

SECTION 2.3.5

NOYO RIVER WATERSHED

Based on the recognition that the anadromous fishery is in decline, activities to assess the watershed and improve conditions for anadromous salmonids are underway. A Clean Water Act section 303(d) technical TMDL for sediment has been completed and approved by EPA in December 1999. The following provides an overview of activities and outlines our basic framework and strategy at this time.

WATERSHED DESCRIPTION

The Noyo River watershed is a 72,323-acre coastal tributary immediately west of the City of Willits that flows to the Pacific Ocean at the City of Fort Bragg. The Noyo hydrological unit is 113.20. Redwood and Douglas fir forest on rugged, mountainous terrain dominate the watershed. The climate has moderate temperatures (annual average 53 degrees F) and an average annual rainfall of 40 - 65 inches. The primary land use within the watershed is timber production and harvesting by three large timberland owners: Mendocino Redwood Company, Hawthorne Timber Company (managed by Campbell Timberland Management) and the Jackson Demonstration State Forest (run by the California Department of Forestry and Fire Protection which owns about 19 percent of the watershed). Together these three landowners own approximately 70 percent of the watershed. Old growth logging started in the mid 1800's and continued into the early part of the 20th century. Second growth logging began in the 1960's primarily in the lower main drainage area, and continues today. Removal of residual old-growth stands began in the 1960's and continued into the mid 1980's.

The Sierra Railroad operates the Skunk Train that traverses the Noyo River watershed along the mainstem channel with 40 miles of track and 31 bridges and trestles crossing the



river. Other minor land uses in the basin include ranching and recreation. The mouth of the Noyo River is dominated by a marina and associated fish processing facilities in support of the local fishing industry. This is the only major fishing fleet between Bodega Bay and Eureka.

The Noyo River supports an anadromous fishery including steelhead trout, coho salmon, and chinook salmon, all of which are listed as threatened under the federal Endangered Species Act. The Noyo River, pursuant to section 303(d) of the Clean Water Act, is listed as impaired by excessive sediment loading associated with logging, overgrazing and road building. Hillside vineyard development is a concern for production of sediment as land is converted to new vineyards in the future. Critical Coastal Areas in and around the Noyo watershed include Pudding Creek, Noyo River, and the Pygmy Forest Ecological Staircase. Appendix D has a description of these Critical Coastal Areas.

The City of Fort Bragg uses surface water from the Noyo River as a primary source of drinking water. The City of Fort Bragg suffered from lack of sufficient quantity of water during the drought in the 1980's and is subject to high raw water turbidities during the winter period. A new water treatment plant was constructed in 1987. The water intake system was designed to frequently backflush compressed air through the intake screens to remove silt that was plugging the screens. The City has established a new deep well about a mile inland on the Noyo River where timing of pumping is important to avoid seawater intrusion. Another diversion from the river has been established to send water to Pudding Creek to service the Georgia Pacific Corporation mill. This mill is being dismantled and the area is being cleaned up. Many summer camps also use the river for water supply.

ASSESSMENT AND PROBLEM IDENTIFICATION

The Noyo River watershed is primarily in timber production. Little development has occurred in the watershed in the last two decades. As mentioned above, the primary water quality concerns are related to drinking water supply and the anadromous fishery. The City of Fort Bragg's Noyo River water supply is directly influenced by surface water and suffers from frequent siltation of the intakes. Turbidity data collected by the City of Fort Bragg between 1993 and 1997 indicate that turbidity values have increased steeply through this period. Turbidity levels have periodically obscured visibility and have remained elevated even after the cessation of rain. This can adversely affect fish and drinking water quality.

Existing salmonid habitat is limited by various erosion-influenced factors, including infrequent and shallow pools, few backwater pools and other over-wintering habitat, embedded cobbles, and elevated fines in potential spawning gravels. Limited availability of large woody debris in the channels of Noyo River watershed contributes to the problems associated with sedimentation. Pool volume in the Noyo River and tributaries has decreased due to the accumulation of fine sediment delivered by surface erosion throughout the basin. The availability of large woody debris and deep pools appear to be two of the main factors limiting the success of salmonids in the Noyo River watershed. Coho populations today are probably less than 6 percent of what they were in the 1940's and there has been at least a 70 percent decline since the 1960's. The anadromous fishery has experienced shifts in species composition. California Department of Forestry and Fire Protection employees found the total salmonid biomass was similar to that in the 1960's but the species composition has inverted from primarily coho salmon to primarily steelhead trout. The decline in the stream channel's average pool depth, in response to past logging practices, seems the most likely instream parameter causing the inversion in salmonid species composition in the Little North Fork Noyo River.

