6.0 ACTION PLANS TO ADDRESS TEMPERATURE IMPAIRMENTS IN THE MATTOLE, NAVARRO, AND EEL RIVER WATERSHED

6.1 Stipulated Agreement

The Regional Water Board and State Water Resources Control Board were sued several years ago by six environmental groups. The suit was filed to compel the development of implementation plans for the temperature TMDLs defined in the following documents[4]:

- *Navarro River Total Maximum Daily Loads for Sediment and Temperature* (2000),
- *Mattole River Total Maximum Daily Loads for Sediment and Temperature* (2002),
- *Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury) Total Maximum Daily Loads for Temperature and Sediment* (2004),
- *Middle Main Eel River and Tributaries (from Dos Rios to South Fork) Total Maximum Daily Loads for Temperature and Sediment* (2005),
- *Lower Eel River Total Maximum Daily Loads for Temperature and Sediment* (2007),
- *South Fork Eel River Total Maximum Daily Loads for Sediment and Temperature* (1999),
- *North Fork Eel River Total Maximum Daily Loads for Sediment and Temperature* (2002), and
- *Middle Fork Eel River Total Maximum Daily Loads for Sediment and Temperature* (2003)

The TMDLs listed above contain all of the components of a TMDL (problem statement, source analysis, load allocation, numeric targets, load allocations, linkage analysis, and margin of safety) but do not include implementation plans. These TMDLs were developed on an aggressive schedule, pursuant to a consent decree, which did not allow for the development and adoption of implementation plans. The three stand-alone *Action Plans to Control Elevated Water Temperatures in the Mattole, Navarro, and Eel River Watersheds* were developed to address elevated water temperatures, implement the TMDLs listed above, and satisfy the stipulated agreement.

6.2 Geographic Scope

The stand-alone Action Plans to Control Elevated Water Temperatures in the Mattole, Navarro, and Eel River Watersheds apply to the following watersheds:

[4] The watersheds referenced above had TMDLs developed for both temperature and sediment, which were developed at the same time and presented in the same document. The sediment TMDLs contained in these documents are addressed through implementation of the Sediment Policy. This Policy addresses the temperature TMDLs only.

- Mattole River
- Navarro River
- Upper Main Eel River
- Middle Main Eel River
- Lower Main Eel River
- South Fork Eel River
- North Fork Eel River
- Middle Fork Eel River

6.3 Relationship to the Regional Temperature Policy

The stand-alone Action Plans to Control Elevated Water Temperatures in the Mattole, Navarro, and Eel River Watersheds are consistent with the concurrently proposed Policy and Action Plan to Implement the Water Quality Objectives for Temperature. The actions described in the stand-alone *Action Plans to Control Elevated Water Temperatures in the Mattole, Navarro, and Eel River Watersheds* apply the principles of the Policy to temperature issues identified in those watersheds with a goal of implementing the TMDL load allocations and achieving the TMDL targets.

The Policy directs the Regional Water Board to focus temperature implementation actions on three factors: shade, flow, and sediment. The actions described in the Mattole, Navarro, and Eel River watershed Action Plans address shade and flow issues. Elevated sediment issues in these watersheds are addressed through implementation of the Sediment TMDL Implementation Policy contained in the Basin Plan.

6.4 Temperature Total Maximum Daily Load Assessments

6.4.1 Problem Statements

Each of the eight TMDLs addressed by these Action Plans contains a problem statement. The problem statements consistently identify the decline of the salmonid fishery and degradation of habitat as symptoms of the water quality impairment caused by elevated water temperatures. Many of the problem statements also discuss the science of salmonid life cycle and habitat requirements, with a discussion of the temperature conditions as they existed at the time the TMDLs were prepared. For further information describing the problems associated with elevated water temperatures in the eight watersheds, see the TMDL documents listed in Section 2.4.

6.4.2 Source Analyses

The source analysis methods and conclusions are summarized in section 2.4, Temperature TMDL Analyses, above. See the TMDL documents listed in Section 6.1, Stipulated Agreement, above, for a full discussion of each of the source analyses.

