Action.

1.4.2 California Water Code and Water Quality Control Plan for the North Coast Region (Basin Plan)

California’s Porter-Cologne Water Quality Control Act as codified in the California Water Code directs and authorizes regional water boards to adopt, review, and revise water quality control plans to protect and maintain the quality of state waters, including implementation measures. CWA Section 303 requires states to adopt water quality standards (which include water quality objectives, beneficial uses, and anti-degradation policies) for navigable waters of the United States. The Basin Plan fulfills these state

and federal requirements. Implementation plans amended into the Basin Plan describe how specific water quality issues will be addressed by the North Coast Water Board, including specific prohibitions, action plans, and policies necessary to meet water quality standards. The implementation plans associated with TMDLs are established under the authority of the California Water Code through the Basin Plan amendment process.

Given that the Gualala River was placed on the 303(d) List of Impaired waters in 1993, development of a TMDL was necessary to quantify the natural and management-related sediment sources in the watershed, determine the loading capacity of the watershed for sediment, and establish the sediment load allocations necessary to return water quality to a condition supportive of beneficial uses. The strategy to achieve water quality standards in the Gualala River is to be embodied in the TMDL Action Plan, as supported by this Staff Report, and once amended into the Basin Plan, will serve as a watershed specific regulatory implementation plan for sediment control.

1.4.3 Water Quality Standards for the Gualala River Watershed

1.4.3.1 Beneficial Uses

The Basin Plan identifies the following existing beneficial uses of water in the Gualala River watershed:

- Municipal and Domestic Supply (MUN)
- Agricultural Supply (AGR)
- Industrial Service Supply (IND)
- Recreational Uses (REC-1 & REC-2)
- Commercial and Sport Fishing (COMM)
- Cold Freshwater Habitat (COLD)
- Migration of Aquatic Organisms (MIGR)
- Spawning, Reproduction, and/or Early Development (SPWN)
- Estuarine Habitat (EST)
- Wildlife Habitat (WILD)
- Groundwater Recharge (GWR)
- Navigation (NAV)

The beneficial uses identified above as COMM, COLD, MIGR, SPWN, and EST are all related to the Gualala River watershed's cold-water fisheries. Beneficial uses associated with the cold-water fisheries are those that are most sensitive to elevated sediment in surface waters. As such, protection of these beneficial uses is presumed to protect any of the other beneficial uses that might also be harmed by sedimentation.

1.4.3.2 Water Quality Objectives

The Basin Plan identifies numeric and narrative water quality objectives to protect beneficial uses. Water quality objectives applied to the Gualala River Sediment TMDL are listed in Table *2* below.

Table 2: 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.

1.5 Gualala River Sediment TMDL

1.5.1 Overview

The Gualala River Sediment TMDL as established by U.S. EPA, contains all components of a TMDL (problem statement, numeric targets, source analysis, load allocation, linkage analysis, and margin of safety). The Gualala River Sediment TMDL is based on the Gualala River Watershed Technical Support Document for Sediment (TSD), (Appendix B). The TSD was prepared by North Coast Water Board staff to provide technical information so U.S. EPA could establish the Gualala River Sediment TMDL. The following sections of this Staff Report provide summaries of key information detailed in the TSD. Further information on the problem statement, numeric targets, source analysis, load allocation, linkage analysis, and margin of safety are found in the Gualala River Sediment TMDL (Appendix A).

1.5.2 Problem Statement

The Gualala River Sediment TMDL Problem Statement outlines the impact of sediment on the watershed's beneficial uses, specifically focusing on the decline of salmonid populations. Water quality standards in the Gualala River watershed are compromised due to elevated sedimentation, affecting key beneficial uses such as cold freshwater habitat, estuarine habitat, and spawning habitat. Excessive sediment, particularly fine sediment, degrades critical salmonid habitats by reducing water quality, limiting oxygen flow in spawning gravels, and altering stream morphology. The life cycle of salmonids is severely impacted by sediment, which affects spawning, egg incubation, juvenile development, and migration. For more details on the problem statement, see section 2 of the TSD.

1.5.3 Source Analysis

The Gualala River Sediment TMDL source analysis had the objective of identifying the sources of sediment that have a negative impact on beneficial uses of the watershed. The source analysis considered both natural erosion processes and human-induced activities such as road construction and timber harvesting. On behalf of U.S. EPA, North Coast Water Board staff utilized multiple methods for this purpose, including examining aerial photos to identify landslides and roads, conducting fieldwork to quantify sediment delivery and determine the causes of significant features, selecting field plots randomly based on geology and vegetation characteristics, and conducting a specialized study of public roads. Due to access limitations, erosion estimates were extrapolated from random field plots to encompass the entire Gualala watershed. All sediment sources identified in the TSD are divided into respective subwatersheds and categorized as either natural or human caused. Detailed information on methods, extrapolation, and limitations can be found in the TSD.

Table 3: Results of the sediment source analysis.

Sediment Source	Buckeye Creek (tons/mi^2/year)	North Fork (tons/mi^2/year)	Rockpile Creek (tons/mi^2/year)	South Fork (tons/mi^2/year)	Wheatfield Fork (tons/mi^2/year)	Watershed Average (tons/mi^2/year)
Natural Landslides	170	170	210	190	180	180
Natural Streambank Erosion	190	200	180	220	200	200

Natural Total	360	370	390	410	380	380
Road Related Landslides	450	580	350	290	310	370
Road-Stream Crossing Failures	70	70	60	40	40	50
Road Related Gullying	190	80	40	130	210	150
Road Related Surface Erosion	210	160	100	150	120	140
Skid Trail Surface Erosion	40	60	20	20	20	30
Other Harvest Related Delivery	80	90	60	110	110	100
Human-Caused Total	1,040	1,040	630	740	810	840
All Total	**1,400**	**1,410**	**1,020**	**1,150**	**1,190**	**1,220**

Natural sediment sources account for approximately 31% of the total watershed sediment load and the Human-caused sources account for approximately 69% of the total watershed sediment load. Of the Human-caused sediment load, road-related sources account for approximately 85% and timber harvest related sources account for approximately 15%. The largest individual category for the entire watershed is Road Related landslides which equals approximately 44% of the human-caused total.

1.5.4 Sediment Total Maximum Daily Load

The TMDL for sediment in the Gualala River watershed is determined by the stream's loading capacity, representing the maximum amount of sediment, whether natural or human-caused, that can enter the streams without violating water quality standards. The beneficial uses most sensitive to sediment pollution are those associated with the cold-water fishery. In the case of the Gualala River Sediment TMDL, where data specific to the Gualala were lacking, the method used was similar to that applied in the South Fork Eel, Navarro, and Ten Mile sediment TMDLs. It establishes the protective level as 125% of natural sediment delivery based on data from the Noyo watershed during a period when salmonids thrived, indicating suitable habitat conditions. This ratio is then

applied to the estimated natural background sediment levels in the Gualala River, considering the similarities between the Noyo and Gualala in terms of climate, geology, vegetation, and land use history.

Therefore, the sediment TMDL established by U.S. EPA for the Gualala River and its tributaries is:

TMDL = 475 tons/mi^2/yr (10-year average)

1.5.5 Load Allocations

The TMDL for sediment in the Gualala River watershed, as per federal regulations, is allocated to different sediment sources, and includes a margin of safety. This TMDL is calculated as the sum of wasteload allocations for individual point sources, the sum of load allocations for individual nonpoint sources, and the sum of load allocations for background sources. The margin of safety is embedded into the U.S. EPA TMDL through conservative assumptions made during its development. Given the absence of significant point sources of sediment in the Gualala River watershed, the wasteload allocation for such sources is set to zero. Therefore, the TMDL for sediment is distributed among background and nonpoint sources, as load allocations. Table *4* details the sediment sources identified in the TSD, and the percent load reductions needed to achieve the TMDL.

Table 4: Sediment source loading allocations for the Gualala watershed as a whole.[2]

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%

[2] Values shown here are from the Gualala River TMDL, Table 4.2 as published by U.S. EPA, developed from data for the period 1978-2000

Skid Trail Surface Erosion	30	5	83%
Other Harvest Related Delivery	100	14	86%
TOTAL	**1220**	**475**	**61%**

Further information on the components of the TMDL including the problem statement, numeric targets, source analysis, load allocation, linkage analysis, and margin of safety are found in the Gualala River Sediment TMDL (Appendix A).

2. Program of Implementation for the Gualala River Sediment TMDL

2.1. Introduction

The Gualala River watershed has been significantly impacted by nonpoint source sedimentation from road-related sources and timber harvest related sources (Section 1.5.3). This sedimentation has adversely affected water quality and habitat conditions, particularly for cold water fish species such as Coho salmon and steelhead trout. The primary goal of the implementation plan is to reduce sediment delivery to the Gualala River and its tributaries to levels that meet water quality objectives and support beneficial uses.

The implementation plan can be found in the Gualala River Sediment TMDL Action Plan (Action Plan). This chapter of the staff report supporting the Action Plan outlines the framework of the implementation plan which is focused on reducing sediment from controllable sources to achieve and maintain water quality standards. An implementation plan, while not strictly a requirement of the TMDL process as described by the Clean Water Act, is required under section 13242 of the California Water Code to achieve water quality objectives.

This implementation chapter is organized according to the source areas identified in the U.S. EPA established Gualala River Sediment TMDL. An overview of nonpoint source activities as well as existing and proposed sediment source controls in the Gualala River watershed is presented in section 2.2. Implementation actions associated with land use activities related to timber harvest are presented in section 2.3. Implementation actions associated with land use activities related to road-related sediment sources are presented in section 2.4. Instream and hillslope monitoring indicators and target recommendations, as described in the Gualala River Sediment TMDL, are presented in section 2.5.

