SECTION 2.3.7

ALBION 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. The following provides an overview of activities and outlines the basic framework and strategy at this time.

WATERSHED DESCRIPTION

The Albion River watershed drains an area of approximately 27,500 acres, about 43 square miles. The Albion River estuary is located near the town of Albion and is approximately 16 miles south of the city of Fort Bragg. The Albion River is in the hydrological unit 1113.40 (CalWater version 2.2). It primarily drains from the east to the west, sharing ridges with the Big River watershed to the north and northeast and the Navarro River watershed to the southeast and south. Elevations range from sea level to 1,566 feet. The main tributaries of the Albion River include: Railroad Gulch, Pleasant Valley Creek, Duck Pond Gulch, South Fork Albion River, Tom Bell Creek, North Fork Albion River, and Marsh Creek. The Mendocino Redwood Company (MRC), an industrial forestry company, owns approximately 54% of the land in the Albion River watershed. MRC property is concentrated in the Lower Albion River, Middle Albion River, and South Fork Albion River watersheds. Smaller industrial timberland ownerships, a few ranches, and numerous small parcels, typically private residences, make up the balance. Public ownership is limited to several parcels owned by Mendocino County and various school districts and community services districts. Population centers are the towns of Albion and Comptche.

The watershed is dominated by two distinct landforms: the relatively flat marine terraces extending several miles inland, and intervening deeply incised inner gorges of the major river channels and streams that dissect these surfaces. The Mediterranean climate in the watershed is characterized by a pattern of low-intensity rainfall in the winter and cool, dry summers with coastal fog. Mean annual precipitation is about 40 inches at Fort Bragg near the western margin of the watershed and about 50 to 55 inches at Willits. About 90% of the precipitation in this area occurs between October and April, with the highest average precipitation in January. Snowfall in this watershed is very rare and hydrologically insignificant.

Redwood and Douglas fir forest dominate the Albion River watershed. A 1949 survey identified the following assemblages: redwood and fir forest, laurel and poison oak, chaparral, salt marsh, sedge, coast hemlock, cypress, red alder, velvet grass, blackberry, bull thistle, and tangled underbrush.

The Albion River has a large estuary with tidal intrusion extending upstream by as much as five miles. The estuary contains over two miles of eel grass beds, as well as algae,

sea-lettuce, rock weed, and red laver. This area has been designated as a Critical Coastal Area. Approximately 4 river miles are within the coastal zone. The town of Albion is located at the mouth of the river and supports a thriving fishing harbor. The harbor has had small episodic oil spills associated with the fishing industry. The Albion River empties into the Mendocino Coast State Seashore. The Critical Coastal Area problem is sedimentation from human and natural sources. The pollutant is siltation from silviculture, roads, and other land uses**.**

Albion River estuary as an example of a drowned river valley resulting from a rise in sea level. The mouth of the river is defined by a narrow opening along the south side of the bay protected by rock headlands. This embayment reduces long ocean swell and sea height, which reach the mouth of the river. It also minimizes wave-induced longshore sediment transport, which causes the mouths of many California rivers to close during low flow periods due to sand bar formation. The mouth has aligned itself such that it discharges at the point of lowest wave energy, which allows the stream to remain open to the sea year around. The estuary is used as a commercial and sport fishing harbor and contains a small boat basin. The depth of the estuary has reduced from 20 to 25 feet deep in the 1940s to be less than six feet deep with a heavily silted bottom in 1979.

The history of the Albion River watershed is dominated by timber harvest. Logging began in the lower basin about 1852, around the time that the first mill was constructed near the lagoon upstream from the mouth of the Albion River. A number of smaller mills operated in the Comptche area between the mid 1930's and the 1960's. Since 1940, tractor yarding and the construction of roads, skid trails and landings have been the primary types of logging practices. Until the Forest Practice Rules Act was passed in 1973, logging practices were unregulated. This Act required road construction and timber harvesting practices intended to protect aquatic habitat and watershed resources.