6.4.3 Total Maximum Daily Loads

The temperature TMDLs developed for the Mattole, Navarro, and Eel River watersheds were developed using consistent methodologies and interpretations. Accordingly, the TMDLs, load allocations, and targets were established to achieve conditions that are consistent among all of the TMDLs. Despite this consistency, the

calculated thermal loads established vary from watershed to watershed due to differences such as vegetation type, channel width, and channel orientation. However, the loads were developed consistently on a single conceptual basis: the potential amount of effective shade provided to the water surface from near stream vegetation taking into account topography, stream orientation, differences in vegetation type, and natural factors that can reduce that amount such as fire, disease, geology, soils, landslides, windthrow, and other natural processes. The established TMDLs and a description of the basis for the TMDL are presented in Table 6.1, below.

6.4.4 Numeric Targets

Total maximum daily load numeric targets are a quantitative value or values used to measure whether or not the applicable water quality standard is attained. Numeric targets for temperature TMDLs developed in the North Coast Region are used to measure progress towards achievement of the applicable water quality objectives for temperature, as the objectives apply to the individual TMDL watersheds. The Mattole, Navarro, and Eel River watersheds are intrastate waters, and thus only the intrastate water quality objective applies. The targets are summarized in Table 6.2, below.

Table 6.1: Summary of the Total Maximum Daily Thermal Loads established for each watershed.

Watershed	Total Maximum Daily Thermal Load	Basis
Upper Main Eel River	Average solar loading of 289 langleys/day	Shade associated with "full natural growth"
Middle Main Eel River	Average solar loading of 233 langleys/day	Shade associated with "full natural growth"
Lower Main Eel River	Salt River subbasin: 362 langleys/day All other tributary reaches: 118 langleys/day Lower main Eel: no TMDL needed.	Heat load that corresponds to "natural shade conditions"
South Fork Eel River	Effective shade levels, varied by stream width and vegetation type, ranging from 26-96%	Shade associated with "natural conditions"
Middle Fork Eel River	NF of MF Eel: 118 langleys/day Upper Black Butte: 100 langleys/day Other MF Eel tributaries: 109 langleys/day MF Eel Mainstem: 9% reduction in heat	Shade associated with "natural full growth vegetation"
North Fork Eel River	North Fork Eel watershed upstream of Yellowjacket Creek and Hulls Creek subbasin: Modeled shade results depicted in figures. Remainder of North Fork Eel: 41% average shade.	"Natural Potential Shade"

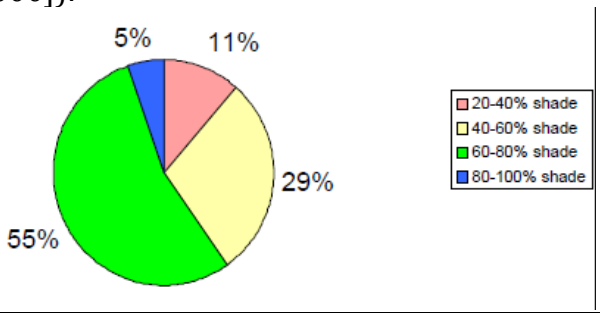
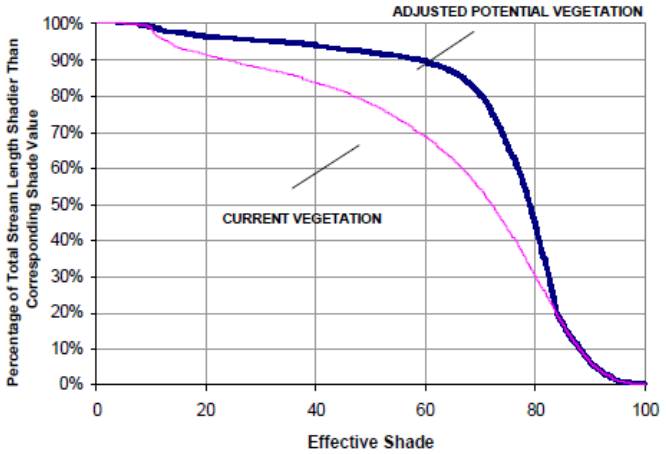
Navarro River	Cumulative distribution of potential effective shade (presented in Table 3-1 and Figure 3-4 of the Navarro TMDL document [USEPA 2000]): 	Potential effective shade conditions, with allowances for effects of natural factors that reduce shade
Mattole River	The distribution of effective shade conditions identified as "adjusted potential vegetation", below (figure 4-8 of the Mattole TMDL [USEPA, 2002]): 	Potential effective shade conditions, with allowances for effects of natural factors that reduce shade

