[Add a new section to the Basin Plan's implementation chapter with the following introductory language. This section will be added before the "Action Plan for the Garcia River Watershed Sediment TMDL." In addition to adding the following language, several editorial revisions will be made, including appropriate changes to the Title Page, Table of Contents, Summary of Basin Plan Amendments (Appendix 1), page numbers, footnote number, and headers and footers to reflect the new language.]

TOTAL MAXIMUM DAILY LOADS

Section 303(d) of the federal Clean Water Act (33 USC §1313) requires that "Each state shall identify those waters within its boundaries for which the effluent limitations . . . are not stringent enough to implement any water quality standard applicable to such waters." The Clean Water Act requires states to establish a priority ranking for waters on the Section 303(d) list of impaired waters and to establish total maximum daily loads for such waters.

The total maximum daily load (TMDL) is the maximum amount of a pollutant that a body of water can contain and still achieve water quality standards. Strategies for implementing the pollution load reductions needed to achieve the TMDL and move the water body toward attainment of water quality standards may be adopted in several ways, as described by the Impaired Waters Policy below. When TMDL implementation strategies are incorporated into the Basin Plan, they are known as TMDL action plans.

This section of the Basin Plan contains (1) a description of policies and regulatory tools that are applicable to TMDLs, and (2) TMDL action plans for specific water bodies and pollutants. Future TMDL action plans will be added as they are approved. The background information used to develop each of the specific TMDL action plans will be retained with the administrative record for the Basin Plan amendment.

POLICIES & REGULATORY TOOLS APPLICABLE TO TMDLS

State-wide Policies Affecting TMDLs

A. Impaired Waters Policy

The *Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options* (Impaired Waters Policy)[1] is a state-wide policy that describes the process for developing and adopting TMDLs. In summary, the Impaired Waters Policy states that TMDLs may be adopted in any of the following ways:

1. TMDLs and TMDL implementation strategies may be adopted with a basin plan amendment or another regulation or policy for water quality control.

2. TMDLs and TMDL implementation strategies may be adopted with a permitting action, enforcement action, or other single regulatory action.

3. TMDLs and TMDL implementation strategies may be adopted with a resolution that certifies either that (1) a regulatory program has been adopted and is being implemented by another state, regional, local, or federal agency; or (2) a non-regulatory program is being implemented by another entity.

The Impaired Waters Policy also states that TMDLs and TMDL implementation strategies will be incorporated into the Basin Plan, even if they are initially adopted through a regulatory process that is not a basin plan amendment. This is in compliance with Sections 303(d)(2) and 303(e)(3) of the Clean Water Act.

B. Nonpoint Source Policy

Many water bodies in the North Coast Region are impaired by nonpoint sources (NPS) of pollution, such as sediment discharges and elevated water temperatures. Therefore, many of the following TMDL action plans focus on NPS pollution control.

The *Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (NPS Policy)[2] is a state-wide policy that explains how existing permitting and enforcement tools will be used to address nonpoint sources of pollution. The NPS Policy states that all current and proposed NPS discharges must be regulated under waste discharge requirements (WDRs), waivers of

[1] SWRCB Res. No. 2005-0050.

[2] SWRCB Res. No. 2004-0030. 23 CCR §2915

WDRs, a basin plan prohibition, or some combination of these tools.

A NPS pollution control implementation program is a program developed to comply with WDRs, waivers of WDRS, or basin plan prohibitions. A NPS pollution control implementation program must contain five key elements, which are summarized as follows:

Key Element 1: Explanation of the purpose of the NPS pollution control implementation program and how it will meet water quality standards.

Key Element 2: Description of the management practices and other program elements that are to be used to meet water quality standards and an evaluation that ensures proper implementation.

Key Element 3: A time schedule with quantifiable milestones.

Key Element 4: Adequate monitoring.

Key Element 5: The potential consequences for failure.

Region-wide Policies Affecting TMDLs

A. Sediment TMDL Implementation Policy

The TMDL implementation strategy for sediment-impaired water bodies in the North Coast Region is set forth in the *Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Receiving Waters in the North Coast Region* (Sediment TMDL Implementation Policy). [3]

The Sediment TMDL Implementation Policy states that the Regional Water Board shall address sediment waste discharges on a watershed-specific basis and directs staff to take the following actions to control sediment waste discharges:

1. Rely on the use of existing permitting and enforcement actions. These actions are consistent with the NPS Policy.

2. Rely on the use of existing prohibitions, including any future amendments.

3. Pursue non-regulatory actions, such as Memoranda of Understanding, with other agencies and organizations.

4. Work with local governments and non-profit organizations to develop sediment control strategies, such as grading ordinances.

5. Encourage organizations and individuals to control sediment waste discharges and conduct watershed restoration activities.

6. Focus on public outreach and education.

7. Develop a guidance document on sediment waste discharge control.

8. Develop a sediment TMDL implementation monitoring strategy.

Permitting and Enforcement Tools

The federal Clean Water Act and the California Water Code (CWC) authorize the Regional Water Board to use permitting and enforcement tools to control waste discharges and ensure attainment of water quality standards. The Regional Water Board shall use permitting and enforcement tools, when and where appropriate, to address waste discharges and ensure attainment of water quality standards and TMDLs.

A. Permitting Tools

Permitting tools include, but are not limited to, the authority to:

1. Require technical reports and reports on the conditions and operation of a facility, in accordance with CWC §13267.

2. Require monitoring reports, in accordance with CWC §13267.

3. Inspect a facility, in accordance with CWC §13267.

4. Permit the discharge of waste, or proposed discharge of waste, to waters of the state through Waste Discharge Requirements (WDRs), in accordance with Article 4 of the CWC. WDRs may take the form of individual or project-specific WDRs, watershed-specific WDRs, or general WDRs that are applicable to a specific activity.

[3] NCRWQCB Res. No. R1-2004-0087.

5. Waive the requirement for a WDR, in accordance with CWC §13269.

6. Permit the discharge of waste to waters of the United States through National Pollutant Discharge Elimination System (NPDES) permits, in accordance with Section 402 of the Clean Water Act and CWC §13370.

7. Certify that proposed activities which require a federal permit or license comply with water quality standards, in accordance with Section 401 of the Clean Water Act.

Permits and waivers may apply to individuals, organizations, activities, watersheds, the North Coast Region, or the state of California.