Historically, coho salmon (*Oncorhynchus kisutch*) and steelhead trout (*O. mykiss*) utilized habitat throughout the Albion River watershed, and are still present today. Chinook salmon (*O. tshawytscha*) have also been found in the Albion River Watershed, although little is know about the population size or extent of the species.

The beneficial uses impaired by excessive sediment in the Albion River watershed are primarily those associated with the salmonid fishery: commercial sport fishing (COMM),cold fresh water habitat (COLD), estuarine habitat (EST), migration of aquatic organisms(MIGR) and spawning and reproduction and/or early development (SPWN). Additionally, the Basin Plan identifies municipal, industrial, agricultural, and recreational uses of the Albion River Watershed. The beneficial uses of water related to rare, threatened or endangered species has been proposed for this basin, and approved by the Regional Water Board and State Water Board. As with many of the north coast watersheds, the beneficial uses associated with cold water fishery appears to be the most sensitive of the beneficial uses in the watershed because of the sensitivity of salmonid species to habitat changes and water quality degradation. Accordingly, protection of these beneficial uses is presumed to protect any of the other beneficial uses that might also be harmed by sedimentation.

ASSESSMENT AND PROBLEM IDENTIFICATION

Generally, the most sensitive beneficial use in the Albion River watershed, protection of cold water fish species, is limited by habitat conditions that include excess sediment,