The Noyo River is listed on the CWA section 303(d) list as impaired by excessive sediment loading associated with historic logging, overgrazing and road building. The Noyo River Sediment Total Maximum Daily Load has been completed and established by the U.S. EPA, which can be found online at: <http://www.epa.gov/region09/water/tmdl/noyo/noyo.pdf>. In addition, the average road densities for the watershed overall is 6.71 miles per square mile. Road densities in most individual tributaries are higher, and the majority of these roads are seasonal, unsurfaced, and have the potential for greater surface erosion. Many logging and rural residential roads are involved in mass wasting and sediment discharge incidents.

The harbor must be dredged on a frequent basis due to the large amounts of sediment deposited from upstream. Dredging volumes have increased over the years. For example, the average dredging volume in 1994 was 236 percent of the average volume in 1957 and 127 percent of the average volume for the first ten years of dredging (starting in 1933). A new marina, Dolphin Marina, needs to dredge to maintain adequate depth. The California Department of Transportation is replacing the Highway 1 Bridge over the Noyo River and dredge spoils are being placed at the north bank of the bridge footing.

Primary water quality issues in the Noyo River watershed

- Salmonid habitat disturbance
- Sedimentation of streams and harbors
- Turbidity

Contamination from diesel, penta- and tetrachlorophenol, and dioxins in stream sediments has been documented in the Parlin Fork and the Noyo River as a result of past activities at a wood treatment plant at the CDF camp. There are concerns about metals and creosote from the Skunk Train. Georgia Pacific has an old bark dump on the north side of the river where tannins may be leaching into a wetland area at Newman Gulch. Herbicide use continues on forestlands. The Office of Emergency Services reports frequent oil spills in the harbor area, and fish waste dumping is also a concern. Urchin wastes are discharged one mile off shore and assessment of this practice is incomplete. Waste discharge requirements exist for the Conservation Camps at Chamberlin Creek and Parlin Fork.

WATER QUALITY GOALS AND ACTIONS

The following listing represents a first-cut delineation of goals and actions to achieve water quality goals.

GOAL 1: Protect surface and ground water MUN, DOM, REC-1, and REC-2 uses

Point Source Issues

Current Activities

- Continue to perform waste discharger compliance inspections
- Address highest priority groundwater cleanups/remediations, e.g., Parlin Fork CDF camp
- Address highest priority underground tank cases

- Promote continuing development and application of management practices for storage, treatment and disposal of hazardous substances

Nonpoint Source Issues

Current Activities

- Maintain timber-related activities and focus on erosion controls

Additional Needs

- Identify erosion and sediment sources and potential sources, including sources related to new development of hillside vineyards
- Conduct outreach on best management practices for hillside vineyards

GOAL 2: Protect and enhance beneficial uses associated with anadromous fishes COLD, MIGR, SPWN, EST, COMM

Nonpoint Source Issues

Current Activities

- Carry out the TMDL Implementation Policy Statement for Sediment Impaired Receiving Waters, including the use of existing authorities and tools, coordination, outreach and education efforts, monitoring, and development of a guidance document.

Additional Needs

- Identify erosion and sediment sources and potential sources, including sources related to new development of hillside vineyards
- Conduct outreach on best management practices for hillside vineyards
- Participate on the Regional Committee for development of Critical Coastal Area Action Plans and promotion of projects in the Critical Coastal Areas of Pudding Creek, Noyo River and Pygmy Forest Ecological Staircase.

IMPLEMENTATION STRATEGY

Implementation will occur in the form of the TMDL Implementation Policy Statement for Sediment Impaired Receiving Waters that was adopted by the Regional Water Board on November 29, 2004. The Policy Statement will bring the watershed into a desired future condition that is consistent with the enhancement and maintenance of salmonid species. A broad interagency effort was used to gather and assess existing information on the watershed. Likewise, the development of the policy will incorporate significant interagency and public coordination. See Section 3, Regional Activities, Nonpoint Source for additional information on the policy.

Other concerns in the watershed will continue to be addressed through existing programs. However, vineyards are rapidly expanding in the north coast region. Much of this expansion is occurring on hillsides where there is increased erosion potential and delivery of sediment to nearby streams. Outreach is being conducted by Regional Water Board staff to educate vineyard landowners of best management practices for prevention of increased sedimentation of waters of the State and protection of the beneficial uses of water. Current funding constraints will limit Regional Water Board staff outreach activities and enforcement activities to address this issue.