B. Enforcement Tools

Enforcement tools include, but are not limited to, the authority to:

1. Require a time schedule of specific actions to be taken, in accordance with CWC §13300.

2. Issue a cease and desist order, in accordance with CWC §13301.

3. Issue a cleanup and abatement order, in accordance with CWC §13304.

4. Impose monetary liabilities or fines (administrative civil liabilities), in accordance with CWC §13268 and §13350.

Enforcement actions should be consistent with the State Water Board's *Water Quality Enforcement Policy*,[4] adopted February 19, 2002, and as subsequently amended. The Enforcement Policy promotes a fair, firm, and consistent enforcement approach appropriate to the nature and severity of a violation.

[4] SWRCB Res. No. 2002-0040. 23 CCR §2910.

(Page intentionally left blank.)

[Add a new sub-section to the Basin Plan's implementation chapter with the following Scott River TMDL Action Plan. This section will be added after the "Action Plan for the Garcia River Watershed Sediment TMDL." In addition to adding the following language, several editorial revisions will be made, including appropriate changes to the Title Page, Table of Contents, Summary of Basin Plan Amendments (Appendix 1), page numbers, table and figure numbers, footnote numbers, and headers and footers to reflect the new language. The final locations of tables and figures in relation to the text may also be changed to accommodate the existing formatting of the Basin Plan.]

ACTION PLAN FOR THE SCOTT RIVER SEDIMENT AND TEMPERATURE TOTAL MAXIMUM DAILY LOADS[5]

The Scott River watershed, (CalWater Hydrologic Area 105.40), comprises approximately 520,184 acres (813 mi^2) in Siskiyou County. The Scott River is tributary to the Klamath River.

The *Action Plan for the Scott River Sediment and Temperature Total Maximum Daily Loads*, hereinafter known as the Scott River TMDL Action Plan, includes sediment and temperature total maximum daily loads (TMDLs) and describes the implementation actions necessary to achieve the TMDLs and attain water quality standards in the Scott River watershed within 40 years of United States Environmental Protection Agency approval of the Scott River TMDL Action Plan.

The goal of the Scott River TMDL Action Plan is to achieve the TMDLs, and thereby achieve sediment and temperature related water quality standards, including the protection of the beneficial uses of water in the Scott River watershed.

The Scott River TMDL Action Plan sets out the loads and directs conditions to be considered and incorporated into regulatory and non-regulatory actions in the Scott River watershed. The Scott River TMDL Action Plan is not directly and independently enforceable, except as incorporated into appropriate permitting or enforcement orders.

A glossary defining key terms is located on page 17 of this Action Plan.

I. Problem Statement

Excessive sediment loads and elevated water temperatures in the Scott River and its tributaries have resulted in degraded water quality conditions that impair designated beneficial uses, including contact (REC-1) and non-contact water recreation (REC-2); commercial and sport fishing (COMM); cold freshwater habitat (COLD); rare, threatened, and endangered species (RARE); migration of aquatic organisms (MIGR); and spawning, reproduction, and/or early development of fish (SPWN). Excessive sediment loads have resulted in the non-attainment of water quality objectives for sediment, suspended material, and settleable material. Elevated water temperatures have resulted in the non-attainment of the water quality objective for temperature. Excessive sediment loads and elevated water temperatures have adversely affected the beneficial uses associated with the cold water salmonid fishery. The Scott River watershed has been listed as impaired with relation to sediment since 1992, and impaired with relation to temperature since 1998, pursuant to Section 303(d) of the Clean Water Act.

II. Watershed Restoration Efforts

Throughout the Scott River watershed, many individuals, groups, and agencies have been working to enhance and restore fish habitat and water quality. These groups include, but are not limited to, the Siskiyou Resource Conservation District, the Scott River Watershed Council, the French Creek Watershed Advisory Group, private timber companies, Siskiyou County and the Five Counties Salmon Conservation Process, the California Department of Fish and Game, the California Department of Water Resources, the United States Forest Service, and the Klamath River Basin Fisheries Task Force. The past and present proactive efforts of these stakeholders have improved, and will continue to improve, water quality conditions in the Scott River and its tributaries.

III. Sediment

A. Scott River Sediment Source Analysis

The sediment source analysis identifies the various sediment delivery processes and sources in the Scott River watershed and estimates delivery from these sources. The

[5] Adopted by the North Coast Regional Water Quality Control Board on [insert date]. Adopted by the State Water Resources Control Board on [insert date]. Approved by the State Office of Administrative Law on [insert date]. Approved by the United States Environmental Protection Agency on [insert date].

results of the sediment source analysis are located in Table 1.

B. Scott River Sediment TMDL

The sediment TMDL for the Scott River watershed is 550 tons of sediment per square mile per year. The sediment TMDL is the estimate of the total amount of sediment, from both natural and anthropogenic sources, that can be delivered to a water body without causing non-attainment of applicable water quality standards. The TMDL is to be evaluated as a ten-year, rolling-average of the annual sediment yield.

C. Scott River Sediment Load Allocations

In accordance with the Clean Water Act, the Scott River sediment TMDL is allocated to the sources of sediment in the watershed. The load allocations are located in Table 2.

The load allocations are expressed as averages over the entire Scott River watershed and are to be evaluated on a ten-year, rolling-average basis. Each square mile is not expected to meet the load allocations within a particular source category. Rather, it is expected that the average for the entire source category will meet the load allocation for that category.

D. Scott River Sediment Margin of Safety

The TMDL includes an implicit margin of safety, based on conservative assumptions, to account for uncertainties in the analysis. The conservative assumptions include (1) underestimating sediment delivery from natural soil creep because available information did not indicate all streams; and (2) underestimating the age of small streamside sediment sources, which results in higher annual rates of sediment delivery from these sources.

E. Scott River Sediment Seasonal Variations & Critical Conditions

To account for annual and seasonal variability in sediment delivery events, sediment delivery mechanisms, and storm patterns in the Scott River watershed, the TMDL and load allocations apply to sources of sediment, not the movement of sediment across the landscape.

To account for critical conditions in stream flow, sediment loading, and water quality, the TMDL uses instream salmonid habitat parameters with desired conditions to reflect net long term effects of sediment loading and transport.

IV. Temperature

A. Scott River Temperature Source Analysis

The temperature source analysis identifies the various water heating and cooling processes and sources of elevated water temperatures in the Scott River watershed. Anthropogenic processes that influence water temperature include changes to: stream shade, stream flow via changes in groundwater accretion, stream flow via surface water use, microclimate, and channel geometry.