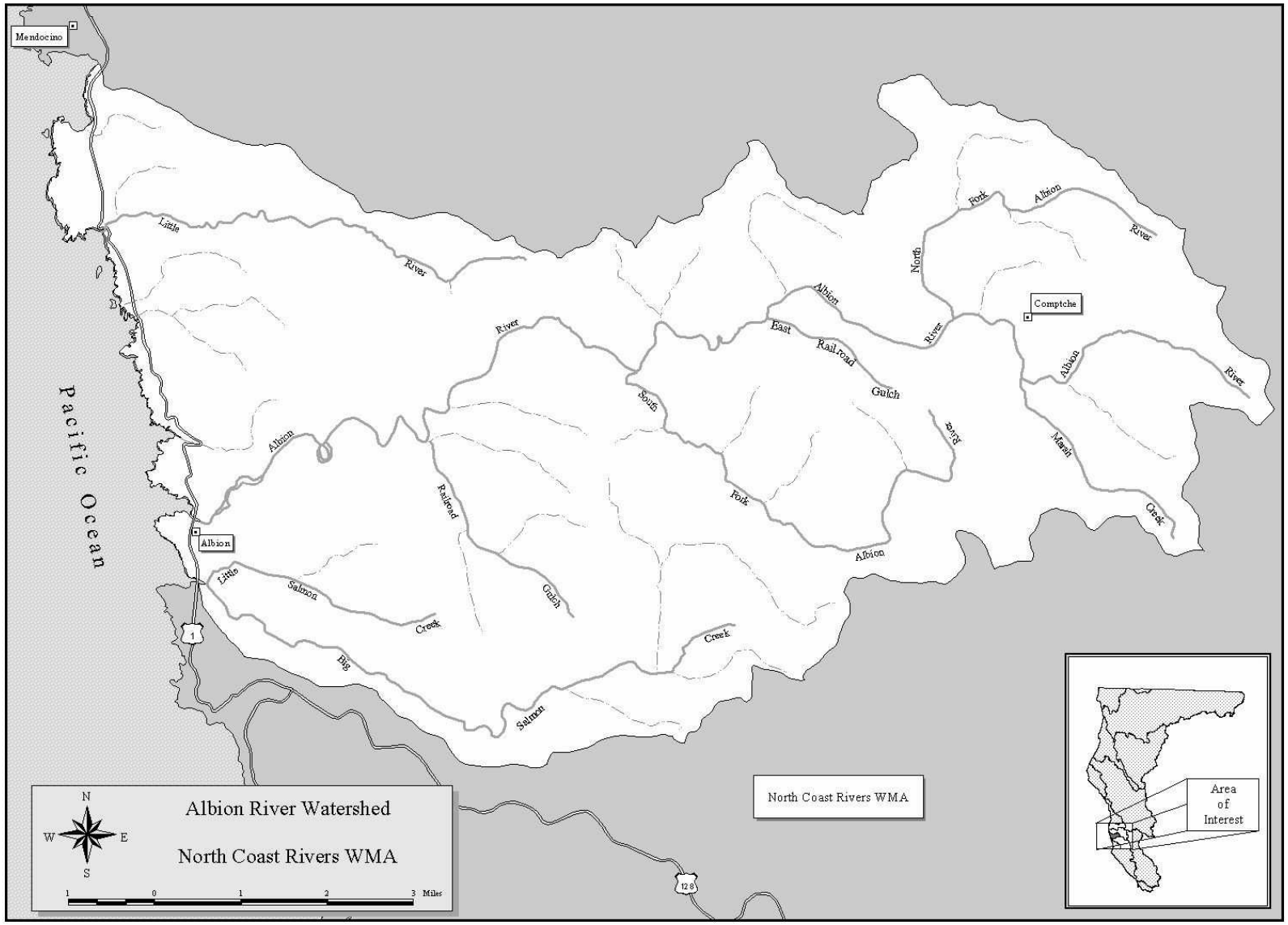

Figure 2.3.7.1 Albion River Watershed

lack of complex, deep pools, fair to poor spawning gravels and limited shelter. Excess sediment is adversely impacting the number and volume of pools. Sediment is also causing moderate to high embeddedness of substrate and spawning gravels in the basin. Shelter is poor throughout the basin. In general, habitat conditions in most locations in the watershed are moderately degraded. However, recently increased road building and timber harvest activities may cause additional degradation in the future, not reflected in current stream habitat conditions.

Data on the salmonid population in the Albion River watershed is sparse, but show that populations of chinook, coho, and steelhead in the Albion River and its tributaries have decreased substantially and continue to decline. In the early 1960's, the California Department of Fish and Game (CDFG 1965) estimated that 256,000 chinook, 99,000 coho, and 573,000 steelhead spawners returned each year to the coastal rivers of California. North Coast counting stations over the 1940s, 1950s, and 1960s showed spawning escapement declines of 64% in chinook salmon, 65% in coho salmon, and 66% in steelhead trout (USDA 1972). Coho populations in California today are probably less than 6% of what they were in the 1940s, and there has been at least a 70% decline since the 1960s (Brown et al. 1994). There is every reason to believe that California coho populations, including hatchery stocks, will continue to decline without protection and restoration.

There is currently an estimated 362 miles of roads in the Albion watershed, which translates to a basin-wide road density of 8.43 mile/sq. mile. Road erosion accounts for about 13 percent of sediment delivery to the stream that is double the long-term average of 54 tons/sq. mile/year. Background-related sediment inputs account for about 45 percent of the total, and management-related sediment inputs account for about 55 percent of the total. For more information on sediment sources in the Albion River Watershed, please see the Sediment TMDL at: http://www.epa.gov/region09/water/tmdl/albion/albionfinaltmdl.pdf.

The Albion's estuary dissolved oxygen (DO) concentrations indicate that dissolved oxygen may be a limiting factor for salmonids in the upper portions of the estuary late in the season, a condition that may be exacerbated in low flow years.

Primary water quality issues in the Albion River watershed

- Sedimentation of streams
- Salmonid habitat degradation
- Low dissolved oxygen in the estuary

Other issues of concern are: two trailer parks with septic system problems that need to be investigated, underground storage tanks leaking to ground water near the bluffs overlooking the ocean, Mendocino Mineral Water bottling plant that at one time had a waste discharge requirement and now needs investigation, and new development of homes and septic systems in the Comptche area.