2.2 Nonpoint Source Land Use Activities and Controls

Implementation actions taken to achieve load allocations must be consistent with the Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program (State NPS Policy). This policy requires that all current and proposed nonpoint source discharges must be regulated under waste discharge requirements (WDRs), waivers of WDRs, a Basin Plan prohibition, or some combination of these tools. For some pollutant sources, the method of compliance with this policy is already in place, and if it is determined to be sufficient, no further action by the North Coast Water Board is necessary. However, if the source is currently unregulated, or the current permits, waivers and/or prohibitions are not sufficient to attain the TMDL, a means to comply with the State NPS Policy must be proposed as part of an implementation plan. The North Coast Water Board may also certify existing pollution control programs as sufficient to implement the Gualala River Sediment TMDL if it can make the following findings:

- the implementing program is consistent with the assumptions and requirements of the TMDL;
- sufficient mechanisms exist to provide reasonable assurances that the program will address the impairment in a reasonable period of time; and
- sufficient mechanisms exist to ensure that the program will be enforced, or that the North Coast Water Board has sufficient confidence that the program will be implemented such that further regulatory action would be unnecessary and redundant.

The threats to water quality from nonpoint source pollution in the Gualala River watershed are mainly associated with timber harvest and construction/maintenance of roads. The implementation plan focuses on reducing sediment loading to streams across the watershed by requiring implementation of measures to control sediment discharges from land use activities on hillslopes in accordance with the Gualala River Sediment TMDL load allocations.

To protect against significant individual threats to water quality, staff are relying on existing prohibitions against discharges of waste that violate water quality standards. The following existing waste discharge prohibitions pertain to logging, construction, and associated activities in the Gualala River watershed.[3]

- The discharge of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature into any stream or watercourse in the basin in quantities deleterious to fish, wildlife, or other beneficial uses is prohibited.

[3] Action Plan For Logging, Construction, And Associated Activities. North Coast Basin Plan.

- The placing or disposal of soil, silt, bark, slash, sawdust, or other organic and earthen material from any logging, construction, or associated activity of whatever nature at locations where such material could pass into any stream or watercourse in the basin in quantities which could be deleterious to fish, wildlife, or other beneficial uses is prohibited.

The definition for "stream or watercourse" as those terms are used in the waste discharge prohibitions relative to logging and construction activities shall be interpreted by the Regional Water Board to mean the following: Natural watercourse as designated by a solid line or dash and three dots symbol shown in blue on the largest scale United States Geological Survey Topographic Map most recently published.

Existing regulatory programs to address pollution in the Gualala River watershed include WDRs and Waivers for timber harvest activities on non-federal lands, the Waiver Certifying 5C Program for County Roads (5C Waiver); and Clean Water Act 401 Water Quality Certification program for all discharges unrelated to roads. While these programs address some sources of sediment and nonpoint source pollution, they do not comprehensively cover all nonpoint source discharges in the watershed. To address these gaps, the Action Plan recommends the establishment of a targeted regulatory program aimed specifically at managing sediment discharges from rural roads on private lands that are not covered under other existing permits. Table 1 provides an overview of North Coast Water Board staff recommendations for regulatory mechanisms to implement the TMDL allocations in the Gualala River watershed.

Table 5: Existing and proposed permitting mechanisms.

Nonpoint Source Regulatory Mechanism	Timeframe (Existing/Proposed)	Responsible Party
WDRs and Waiver for Timber Harvest on Non-Federal Lands – Industrial and Non-Industrial	Existing	All parties conducting timber harvest activities on non-federal lands in the Gualala River watershed
Waiver and Water Quality Certification for 5C Program for County Roads (5C Waiver)	Existing	Sonoma and Mendocino Counties and other counties or dischargers enrolled in the 5C Waiver
California Department of Transportation Statewide Stormwater Permit	Existing	California Department of Transportation

Nonpoint Source Regulatory Mechanism	Timeframe (Existing/Proposed)	Responsible Party
Statewide General Permit for Construction Stormwater	Existing	Proponents of projects where construction activities disturb one or more acres of land or those construction activities that are part of a larger common plan of development
Water Quality Certification	Existing	All parties conducting activities within or adjacent to waters of the state that may result in a discharge of pollutants.
WDR(s) for rural, road-related sediment sources on private lands (Outside of Enrolled Timber Harvest Plans and Appurtenant Roads)	Proposed	Private landowners with rural roads
Oversight, implementation, and enforcement of existing and new orders and permits	Existing	North Coast Water Board

2.3. Timber Harvest Implementation Actions

As established in the Sediment Source Analysis of the Gualala River Sediment TMDL, timber harvest activities were estimated to contribute approximately 15.5% of the anthropogenic sediment discharged to the Gualala River and its tributaries (3.5% from skid trail surface erosion and 12% from other harvest-related delivery).

Timber operations are regulated by WDRs issued by the North Coast Water Board and under the Forest Practice Rules (FPRs) which were first established in California in 1973. The North Coast Water Board's WDRs and regulatory program for timber operations on non-federal lands relies to the extent practicable upon the water quality protections provided by the FPRs. The FPRs include rules for protection of the beneficial uses of water, such as measures designed to prevent sediment discharge and limit reductions in riparian shade to protect water temperature, as well as enhanced protection in watersheds with listed anadromous salmonids. These rules are constantly being evaluated and updated to adapt to changing environmental concerns, scientific understanding, and societal values. North Coast Water Board staff continue to work with the Board of Forestry (BOF), the government body charged with developing and revising the FPRs, as well as California Department of Forestry and Fire Protection (CalFire), timberland owners, and other interested parties, to identify ways to improve rules for protection of the beneficial uses of water.

To prevent, minimize, and control sediment waste discharges caused by timber harvest activities in the Gualala River watershed, the North Coast Water Board uses existing permitting and enforcement tools, such as the timber harvest project approval process and the timber harvest general WDRs and waivers of WDRs. Existing permitting and mechanisms that currently apply to timber harvest in the watershed include the following:

- Order No. R1-2004-0030 - *General Waste Discharge Requirements for Discharges Related to Timber Harvest Activities on Non-Federal Lands in the North Coast Region* (Timber WDR)
- Order No. R1-2013-0005 – *General Waste Discharge Requirements for discharges for Timber Operations on Non-Industrial Timber Management Plans (NTMPs) in the North Coast Region* (NTMP WDR)
- Order No. R1-2024-0001 – *General Waste Discharge Requirements for Discharges Related to Specific Types of Forest Management Activities on Non-Federal Lands in the North Coast Region* (Forest Management WDR)

Private timber lands and roads not covered by a current THP are included in this section, and they will still be required to assess, inventory, and repair roads at risk of sediment discharge.

Monitoring through the Timber Harvest Plan (THP) process includes various components related to sediment and erosion control. The THP process includes pre-harvest inspections, implementation monitoring, effectiveness monitoring, and post-harvest monitoring. Erosion control measures must comply with FPRs and water quality requirements and are subject to approval and monitoring by the CalFire and the North Coast Water Board.

2.4. Road-related Implementation Actions

Road-related sources of sediment account for approximately 84.5% of the anthropogenic sediment identified in the Sediment Source Analysis of the Gualala River Sediment TMDL (44% from Road-related landslides, 6% from Road-related stream crossing failures, 17.9% from road-related gullying, and 16.6% from road-related surface erosion). This section outlines the existing and proposed regulatory mechanisms for road implementation to address sediment sources identified in the source analysis. As stated in section 2.3, private timber lands and roads not covered by a current THP are included in this section, and they will still be required to assess, inventory, and repair roads at risk of sediment discharge.

2.4.1 Existing Road Implementation Regulatory Structure

The North Coast Water Board has existing road permits established which apply within the Gualala watershed and may be used to implement the TMDL if an enrollee qualifies for them.

2.4.1.1 Order No. R1-2023-0034 – 5C Waiver

The *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 Coast Region* (5C Waiver) applies to various road management activities, including reconstruction, repair, maintenance, and emergency repairs. Specific activities include grading, resurfacing, culvert installation and maintenance, vegetation management, and erosion control.

This order ensures that road management practices for road construction and maintenance projects in the North Coast Region are conducted in a manner that protects water quality and supports the recovery of salmonid populations. By providing a streamlined permit process for projects that implement the BMPs in the 5C Road Manual and the Forest, Ranch, and Rural Road Handbook, and that conduct post project implementation and effectiveness monitoring, the North Coast Water Board aims to reduce sediment delivery from roads and improve aquatic habitat conditions.

The monitoring and reporting program (MRP) contains four types of monitoring which are outlined in Chapter 10 of the 5C Manual. They are implementation, effectiveness, photopoint, and project monitoring. Implementation and effectiveness monitoring are required for all projects. Photopoint and project monitoring are reserved for more complex projects that may require an evaluation of BMP performance over an extended period of time and are implemented at the discretion of the Executive Officer. Annual reports are required from counties as part of the MRP and are conducted until the project is complete.fsfz

2.4.1.2 Statewide California Department of Transportation (Caltrans) Stormwater Permit

Caltrans operates under the Statewide Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (Order No. 2022-0033-DWQ, NPDES No. CAS000003), which governs stormwater and non-stormwater discharges from Caltrans-owned roads, highways, and related infrastructure. This permit, adopted by the State Water Resources Control Board on June 22, 2022 ensures that road-related discharges do not adversely affect water quality. Caltrans complies with the permit by implementing Stormwater Management Plan, applying best management practices for road construction, maintenance, and operations, and ensuring stormwater discharges meet water quality standards related to those pollutants listed in Table *2* of this Staff Report. Caltrans shall conduct monitoring and reporting to demonstrate compliance with sediment control and stormwater management requirements.

2.4.1.3 Statewide General Permit for Construction Stormwater

The *National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities* (NPDES No. CAS000002 and Order No. 2009-0009-DWQ, as amended by Orders 2010-0014-DWQ, 2012-0006-DWQ, and 2022-056-DWQ) regulates stormwater and certain non-stormwater discharges from construction activities disturbing one acre or more of land, or smaller sites that are part of a larger common development plan. Issued by the State Water Resources Control Board, this permit aims to prevent construction-related pollutants from entering California's waterways. Construction stormwater permittees are required to develop and implement Stormwater Pollution Prevention Plan that outlines site-specific measures to prevent stormwater pollution during construction activities. In the event that a construction project fails to obtain necessary permit coverage or does not comply with permit requirements, the North Coast Water Board shall take appropriate enforcement actions, including issuing notices of violation, requiring corrective actions, or pursuing further regulatory measures.