The primary factor affecting stream temperatures in the Scott River watershed is increased solar radiation resulting from reductions of shade provided by near-stream vegetation. Changes in groundwater accretion also impact water temperatures in Scott Valley. Diversions of surface water lead to relatively small temperature impacts in the mainstem Scott River, but have the potential to affect temperatures in smaller tributaries where the volume of water diverted is relatively large compared to the total stream flow. Microclimate alterations resulting from near-stream vegetation removal increase temperatures, where microclimates exist. Changes in channel geometry from natural conditions also negatively affect water temperatures.

B. Scott River Temperature TMDL

The temperature TMDL is focused on effective shade and adjusted potential effective shade (see the Glossary for definitions). The temperature TMDL for the Scott River watershed is the adjusted potential effective shade conditions for the date of the summer solstice as expressed graphically in Figure 2 and numerically in Table 3 that can occur along a water body without causing non-attainment of applicable water quality standards.

Figure 2 shows the percent of stream length in the watershed that is shadier than a given shade value. For example, approximately 30% of the stream length has an effective shade index value of 5.00 or more under current conditions, whereas approximately 74% of the stream

length would have an effective shade index value of 5.00 or more under adjusted potential shade conditions. An effective shade index value of 5.00 is equivalent to 50% effective shade.

As more information becomes available, the temperature TMDL may require revision.

C. Scott River Temperature Load Allocations

The Scott River temperature load allocations are adjusted potential effective shade conditions as expressed in Figure 3.

D. Scott River Temperature Margin of Safety

The TMDL includes an implicit margin of safety, based on conservative assumptions, to account for uncertainties in the analysis. The conservative assumptions include not accounting for improvements in stream temperatures that are likely to result from reductions in sediment inputs and increases in large woody debris. The resulting water temperature improvements were not accounted for in the analysis and provide a margin of safety.

E. Scott River Temperature Seasonal Variations & Critical Conditions

To account for annual and seasonal variability, the analysis evaluated temperatures and thermal processes during the most critical time period for the most sensitive beneficial use (i.e., the hottest time of the year).

V. Implementation

Table 4 describes the specific implementation actions that shall be taken to achieve the TMDLs and meet the sediment and temperature-related water quality standards in the Scott River watershed. Table 4 is organized by topic or source and by responsible party. Individual landowners and responsible parties may find that more than one implementation action is applicable to their unique circumstances.

The implementation actions are designed to encourage and build upon on-going, proactive restoration and enhancement efforts in the watershed. Additionally, the implementation actions described in Table 4 are necessary to fulfill obligations of the NPS Policy[6] and the Sediment TMDL Implementation Policy.[7]

Although the Regional Water Board prefers to pursue the implementation actions described in Table 4, the Regional Water Board shall take appropriate permitting and/or enforcement actions should any of the implementation actions fail to be implemented by the responsible party or should the implementation actions prove to be inadequate. Various permitting and enforcement actions are described in the permitting and enforcement tools section on pages 2 through 3.

VI. Monitoring

Monitoring shall be conducted upon the request of the Regional Water Board's Executive Officer in conjunction with existing and/or proposed human activities that will result or likely result in sediment waste discharges and/or elevated water temperatures within the Scott River watershed. Monitoring shall involve one or more of the following: implementation monitoring, upslope effectiveness monitoring, instream effectiveness monitoring, and compliance and trend monitoring. See the Glossary for definitions of these terms.

In order to determine the effectiveness of the Scott River TMDL Action Plan, Regional Water Board staff shall develop a compliance and trend monitoring plan. The plan should include a description of monitoring objectives, parameters to monitor, procedures and techniques, locations of monitoring stations, frequency and duration, quality control and quality assurance protocols, data management procedures, data and analysis distribution procedures, benchmark conditions where available, measurable milestones, and specific due dates for monitoring and data analysis. Regional Water Board staff shall complete the monitoring plan by [insert date that is one year from the date of U.S. EPA approval].

Monitoring requirements, primarily implementation monitoring and upslope effectiveness monitoring, are specifically incorporated into the proposed Memoranda of Understanding with the County of Siskiyou, the USFS, and the BLM. Additionally, implementation and upslope effectiveness monitoring will likely be required of those landowners/dischargers required to develop and

[6] The *Policy for the Implementation and Enforcement of the Nonpoint Source Pollution Control Program* (NPS Policy).
[7] The *Total Maximum Daily Load Implementation Policy Statement for Sediment-Impaired Waters in the North Coast Region* (Sediment TMDL Implementation Policy).

implement an Erosion Control Plan and/or a Grazing and Riparian Management Plan, as necessary and appropriate on a case-by-case basis.

VII. Reassessment and Adaptive Management

The Regional Water Board will review, reassess, and possibly revise the Scott River TMDL Action Plan. Reassessment is likely to occur every three years during the Basin Planning Triennial Review process. Regional Board staff will report to the Regional Board at least yearly on the status and progress of implementation activities, and on whether current efforts are reasonably calculated and on track to achieve water quality standards within 40 years. For activities that rely on encouragement as a first step, a formal assessment of effectiveness of these efforts will be completed within [insert date that is 5 years from the date of U.S. EPA approval]. A more extensive reassessment will occur after [insert date that is 10 years from the date of U.S. EPA approval], the date that is ten years after the TMDL Action Plan took effect, or sooner, if the Regional Water Board determines it necessary. During reassessment, the Regional Water Board is likely to consider how effective the requirements of the TMDL Action Plan are at meeting the TMDLs, achieving sediment and temperature water quality objectives, and protecting the beneficial uses of water in the Scott River watershed.

VIII. Enforcement

The Regional Water Board shall take enforcement actions for violations of the Scott River TMDL Action Plan where elements of the TMDL Action Plan are made enforceable restrictions in a specific permit or order, as appropriate. Nothing in this TMDL Action Plan precludes actions to enforce any directly applicable prohibition found elsewhere in the Basin Plan or to require cleanup and abatement of existing sources of pollution where appropriate.