Table 6.2: Summary of Numeric Targets in the Mattole, Navarro, and Eel River Watershed Temperature TMDLs

<table>
<tr><th>Watershed</th><th>Numeric Targets</th></tr>
<tr><td>Upper Main Eel River</td><td>Achievement of temperature at designated location.</td></tr>
<tr><td>Middle Main Eel River</td><td>None explicitly defined.</td></tr>
<tr><td>Lower Main Eel River</td><td>None explicitly defined.</td></tr>
<tr><td>South Fork Eel River</td><td>
<table>
<tr><th>Cold water habitat</th><th>Bull Creek</th><th>Elder Creek</th><th>Rattlesnake Creek</th></tr>
<tr><td>Good < 15</td><td>37%</td><td>38%</td><td>0%</td></tr>
<tr><td>Marginal 15-17 C</td><td>31%</td><td>52%</td><td>1%</td></tr>
<tr><td>Poor 17-19 C</td><td>18%</td><td>10%</td><td>21%</td></tr>
<tr><td>Inadequate 19-21 C</td><td>14%</td><td>0%</td><td>55%</td></tr>
<tr><td>>21 C</td><td>0%</td><td>0%</td><td>23%</td></tr>
</table>
These goals are based on the natural condition scenario, using Elder Creek as a reference
</td></tr>
<tr><td>Middle Fork Eel River</td><td>The minimum target value is the distribution of stream lengths that fall into the adequate and marginal temperature categories under the full growth scenario:
<table>
<tr><th>Temperature range</th><th>Upper Black Butte subbasin</th><th>North Fork of Middle Fork subbasin</th><th>Remainder of the Middle Fork Eel River watershed</th></tr>
<tr><td>Good (MWAT < 15° C)</td><td>0%</td><td>0%</td><td>0%</td></tr>
<tr><td>Adequate (15° C < MWAT < 17° C)</td><td>28%</td><td>6%</td><td>23%</td></tr>
<tr><td>Marginal (17° C < MWAT < 19° C)</td><td>71%</td><td>78%</td><td>72%</td></tr>
</table>
</td></tr>
<tr><td>North Fork Eel River</td><td>The distribution of stream temperatures represented in the following table:</td></tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><th>Steelhead habitat quality (in MWAT)</th><th>Percent of Stream Length in Five Northern Subwatersheds</th></tr>
<tr><td>Good < 15°</td><td>1%</td></tr>
<tr><td>Adequate 15-17°C</td><td>7%</td></tr>
<tr><td>Marginal 17-19°C</td><td>52%</td></tr>
<tr><td>Inadequate 19-24°C</td><td>40%</td></tr>
<tr><td>Lethal >24°C</td><td>0%</td></tr>
</table>
</td></tr>
<tr><td>Navarro River</td><td>

“Temperature conditions in the Navarro should show the general pattern illustrated in Figure 3-2. Good or suitable habitat conditions for cold water fish (<17°C [62.6°F] as measured by MWAT) should exist in most tributaries. Streams that cannot support ambient suitable conditions (e.g., mainstem Navarro, Anderson and lower Rancheria) will provide improving conditions for pool refugia and connectivity between refugia through sufficient natural surface and groundwater flow.”
“The quantity of flow diverted from the Navarro in the summer is not increased, unless it can be shown that such an increase does not adversely affect beneficial use. The NMFS guidelines provide details of the documentation required for summer diversions.”

</td></tr>
<tr><td>Mattole River</td><td>

Adjusted potential shade conditions from riparian vegetation
Increased volume of thermally stratified pools

</td></tr>
</table>

6.4.5 Margins of Safety

The Clean Water Act requires that TMDLs include a margin of safety that takes into account any lack of knowledge concerning the relationship between the pollutant loads and the desired receiving water quality. The margin of safety is often implicitly incorporated into conservative assumptions used in calculating loading capacities, waste load allocations, and load allocations (EPA 1991). The margin of safety may also be incorporated explicitly as a separate component in the TMDL equation. The Mattole, Navarro, and Eel River watershed temperature TMDL analyses all contain implicit margins of safety, based on conservative assumptions that were made to account for uncertainties in the analysis. See the individual TMDL documents listed in Section 6.1, Stipulated Agreement, above, for a full discussion of the conservative assumptions that comprise the margins of safety for these TMDLs.