2.4.2 New WDR(s) for Road Maintenance and Construction on Private Lands

North Coast Water Board staff will develop and issue regulatory WDR(s) that will require landowners with significant sediment-generating roads to inventory, assess, prioritize, and treat road-related sediment sources on their property over time. The WDR(s) will include a threshold that defines "significant" sediment-generating roads, monitoring and reporting requirements to evaluate WDRs) effectiveness, and a treatment implementation schedule.

2.4.3 Additional Implementation Regulatory Actions

Should landowners not enroll in one of the existing permits, as some projects may not be appropriate for existing permits, the North Coast Water Board may use other existing

authorities to implement the TMDL and address sources of road-related sediment. These may include the following actions:

2.4.3.1 Request for technical documents under Section 13267(b).

Under Water Code Section 13267(b), the North Coast Water Board has the authority to require landowners or responsible parties to submit technical reports that provide essential information on road-related sediment sources. These reports may include road inventory data, such as location, ownership, and mapping, to establish a clear understanding of the extent and distribution of roads within the watershed. Additionally, a road conditions report may be required, detailing the surface type, maintenance history, and structural integrity of roads to assess their potential impact on sediment discharge.

In some cases, the North Coast Water Board Executive Officer (EO) may issue a Monitoring and Reporting Program (MRP) to ensure compliance with sediment reduction requirements. An MRP could mandate ongoing assessments and periodic reporting to track progress in reducing sediment inputs from road networks. These requirements help to identify and mitigate sources of sediment pollution, supporting the goals of the Gualala River Sediment TMDL.

2.4.3.2 Cleanup and Abatement Orders

The California Water Code sections 13304 and 13267 provide the legal authority for the issuance of Cleanup and Abatement Orders (CAOs). These orders are used to require actions to clean up and abate the effects of waste discharges that violate water quality standards or create pollution.

When CAOs are issued, there are various monitoring and reporting requirements. These may include initial assessment to identify sources of sediment and sediment discharge areas, implementation and effectiveness monitoring, and periodic reporting to the North Coast Water Board detailing the monitoring results.

2.4.3.3 Cease and Desist Orders

California Water Code Section 13301 provides the authority for the issuance of Cease and Desist Orders (CDOs). These orders are used to compel dischargers to comply with WDRs, prohibitions, or other regulatory requirements to prevent ongoing or threatened violations of water quality standards.

CDOs may require dischargers to take specific actions to come into compliance, such as implementing best management practices, ceasing unauthorized discharges, or submitting technical reports detailing corrective measures.

Compliance with a CDO may include monitoring and reporting requirements, such as tracking sediment discharge reductions, documenting implementation of required

actions, and submitting periodic reports to the North Coast Water Board to demonstrate progress toward compliance.

2.4.3.4 Time Schedule Orders under Section 13300

The California Water Code Section 13300 provides the legal authority for the issuance of Time Schedule Orders (TSOs). These orders require dischargers to take corrective actions within a specified timeframe to achieve compliance with water quality requirements. TSOs are used when immediate compliance is not feasible and establish deadlines for implementing necessary measures.

When TSOs are issued, they may include requirements for road assessments, drainage upgrades, erosion control measures, and stormproofing treatments. Orders may also specify interim milestones to track progress and ensure timely implementation. Failure to comply with a TSO may result in enforcement actions by the North Coast Water Board.

2.5. Recommended Monitoring for Water Quality Indicators

North Coast Water Board staff will support and encourage coordinated instream and hillslope monitoring efforts of landowners, other regulatory agencies, and members of the public. Monitoring should establish necessary spatial and temporal frequency of monitoring to understand instream trends in the watershed of parameters that translate to the water quality objectives for the Gualala River watershed.

This Section summarizes water quality indicators that are specific for the Gualala River Sediment TMDL. They are interpretations of the water quality standards expressed in terms of instream and watershed conditions. For each indicator, a numeric or qualitative target value is identified to define the desired condition for that indicator. The U.S. EPA established these indicators, and their associated target values, to provide a useful reference in determining the effectiveness of the TMDL in attaining water quality standards, although they are not directly enforceable.

No single indicator adequately describes water quality related to sediment, so a suite of instream and watershed indicators is identified. Because of the inherent variability associated with stream channel conditions, and because no single indicator applies in all situations, attainment of the targets is intended to be evaluated using a weight-of-evidence approach. When considered together, the indicators are expected to provide good evidence of the condition of the stream and attainment of water quality standards.

Various instream water quality indicators are detailed in the TSD and are categorized based on short term, mid-term, and long-term targets, as well as whether they are hillslope or instream indicators (Table *2*). With respect to time-scales, short-term targets are for those indicators which require measurement every few years; mid-term are for

post-restoration activities, dependent on storm event frequency and magnitude; and long-term are for decades after restoration activities or after infrequent severe storm or landslide events. Details on the monitoring procedures and scientific basis for these indicators and the target values are found in the TSD.

Table 6: Instream and hillslope water quality indicators and targets described in the Gualala River Sediment TMDL.

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%
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%

3. Environmental Analysis

3.1 Environmental Analysis Requirements

The North Coast Water Board is the certifying agency responsible for evaluating the potential environmental impacts of the proposed Basin Plan amendment to establish the Gualala River Sediment TMDL Action Plan. Under the provisions of Section 21080.5 of the California Public Resources Code, the California Secretary for Natural Resources has the authority to certify the regulatory programs of state agencies as exempt from the requirements of preparing environmental impact reports (EIRs) and related documents, if the Secretary finds that the program meets the criteria specified in that section of the code. The Basin Planning process of the North Coast Water Board is certified as such a program as described and listed in Section 15251 (g) of the CEQA Guidelines (CEQA Guidelines are found in California Code of Regulations, title 14, section 15000 et seq.).

Although the North Coast Water Board is not required to complete an environmental impact report, it is not given a complete exemption from the provisions of CEQA. A substitute document that is functionally equivalent to an EIR or negative declaration must be prepared and must include a description of the proposed project and either a description of alternatives with mitigation measures to avoid significant adverse impacts or a statement showing that the project would have no significant adverse impacts. This entire Staff Report serves as the functionally equivalent substitute document. It contains the required elements.

3.2 Scoping Meetings

To satisfy CEQA's recommendation to engage the public and interested parties in early consultation about the scope of the environmental analysis, a public comment period related to CEQA was opened on May 24, 2024, and closed on July 8, 2024, for a total of 45 days. In addition, staff held two scoping meetings. The first meeting was held online and the second meeting was held in-person within the Gualala watershed.

- Meeting 1: Monday June 3rd, 2024, from 12:00pm - 1:00pm PST, online via Zoom video conference call.
- Meeting 2: Wednesday June 5th, 2024, from 5:30pm - 6:30pm PST, in the Hickory Room at Horicon School - 35555 Annapolis Rd. Annapolis, CA, 95412.

A CEQA scoping meeting save-the-date was posted on May 8, 2024, and the official public notice was posted on May 24, 2024. These notices were posted to the project webpage as well as to the project mailing list. Enrollment on the project mailing list has been solicited and sent to various potentially interested parties since initiation of the project in April 2023. At the time of posting the official public notice, there were 88

subscribers on the project mailing list. A draft CEQA checklist was provided with the CEQA public notice for interested parties to review during the public comment period.

There were 16 individuals present for the online meeting on June 3rd. Representation at this meeting included the North Coast Regional Water Board, Gualala Redwood Timber, Gualala River Watershed Council, Redwood Empire, California Department of Fish and Wildlife, and Jackson Family Wines. There were seven individuals present for the in-person meeting on June 5th including representatives of the North Coast Regional Water Board, Gualala Redwood Timber, and Friends of the Gualala River, and a private resident. Attendees provided verbal questions and comments during the CEQA scoping meetings which were primarily focused on components of the project outside of the CEQA analysis. North Coast Water Board staff asked for written comments related to CEQA to be submitted via email or postal mail.

Written comments were received by the North Coast Water Board by various groups and individual residents from the watershed. Content of comments received varied, but primarily focused on the scientific background of the TMDL or the implementation strategy for addressing sources of sediment. No written comments were received that were related to CEQA or the CEQA Checklist document.

A summary of the CEQA scoping process and documents can be found on the project webpage at:
https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/gualala_river/

3.3 Proposed Project Description

The project will result in the development of a draft Gualala River Sediment TMDL Action Plan for public review and comment, followed by other steps of the Basin Plan amendment process necessary for incorporation of the Action Plan into the Basin Plan. The development of the Action Plan and incorporation of the Gualala River Sediment TMDL into the Basin Plan fulfills the requirements of Sections 303(d)(2) and 303(e)(3) of the Clean Water Act and incorporation of the Action Plan addresses Water Code section 13242 requirements. The Action Plan will detail a program of implementation outlining actions to address sources of sediment identified in the Gualala TMDL: road-related sediment sources and timber harvest-related sediment sources. Reasonably foreseeable compliance measures, or actions, to address road-related sediment sources are outlined in section 3.4.

Timber harvest-related sediment sources identified in the Gualala River Sediment TMDL (skid trail surface erosion, other harvest related sediment delivery) are currently addressed primarily through enrollment in Timber Waste Discharge Requirements (Timber WDRs) which are administered by the North Coast Water Board, and through timber harvest plans (THP) which are administered by the California Department of

Forestry and Fire Protection (CalFire). The THP process substitutes for the Environmental Impact Report (EIR) process under CEQA because the timber harvesting regulatory program has been certified pursuant to Public Resources Code Section 21080.5. North Coast Water Board staff participate in review of timber harvest plans in their role as responsible agency and member of a review team (Cal. Code Regs., tit.14 § 1037.5). In addition, the North Coast Water Board evaluates each timber harvest plan for compliance with the Basin Plan prior to enrolling them in one of its timber permits.