The Water Quality Control Plan for the North Coast Region (Basin Plan) contains specific water quality objectives and implementation programs to protect and enhance identified beneficial uses of water. The Regional Water Board staff is currently working on a Regional Sediment Amendment to the Basin Plan with prohibitions and an Action Plan, which will provide more enforcement tools to the TMDL Implementation Policy Statement for controlling sediment. Increased assessment activities and continued high priority forestry related activities are necessary. Given current funding constraints, any new and/or redirected resources should be focused on staffing for field nonpoint source compliance, education and outreach efforts, monitoring, and enforcement inspections and hillside vineyard erosion issues as they develop.

Assessment and Monitoring

Assessment of existing information was used in the development of the TMDL strategy, drawing from existing information contained in plans being developed by the CDF and private timber companies as well as any citizen information that is made available. As mentioned above, data along with some analysis is available in the KRIS-Noyo computerized database package. See <http://www.krisweb.com/>.

Monitoring in the long term will be associated with determining the effectiveness of management practices to reduce erosion and sedimentation and determining trends towards the desired future condition. Additional biological assessment in the surface waters near the Parlin Fork Conservation Camp may be required in association with a contamination issue. The SWAMP has identified a rotating station low in the watershed for basic water quality parameters. Monitoring needs also include monitoring toxins associated with marina use, boat repair and herbicide use. Monitoring for bacteria and sediment also needs to be increased.

As part of the Sediment TMDL Implementation Policy Statement for Sediment Impaired Waters, the Regional Water Board directed staff to develop a sediment TMDL implementation monitoring strategy by December 31, 2005. The strategy will provide feedback on the recovery of sediment-impaired water bodies, including the Noyo River. The monitoring strategy shall include a description of monitoring objectives, trend monitoring stations, the sediment-related parameters that will be monitored, benchmark conditions, measurable milestones, and specific due dates for monitoring and data analysis. Monitoring will likely begin in 2006 following the completion of the monitoring strategy. Although the monitoring strategy is focused on all sediment impaired water bodies in the North Coast Region, the Noyo River is a good candidate for a long term sediment monitoring station due to the presence of cooperative landowners and the Noyo Watershed Alliance, who appear to be willing to assist with monitoring efforts.

Additional detail of monitoring needs is contained in Appendix 2.3.5-B.

Education and Outreach

As part of the Sediment TMDL Implementation Policy Statement for Sediment Impaired Waters, the Regional Water Board directed staff to conduct public outreach and education on sediment control issues, and to seek additional staff resources for such activities. Staff is currently developing a guidance document on sediment waste discharge control that will include examples of sediment waste discharge sites, sediment control practices, and road management practices; guidance for developing inventories of sediment sources and for developing erosion control plans; sediment assessment

methods; suggested prioritization criteria; and monitoring guidance. This guidance document is to be completed by December 31, 2005

Coordination

The Regional Water Board is currently coordinating with local and State agencies on an as-needed basis. Improved coordination is sought as part of the TMDL implementation process.

Core Regulatory

The current level of point source regulation (inspection, monitoring, and enforcement) on traditional dischargers with some increase in storm water issues is anticipated. Harbor issues associated with fish processing and individual waste disposal systems (primarily on the south shore of the harbor), as well as construction related problems, are addressed through the core regulatory program and the local oversight of individual systems.

Ground water

Ground water issues center on petroleum contamination and mill sites and will continue to receive the current level of activity. Groundwater and surface water contamination is suspected at former and existing mill sites that historically used wood treatment chemicals. Discharges of pentachlorophenol, polychlorodibenzodioxins, and polychlorodibenzofurans likely occurred with poor containment typically used in historical wood treatment applications. These discharges persist in the environment and accumulate in surface water sediments and the food chain. Additional investigation, sampling and monitoring, and enforcement actions are warranted, but insufficient resources exist to address this historical toxic chemical problem.

Nonpoint Source

Continued involvement in forestry, grazing and county road issues is necessary to ensure protection of aquatic resources. The listing of coho salmon as threatened under the federal Endangered Species Act has put the spotlight on all land use activities that potentially may increase sedimentation or otherwise affect habitat. The TMDL implementation process (see the above discussion) will increase work with local agencies and groups regarding land use effects on water quality, following the State Nonpoint Enforcement Policy (see Appendix B) to reduce nonpoint source pollution. An outreach program will enhance the effectiveness of the program. Where land management activities are found to be out of compliance with Basin Plan standards, Regional Water Board staff investigation and enforcement actions are necessary. The TMDL Implementation Policy for sediment and Sediment Amendment to the basin plan are also a part of the NPS strategy.