6.5 Description of Implementation Actions to Address Temperature Impairments in the Mattole, Navarro, and Eel River Watershed

The implementation actions described below comprise the suite of implementation actions identified in the three Action Plans to address temperature impairment in the Mattole, Navarro, and Eel River watersheds. However, because some activities are not present in each of the watersheds, not all apply in every watershed.

6.5.1 Timber Harvest Activities on Non-Federal Lands

Responsible Party: Regional Water Board

Action Plans: Mattole, Navarro, and Eel

Action: Regional Water Board staff shall make recommendations for additional measures to ensure the TMDL load allocations and water quality objectives for temperature are achieved during the timber harvest review process, if necessary.

This action calls on Regional Water Board staff to rely on the riparian shade protections required by the California Forest Practice Rules as a starting point to protect and maintain riparian shade. However, compliance with the intrastate water quality objective for temperature may in some instances require additional canopy protections, particularly in areas outside the range of anadromy (see additional discussion in sections 4.4 and 5.3.1). Accordingly, this action calls for Regional Water Board staff to make recommendations for additional measures necessary to achieve the water quality objectives during the timber harvest review process when the Forest Practice Rule protections are insufficient. Through this process Regional Water Board staff have an opportunity to make specific THP recommendations and clarify Basin Plan requirements, if needed, during the timber harvest review process so that the final THP is eligible for enrollment in the timber GWDRs or waivers.

The Regional Water Board regulates discharges of waste associated with private timber activities in the Mattole, Navarro, and Eel River watersheds through the following general permits and watershed-wide permit:

- *General Waste Discharge Requirements for Discharges Related to Timber Harvest Activities on Non-Federal Lands in the North Coast Region* (Timber GWDRs)
- *Categorical Waiver of Waste Discharge Requirements for Discharges Related to Timber Harvest Activities On Non-Federal Lands in the North Coast Region* (Non-Federal Timber Waiver)
- *General Waste Discharge Requirements for Discharges for Timber Operations on Non-Industrial Timber Management Plans (NTMPs) in the North Coast Region* (NTMP General WDR)
- *Waste Discharge Requirements For Discharges Related to Timber Harvesting and Related Land Management Activities Conducted by Humboldt Redwood Company, LLC, in the Bear Creek Watershed Humboldt County*

In 2011, the Mattole Restoration Council received approval for their Mattole Forest Futures Project. This program establishes a suite of "light touch" forestry practices described and analyzed in the Mattole Programmatic Timberland Environmental Impact Report. This program provides landowners a streamlined approval process for their logging plans, provided their harvest meets the program's standards. Regional Water Board participated in the development of the program, which addresses temperature concerns.

Responsible Party: Parties conducting timber activities on private lands.
Action Plans: Mattole, Navarro, and Eel
Action: Implement riparian management measures that meet the riparian shade allocations and water quality standards. Where the Forest Practice Rules are not sufficient to meet the TMDL allocations or water quality standards, implement additional measures as directed by Regional Water Board staff during the timber harvest review process.

This action directs private parties conducting timber harvest activities that discharge waste, or have the potential to discharge waste, to manage riparian areas consistent with the TMDL load allocations for riparian shade. Because TMDL load allocations are established as necessary conditions for achievement of water quality standards (i.e., water quality objectives in the context of beneficial uses), applicable load allocations should be incorporated into a timber harvest plan to qualify for enrollment in any of the timber permits described above. The action also directs those parties to implement additional measures identified by Regional Water Board staff during the timber harvest planning process.

These actions implement actions 1 and 2 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

6.5.2 Activities on Lands Managed by the U.S. Forest Service (USFS)
Responsible Party: Regional Water Board
Action Plan: Eel
Actions: 1) Implement the USFS Waiver of WDRs as a mechanism for compliance with temperature objectives.
2) Regional Water Board staff shall make recommendations for additional measures to ensure the water quality objective for temperature is achieved during the project review process, as necessary.

These actions direct staff to continue implementing the USFS Waiver as a mechanism for compliance with temperature TMDLs and the intrastate water quality objective for temperature, and to make further recommendations during the project review process, as necessary, to ensure achievement of the water quality objective for temperature.