3.4 Reasonably Foreseeable Compliance Measures

Reasonably foreseeable compliance measures, also known as implementation measures or actions, for this project will be assessed for erosion control and prevention projects that address road-related sediment sources identified in the Gualala River Sediment TMDL (road-related landslides, road-related crossing failures, road-related gullies, road-related surface erosion). Timber harvest activities are addressed under the THP permitting and inspection process and associated environmental analysis.

The following road-related erosion control and prevention projects are already occurring in the project area; however, the project will increase the frequency and spatial extent at which they will occur. Road-related erosion control and prevention projects may include but not be limited to the following actions:

- Installation, repair, and/or replacement of stream channel road crossings;
- Installation and/or maintenance of trash racks (to catch stream transported debris and thereby prevent it from blocking flow) through road crossings;
- Installation and/or maintenance of ditch relief culverts and/or cross-drains (to reduce concentrated runoff from roads);
- Excavation of potentially unstable road fill slopes or road-related landslide deposits (to prevent channel sediment delivery/transport);
- Construction of rolling dips, out-sloped road segments, and/or water bars on dirt roads to attenuate concentrated runoff;
- Sediment and/or vegetation removal to maintain conveyance capacity along the inboard ditch;
- Removal of road berms;
- Excavation and repaving of paved roads to repair and/or retrofit road drainage infrastructure, as needed to address significant sediment sources.; and/or
- Streambank stabilization to protect the roadway from erosion.

3.5 Alternatives and Staff Recommendations

This section identifies and analyzes reasonable alternatives to the recommended approach that address different ways to reduce sediment waste discharges in the Gualala River watershed. An analysis of reasonable alternatives to the project, mitigation measures, and methods of compliance that would have less significant

environmental impacts is required (Cal. Code Regs., tit. 23 § 3777.). Every conceivable alternative need not be considered – only those that would meet the project objectives and are reasonable. “The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects” (Cal. Code Regs., tit. 14, §15126.6(a)).

Factors that can be used to determine the feasibility of alternatives include: economic, social, environmental, legal, and technical. The analysis of alternatives must “include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project” (Cal. Code Regs., tit.14, §15126.6(d)).

In order to meet the project objectives, the selected alternative must provide the tools necessary to effectively control sediment waste discharges across the Gualala River watershed so that the TMDL is achieved, beneficial uses are protected, sediment-related water quality objectives are attained, and water quality is preserved, enhanced, and restored. Each alternative is analyzed to determine potential consequences and how that alternative would or would not achieve the stated goals.

The following alternatives were considered:

- Alternative 1: No Action.
- Alternative 2: Gualala River Sediment TMDL Action Plan as proposed (Preferred Alternative).

3.5.1 Alternative 1: No Action

In the "No Action" alternative, the existing Basin Plan language would remain unchanged, without the proposed amendment for the Gualala River Sediment TMDL Action Plan. Because the Water Board is required to regulate all nonpoint sources of pollution, many of the actions required by this Basin Plan Amendment (i.e., issuance and compliance with WDRs or waivers, including implementation of BMPs, monitoring and reporting) could occur regardless of TMDL adoption, but the time frame would be uncertain for any new Orders or WDR(s) to address sources not addressed in existing Orders and WDR(s). Additionally, the numeric target needed to interpret the narrative water quality objectives related to sediment would not be established and methods to evaluate the success of sediment control efforts in the watershed could be inconsistently applied. The No Action alternative would eliminate an opportunity for increased public input on any watershed restoration plan, and could circumvent focusing implementation actions on the most problematic sources.

3.5.2 Alternative 2: Gualala River Sediment TMDL Action Plan

This alternative consists of amending the Basin Plan to establish the Gualala River Sediment TMDL Action Plan as proposed.

The goal of the proposed Basin Plan amendment is to describe the implementation actions necessary to achieve the U.S. EPA established TMDL (Action Plan) that will attain water quality standards and protect beneficial uses. The amendment does this by addressing the sediment impairments in the Gualala River watershed specifically through the identification of source control actions. The proposed implementation actions describe the steps that are necessary to prevent, minimize, and control sources of sediment waste discharges for significant sources and land uses. The implementation actions are tailored to sources identified in the TMDL with a focus on key permitting and enforcement tools.

Implementation actions to control sediment focus on road-related sediment sources and timber harvest-related sediment sources. Implementation actions detailed in the Action Plan directly pertain to the North Coast Water Board's legal authorities under the Porter –Cologne Water Quality Control Act. These include authority to issue Waste Discharge Requirements (WDRs) and/or waivers of WDRs, to control discharge of pollutants from nonpoint sources into the waters of the state (Water Code 13000 et seq.), as well as the authority to issue investigatory orders under section 13267 of the California Water Code and the authority to issue clean up and abatement orders under Water Code sections 13304 and 13267.

The Gualala River Sediment TMDL Action Plan is developed in order to preserve, enhance, and restore the Gualala River watershed, support beneficial uses, and achieve and maintain water quality objectives. The result will be a proactive strategy to address sediment discharges resulting from land use activities conducted in the watershed.

Reasonably foreseeable actions to comply with the project will benefit native fish and wildlife species including rare and endangered species by decreasing fine sediment supply and enhancing stream-riparian habitat conditions in the Gualala River and its tributaries such that fish and wildlife species and their populations in and near waters of the state thrive. The project would not threaten any plant or animal community, and/or reduce the number or restrict the range of a rare or endangered plant or animal species. Also, as described in the explanation for the CEQA checklist response for Cultural Resources and Tribal Cultural Resources, there are no significant impacts known related to California history or prehistory.

The project would not cause any substantial adverse effects to human beings, either directly or indirectly. The project is intended to benefit human beings through

implementation of actions predicted to enhance fish populations, aesthetic attributes, recreational opportunities, and contribute to a reduction in property damage in and/or nearby to stream channels in the Gualala River watershed.

3.5.3 Staff Recommendations

North Coast Water Board staff recommend Alternative 2, the adoption of the Gualala River Sediment TMDL Action Plan.

This option provides a comprehensive approach to incorporating the U.S. EPA-established Gualala River Sediment TMDL into the Basin Plan and addresses sediment impairments directly through a tailored set of implementation actions. Alternative 2 sets clear timelines for recovery and permit development, and ensures that the North Coast Board meets its regulatory obligations and protects water quality.

The Gualala River Sediment TMDL Action Plan provides clear, targeted actions to address sediment pollution, specifically from road-related and timber harvest activities, both of which are significant sources of sediment in the watershed. These actions are grounded in the North Coast Board's legal authorities, such as the ability to issue WDRs; waivers of WDRs; and investigatory, clean-up and abatement, and cease and desist Orders under the California Water Code.

The Gualala River Sediment TMDL Action Plan will introduce new regulatory actions specifically designed to address sediment sources in the watershed and a schedule for implementation. These actions will build upon existing regulatory mechanisms already in place, effectively bridging gaps in sediment source control and ensuring comprehensive protection against sediment pollution.

By adopting this alternative, the North Coast Board will implement a strategy to restore beneficial uses and improve watershed health in the Gualala River, ensuring regulatory compliance and advancing environmental and community benefits. The project is anticipated to benefit native fish and wildlife, including rare and endangered species, by reducing fine sediment and improving stream-riparian habitats in the Gualala River watershed. With relevant mitigation measures incorporated, the project will not adversely impact plant or animal communities, nor cultural or tribal resources. Additionally, the project is expected to positively affect human well-being by enhancing fish populations, aesthetics, recreational opportunities, and supporting other beneficial uses of the watershed.

3.6 CEQA Checklist

Following the CEQA Scoping Meeting, and the preparation of a specific proposal (the project), the CEQA Checklist was prepared. The CEQA Checklist is attached to this

Staff Report as Appendix C. For the Mandatory Findings of Significance, see section 19 of Appendix C.

3.7 Analysis of Environmental Impacts and Mitigation Measures

The proposed project establishes the Gualala River Sediment TMDL Action Plan to control, limit, and reduce sediment discharges and impacts to beneficial uses of the watershed such as cold-water fisheries. The proposed project will not have a significant adverse impact on the environment.]

The adoption of the proposed Gualala River Sediment TMDL Action Plan will not have a significant impact on the environment because the term “significant impact” is defined as an adverse impact with “… a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance” (Cal. Code Regs., tit.14, §15382). The environmental changes that will result from the proposed project are beneficial, not adverse. Any environmental impacts that are deemed less than significant with mitigation incorporated are described in the CEQA Checklist (Appendix C).

Adoption of the proposed Gualala River Sediment TMDL Action Plan will have a beneficial impact on the environment because it will reduce excess sedimentation in the Gualala River watershed. The environmental changes that will result from the proposed project are beneficial, not adverse.

4. Economic Considerations

4.1 Introduction

The North Coast Water Board is required to consider economics in the environmental analysis for Total Maximum Daily Load (TMDL) development and water quality control planning (Basin Planning)[4]. The TMDL for sediment in the Gualala watershed is already established, therefore what follows is an estimate of the costs associated with anticipated compliance measures. The costs are given as a range, depending on the specific characteristics of the land or operation to which a given management practice is applied. A list of potential funding sources is also given.

The North Coast Water Board is not obligated to consider the balance of costs and benefits associated with implementation of a TMDL or Basin Plan amendment. It is only obligated to consider "a reasonable range" of economic factors and may adopt a TMDL or Basin Plan amendment even if the costs are significant.