Table 1
Scott River Sediment Source Analysis Results in tons/sq. mi. - yr[1]

Subwatershed[2]	Natural Sources					Anthropogenic Sources					Total Volume of Sediment Sources
	Landslides[3]	Large Discrete Streamside Features[4]	Small Discrete Streamside Features[5]	Streamside Soil Creep	Unique Landslide Features	Landslides[6]	Large Discrete Streamside Features[4]	Small Discrete Streamside Features[5]	Road Related Sources[7]	Unique Landslide Features	
West Canyon	111	104	295	33	0	132	84	166	105	0	1031
East Canyon	0	87	387	37	0	1	31	180	31	0	754
Eastside	0	88	367	36	0	0	39	168	10	0	709
East Headwaters	0	108	236	33	0	1	124	175	13	0	691
West Headwaters	8	149	276	29	140	35	105	166	29	9	945
Westside	45	117	330	31	0	12	52	176	29	0	786
Scott Valley	0	0	226	13	0	0	0	287	6	0	533
Scott River watershed	23	85	302	29	8	21	55	195	29	0	747

1. Minor addition errors caused by rounding differences.
2. Each subwatershed is delineated in Figure 1.
3. Includes landslides visible on air photos generally greater than one acre in size.
4. Large Discrete Features: Generally long-term continuing sources of sediment that typically originate on, or extend up onto, the mountainside based on on-site streamside surveys.
5. Small Discrete Features: Stream bank failures, gullies, and other small failures that mostly deliver episodically to a water body based on on-site streamside surveys.
6. Includes landslides visible on air photos generally greater than one acre in size. Excludes road-related landslides.
7. Includes road-related stream crossing failures, gullies, fill failures, and landslides based on road inventories. Includes road-related surface erosion and cut bank failures based on modeling.

Table 2
Scott River Sediment Load Allocations[1]

	Sediment Source	Current Load (tons/sq. mi. - yr)		Reduction Needed	Load Allocations (tons/sq. mi. - yr)	
Natural	Landslides[2]	23	448	0%	23	448
	Large Discrete Streamside Features	93		0%	93	
	Small Discrete Streamside Features	302		0%	302	
	Streamside Soil Creep	29		0%	29	
Anthropogenic	Road Surface Erosion	4	299	54%	2	112
	Road-Related Stream Crossing Failures	3		71%	1	
	Road-Related Gullies	1		31%	1	
	Road-Related Cut/Fill Failures	4		76%	1	
	Road-Related Landslides[2]	16		56%	7	
	Landslides, Timber Harvest Related	19		52%	9	
	Landslides, Mining Related[2]	2		0%	2	
	Large Discrete Streamside Features[3]	55		69%	17	
	Small Discrete Streamside Features, Harvest Related	54		63%	20	
	Small Discrete Streamside Features, Mining Related	2		0%	2	
	Small Discrete Streamside Features, Other[3]	139		64%	50	
Totals		747		63%	560	

1. Minor addition errors caused by rounding differences.
2. Includes both “Landslides” and “Unique Landslide Features” from Table 1.
3. Sources influenced or caused by multiple interacting human activities not inventoried by other methods.