In 2010, the Regional Water Board issued Order R1-2010-0029: *Waiver of Waste Discharge Requirements for Nonpoint Source Discharges Related to Certain Federal Land Management Activities on National Forest System Lands in the North Coast Region* (USFS Waiver), a conditional waiver addressing certain nonpoint source activities on United States Forest Service lands in the region, including timber, roads, and grazing. This permit, by virtue of its conditions, also implements sediment, temperature, and nutrient TMDLs, and meets the Basin Plan intrastate temperature objective.

The USFS Waiver adopts the USFS program that manages and maintains designated riparian zones to ensure retention of adequate vegetative cover that results in natural shade conditions. The USFS program requires retention of trees within 300 feet slope distance on each side of fish-bearing streams, 150 feet slope distance on each side of perennial streams, and 100 feet slope distance on each side of ephemeral / intermittent streams, or the site potential tree height distance on each side of the stream, whichever is greatest. The USFS Waiver provides for exceptions to these requirements if it can be demonstrated that the exception will result in a net long-term benefit to water quality and stream temperatures. The USFS Waiver is the sole implementation mechanism in the Black Butte River, Upper Middle Fork Eel River, and Upper North Fork Eel River watersheds.

Responsible Party: U.S. Forest Service
Action Plan: Eel
Actions: Conduct land management activities in compliance with the USFS Waiver (Order R1-2010-0029).

This action simply calls on the USFS to comply with terms of the USFS Waiver.

These actions implements actions 1 and 2 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

6.5.3 Agricultural Activities on Non-Federal Lands
Responsible Party: Regional Water Board
Action Plans: Mattole, Navarro, and Eel
Action: Develop and implement the Agricultural Lands Discharge Program as a mechanism for compliance with temperature objectives.

This action directs the Regional Water Board to develop an Agricultural Lands Discharge Program (ALDP) that achieves riparian load allocations, and to implement the ALDP or elements thereof, upon adoption, as a means of achieving the water quality objective for temperature.

The ALDP is currently under development, and is intended to address water quality concerns associated with cultivated agricultural crops such as grapes, orchard crops, flowers, medical marijuana, vegetables, and other commodities. The regulatory program will likely be composed of a number of waivers and WDRs for specific agricultural categories.

Responsible Party: Any party conducting activities associated with agriculture that discharge waste or have the potential to discharge waste on nonfederal land, except dairies.

Action: 1) "Implement riparian management measures that meet the riparian shade load allocations and water quality standards."

2) "Conduct land management activities in compliance with the Agricultural Lands Discharge Program when adopted. "

The first of these two actions directs parties engaged in agricultural activities that discharge waste, or have the potential to discharge waste, to manage riparian areas consistent with the TMDL load allocations for riparian shade. The second of these actions simply directs agricultural operators to comply with the ALDP upon adoption.

These actions are consistent with actions 1, 2, and 3 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

6.5.4 Road Construction and Maintenance of State Highway Facilities
Responsible Party: State Water Resources Control Board, Regional Water Board
Action Plans: Navarro, and Eel
Action: Implement the NPDES Statewide Storm Water Permit and Waste Discharge Requirements for the State of California, Department of Transportation (Caltrans permit).

This action directs the State and Regional Water Boards to implement the Caltrans permit as a means of addressing temperature concerns associated with maintenance and operation of the state highway system. The Caltrans permit was

adopted by the State Water Board after close coordination with the Regional Water Boards and was developed to address TMDLs and general Basin Plan requirements.

Responsible Party: Caltrans
Action Plans: Navarro, and Eel
Action: Conduct road construction, maintenance and associated activities in compliance with the Caltrans permit.

This action simply requires Caltrans to comply with the terms of the Caltrans permit.

These actions are consistent with actions 1 and 2 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

6.5.5 Road Construction and Maintenance on County Lands
Responsible Party: Regional Water Board
Action Plans: Mattole, Navarro, and Eel
Action: 1) Implement the Waiver of Waste Discharge Requirements and General Water Quality Certification for County Road Management and Activities Conducted under the Five Counties Salmonid Conservation Program (5C Waiver).

2) In the event that a county does not show intent to implement the 5C Program, develop WDRs or a conditional waiver of WDRs for that county.

