

SECTION 2.1

RUSSIAN/BODEGA WATERSHED MANAGEMENT AREA

The following draws upon knowledge obtained through public involvement, agency contacts, and the personal experience of Regional Water Board staff. The problem identification and watershed assessment and the strategy development are not complete. Further involvement will improve the effort. This summary of existing and planned actions is based on current knowledge.

MANAGEMENT AREA DESCRIPTION

This management area includes the Russian River and Bodega hydrologic units numbers 114.00 and 115.00, respectively. Within those units are the entire Russian River watershed (114.00), and Salmon Creek, Bodega Bay (including Bodega Harbor), Americano Creek, and Stemple Creek watersheds (115.00) (Figure 2.1-1).



Russian River Hydrologic Unit

The Russian River hydrologic unit encompasses 1485 square miles in Mendocino and Sonoma counties, bounded by the Coast Ranges on both the east and west. The mainstem is about 110 miles long, flowing southward from Redwood and Potter Valleys (north of Ukiah) to its confluence with Mark West Creek, where it turns west to cut through the coast range and empties into the Pacific Ocean at Jenner. The principal tributaries from the headwaters down are the East Fork Russian River, Feliz Creek, Pieta Creek, Big Sulfur Creek, Dry Creek, Mark West Creek (including the Laguna de Santa Rosa), Green Valley Creek, and Austin Creek. Elevations range from sea level at the estuary near Jenner to 4,343 feet at the summit of Mt. St. Helena in the Mayacama Mountains.

Two reservoirs provide flood protection and water supply storage: 1) Coyote Dam and Lake Mendocino on the East Fork Russian River near Ukiah, and 2) Warm Springs Dam and Lake Sonoma on Dry Creek west of Healdsburg. A diversion from the Eel River through the Potter Valley powerhouse flows into the East Fork and Lake Mendocino. The Russian River hydrologic unit supplies drinking water, including ground water supply to over 500,000 people and a varying amount of water for agricultural purposes. The majority of flow in the Russian River is during the winter season, when average rainfall ranges from 30-80 inches, depending on locale. The summer climate is moist and cool near the coast with temperatures increasing in the upper valley areas that are more isolated from the coastal influence.

Bodega Hydrologic Unit

Cooler temperatures and relatively high rainfall due to coastal influences typify the Bodega unit. The terrain in this unit is relatively steep, with the streams carving through the Coast Range and entering the Pacific Ocean south of the Russian River. Salmon Creek, Americano Creek, and Stemple Creek and their associated estuaries are the main waterbodies. These streams are located in erosive topography and are sensitive to land disturbance. Summertime flows are often non-existent in Americano Creek and Stemple Creek, while Salmon Creek flow is low but sustained. The three major watersheds in the Bodega unit each have estuary areas. However, the most notable are the Estero Americano (Americano Creek) and the Estero de San Antonio (Stemple Creek). Those two estuaries are prized for their resemblance to fjords and the resource values associated with isolated estuarine areas. Both of these estuaries are designated Critical Coastal Areas. The Bodega Marine Life Refuge is also a Critical Coastal Area (CCA). See Appendix C for more information on these CCAs.

ASSESSMENT AND PROBLEM IDENTIFICATION

The following analysis is based on existing knowledge of issues and problems in the Russian River basin from long-term water quality monitoring, discharger regulation, water quality planning, nonpoint source program efforts, and public involvement. However, the following analysis may not constitute a full assessment, and will be updated when necessary.

Primary water quality issues in the Russian/Bodega WMA

- Sedimentation of streams
- Toxic contamination of ground water
- Mercury in lakes
- Riparian area destruction
- Low stream flows
- Bacterial contamination of surface water
- Hydromodification
- High water temperatures
- Low dissolved oxygen in Laguna de Santa Rosa
- High ammonia and low dissolved oxygen in Americano and Stemple Creeks