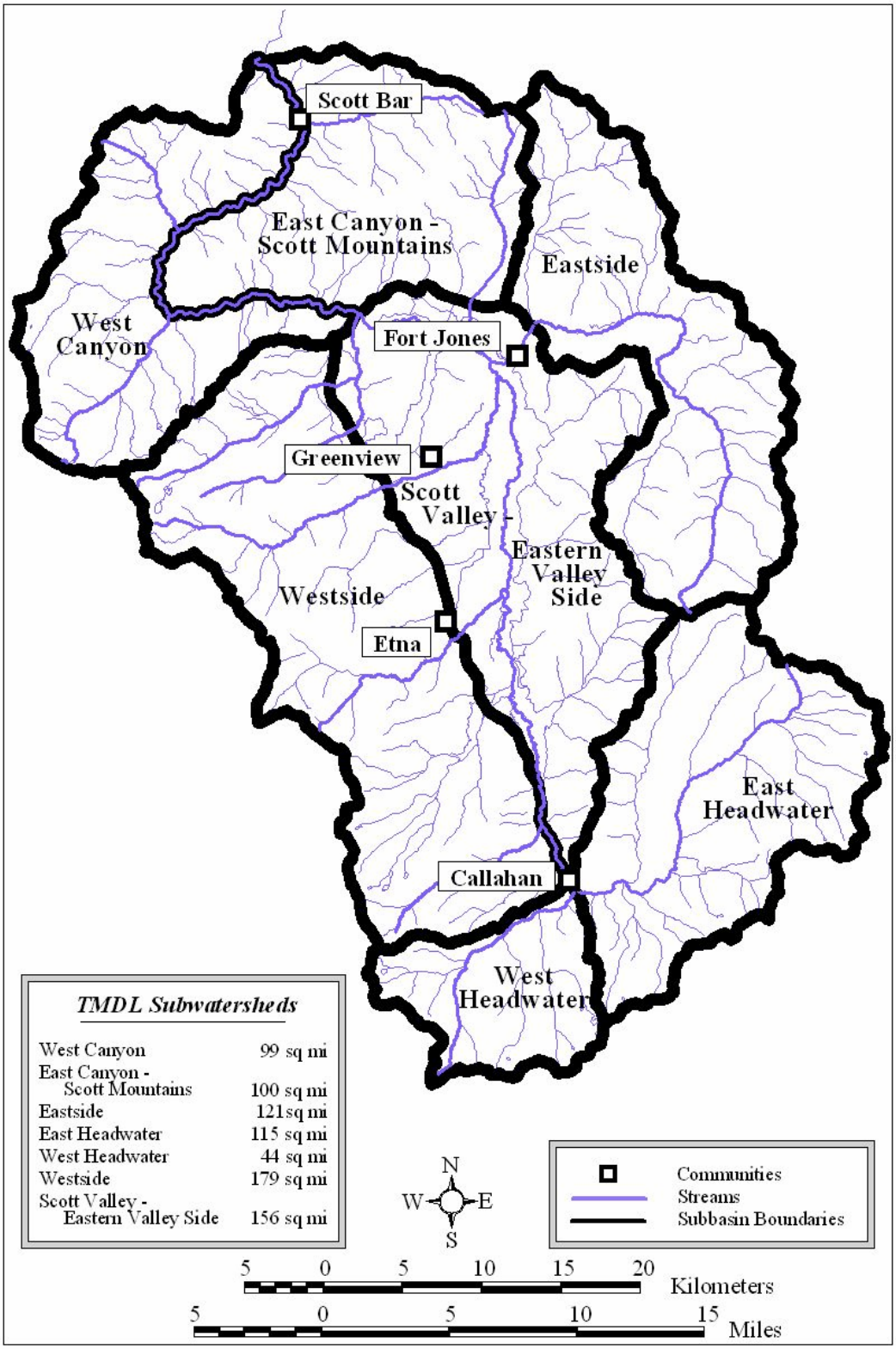

Figure 1. Subwatersheds in the Scott River Watershed

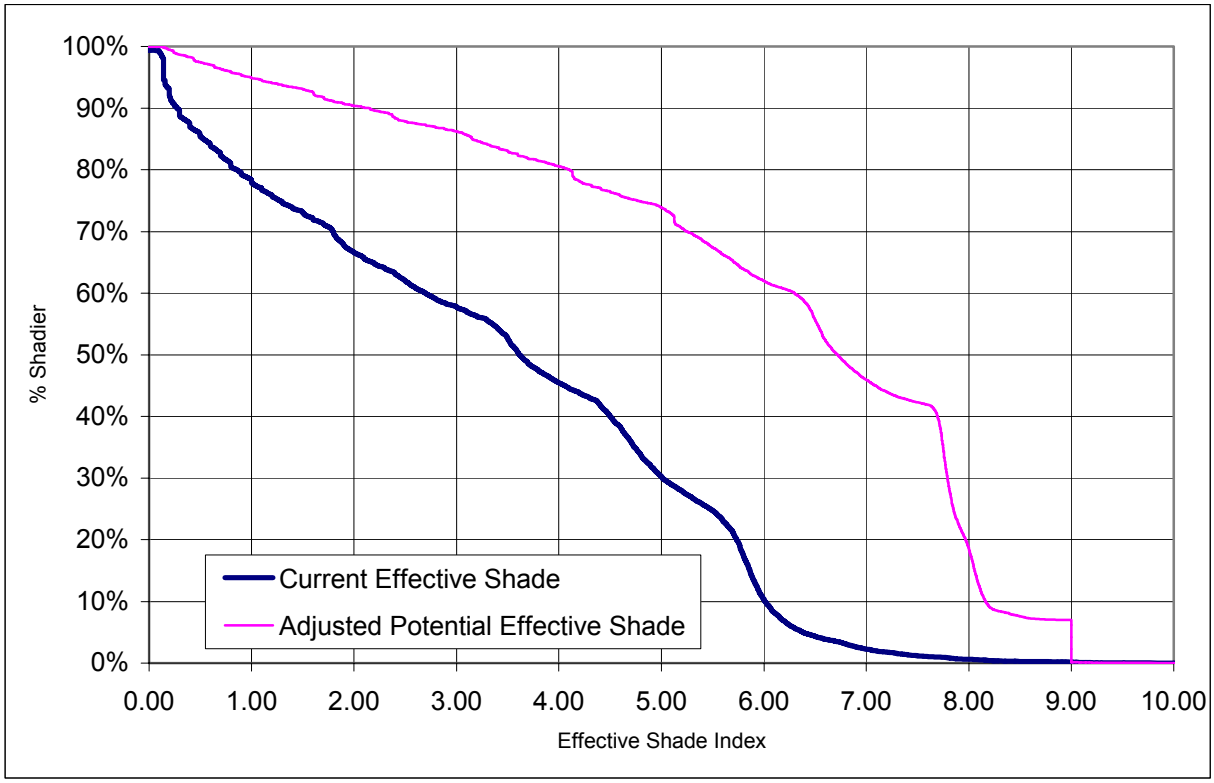

Figure 2: Scott River Temperature TMDL Expressed Graphically ("% Shadier" refers to the percentage of stream length with more shade than the corresponding effective shade index.)

Table 3. Scott River Temperature TMDL Expressed Numerically

Shade Class	Stream Length - Current Vegetation Conditions				Stream Length - Potential Vegetation Conditions			
(%)	(miles)	(km)	% Shadier	% of Total	(miles)	(km)	% Shadier	% of Total
0-1	141	227	77.9%	22.1%	33	53	94.8%	22.1%
>1-2	73	117	66.6%	11.3%	29	46	90.3%	4.5%
>2-3	57	91	57.7%	8.8%	26	43	86.2%	4.1%
>3-4	78	126	45.4%	12.3%	36	58	80.5%	5.7%
>4-5	97	157	30.2%	15.2%	43	69	73.9%	6.7%
>5-6	127	204	10.3%	19.9%	76	122	62.0%	11.9%
>6-7	52	83	2.3%	8.1%	103	165	45.9%	16.0%
>7-8	10	17	.6%	1.6%	177	284	18.3%	27.6%
>8-9	3	5	.2%	0.5%	116	186	.2%	18.1%
>9-10	1	2	.0%	0.2%	1	2	.0%	0.2%
Total:	639	1028			639	1028		

(% Shadier refers to the percentage of stream length shadier than the upper bound of the corresponding shade class)

