NAPA RIVER SEDIMENT TMDL
PROJECT PLAN

Waterbody:	Napa River
Pollutant	Sediment
Beneficial Uses:	Cold freshwater habitat (COLD), fish migration (MIGR), preservation of rare and endangered species (RARE), fish spawning (SPWN), warm freshwater habitat (WARM), water contact recreation (REC1), noncontact water recreation (REC2).
Water Quality Objectives:	Turbidity, sediment, suspended material, and settleable material
Receiving Water:	San Pablo Bay
Watershed Location:	North Bay/Napa County. (In Coast Range that discharges into San Pablo Bay)
Watershed Area:	426 square miles
TMDL Completion Date:	June 2005
Contact:	Mike Napolitano, phone: (510) 622-2397; e-mail: mbn@rb2.swrcb.ca.gov
Web page:	http://www.swrcb.ca.gov/rwqcb2/napariversedimenttmdl.htm

Major Milestones and Completion Dates for Napa River Sediment TMDL

Milestone/Product	Fiscal Year	Completion date
Limiting Factors Study	01-02	June 2002
Preliminary TMDL Project Report	03-04	January 2004
Final TMDL Project Report	03-04	June 2004
Draft Basin Plan Amendment	03-04	December 2004

Approach:

Problem Statement. Napa River and its tributaries were listed based on evidence of widespread erosion and concerns regarding adverse impacts to fish habitat. We completed a two-year study in June 2002 to evaluate significant factors that may limit steelhead and salmon populations. Sediment impairment was confirmed. We also identified other factors that may limit steelhead including: 1) large number of migration barriers; 2) habitat simplification, including lack of large wood in channels; and 3) low summer flows and high summer temperatures. Habitat simplification appears to be the primary factor limiting chinook salmon.

Source Analysis. A rapid sediment budget will be developed to quantify sediment input to channels (production). An approximate sediment budget is needed to establish numeric targets and load allocations because 1) costs of additional sediment control actions may be quite high and/or not technically feasible; and 2) it is necessary to determine how much fine sediment deposition (low permeability) is from natural processes and human activities.

Linkage Analysis:
We will establish water quality indicators that link sediment input to water quality attributes (water column, substrate, and channel topography) that provide favorable habitat for fish. Four types of indicators will be considered: 1) *watershed management indicators* to quickly evaluate progress on implementation of actions specified in the TMDL; 2) *sediment-habitat indicat*ors to relate habitat to sediment input rates; 3) *fish population indicators* to monitor the status of threatened species; and 4) *watershed restoration indicators* because fisheries decline typically involves several factors in Bay Area streams.

Load Allocation and Numeric Targets.
For coastal watersheds in northern and central California, anthropogenic sediment inputs often constitute 50 percent or more of the total. TMDL Load allocations for sediment in California

usually reduce anthropogenic inputs by 50 percent or more, such that allowable input from human activities is 1/3 or less of total. Load allocations for Bay Area streams are expected to be similar. We also expect allocations will be based on the ratio of anthropogenic-to-total input monitored at least once every five years. The rationale is as follows: a) year-to-year variation in sediment input is often extreme in California, and governed primarily by substantial variation in character of a given wet season and antecedent watershed disturbances; and b) measurement frequency is suggested as once in five years (or less) to provide a rapid evaluation of the effectiveness of management practices and restoration projects.

Monitoring and Implementation Plan.
Two programs, recently initiated, could constitute key elements of TMDL implementation: 1) proposed revision of Napa County Conservation Regulations; and 2) the Napa Green Certification Program for vineyards and ranches. Revision of Conservation Regulations may include additional requirements regarding stream setbacks, control of peak flow increase, prevention of forest conversion, and protection of existing stream-riparian functions. The Napa Green Certification Program would involve comprehensive voluntary measures to control erosion from fields and roads, reestablish native riparian vegetation, and improve water resources management on about 25 % of land now cultivated for wine grapes in the watershed (7,000 acres). US Army and Napa County also recently committed several million dollars for future restoration projects.

Issues:

Determining what we need to do to solve the problem. Sediment is one of several factors contributing to decline of rare and endangered species (RARE) and/or cold freshwater habitat (COLD) beneficial uses; others include barriers, lack of wood, and low flow and warm temperature during summer. We are interested in working with Napa County and other government agencies to develop a broad holistic watershed analysis to determine cause-and-effect relationships between land and water management activities, habitat conditions, and population dynamics of aquatic species (providing ability to compare and contrast benefits and costs of various management actions on reach, tributary, and watershed scales).

Coordination of technical studies and implementation plans for other listed pollutants.
In addition to sediment, the Napa River is listed as impaired by nutrients and pathogens. Beneficial use issues and management actions for sediment and nutrients are likely to have substantial overlap. Pathogens involve different beneficial uses and likely differ in primary sources.

Coordination and involvement in other local, state, and federal regulatory processes.
Local, state and federal agencies are engaged in endangered species recovery (Napa County, National Marine Fisheries Service, California Department of Fish and Game, and State Water Resources Control Board). Therefore, we seek to coordinate and/or consolidate watershed assessment and regulatory decisions to: a) avoid redundant and inconsistent directives; b) accomplish holistic and scientifically defensible analysis; and c) use scare resources in an efficient manner.

Stakeholder Participation:

We participate in the Napa River Watershed Task Force, a group appointed by the Napa County Board of Supervisors to oversee revision of the Conservation Regulations. We also use this forum as a vehicle for information exchange, TMDL updates, and for input and coordination of regulatory processes. We have also conducted intensive outreach to land owners and managers (20 public presentations in two years) to: a) obtain access for field studies; b) gain support for the approach to study; c) become better educated about local land management issues; d) provide information about the TMDL program and communicate agency intentions; and e) provide incentives for pro-active problem solving by land managers. Similarly, we have involved the Department of Fish and Game and the National Marine Fisheries Service in review and comment on study design and draft report regarding limiting factors.