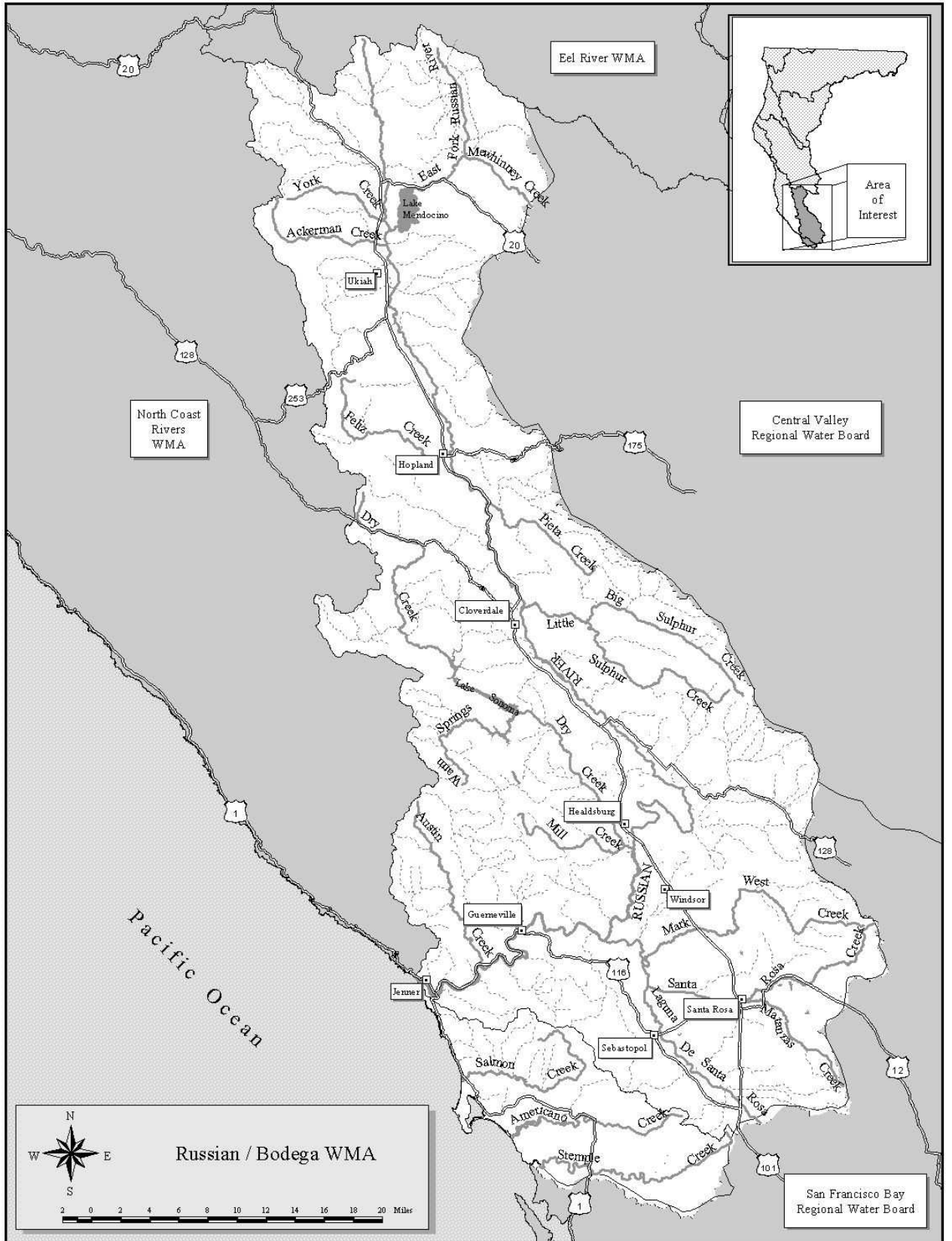


Figure 2.1.1. Russian / Bodega WMA

Russian River Hydrologic Unit

Russian River sampling programs conducted over the last 20 years indicate substantial improvements in water quality. Pollution control efforts with respect to point sources (municipal and industrial waste treatment and discharge) and nonpoint sources (agricultural runoff, urban and industrial runoff, and septic tank practices) are largely responsible for improvements in water quality

Toxic substances have rarely been detected in the water column. Sediment sampling in 1985-86 and again in 1995 detected no pesticides in sediments. Monitoring of heavy metals exhibited no trends, with the exception of higher zinc concentrations downstream from the more urbanized areas. Toxic substance sampling in resident fishes and in transplanted freshwater clams does occasionally detect pesticides and/or heavy metals. However, the only significant trend is the presence of mercury in fish flesh from lakes. The issue of mercury in fish flesh was referred to the California Office of Health and Hazard Assessment for their analysis and action and a health advisory issued for Lake Pillsbury.