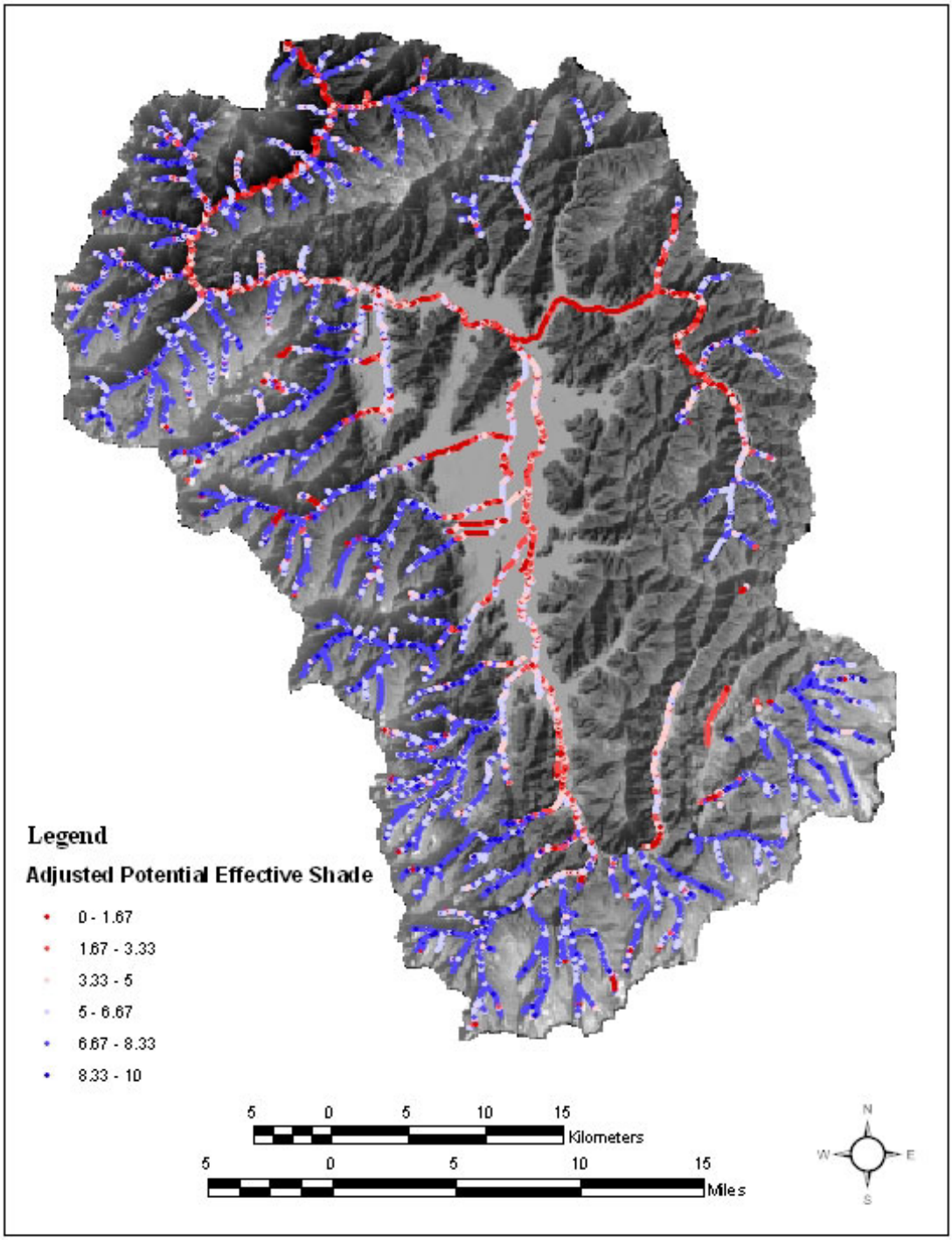

Figure 3. Scott River Temperature Load Allocations

Table 4
Scott River Sediment and Temperature TMDL Implementation Actions*

Topic	Responsible Parties	Actions
Roads & Sediment Waste Discharges	• Parties Responsible for Roads and Sediment Waste Discharge Sites. • Regional Water Board.	• The Regional Water Board encourages parties responsible for roads and sediment waste discharge sites to take actions necessary to prevent, minimize, and control road-caused sediment waste discharges. Such actions may include the inventory, prioritization, control, monitoring, and adaptive management of sediment waste discharge sites and proper road inspection and maintenance. • The Regional Water Board's Executive Officer shall require parties responsible for roads, on an as-needed, site-specific basis, to develop and submit an Erosion Control Plan and a Monitoring Plan. An Erosion Control Plan shall describe, in detail, sediment waste discharge sites and how and when those sites are to be controlled. By [insert date that is 2 years from the date of U.S. EPA approval], criteria shall be developed for determining when an Erosion Control Plan shall be required, although nothing precludes the Executive Officer from requiring Erosion Control Plans prior to this date. • Should discharges or threatened discharges of sediment waste that could negatively affect the quality of waters of the State be identified in an Erosion Control Plan or by other means, dischargers shall be required to implement their Erosion Control Plan and monitor sediment waste discharge sites through appropriate permitting or enforcement actions.
Roads	• California Department of Transportation (Caltrans). • Regional Water Board.	• Regional Water Board staff shall evaluate the effects of Caltrans' state-wide NPDES permit, storm water permit, and waste discharge requirements (collectively known as the Caltrans Storm Water Program) by [insert date that is 2 years from the date of U.S. EPA approval]. The evaluation shall determine the adequacy and effectiveness of the Caltrans Storm Water Program in preventing, reducing, and controlling sediment waste discharges and elevated water temperatures in the North Coast Region, including the Scott River watershed. If Regional Water Board staff find that the Caltrans Storm Water Program is not adequate and effective, Regional Water Board staff shall develop specific requirements, for State Water Board consideration, to be incorporated into the Caltrans Storm Water Program at the earliest opportunity, or the Regional Water Board shall take other appropriate permitting or enforcement actions.
Roads	• County of Siskiyou (County). • Regional Water Board.	• The Regional Water Board and the County shall work together to draft and finalize a Memorandum of Understanding (MOU) to address county roads in the Scott River watershed. The MOU shall be drafted and ready for consideration by the appropriate decision-making body(ies) of the County by [insert date that is 2 years from the date of U.S. EPA approval]. The following items shall be addressed during MOU development: 1. A date for the initiation and completion of an inventory of all sediment waste discharge sites caused by county roads within the Scott River watershed, which can be done with assistance from the Five Counties Salmonid Conservation Program. 2. A date for the completion of a priority list of sediment waste discharge sites. 3. A date for the completion of a schedule for the repair and control of sediment waste discharge sites. 4. A date for the completion of a document describing the sediment control practices to be implemented by the County to repair and control sediment waste discharge sites, which can be done with assistance from the Five Counties Salmonid Conservation Program. 5. A description of the sediment control practices, maintenance practices, and other management measures to be implemented by the County to prevent future sediment waste discharges, which can be done with assistance from the Five Counties Salmonid Conservation Program. 6. A monitoring plan to ensure that the sediment control practices are implemented as proposed and effective at controlling discharges of sediment waste. 7. A commitment by the County to complete the inventory, develop the priority list, develop and implement the schedule, develop and implement sediment control practices, implement the monitoring plan, and conduct adaptive management.

Table 4 (Cont.)
Scott River Sediment and Temperature TMDL Implementation Actions*