4.2 Economic Scope

4.2.1 Roads

The road network in the Gualala River watershed contributes 85 percent of the anthropogenic sediment sources identified in the Gualala River Sediment TMDL. In some cases, an inventory of roads will determine that decommissioning or upgrading of roads is required. Regardless of the method of regulation or the responsible party, the requirements for controlling sources of sediment from roads are similar and implementation will primarily focus on the following process:

1. Assess: Identify sources of excess sediment discharge or threatened discharge and quantify the discharge or threatened discharge from the source(s); and prioritize efforts to control discharge of excess sediment based on, but not limited to, severity of threat to water quality and beneficial uses, the feasibility of source control, and source site accessibility.
2. Implement: Develop and implement feasible sediment control practices to prevent, minimize, and control the discharge. Road decommissioning may be required as part of a responsible parties' load allocation if maintaining the road is cost prohibitive, the road is not needed, or is a source of uncontrollable excess sediment discharge.
3. Monitor and Adapt: Use monitoring results to direct adaptive management in order to refine excess sediment control practices and implementation schedules

[4] See Cal. Code Regs., tit. 23 §3777 (The Board's environmental analysis shall take into account a reasonable range of economic factors.)

until discharges are reduced to a level that meets the TMDL load allocations and attainment of water quality standards.

Because a large proportion of the total length of roads in the watershed are privately owned and earth surfaced, there may be several advantages to local governmental agencies and private landowners exploring the possibility of entering into sediment control cooperatives to reduce road-related erosion in a way that also substantially reduces costs and burdens to both agencies and landowners. By working together within a larger group, landowner costs for road erosion inventories and execution of control actions could be substantially reduced because of the economies of scale. By comparison, individual private landowners would be less likely to obtain grants, and potential problems associated with run-on from adjacent properties (that are causing road-erosion) will be difficult to resolve without cooperation across property boundaries. A cooperative could also benefit from the involvement of a Resource Conservation District (RCD) and/or Natural Resources Conservation Service (NRCS) to provide professional expertise in erosion control and landowner assistance. To this end, we strongly support providing several potential incentives to road sediment control cooperative partnerships including prioritization of such efforts for grant funding.

4.2.2 Timber

Timber harvest activities can substantially impact sediment discharges. Timber harvest on non-federal lands is currently regulated by the North Coast Water Board through a combination of general WDRs and waivers of WDRs. The costs associated with WDRs are not outlined here as they are a current requirement. Roads that are part of a timber harvest plan or Non-Industrial Timber Management Plan (NTMP) are required by the WDRs and waivers for timber harvest on non-federal lands to implement an erosion control plan. Erosion control plans may limit timber harvest in areas with greater risk of sediment discharge (e.g., less intensive silvicultural practices such as selection harvest or uneven age management). Therefore, the additional retention of trees could potentially be a forgone revenue. However, due to the broad range of potential factors including site potential, topography, existing requirements, and amount of timber available, the specific costs are too complex to estimate. Typical categories of compliance for timber operations include maintaining and preserving site-specific potential effective shade, controlling erosion and sediment, preserving existing cold-water resources, and aquatic ecosystem restoration.

4.3 Estimates of Costs of Compliance

The following section outlines potential costs associated with reasonably foreseeable compliance actions that may result from the Gualala River Sediment TMDL Action Plan. This section solely focuses on compliance with road-related sources of sediment, including those on timberlands outside of timber harvest plans and their appurtenant

roads enrolled in the Timber WDR. Timber-related sources of sediment within THPs and appurtenant roads will be addressed through timber harvest plans and enrollment in the Timber WDR (see sections 2.3 and 4.2.2). Costs for road assessments and construction on rural roads vary significantly depending on the specific location, project size, and complexity of the work required. Factors such as access challenges, the condition of the existing road network, and the need for specialized construction, like large stream crossings or erosion control measures, contribute to this variability. Additionally, market fluctuations and changes in the economy, including inflation and material costs, further influence pricing. The following sections analyze various cost-estimate references from the North Coast region to provide a framework for understanding potential costs of road assessments and implementation in the Gualala River watershed.

4.3.1 Cost Estimates for Road Assessments

Recent estimates for road-related sediment source assessments in the Gualala River watershed suggest a cost range of $3,500–$4,250 per mile as cost-effective in today's market. Historical data indicates that, in the mid-2010s, assessments in more accessible road networks ranged between $2,500 and $2,700 per mile. Information on cost estimates was provided by Colin Hughes, a Certified Engineering Geologist with experience at Pacific Watershed Associates and the California Department of Fish and Wildlife (Hughes, 2024)[5].

Higher per-mile costs, such as $5,000, may be justified in scenarios involving significant access challenges (Hughes, 2024). Access challenges increase costs for rural road assessments because they require additional time, landowner coordination, and specialized equipment and resources to navigate remote, rugged, or environmentally sensitive areas safely and effectively. For example, the Mendocino County Resource Conservation District (MCRCD), in collaboration with Pacific Watershed Associates (PWA), plans to conduct a road sediment source inventory covering six miles of roads (Jack of Hearts Road) within the South Fork Eel River watershed[6]. This assessment aligns with the Total Maximum Daily Load (TMDL) goal of sediment reduction to protect water quality. In this case, assessment costs for the Jack of Hearts Road project are estimated to be $29,225, averaging $4,871 per mile.

[5] Hughes, C. (2024). Personal communication regarding road sediment source assessments. Method of communication: email on July 26, 2024.

[6] Source: MCRCD Eel River TMDL Proposal Caltrans Implementation and Planning Projects: 2022 – 2024, Final Revisions May 26, 2022.

4.3.2 Cost Estimates for Implementation

4.3.2.1 Cost Estimates for Specific Management Practices

The NRCS has developed standard management practices for agricultural road sediment, erosion, and drainage control, some of the more common of which are discussed below. Implementation of many of these practices in certain scenarios could result in compliance with the Action Plan. Table 7 shows costs of management practices/scenarios Dischargers may implement to meet the requirements in the Action Plan, as reported by the U.S. Department of Agriculture, NRCS[7], and adjusted by North Coast Water Board staff for anticipated scenarios.

Table 7: Estimated Costs of Management Practices/Scenarios for Road Storm-Proofing

Management Practice	Scenario Size	Unit Cost	Total Cost (low)	Total Cost (high)
Rolling Dip	1,000 feet	$10-20/ft	$10,000	$20,000
Critical Dip	1,000 feet	$10-20/ft	$10,000	$20,000
Road Out-sloping	5,000 feet	$3-30/ft	$15,000	$150,000

4.3.2.2 Cost Estimates of Roads per Mile

Treatment costs for road storm proofing were estimated based on projects in the Garcia River watershed around 2010, adjusted for inflation to approximately $66,000 per mile (Hughes, 2024). While this serves as a general estimate, costs vary widely depending on site-specific conditions. Small scale projects involving small segments of road can cost below $10,000 (see Table *1* above). However, recent larger projects in the North Coast region suggest that project implementation can cost over $200,000 per mile.

An example is a MCRCD proposal for implementation of road storm proofing treatments across approximately 9.7 miles of roads in the South Fork and Middle Fork Eel River watersheds[8]. These projects aim to reduce sediment sources and protect water quality under the TMDL program by including storm proofing measures such as drainage improvements and erosion control. Specific costs for these implementation projects are shown in Table *2*:

[7] California-Scenarios-23-payment-rates.pdf

[8] Source: MCRCD Eel River TMDL Proposal Caltrans Implementation and Planning Projects: 2022 – 2024, Final Revisions May 26, 2022

Table 8: 2022-2024 Eel River Watersheds Project Cost Estimates

Road	Project Type	TMDL Watershed	Miles	Project Cost	Project Cost/Mile
Eel River Ranch Road	Implementation	Middle Fork Eel River	1.5	$312,228	$208,152
Ten Mile Creek Ranch	Implementation	South Fork Eel River	4.2	$765,073	$182,160
Jack of Hearts Road	Implementation	South Fork Eel River	4	$812,016	$203,004

4.3.3 Costs Associated with Permitting and Monitoring

In addition to the costs associated with road assessments and storm proofing implementation, there are costs specifically tied to permit fees and monitoring required under Waste Discharge Requirements (WDRs) and Waivers of WDRs. Permit fees may be assessed at the time of project enrollment and annually thereafter. The costs associated with complying with permit-specific monitoring requirements may vary project-by-project. Monitoring ensures compliance with WDRs and Waivers by verifying that discharges are controlled, and water quality standards are maintained. For information on monitoring requirements for various permits related to road implementation, please contact the North Coast Water Board.

4.3.4 Summary of Cost Estimates

The cost estimates presented in this section illustrate the variability and complexity of compliance with the Gualala River Sediment TMDL Action Plan. Road assessment and storm proofing projects demonstrate a wide range of costs influenced by factors such as access challenges, site conditions, and project scope. This economic analysis shows that assessment costs for North Coast region projects can range between $2,500 to $5,000 per mile and implementation costs per mile can range between $60,000 to over $200,000. For small scale projects, North Coast Water Board estimates show that rolling/critical dips for 1,000 feet segments can range from $10,000 to $20,000 and road out-sloping for 5,000 feet segments can range from $15,000 to $150,000. Ultimately, these estimates provide a framework for understanding potential costs while underscoring the need for flexibility and proactive planning in budgeting for road related sediment control projects.

4.4 Sources of Funding and Assistance Organizations

This section provides information about potential grants and funding opportunities that align with the goals of the Gualala River Sediment TMDL Action Plan. Grants and funding can vary widely in focus, funding amounts, and eligibility requirements. Approval of funding is generally determined by criteria, priorities, and goals of the program administering the funds. Awarded grants often come with strict timelines for using the funds, reporting progress, or achieving specified outcomes.

The size of grants can range from small microgrants for specific needs to large-scale funding for comprehensive, multi-year projects. Some grants demand detailed proposals, budgets, and supporting documentation, while others may have simpler application processes. Grants generally target specific groups such as government agencies, nonprofits, tribes or individuals, and can vary by project type.

Grants are subject to changes in funding priorities, which may alter their availability or scope over time. Most grant programs have a specific opening and closing period during which applications are accepted. After the deadline, the opportunity typically closes, and applicants must wait for the next cycle. Some grants are made available on a recurring basis, such as annually, semi-annually, or quarterly. This cyclical availability allows potential applicants to plan and prepare for future application periods. In contrast, certain grants may only be offered once, targeting specific projects or objectives. These opportunities do not recur, emphasizing the importance of acting promptly when they are available.