This action directs the Regional Water Board to address temperature concerns through the implementation of the 5C Waiver. The 5C Waiver Program addresses sediment and temperature impairments by requiring:

- The application of BMPs on county roads and at corporation yards to avoid excess sediment discharges;
- The protection and maintenance of riparian conditions and shade, within the County road right of way and property; and
- Inventories, prioritization and remediation of sediment delivery sites. These measures are consistent with existing sediment and temperature TMDL implementation requirements to meet relevant load allocations. The 5C Program is also recognized as a proper implementation tool under the Sediment TMDL Implementation Policy.

In the event that a county decides to not participate in the program, the Regional Water Board is directed to develop a permit to address that county's road maintenance and associated operations.

Responsible Party: Humboldt, Mendocino, and Trinity Counties
Action Plans: Mattole, Navarro, and Eel
Action: Conduct road construction and maintenance in compliance with the 5C Waiver.

This action directs Humboldt, Mendocino, and Trinity Counties to comply with the 5C Waiver as a means of addressing temperature concerns associated with county road maintenance and associated activities.

These actions are consistent with actions 1 and 2 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

6.5.6 Dairy Operations

Responsible Party: Regional Water Board
Action Plan: Eel
Action: Implement temperature allocations through the Water Quality Compliance Program for Dairies & Concentrated Animal Feeding Operations (Dairy Program).

This action directs the Regional Water Board to continue addressing temperature impacts associated with dairy operations through the implementation of the Dairy Program. The Dairy Program involves inspections of individual dairy facilities to identify water quality concerns, including concerns associated with riparian management. Regional Water Board staff communicate water quality concerns at the time of the inspection and through inspection reports that identify improvements to be addressed by the operator. Regional Water Board staff follow-up with the operators regarding the implementation of the recommendations, and often work with third parties such as the Western United Dairymen, NRCS, or resource conservation districts, or the UC Cooperative Extension to help the operators find assistance with implementing the recommendations. Examples of the types of recommendations that address temperature concerns include riparian fencing, alternative water source development, construction of shade structures, and placement of salt blocks away from watercourses.

Responsible Party: Dairy Operators
Action Plan: Eel
Action: Conduct land management activities in compliance with the Dairy Program.

This action directs dairy operators to comply with the Dairy Program as a means of implementing the water quality objectives for temperature, and is consistent with action 1 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

6.5.7 Dredge and Fill Activities in Waters of the State
Responsible Party: Regional Water Board
Action Plans: Mattole, Navarro, and Eel
Action: Incorporate measures to meet the temperature allocations in 401 water quality certifications.

This action directs Regional Water Board staff to condition 401 water quality certifications to address any factors that contribute to elevated water temperatures.

This action is consistent with action 4 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

6.5.8 Waste Discharge Requirements
Responsible Party: Regional Water Board
Action Plans: Mattole, Navarro, and Eel
Action: Incorporate measures to meet the temperature allocations in individual Waste Discharge Requirements and Waivers thereof.

This action directs Regional Water Board staff to condition individual waste discharge requirements and waivers of waste discharge requirements, to address any factors that contribute to elevated water temperatures.

This action is consistent with action 4 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

6.5.9 Water Use
Responsible Party: Regional Water Board; State Water Resources Control Board, Division of Water Rights
Action Plans: Mattole, Navarro, and Eel
Action: Work with other agencies and non-governmental organizations to support off-stream storage projects for water diverters currently diverting directly from streams during summer. Work with other agencies and non-governmental organizations to streamline permitting process for conversion of on-stream to off-stream storage.

This action directs the Regional Water Board to support efforts to develop off-stream water storage for diverters that currently divert surface water during the dry season (e.g., June through September). This effort is intended to lead to increased cold water flows instream during the time of highest water temperatures.

The Regional Water Board can support this action in the following ways:

- Prioritization of grant funds for the construction of off-stream reservoirs, the removal of on-stream impoundments, and other infrastructure needed to facilitate the transition from direct diversion to off-stream storage.

- Support of projects in grant programs not administered by the Regional Water Board. This may include letters of support for individual projects to agencies such as the Natural Resource Conservation Service (NRCS), who administers the Environment Quality Incentives Program.
- Permit streamlining. The Regional Water Board can affect permit streamlining through the development of general WDRs for pond construction and/or impoundment removal. Development of general WDRs and 401 water quality certifications could be completed in a way that includes a CEQA analysis that could be relied on for multiple projects, thereby decreasing the costs associated with projects. This same approach has already been taken to streamline the permitting of sediment source reduction, streambank restoration, and riparian planting projects implemented by the Mendocino Resource Conservation District and NRCS.