Topic	Responsible Parties	Actions
Grading	• County of Siskiyou (County). • Regional Water Board.	• The Regional Water Board encourages the County to develop a comprehensive ordinance addressing roads, land disturbance activities, and grading activities outside of subdivisions in the Scott River watershed, or an equivalent County-enforceable mechanism, by [insert date that is 2 years from the date of U.S. EPA approval]. The ordinance may be specific to the Scott River watershed or county-wide in scope.
Dredge Mining	• Regional Water Board.	• Regional Water Board staff shall review laws and regulations that address water quality effects of suction dredge mining and shall investigate the impact of suction dredge mining activities on sediment and temperature loads in the Scott River watershed by [insert date that is 3 years from the date of U.S. EPA approval]. If Regional Water Board staff find that dredge mining activities are discharging deleterious sediment waste and/or resulting in elevated water temperatures, staff shall propose, for Board consideration, the regulation of such discharges through appropriate permitting or enforcement actions.
Temperature & Vegetation	• Parties Responsible for Vegetation that Shades Water Bodies. • Regional Water Board.	• The Regional Water Board encourages parties responsible for vegetation that provides shade to a water body in the Scott River watershed to preserve and restore such vegetation. This may include planting riparian trees, minimizing the removal of vegetation that provides shade to a water body, and minimizing activities that might suppress the growth of new or existing vegetation (e.g., allowing cattle to eat and trample riparian vegetation). • To address compliance with the Nonpoint Source Policy, the Regional Water Board shall develop and take appropriate permitting and enforcement actions to address the human-caused removal and suppression of vegetation that provides shade to a water body in the Scott River watershed. The Regional Water Board's Executive Officer shall report to the Regional Water Board on the status of the preparation and development of appropriate permitting and enforcement actions by [insert date that is 3 years from U.S. EPA approval].
Water Use	• Water Users. • County of Siskiyou (County). • Stakeholders. • Regional Water Board.	• The Regional Water Board encourages water users to develop and implement water conservation practices. • The Regional Water Board requests the County, in cooperation with other appropriate stakeholders, to study the connection between groundwater and surface water, the impacts of groundwater use on surface flow and beneficial uses, and the impacts of groundwater levels on the health of riparian vegetation in the Scott River watershed. The study should: (1) consider groundwater located both within and outside of the interconnected groundwater area delineated in the Scott River Adjudication,** (2) the amount of water transpired by trees and other vegetation, and (3), if deleterious impacts to beneficial uses are found, identify potential solutions including mitigation measures and changes to management plans. • Should the County determine that it and its stakeholders are able to commit to conducting the above study, the County, in cooperation with other stakeholders, shall develop a study plan by [insert date that is 1 year from the date of U.S. EPA approval]. The study plan shall include: (1) goals and objectives; (2) data collection methods; (3) general locations of data collection sites; (4) data analysis methods; (5) quality control and quality assurance protocols; (6) responsible parties; (7) timelines and due dates for data collection, data analysis, and reporting; (8) financial resources to be used; and (9) provisions for adaptive change to the study plan and to the study based on additional study data and results, as they are available.
Flood Control & Bank Stabilization	• Parties Responsible for Flood Control Structures or Dredge, Fill, and/or Bank Stabilization Activities. • Regional Water Board.	• The Regional Water Board encourages parties responsible for levees and other flood control structures to plant and restore stream banks on and around existing flood control structures. • The Regional Water Board shall rely on existing authorities and regulatory tools, such as the 401 Water Quality Certification program, to ensure that flood control and bank stabilization activities in the Scott River watershed are conducted in a manner that minimizes the removal or suppression of vegetation that provides shade to a water body, prevents or minimizes sediment delivery, and minimizes changes in channel morphology that could increase water temperatures.

Table 4 (Cont.)
Scott River Sediment and Temperature TMDL Implementation Actions*

Topic	Responsible Parties	Actions
Timber Harvest	• Private & Public Parties Conducting Timber Harvest Activities. • Habitat Conservation Plan Holders. • Regional Water Board.	• The Regional Water Board shall use appropriate permitting and enforcement tools to regulate discharges from timber harvest activities in the Scott River watershed, including, but not limited to, cooperation with, and participation in, the California Department of Forestry and Fire Protection's timber harvest project approval process. • The Regional Water Board shall use, where applicable, general or specific waste discharge requirements and waivers of waste discharge requirements to regulate timber harvest activities on private and public lands in the Scott River watershed. • Timber harvest activities on private lands in the Scott River watershed are not eligible for Categorical Waiver C included in the Categorical Waiver of Waste Discharge Requirements for Discharges Related to Timber Harvest Activities on Non-Federal Lands in the North Coast Region (Order No. R1-2004-0016, as it may be amended or updated for time to time) simply through the adoption of this TMDL Action Plan. However, timber harvest activities on private lands in the Scott River watershed may be eligible for Categorical Waivers A, B, D, E, and F, as appropriate. • Where a Habitat Conservation Plan (HCP) is developed, Regional Water Board staff shall work with the HCP holder to develop, for Board consideration, ownership-wide waste discharge requirements for activities covered by the HCP, with any additional restrictions necessary to protect water quality and beneficial uses. • If current laws and regulation governing timber harvest (e.g., the Forest Practice Rules) are changed in a manner that reduces water quality protections, the Regional Board will use its authorities to maintain at a minimum the current level of water quality protection.
U.S. Forest Service & U.S. Bureau of Land Management	• U.S. Forest Service (USFS). • U.S. Bureau of Land Management (BLM). • Regional Water Board.	• The Regional Water Board and federal land management agencies, including the USFS and the BLM, shall work together to draft and finalize Memoranda of Understanding (MOU) that shall address sediment waste discharges, elevated water temperatures, and grazing activities within the Scott River watershed. The MOUs shall be drafted and ready for consideration by the appropriate decision-making body(ies) by [insert date that is 2 years from the date of U.S. EPA approval]. The following items shall be addressed during MOU development: Contents Related to Sediment Waste Discharges: 1. A date for the completion of an inventory of all significant sediment waste discharge sites and all roads on USFS/BLM land. 2. A date for the completion of a priority list. 3. A date for the completion of a schedule for the repair and control of significant sediment waste discharge sites. 4. A date for the completion of a document describing the sediment control practices to be implemented by the USFS/BLM to repair and control sediment waste discharge sites. 5. A description of sediment control practices, road maintenance practices, and other management measures to be implemented by the USFS/BLM to prevent or minimize future sediment waste discharges. 6. A monitoring plan to ensure that sediment control practices are implemented as proposed and are effective at controlling discharges of sediment waste. 7. A commitment by the USFS/BLM to complete the inventory, develop the priority list, develop and implement the schedule, develop and implement sediment control practices, implement the monitoring plan, and conduct adaptive management. Contents Related to Elevated Water Temperatures: 8. A commitment by the USFS/BLM to continue to implement the Riparian Reserve buffer width requirements. 9. A monitoring plan to ensure that the Riparian Reserve buffer widths are effective at preventing or minimizing effects on natural shade. 10. A commitment by the USFS/BLM to implement the Riparian Reserve monitoring plan and conduct adaptive management.

Table 4 (Cont.) Scott River Sediment and Temperature TMDL Implementation Actions*		
Topic	**Responsible Parties**	**Actions**
U.S. Forest Service & U.S. Bureau of Land Management	• U.S. Forest Service (USFS). • U.S. Bureau of Land Management (BLM). • Regional Water Board.	Continued from previous page. Contents Related to Grazing Activities: 11. A date for the completion of a description of grazing management practices and riparian monitoring activities implemented in grazing allotments on USFS/BLM lands. 12. A commitment by the USFS/BLM and the Regional Water Board to determine if existing grazing management practices and monitoring activities are adequate and effective at preventing, reducing, and controlling sediment waste discharges and elevated water temperatures. 13. A commitment by the USFS/BLM to develop revised grazing management practices and monitoring activities, should existing measures be inadequate or ineffective, subject to the approval of the Regional Water Board's Executive Officer. 14. A commitment by the USFS/BLM to implement adequate and effective grazing management practices and monitoring activities and to conduct adaptive management.