Vineyards are rapidly expanding in the watershed. Much of this expansion is occurring on hillsides where there is increased erosion potential and delivery of sediment to nearby streams. Staff will need to educate vineyard landowners of best management practices for prevention of increased sedimentation of waters of streams and protection of the beneficial uses of water through an outreach program as conversion of land to vineyards occurs.

Timber Harvest

The Regional Water Board has an extensive timber harvest program where staff review and inspect timber harvest plans for implementation of the Forest Practice Rules and

best management practices to ensure protection of water quality and beneficial uses. Program activities are expanding on private land in concert with California Department of Forestry and Fire Protection. The over-arching regulatory provisions of the Basin Plan are the Action Plan for Logging, Construction and Associated Activities and the Nonpoint Source Action Plan. The SWRCB and CDF/BOF entered into a Management Agency Agreement, which delegates primary water quality authority to the CDF/BOF associated with timber harvest regulation. The Regional Water Board has not given up any authority to regulate timber if violations of the Basin Plan occur or threaten to occur. Regulatory activities associated with timber harvest are conducted in accordance with that agreement. The Regional Water Board reviews timber harvest plans (THPs) and non-industrial timber management plans (NTMPs) and provides recommendations to CDF. In addition, THPs and NTMPs must comply with general or individual WDRs or waivers of WDRs.

Local Contracts/Agreements

The Regional Water Board will continue active involvement in the Clean Water Act sections 319(h) grant program and the Water Bond grant programs, as well as promoting other programs like the California Department of Fish and Game programs.

Water Quality Planning

The Basin Plan review process feeds into the activities to the extent issues were identified in the Triennial Review and applicable to the Noyo River watershed. The top priority issues are:

- Consider revisions to the water quality objectives for dissolved oxygen and temperature
- Review the Nonpoint Source Control Measures

In addition, the TMDL Implementation Policy will be completed, and a Regional Sediment Amendment will be incorporated into the Basin Plan at some future date.

Evaluation and feedback

The Regional Water Board will evaluate progress on a yearly basis, the TMDL providing the focus.

BUDGET

The Regional Water Board will attempt to fund the highest priority actions as identified in this watershed to the extent funding constraints allow that, and will pursue additional funding to conduct outreach and enforcement activities on new developments of hillside vineyards as needed to pursue the actions currently are not addressed.

Appendix 2.3.5-B contains monitoring and assessment needs, and Appendix B contains details on nonpoint source program activities and needs.

Appendix 2.3.5-A Stakeholders

Partial listing of agencies and groups in the Noyo River watershed with water quality jurisdiction and interests:

United States

Environmental Protection Agency
Fish and Wildlife Service
National Marine Fisheries Service (NOAA Fisheries)
Natural Resources Conservation Service

California State

California Environmental Protection Agency
Department of Forestry and Fire Protection
Jackson Demonstration State Forest
Board of Forestry
Department of Fish and Game
Department of Health Services
Department of Toxic Substance Control
Department of Water Resources
California Coastal Conservancy
Department of Parks and Recreation

Mendocino County

Water Agency
Planning Department
Department of Environmental Health

Local Agencies

Mendocino County Resource Conservation District
city planning departments
city public works departments

Public Interest Groups and Industries

Coast Action Group
Pacific Coast Federation of Fishermen's Associations
Friends of Fort Bragg
Campbell Timberland Management (Hawthorne Timber Company)
Mendocino Redwood Company
Noyo Watershed Alliance
Coastal Land Trust
Mendocino Coast Watch

Appendix 2.3.5-B

Monitoring priorities and needs detail for the Noyo watershed

Additional assessment by Regional Water Board staff is needed to test hypotheses about support of beneficial uses MUN, REC1, COLD, RARE, or provide assessment information essential for program implementation. They are currently not funded.

The estimates are Regional Water Board needs on a per year basis.

1. TMDL Monitoring - \$65,000 - (0.5 PY + \$10,000) ongoing at 5-year increments
Instream and hillslope conditions should be monitored to gauge success and progress of implementation and to provide feedback into the implementation process.

2. Parlin Fork Biological Assessments - \$32,000 (0.2 PY + \$10,000)

Documentation of conditions and monitoring of the aquatic biota should be conducted to assess the success of wood treatment chemical cleanup actions at the Parlin Fork Conservation Camp. (This was planned for under the Toxic Substance Monitoring (TSM) program, but those funds were re-directed to mercury sampling in the Trinity River. Subsequently, the TSM program has been terminated and this sampling has not been initiated.)