The variability and temporal nature of grants and funding create a dynamic and sometimes unpredictable landscape, requiring applicants to remain vigilant and proactive. Currently, the North Coast Water Board is developing and/or executing contracts that will fund assessments of high-priority roads. Landowners are encouraged to contact staff to learn more about available funding and the scope of the contract(s).

The information provided below lists several grant and other funding programs for projects that include but are not limited to assessing, upgrading, storm proofing, maintaining and decommissioning of roads, as well as culvert replacement, fish barrier bypass or removal for fish passage, and instream and riparian habitat restoration projects.

4.4.1 Federal Funding Opportunities

4.4.1.1 Federal Grants Portal

The Federal Grants Portal provides a common website for federal agencies to post discretionary funding opportunities and for grantees to find and apply to them. Most of the funding opportunities on Federal Grants Portal are for organizations, not individuals. Please refer to the Partnerships for Technical and Funding Assistance in the following

section for more information on how to collaborate with partners to meet individual project needs. The Federal Grants Portal can be found at: https://www.grants.gov.

4.4.1.2 U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS) Programs & Initiatives

Natural resource conservation programs help people reduce soil erosion, enhance water supplies, improve water quality, increase wildlife habitat, and reduce damage caused by floods and other natural disasters. The programs and initiatives webpage can be found at: https://www.nrcs.usda.gov/programs-initiatives

Potential applicants should contact the Ukiah Service Center (for Mendocino County) at (707) 485-3233, or the Petaluma Service Center (for Sonoma County) at (707) 794-1242 for more information on current funding opportunities. Information is also available on NRCS's website at https://www.nrcs.usda.gov.

4.4.2 State Funding Opportunities

4.4.2.1 California Grants Portal

The California Grants Portal is a single destination to find all grants and loans offered on a competitive or first-come basis by California state agencies. The portal offers a wide range of grants, from a few thousand dollars for community-based projects to several million for large-scale initiatives in areas like environmental protection, education, healthcare and economic development. The California Grants Portal can be found at: https://www.grants.ca.gov.

4.4.2.2 Clean Water Act Section 319 Nonpoint Source Pollution Grant – State Water Resource Control Board

The Clean Water Act Section 319 Grant Program awards grants to reduce and mitigate the effects of nonpoint source pollution - such as sediment, pesticides, and nutrients - to waters of the state.

The program primarily funds implementation projects, but occasionally offers grants for planning projects. Examples of projects include livestock fencing to reduce sediment and nutrient discharges, agricultural best management practices to reduce pesticide and nutrient discharges, dredging contaminated sediment from pesticide-impaired waters, habitat restoration such as installation of large woody debris and riparian revegetation, and rural road inventories and repairs to reduce sedimentation and erosion. Most awards go to projects that improve impaired waters, but a small amount of funding goes to projects that protect high-quality waters, or that address a nonpoint source pollution problem created by a wildfire.

Eligible Applicants: Nonprofit, Public Agency, Tribal Government

Most projects must quantify pollutant load reductions to waters of the state. Projects must be part of a larger watershed plan to improve overall watershed health, unless it is a planning project.

Projects must address a program preference, which is a specific watershed or waterbody and pollutant combination that is identified by the Regional Water Quality Control Board. Program preferences are listed in the grant guidelines.

Potential applicants should contact the North Coast Water Board's Grants and Funding Program at (707) 576-2220 for further information. Information is also available on State Water Resources Control Boards, Nonpoint Source Pollution Grant Funding website at https://www.waterboards.ca.gov/water_issues/programs/nps/319grants.html

4.4.2.3 California Forest Improvement Program – Department of Forestry and Fire Protection

The purpose of the California Forest Improvement Program (CFIP) is to encourage private and public investment in, and improved management of, California forest lands and resources, to ensure adequate high quality timber supplies, related employment and other economic benefits, and the protection, maintenance, and enhancement of a productive and stable forest resource system for the benefit of present and future generations.

The program scope includes the improvement of all forest resources including fish and wildlife habitat, and soil and water quality. Cost-share assistance is provided to private and public ownerships containing 20 to 5,000 acres of forest land. Cost-shared activities include:

Preparation of a Forest Management Plan by a Registered Professional Forester (RPF) and RPF Supervision of the following: Reforestation, site preparation, trees and planting, tree shelters, stand improvement, pre-commercial thinning or release, pruning, follow-up (includes mechanical, herbicide and/or slash disposal follow-up), forestland conservation practices / fish and wildlife habitat improvement.

Broadcast/controlled/cultural burning is not eligible for CFIP cost share.

Eligible Applicants: Business, Individual, Nonprofit, Other Legal Entity, Public Agency.

Landowners must own at least 20 acres of forestland but not more than 5,000 acres of forestland in California. The 20-acre minimum does not apply to forestland zoned timber production zone. Forestland means land at least 10 percent occupied by trees of any size that are native to California. Developed areas such as structures, landscaping, and gardens shall not be excluded from the 20-acre minimum property size and shall be included.

Landowners less than 500 acres can receive 90% funding. Landowners greater than 500 acres receive 75% funding, unless the property has been substantially damaged due to fire, flood, insects, in which case they will receive 90% funding.

For questions about this grant, contact: (530) 723-3651. Information is also available on CalFire's website at https://www.fire.ca.gov/what-we-do/grants/california-forest-improvement

4.4.2.4 California Wildlife Conservation Board (WCB)

WCB seeks applications that restore and enhance habitat throughout the state. Projects that increase connectivity and support justice communities are encouraged. Funds are available for restoration and public access projects only.

Eligible Grant Applicants: Unless otherwise limited by applicable funding sources or individual program guidelines, WCB has the authority under FGC section 1350(c) to award grants to 501(c)(3) nonprofit organizations, local governmental agencies, federal agencies, state agencies, and California Native American tribes. Under the 2021 and 2022 Budget Acts' General Fund allocation for instream flow enhancement projects1, grants can also be given to private landowners, public utilities, federally recognized Indian tribes, and mutual water companies. The WCB page, https://wcb.ca.gov/Grants provides more information.

4.4.2.5 California Department of Fish and Wildlife (CDFW) Grant Opportunities

CDFW administers various grant funding for the programs listed below. Information about each program can be found on the CDFW Grant Opportunities website at, https://wildlife.ca.gov/Grants

4.4.2.5.1. Watershed Restoration Grants Branch (WRGB)

Grant programs administered by WRGB include restoration programs funded through bonds (Proposition 1 and Proposition 68), the Fisheries Restoration Grant Program, Nature Based Solutions, and restoration programs supporting water and habitat resiliency to drought and climate challenges.

The California Department of Fish and Wildlife Watershed Restoration Grants Branch General Grant Guidelines include information regarding eligibility requirements, general program requirements, submittal and evaluation of grant applications, and award of grant funding.

More information can be obtained by visiting the WRGB page, https://wildlife.ca.gov/Organization/WRGB or emailing WatershedGrants@wildlife.ca.gov.

4.4.2.5.1.1. Restoration Grant Programs

CDFW funds various restoration grants throughout the state for fish and wildlife habitat preservation, restoration, and enhancement to assist it in meeting its duty to preserve, protect, and restore fish and wildlife.

The Restoration Grants Programs page, https://wildlife.ca.gov/Grants/Restoration-Grants provides more information.

- Drought and Protecting Salmon - Funding for planning and implementation projects that enhance resiliency to drought and climate change through restoration, protection, or enhancement of riparian and aquatic habitat and river channels, reconnection of historical flood plains, or improvements to ecological functions.
- Addressing Climate Impacts - Funding for projects addressing urgent degrading water and habitat conditions due to climate change impacts.
- Wetlands and Mountain Meadows Restoration - Funding for Mountain Meadows and non-coastal Wetlands restoration consistent with the Natural and Working Lands Climate Smart Strategy and Pathways to 30x30.
- Wildlife Corridors - Funding to support connectivity projects that advance multi-benefit and nature-based solutions, consistent with the State Wildlife Action Plan, the California Wildlife Barriers Report, and the Fish Passage Annual Legislative Report.
- Proposition 1 - Bond funding to support multi-benefit ecosystem and watershed protection and restoration projects.
  Visit the Proposition 1 page, https://wildlife.ca.gov/Grants/Prop-1 for more information.
- Proposition 68 - Bond funding to restore and protect rivers and streams in support of fisheries and wildlife; restore Southern California Steelhead habitat; improve conditions for fish and wildlife in streams, rivers, wildlife refuges, wetland habitat areas, and estuaries.
  Visit the Proposition 68 page, https://wildlife.ca.gov/Grants/Prop-68 for more information.
- Wetlands Restoration for Greenhouse Gas Reduction Program - Funding to restore and enhance wetlands and watershed ecosystems. This program is part of California Climate Investments, a statewide initiative that puts billions of Cap-and-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy, improving public health and the environment, and providing meaningful benefits to the most disadvantaged and low-income communities and households.

  The Wetlands Restoration for Greenhouse Gas Reduction Program page, https://wildlife.ca.gov/Grants/Greenhouse-Gas-Reduction provides more information.

4.4.2.5.1.2. Fisheries Restoration Grant Program (FRGP)

The Fisheries Restoration Grant Program (FRGP) was established in 1981 in response to rapidly declining populations of wild salmon and steelhead trout and deteriorating fish

habitat in California. FRGP administers a competitive grant program that has invested millions of dollars to support various projects throughout coastal California. Contributing partners to the program include federal and local governments, tribes, nonprofit organizations, and private landowners.

The FRGP page, https://wildlife.ca.gov/Grants/FRGP provides more information.

4.4.2.5.2 Cannabis Restoration Grants (CRG)

CDFW's Cannabis Restoration Grant Program (CRGP) is committed to promoting ecosystem restoration and ecological health throughout California. CRGP funds a diversity of projects throughout the state in various ecoregions with multiple conservation benefits.