Grazing	• Private Parties Conducting Grazing Activities. • Regional Water Board.	• The Regional Water Board encourages the parties responsible for grazing activities to take necessary actions to prevent, minimize, and control sediment waste discharges and elevated water temperatures. • The Regional Water Board's Executive Officer shall require parties responsible for grazing activities on private lands in the Scott River watershed to develop, submit, and implement a Grazing and Riparian Management Plan and a Monitoring Plan on an as-needed, site-specific basis. A Grazing and Riparian Management Plan shall describe, in detail, (1) sediment waste discharges and sources of elevated water temperatures caused by livestock grazing, (2) how and when such sources are to be controlled and monitored, and (3) management practices that will prevent and reduce future sources. By [insert date that is 2 years from the date of U.S. EPA approval], criteria shall be developed for determining when a Grazing and Riparian Management Plan shall be required, although nothing precludes the Executive Officer from requiring Grazing and Riparian Management Plans prior to this date. • Should human activities that will likely result in sediment waste discharges and/or elevated water temperatures be proposed or identified, through a Grazing and Riparian Management Plan or by other means, the responsible party(ies) shall be required to implement their Grazing and Riparian Management Plans and monitor through appropriate permitting or enforcement actions.
Siskiyou RCD & Scott River Watershed Council	• Siskiyou Resource Conservation District (SRCD). • Scott River Watershed Council (SRWC). • Regional Water Board.	• The Regional Water Board and staff shall increase efforts to work cooperatively with the SRCD and SRWC to provide technical support and information to landowners and stakeholders in the Scott River watershed and to coordinate educational and outreach efforts. • The Regional Water Board shall encourage the SRWC to (1) implement the strategic actions specified in the Strategic Action Plan and (2) assist landowners in developing and implementing management practices that are adequate and effective at preventing, minimizing, and controlling sediment waste discharges and elevated water temperatures.
Natural Resources Conservation Service and University of California Cooperative Extension	• Natural Resources Conservation Service (NRCS). • University of California Cooperative Extension (UCCE) • Regional Water Bd	• The Regional Water Board shall increase efforts to work cooperatively with the NRCS and UCCE to provide technical support and information to responsible parties and stakeholders in the Scott River watershed and to coordinate educational and outreach efforts.
CA Dept. of Fish and Game	• CA Depart. of Fish & Game (CDFG). • Regional Water Board.	• The Regional Water Board shall encourage the CDFG and aid, where appropriate, in the implementation of necessary tasks, actions, and recovery recommendations as specified in the Recovery Strategy for California Coho Salmon (CDFG 2004) in the Scott River watershed.

* Although the Regional Water Board prefers to pursue the implementation actions listed in Table 4, the Regional Water Board shall take appropriate permitting and/or enforcement actions should any of the implementation actions fail to be implemented by the responsible party or should the implementation actions prove to be inadequate.
** Superior Court of Siskiyou County. 1980. Scott River Adjudication: Decree No. 30662.

IX. Glossary

Adjusted Potential Effective Shade:
The percentage of direct beam solar radiation attenuated and scattered before reaching the ground or stream surface from the potential vegetation conditions, reduced by 10% to account for natural disturbances such as fire, windthrow, disease, and earth movements that reduce the actual riparian vegetation below the site potential.

Compliance and Trend Monitoring:
Monitoring intended to determine, on a watershed scale, if water quality standards are being met, and to track progress towards meeting water quality standards.

Effective Shade:
The percentage of direct beam solar radiation attenuated and scattered before reaching the ground or stream surface from topographic and vegetation conditions.

Groundwater Accretion:
The gradual increase in surface flow in a stream resulting from the influx of groundwater.

Implementation Monitoring:
Monitoring used to assess whether activities and control practices were carried out as planned. This type of monitoring can be as simple as photographic documentation, provided that the photographs are

adequate to represent and substantiate the implementation of control practices.

Instream Effectiveness Monitoring:
Monitoring of instream conditions to assess whether sediment control practices are effective at keeping waste sediment from being discharged to a water body. Instream effectiveness monitoring may be conducted upstream and downstream of the discharge point or before, during, and after the implementation of sediment control practices.

Potential Vegetation Conditions:
The most advanced seral stage that nature is capable of developing and making actual at a site in the absence of human interference. Seral stages are the series of plant communities that develop during ecological succession from bare ground to the climax community (e.g., fully mature, old-growth).

Road:
Any vehicle pathway, including, but not limited to: paved roads, dirt roads, gravel roads, public roads and highways, private roads, rural residential roads and driveways, permanent roads, temporary roads, seasonal roads, inactive roads, trunk roads, spur roads, ranch roads, timber roads, skid trails, and landings which are located on or adjacent to a road.

Salmonids:
Fish species in the family Salmonidae, including but not limited to, salmon, trout, and char.

Sediment:
Any inorganic or organic earthen material, including, but not limited to: soil, silt, sand, clay, and rock.

Sediment Waste:
Sediment that is generated directly or indirectly by anthropogenic activities or projects.

Sediment Waste Discharge Site:
An individual, anthropogenic erosion site that is currently discharging or has the potential to discharge sediment waste to waters of the State.

Thermal Refugia:
Colder areas within a water body that provide cold water refuge from unsuitably warm water.

Timber Harvest Activities:
Commercial and non-commercial activities relating to forest management and timberland conversions. These activities include the cutting or removal of both timber and other solid wood forest products, including Christmas trees. These activities include, but not limited to, construction, reconstruction and maintenance of roads, fuel breaks, firebreaks, watercourse crossings, landings, skid trails, or beds for the falling of trees; fire hazard abatement and fuel reduction activities; burned area rehabilitation; and site preparation that involves disturbance of soil or burning of vegetation following timber harvesting activities; but excluding preparatory tree marking, surveying, or road flagging.

Upslope Effectiveness Monitoring:
Monitoring intended to determine, by assessing upslope conditions, if sediment control practices are effective at keeping waste sediment from being discharged to a water body. This type of monitoring can be as simple as photographic documentation, provided that the photographs are adequate to represent and substantiate that the sediment control practices are effective.