These actions are consistent with actions 4, 5, 6, and 7 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

Responsible Party: Water Users
Action Plans: Mattole, Navarro, and Eel
Action: The Regional Water Board encourages all water users to implement water conservation practices and develop off-stream storage facilities to minimize water diversions during low flow periods.

This statement makes clear to all water users the actions that can be taken on their own initiative to address water quality concerns associated with their water use.

Responsible Party: Regional Water Board, State Water Resources Control Board, Division of Water Rights
Action Plans: Mattole, Navarro, and Eel
Action: Pursue instream flow studies:

- Work with others to attain funding for instream flow studies to (1) quantify flows necessary for beneficial use support, (2) quantify flow impacts to assist outreach and education efforts, or (3) identify opportunities to increase summer low flows.
- Coordinate with the Division of Water Rights and California Department of Fish and Wildlife.
- Consider all sources of water, including headwaters, groundwater, and waters flowing in subterranean streams.

This action directs the Regional Water Board to pursue the development of instream flow studies to provide information for the development of regulatory actions, assist outreach and education efforts, and identify opportunities to increase low flows. The action directs the Regional Water Board to work in close coordination with the State Water Resource Control Board Division of Water Rights and California Department of Fish and Wildlife. Studies developed pursuant to this action should

consider upland hydrologic process, the interaction of groundwater and surface water, and surface water flowing in subterranean streams.

Regional Water Board staff have identified the Navarro watershed as the highest priority watershed for flow studies, given the level of flow reductions apparent from historic flow records. The Regional Water Board should also consider instream flow studies in the Mattole and Eel River watersheds, as appropriate. Flow studies in individual subbasins may be particularly appropriate in the Mattole and Eel River watersheds, where water use is often concentrated in localized areas.

These actions are consistent with actions 6, 7, and 8 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

Responsible Party: Regional Water Board, State Water Resources Control Board, Division of Water Rights
Action Plans: Mattole, Navarro, and Eel
Action: Support third-party efforts to address temperature related concerns, including:

- Education of water users on the importance of water conservation efforts;
- Education of water users on water conservation practices and opportunities;
- Assistance for water users in the implementation of water conservation practices;,
- Restoration of riparian vegetation; and,
- Other efforts that address water temperature-related concerns.

This action directs the support of third party efforts to address the impacts of water diversion and loss of riparian vegetation on stream temperatures. A multitude of non-profit organizations are currently active in the North Coast Region, working on efforts to restore fish populations, address pollution, and improve overall watershed health.

In the Mattole watershed, Sanctuary Forest has developed a tank and forebearance program that has successfully reduced summer water diversions from the upper Mattole River in the Whitethorn area. Similarly, the Salmonid Restoration Federation and Friends of the Eel River have been active in the South Fork Eel River watershed developing informational flyers and raising awareness of flow and water quality issues through feature shows on local radio programs. These same groups were also instrumental in convening a community informational meeting on July 11, 2013, which provided a forum for community members to ask agency representatives, including the Regional Water Board staff, questions regarding compliance with the water code and protection of streams and the organisms that inhabit them.

The Mattole Restoration Council and Mattole Salmon Group also have long histories of assisting the Mattole River watershed communities in conservation efforts to restore streams and recover salmon runs. The Mattole Restoration Council has been a recipient of 319(h) and Proposition 50 grant funds administered by the Regional Water Board.

The Eel River Recovery Project is another group working on issues related to flow and temperature. Their approach involves monitoring temperatures and flow throughout the Eel River watershed at sites previously monitored by the Humboldt Resource Conservation District in the 1990s, and presenting the information to water users to illustrate the magnitude of flow reductions that have occurred in the past 15 years and persuade users to conserve water. The Regional Water Board has supported this effort by loaning temperature data loggers for the collection of temperature data.

A recent effort led by Cal Trout, called the Eel River Forum, provides a forum for discussions among agencies and watershed restoration practitioners with the goal of sharing information, discussing strategies, and coordinating and integrating conservation and recovery efforts in the Eel River watershed. The Eel River Forum has been well attended by agencies and watershed stewardship and restoration practitioners.