CRGP continually seeks to diversify the type of projects funded while improving processes for eligible applicants. The CRGP solicits project concepts and applications using an open and continuous process under the following three funding opportunities:

- Cleanup, Remediation, and Watershed Enhancement Funding Opportunity
- Qualified Cultivator Funding Opportunity
- Cannabis Research and Innovation Funding Opportunity

The CRG page, https://wildlife.ca.gov/Conservation/Cannabis/Restoration-Grants provides more information.

4.4.3 Partnerships for Technical and Funding Assistance

Technical assistance is available with listed partners working in the Gualala watershed. These organizations can build capacity by providing training, tools, or expertise to strengthen the skills and capabilities of an landowners and the community. They are also able to help secure and administer grants and other funding opportunities.

4.4.3.1 Sonoma Resource Conservation Districts (SRCD)

SRCD can provide technical assistance to Gualala landowners and managers as well as direct landowners to other sources of educational, technical or financial assistance based on the natural resource concern. Technical assistance available for the following:

- Forest and Fuels Management
- Managing Stormwater
- Monitoring Well Depth
- Stream Care
- Protecting Endangered Species
- Planting Native Vegetation/Removing Invasive Weeds
- Erosion Control
- Community and School Gardens

Interested landowners can contact Jason Wells, District Forester, at 707.569.1448 ext. 107 or jwells@sonomarcd.org, or visit the SRCD Gualala River page, https://sonomarcd.org/district-watersheds/gualala-river for more information.

4.4.3.2 North Coast Resource Partnership (NCRP)

Since 2005, the NCRP has successfully integrated federal, state, regional and local priorities and used a multi-benefit approach to identify and seek funding for locally developed and prioritized projects throughout the region. At the direction of the NCRP Leadership Council and when there is a funding opportunity, a call for proposals will be announced to North Coast interested parties.

The North Coast Resource Partnership (NCRP) is pleased to offer Technical Assistance (TA) for project development to Tribes and organizations serving economically disadvantaged communities (public agencies, local or state agency/special districts, Resource Conservation Districts, non-profit organizations, and public utilities) to support project development and grant applications for projects that improve forest health, increase wildfire resilience, and help communities and ecosystems address and adapt to climate change. The NCRP Project Tracker website, https://www.northcoastresourcepartnershipprojects.org provides more information.

4.4.4 Important Organizations in the Watershed

4.4.4.1 Gualala River Watershed Council (GRWC)

The purpose of the Gualala River Watershed Council is to provide an environment for landowners, resource managers, agencies, community organizations and interested citizens to work towards restoring the natural balance of the Gualala River Watershed.

For current activities or to get involved, GRWC can be contacted at (707 884-9166 or via email to grwc@mcn.org. The GRWC page, https://grwc.info provides more information.

4.4.4.2 Friends of the Gualala River (FoGR)

Friends of Gualala River (FoGR) is an independent non-profit, grassroots watershed protection organization formed to share common concerns and research regarding the welfare of the Gualala River, its estuary and habitat. FoGR's goal is to protect the Gualala River watershed and the species living within it.

For current activities or to get involved, FoGR can be contacted via email to info@gualalariver.org. The GRWC page, https://gualalariver.org provides more information.

4.4.4.3 Sonoma County Agricultural Preservation and Open Space District

The Sonoma County Agricultural Preservation and Open Space District permanently protects the diverse agricultural, natural resource, and scenic open space lands of Sonoma County for future generations.

Further information is available on the Sonoma County Agricultural Preservation and Open Space District webpage:

https://www.sonomaopenspace.org

4.4.4.4 Sonoma Land Trust

Sonoma Land Trust's stewardship involves helping Sonoma County to be resilient in the face of climate change by actively working with the land and the community to protect and restore the different native habitats, creeks, wildlife corridors, productive farms and ranches, and permanently protected private lands under Sonoma Land Trust's care. Sonoma Land Trust is using scientific information to develop innovative strategies to manage and heal landscapes through tidal wetland restoration, managing forests for wildfire, planting native trees and shrubs along creeks and streams, and removing barriers to steelhead migration and wildlife movement — in addition to keeping Sonoma Land Trust's buildings and roads in good repair, managing vegetation to reduce the risk of wildfire and controlling invasive weeds.

The Sonoma Land Trust webpage provides information on current activities and how to get involved:

https://sonomalandtrust.org

4.4.4.5 The Conservation Fund

The Conservation Fund protects land so nature and people can thrive together. Their work focuses on four key areas: conserving land, ensuring working lands continue to provide environmental and economic benefits, helping communities across the nation thrive, and facilitating the clean energy economy that will power tomorrow and build climate resilience. The Conservation Fund webpage provides information on current activities and how to get involved:

https://www.conservationfund.org

4.4.4.6 The Nature Conservancy

The Nature Conservancy is tackling the dual threats of accelerated climate change and unprecedented biodiversity loss. Guided by science and equity and grounded by local on-the-ground experience, they bring together real-world solutions, policy expertise, sustainable financing and collaborative partnerships.

The Nature Conservancy webpage provides information on current activities and how to get involved:

https://www.nature.org/en-us

4.4.4.7 National Fish and Wildlife Foundation (NFWF)

The NFWF is dedicated to sustaining, restoring, and enhancing the nation's fish, wildlife, plants and habitats for current and future generations.

The National Fish and Wildlife Foundation webpage provides information on current activities and how to get involved:

https://www.nfwf.org

5. Antidegradation Analysis

5.1 Overview

This chapter analyzes whether approval of the amendment would be consistent with the federal and state antidegradation policies.

5.2 State and Federal Antidegradation Policies

The federal antidegradation policy, described in 40 CFR § 131.12, requires that existing instream designated uses and the level of water quality necessary to protect the existing uses be maintained and protected. Where, however, the quality of the water exceeds levels necessary to support propagation of fish, shellfish, and wildlife, and recreation in and out of the water, that quality must be maintained and protected unless the state finds that:

1. Such activity is necessary to accommodate important economic or social development in the area in which the waters are located;
2. Water quality is adequate to protect existing beneficial uses fully; and
3. The highest statutory and regulatory requirements for all new and existing point source discharges and all cost-effective and reasonable best management practices for nonpoint source control are achieved.

In addition, the federal antidegradation policy requires that where high quality waters constitute an outstanding National resource that water quality shall be maintained and protected.

The state antidegradation policy incorporates the federal Antidegradation Policy[9]. The state Antidegradation Policy applies to high quality waters[10]. The state policy establishes several conditions that must be met before the quality of high quality waters may be lowered by waste discharges. (“Statement of Policy With Respect to Maintaining High Quality Waters in California”, State Water Board Resolution No. 68-16). The state must determine that lowering the quality of high quality waters:

1. Will be consistent with the maximum benefit to the people of the state,
2. Will not unreasonably affect present and anticipated beneficial uses of such water, and

[9] See State Water Board Order No. WQ 2001-16, fn 83

[10] Baseline water quality for the purposes of the antidegradation analysis is the best quality of water measured since 1968, considering the state antidegradation policy, or 1975, considering the federal antidegradation policy, unless a subsequent lowering of water quality was allowed consistent with state and federal antidegradation policies.

3. Will not result in water quality less than that prescribed (e.g., by water quality objectives).

In addition, before any degradation of water quality is permitted, it must be shown that any permitted discharge will be required to meet waste discharge requirements that result in best practicable treatment or control of the discharge necessary to assure that:

1. Pollution or nuisance will not occur;
2. The highest water quality consistent with maximum benefit to the people of the State is maintained.

5.3 Applicability to the Gualala River Sediment TMDL Action Plan

The Action Plan is based in part on the principles contained in the state and federal antidegradation policies. High concentrations of sediment in ambient waters can degrade water quality, adversely affecting aquatic habitats and the overall health of the watershed. The current water quality of the Gualala River watershed does not fully support its ecological and recreational beneficial uses. The Action Plan is expected to result in an improvement in water quality compared to existing conditions and will promote attainment of water quality standards and protection of beneficial uses pursuant to the schedule established in the Action Plan. While not a specific component of an antidegradation analysis or required for compliance with state or federal antidegradation requirements, the Action Plan incorporates monitoring requirements to provide feedback on whether the actions that parties must implement are effective in improving water quality and avoiding further degradation. Both individual and comprehensive monitoring programs will help determine areas where site-specific management measures and further monitoring are necessary to achieve water quality goals.

The proposed Action Plan references the existing prohibition on the discharge of sediment not authorized by the Regional or State Water Board. The TSD and this Staff Report supporting the Action Plan identifies various factors affecting sediment transport and fate, and it provides guidance on selecting appropriate compliance measures to meet water quality standards. The Action Plan lists existing and prospective permitting mechanisms that allows for site-specific measures and incorporates iterative planning based on monitoring feedback.

While the Action Plan describes nonpoint source permitting actions that integrate sediment control measures, it does not itself authorize or permit activities that discharge waste into high-quality waters. An antidegradation analysis is appropriate during permit development, with necessary findings made by the North Coast Water Board prior to adoption. These findings ensure that any permitted lowering of water quality will meet

water quality objectives, benefit the state's population, and employ the best practicable treatment and control methods.

The proposed Action Plan aligns with antidegradation policies by ensuring the protection of water uses and implementing a program to achieve sediment source reduction and attain water quality objectives. The waste load and load allocations are set at levels expected to improve conditions in the Gualala River watershed. The prohibition of sediment discharges that cause or contribute to water quality exceedances will further ensure the attainment of standards. This amendment is consistent with the State Antidegradation Policy (State Water Board Resolution No. 68-16) and the federal Antidegradation Policy (40 CFR § 131.12), as it mandates the restoration and maintenance of water quality standards.

6. Public Participation Summary

This chapter describes the opportunities for the public to participate in the development of the Gualala River Sediment TMDL Action Plan.