WATER QUALITY GOALS

The following listing represents a first-cut delineation of goals and actions to achieve the goals that will be refined through the TMDL development.

- **Protect surface and ground water MUN, DOM, REC-1, and REC-2 uses**
- **Protect and enhance beneficial uses associated with anadromous fishes COLD, MIGR, SPWN, EST, COMM**

IMPLEMENTATION STRATEGY

Implementation will occur in the form of the TMDL Implementation Policy Statement for Sediment Impaired Waters that was approved 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, sediment waste discharge control efforts will incorporate significant interagency and public coordination.

Other concerns in the watershed will continue to be addressed through existing programs. 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. In order to develop adequate strategies it is a high priority to increase assessment activities of forestry, grazing, and agriculturally related activities including hillside vineyards and outreach to any new vineyards.

Assessment and Monitoring

Assessment of existing information was used in the development of the sediment 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. Data along with some analysis is available in the KRIS-Albion computerized database package (see http://www.krisweb.com/).

In-stream water quality and hillslope 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 in-stream condition. 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. Under the North Coast Watershed Assessment Program, the Albion Basin Assessment Final Report was completed in February 2004.

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 Albion 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.

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 currently coordinates with local and State agencies on an as-needed basis. Improved coordination is sought as part of the TMDL implementation process and the North Coast Watershed Assessment Program

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 will increase work with local agencies and groups regarding land use effects on water quality, following the State's Nonpoint Source Enforcement Policy (see Appendix B) to reduce nonpoint source pollution. An outreach program will enhance the effectiveness of the TMDL program. The Regional Water Board staff will participate on the Regional Committee to develop a Critical Coastal Area Action Plan and implement projects in the Albion River Critical Coastal Area.

Timber Harvest
The Regional Water Board has an extensive timber harvest program where staff review and inspect timber harvest plans on private lands for implementation of the Forest Practice Rules and compliance with recently adopted General Waste Discharge Requirements (WDRs) or a Categorical Waiver. Additionally, staff reviews U.S. Forest Service timber sales for implementation of best management practices and compliance

with a recently adopted Categorical Waiver to ensure protection of water quality and beneficial uses.

Regional Water Board staff continues to work in concert with the California Department of Forestry and Fire Protection during the review and approval of proposed timber harvesting activities on private lands. The SWRCB and CDF/BOF entered into a Management Agency Agreement, which delegates some water quality protection responsibilities 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. More recently however, the Regional Water Board adopted General WDRs and a Categorical Waiver of WDRs for discharges related to timber harvesting on private timberlands. Regional Water Board staff continues to review timber harvest plans (THPs) and non-industrial timber management plans (NTMPs) and provide recommendations to CDF during the Review Team process. In addition, Regional Water Board staff must review THPs and NTMPs for compliance with the recently adopted General WDRs or waivers of WDRs.

The Regional Water Board currently has resources to oversee timber sale activities associated with USFS lands pursuant to the USFS MAA. Regional Water Board staff continues to review USFS timber harvesting activities for compliance with the recently adopted Categorical Waiver of WDRs and implementation of best management practices. Review of non-timber nonpoint source activities on USFS land is not well funded. Regional Water Board staff is unable to implement this portion of the USFS MAA except for responding to complaint issues on a case-by-case basis. This is a significant issue for future oversight by the Regional Water Board for these activities.

Local Contracts/Agreements
The Regional Water Board will continue active involvement in the Clean Water Act section 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 Albion River watershed. The top priority issue is review of the Nonpoint Source Control Measures. Additionally, the TMDL strategy 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. Appendix B contains details on nonpoint source program activities and needs.

BUDGET

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

Appendix 2.3.7-A
Stakeholders

Partial listing of agencies and groups 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
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
Mendocino Redwood Company
Albion River Watershed Protection Association
Comptche Land Conservancy
Jughandle Creek Farm and Nature Center
Coastal Land Trust
Friends of Salmon Creek
Mendocino Coast Watch