The Nature Conservancy has recently taken an active role In the Navarro River watershed. Their efforts involve stream gauging and funding support for a study of agricultural water use in Anderson Valley.

These actions are consistent with actions 5 and 6 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

Responsible Party: Regional Water Board, State Water Resources Control Board, Division of Water Rights
Action Plans: Mattole, Navarro, and Eel
Action: Take actions to address the impacts of marijuana cultivation, through the following:

- Outreach and education;,
- Grant support for outreach and water conservation and pollution control efforts;
- Coordination with other agencies; and,
- Enforcement actions.

This action directs the Regional Water Board to address the impacts of marijuana cultivation using all available means, both regulatory and non-regulatory. The regulation of water quality impacts associated with marijuana cultivation is addressed in the action directing the development and implementation of the Agricultural Lands Discharge Program (see section 6.5.3). One of the most effective

means of addressing water quality impacts associated with this activity is the disbursal of information on water conservation and pollution prevention through outreach and education on a broad level. The recent rapid expansion of the marijuana cultivation industry has resulted in an influx of new landowners from outside the area. Many of these landowners are not aware of the regulatory requirements in place to protect fish and water resources.

The Regional Water Board has been active in interagency enforcement efforts to address the environmental impacts associated with marijuana cultivation activities. Many of these enforcement situations involve the cleanup and abatement of discharges associated with road building, site preparation, reservoir construction, fuel and pesticide storage, and debris disposal.

These actions are consistent with actions 1 and 2 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

Responsible Party: Regional Water Board
Action Plans: Mattole, Navarro, and Eel
Action: Continue to coordinate with the State Water Board's Division of Water Rights by participating in the water right application and petition process, providing monitoring recommendations, joint inspections as appropriate, submittal of data in support of 401 certifications related to water diversions and/or facilities regulated by the FERC, participation in instream flow studies, participation in proceedings related to instream flow, and any other appropriate means to help ensure that the terms of water right permits and licenses are consistent with the intrastate water quality objective for temperature.

This action directs the Regional Water Board to continue coordination efforts with the State Water Board's Division of Water Rights to address water temperature concerns. The Division of Water Rights provides the Regional Water Board notification of opportunities to comment on water right permitting actions that occur in the North Coast Region, as well as other opportunities for input. This coordination has resulted in enhanced stream protection from sedimentation and temperature impacts and protection of wetlands.

This action is consistent with action 7 of the concurrently proposed *Action Plan to Implement the Water Quality Objectives for Temperature*.

Responsible Party: State Water Resources Control Board Division of Water Rights
Action Plans: Navarro
Action: Achieve the Navarro River Temperature TMDL Flow and Temperature Target through implementation of the *Policy for Maintaining Instream Flows in Northern California Streams.*

The Navarro River Temperature TMDL Flow and Temperature Target states: "The quantity of flow diverted from the Navarro in the summer is not increased, unless it can be shown that such an increase does not adversely affect beneficial uses."[5]

The target is based on the Guidelines for Maintaining Instream Flows to Protect Fisheries Resources Downstream of Water Diversions in Mid-California Coastal Streams, developed by the National Marine Fisheries Service and California Department of Fish and Game (2000). The guidelines suggest new diversions be limited to the December 15 to March 31 time period. These guidelines were eventually incorporated into the *Policy for Maintaining Instream Flows in Northern California Coastal Streams* (flow policy), which is currently vacated due to legal challenges, but due to be considered for readoption by the State Water Resource Control Board before this Policy's adoption hearing. Implementation of the flow policy will achieve the target. In the interim, or if the flow policy is not reinstated, Regional Water Board staff will continue to participate in the Division of Water Rights' permitting process to ensure the water quality objective for temperature and target are met.

[5] Section 101(g) of the Clean Water Act expresses a congressional policy not to interfere with state authority over allocation of water quantities. Consistent with this policy, it would be inappropriate for USEPA to require a state to adopt or implement a TMDL through water right permit conditioning to limit the season or amount of diversion. But it would also be inconsistent with the policy of section 101(g) to limit the authority of a state to include measures involving allocation of water quantities or water right administration in a TMDL if the state chooses to adopt those measures, and the California Water Code expresses a policy that state water right administration and state water quality control should be integrated. Thus, the inclusion of this measure in the TMDL is based on state law and state policy, and should not be interpreted as recognition of USEPA authority in this area.