6.1 Stakeholder and Public Outreach

North Coast Water Board staff have held two meetings to update and inform the public and interested parties during the Gualala River Sediment TMDL Action Plan (Action Plan) development process. A list of the public meetings that have been held regarding the Action Plan is presented in Table *9*. Meetings before the North Coast Water Board are identified in bold. Meetings that have been scheduled and have occurred will be added to Table *9* during the finalization of this Staff Report after the public review and comment period.

Table 9: Public meetings for the Gualala River Sediment TMDL Action Plan.

Subject	Date	Participants
Online CEQA Scoping Meeting	June 3, 2024	North Coast Water Board meeting, all interested parties
In-person CEQA Scoping Meeting	June 5, 2024	North Coast Water Board meeting, all interested parties

6.1.1 Gualala River Watershed TMDL Webpage

In addition to holding public meetings, North Coast Water Board staff has maintained a webpage on the North Coast Regional Water Quality Control Board's website where the latest, up-to-date information on the Gualala River Sediment TMDL Action Plan development process can be found. The webpage includes announcements, a sign-up link for the project mailing list, an overview of the TMDL and Clean Water Act Section 303(d) listing, information pertaining to the TMDL Implementation Policy for Sediment Impaired Receiving Waters in the North Coast Region, a description of the Gualala River Sediment TMDL Action Plan project scope, relevant maps highlighting watershed characteristics, information regarding the CEQA scoping process and documentation, and other relevant project documents. The website can be accessed at:

https://www.waterboards.ca.gov/northcoast/water_issues/programs/tmdls/gualala_river/

6.1.2 Quarterly Project Updates via GovDelivery

A project mailing list was established using the GovDelivery web-based e-mail subscription management system. A sign-up link for the mailing list is posted on the project webpage. Solicitation for signing up for the mailing list occurred through email outreach from identified stakeholder groups, the Gualala River Watershed Council

meetings, the Gualala River and Coastal Tributaries Coalition meetings, and via flyers at heavily trafficked areas in the Gualala River watershed. Project status updates were provided approximately every three months beginning October 6th, 2023. All past project status updates have been posted to the project webpage. The sign-up link can be accessed at:

https://public.govdelivery.com/accounts/CAWRCB/subscriber/new?topic_id=r1_tmdl_gualala_river_watershed

6.1.3 Additional Outreach Efforts

6.1.3.1 Fact Sheet Postings in the Watershed

The primary population centers are concentrated along the Pacific coastline. Due to the low population within the center of the watershed with limited public centers/hubs, outreach via project fact sheets was focused on the heavily trafficked areas along the coast. Project fact sheets were posted to community boards at the post office, restaurants, and supermarkets. Fact sheets provided high level project information and methods to learn more and get involved.

6.1.3.2 Gualala River Watershed Council Meetings

The Gualala River Watershed Council (GRWC) brings together landowners, resource managers, community groups, and government agencies to address watershed challenges and work towards restoring ecological balance. GRWC conducts activities such as habitat monitoring, restoration programs, and educational outreach. The Gualala River Watershed Council (GRWC) meets approximately every month to discuss current programs, projects, and events in the watershed related to watershed challenges. North Coast Board staff regularly attended meetings to provide updates on the status of the Gualala River TMDL project.

6.1.3.3 Gualala River Watershed and Coastal Tributaries Coalition Outreach and Posting of Project Information in the Watershed Management Plan.

The Gualala River Watershed and Coastal Tributaries Coalition (Coalition) was established to develop a comprehensive watershed management plan. North Coast Board staff attended all Coalition meetings and provided relevant information on the TMDL Action Plan project. North Coast Board staff supported the development of the watershed management plan by providing relevant information on the TMDL, water quality data, landscape data, and other relevant information pertaining to the Action Plan and watershed recovery from sediment.

6.1.3.4 Friends of the Gualala River Webpage

Friends of the Gualala River (FoGR) is a grassroots organization focused on protecting the ecological health of the Gualala River watershed. On their website, FoGR regularly posts updates on watershed-related news, including legal actions, restoration efforts,

and community engagement opportunities. These posts help inform the public about ongoing challenges and successes within the watershed, encouraging community participation in preservation and restoration initiatives. FoGR has continued to post updates on the project status of the Gualala River TMDL.

6.2 CEQA Scoping Public Process

The purpose of the California Environmental Quality Act (CEQA) Scoping Meetings was to solicit public comments to help staff assess the potential environmental scope of the environmental analysis. Engaging in early public consultation, which may include scoping meetings is a requirement of CEQA.[11] The CEQA scoping meetings for the Gualala River Sediment TMDL Action Plan were held on June 3rd, 2024, online via Zoom and in person on June 5th, 2024 in Annapolis, CA. Oral comments were received at the CEQA scoping meetings and written comments were submitted to North Coast Board staff. These comments, and others, helped to shape the scope of the environmental review and specific aspects of the analysis.

6.3 Tribal Consultation and AB 52 Requirements

Assembly Bill No. 52 ("AB 52") (Statutes of 2014, Chapter 532) amends the Public Resources Code to include requirements for CEQA lead agencies to engage in meaningful, early consultation with California Native American tribes. Tribes that are traditionally and culturally affiliated with the geographic area of the Project are to be notified of the Project and offered consultation within 14 days of the determination that an application is complete or decision to undertake a project and prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report.

Four tribes were identified as potentially traditionally or culturally affiliated with the geographic area. Tribal consultation invitation letters were sent to these four tribes with the intent to engage in meaningful collaboration during the CEQA scoping process. No comments related to tribal cultural resources were provided to the North Coast Board by tribes, however, the North Coast Board will continue to be available for consultation with tribes regarding project development.

6.4 AB 2108

In accordance with Assembly Bill No. 2108 (AB 2108), planning conducted outreach with disadvantaged communities and tribal communities throughout the planning and adoption process. Staff received no responses from contacted parties from these outreach efforts. Nevertheless, the Basin Plan amendment Adopting Resolution will feature findings on environmental justice, tribal impacts, and racial equity

[11] Cal. Code Regs., tit. 23 § 3775.5.

considerations. AB 2108 outreach is not limited to the planning process of this project, and is incorporated into all ongoing outreach and engagement activities through implementation of the Gualala River Sediment TMDL Action Plan.

6.5 Peer Review Requirements

North Coast Water Board staff drafted a memorandum titled, *External Peer Review Exemption for Gualala River Sediment TMDL Action Plan* (Appendix D). This memo addresses the rationale for why the Gualala River Sediment Total Maximum Daily Load (TMDL) Action Plan does not require external peer review under the provisions of Health and Safety Code section 57004.

6.5.1 Summary of External Peer Review Exemption for the Gualala River Sediment TMDL Action Plan Memo

The Gualala River Sediment TMDL was established through the United States Environmental Protection Agency (U.S. EPA) process and has been properly noticed and posted as a U.S. EPA Final Action. The Gualala River Sediment TMDL Action Plan does not rely on a new scientific basis as it implements the US EPA TMDL, which was established under the Clean Water Act and is not subject to peer review requirements pursuant to Health and Safety Code 57004. The Action Plan also points to the use of North Coast Water Board established authorities, as directed under the State Water Resources Control Board's *Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program* and the *Total Maximum Daily Load Implementation Policy Statement for Sediment Impaired Receiving Waters in the North Coast Region*, to direct implementation in the watershed which will meet the goals of the TMDL.

6.6 Public Review Draft Staff Report and Action Plan

The Gualala River Sediment TMDL Action Plan and Staff Report were released for a 45-day public review period on July 11, 2025. The public comment period will close on August 25, 2025. A public workshop will be held on August 14 or 15, 2025.

7. Nine Key Elements for 319(h) Grant Funding

The Gualala River Sediment TMDL Action Plan project applies for the Nonpoint Source Grant Program (319(h)) by containing the nine key elements outlined in Table *10*. Information on 319(h) grant funding can be found in Chapter 4.4.

Table 10: Watershed Plan Verification Table for Nonpoint Source Grant Program (Clean Water Act, Section 319(h))

KEY Description of Nine Required Watershed Elements	Staff Report Chapter
A.) Identification of the causes or sources of nonpoint source pollution impairment, water quality problem, or threat to water quality;	Chapter 1
B.) An estimate of the load reductions expected for the management measures described under paragraph (c) below.	Chapter 1
C.) A description of the nonpoint source management measures that will need to be implemented to achieve the load reductions estimated under paragraph (b) above and an identification (using a map or a description) of the critical areas in which those measures will be needed to implement this plan.	Chapter 2
D.) An estimate of the amounts of technical and financial assistance needed associated costs, and/or the sources and authorities that will be relied upon, to implement this plan.	Chapter 4
E.) An information/education component that will be used to enhance public understanding of the project and encourage their early and continued participation in selecting, designing, and implementing the nonpoint source management measures that will be implemented.	Chapter 6
F.) A schedule for implementing the nonpoint source management measures identified in this plan that is reasonably expeditious.	Chapter 2
G.) A description of interim, measurable milestones for determining whether nonpoint source management measures or other control actions are being implemented.	Chapter 2

H.) A set of criteria that can be used to determine whether loading reductions are being achieved over time and substantial progress is being made toward attaining water quality standards and, if not, the criteria for determining whether this watershed-based plan needs to be revised or, if a nonpoint source TMDL has been established, whether the nonpoint source TMDL needs to be revised.	Chapters 1 & 2
I.) A monitoring component to evaluate the effectiveness of the implementation efforts over time, measured against the criteria established under item (h) immediately above.	Chapter 2

8. List of Appendices

Appendix A: Gualala River Total Maximum Daily Load for Sediment

Appendix B: Gualala River Watershed Technical Support Document for Sediment

Appendix C: Gualala River Sediment TMDL Action Plan California Environmental Quality Act (CEQA) Draft Environmental Checklist

Appendix D: External Peer Review Exemption for Gualala River Sediment TMDL Action Plan

Appendix E: Gualala River Watershed Monitoring Data Assessment