The major water quality issues associated with the Healdsburg and Santa Rosa Plain areas are concentrated downstream from the urbanized areas, and where animal facility operations, cultivated agriculture, and industrial sites are located. Toxic discharges have affected ground water resources, with municipal supply wells for the City of Sebastopol and City of Santa Rosa being shut down due to toxic chemical contamination. Toxic chemicals also contaminate many individual wells in the area, most notably threatening 140 wells in the West College Avenue at Clover Drive area in Santa Rosa.

Less than 5% of the timber harvested in the Region comes from this watershed area. The primary issues deal with stormwater runoff impacts on domestic water supplies and fisheries. Forest herbicides are also a great concern to small landowners. Nuisance can result from the discharge of sediment, and organic debris, but increase stream temperature is a greater concern in the urban/forestry interface.

Sedimentation, riparian area destruction, low stream flows, bacteria, stream modification practices and high water temperatures have been identified as concerns in the tributaries. The Russian River watershed was added to the section 303(d) list for sedimentation issues in December of 1997.

The Laguna de Santa Rosa is seasonally eutrophic. A TMDL has been developed and implementation is underway to reduce and/or eliminate nutrient sources necessary to improve water quality. Ammonia goals were met ahead of schedule, but dissolved oxygen continues to be a problem due to enriched bottom deposits in the Laguna.

Bodega Hydrologic Unit

This Bodega Hydrologic management unit is typified by rangeland grazing and animal facility operations, including dairies and some timber production in the Salmon Creek watershed. Although the community of Bodega Bay has experienced some development in the last decade, the growth has been minimal. The population of the Bodega Bay area was 1127 residents according to the 1990 census. The Critical Coastal Areas in this WMA are the Bodega Marine Life Refuge, Americano Creek and the Estero Americano, and Stemple Creek and the Estero de San Antonio.

Americano Creek and Stemple Creek are Clean Water Act section 303(d) listed for water quality impairment associated with high ammonia and low dissolved oxygen (*Stemple Creek Water Quality Characteristics and a Maximum Daily Load Process, Marin and Sonoma Counties*, North Coast Water Quality Control Board, August 15, 1995). A watershed group was formed in the Stemple Creek watershed to address erosion and animal facility operation waste issues. A section 303(d) *Total Maximum Daily Load and Attainment Strategy for the Stemple Creek Watershed* was developed and adopted by the Regional Water Board in 1997 to address sediment and nutrient issues. Water quality improvements have been documented in the last two years as a result of activities in the watershed.

WATER QUALITY GOALS AND ACTIONS

The primary water quality goals focus on protecting beneficial uses of surface and ground water such as salmonid fishery values, recreation, and domestic, municipal and agricultural water supply. Maintaining the core regulatory activities associated with point source waste discharges to surface and ground water from municipal and industrial sites is a high priority. Permitting, compliance inspections, enforcement and cleanup activities are performed on those facilities with the highest threat and/or actual impact on water quality. The program of investigation and follow-up of spills and complaints regarding water quality problems will continue. Discharges of PCE, petroleum hydrocarbons, pesticides, nutrients, bacteria and sediment will be the primary pollutants of concern. For nonpoint source, emphasis has been increased on animal facility waste control, erosion control, riparian improvements, and fishery habitat enhancement. The primary concerns include sedimentation, nutrients, and riparian destruction.

The nine Goals for the Russian/Bodega WMA are related through the beneficial uses they address:

- **GOAL 1: Protect surface water uses MUN, REC-1, REC-2**
- **GOAL 2: Protect and maintain ground water quality and quantity for the beneficial uses of domestic, municipal, agricultural, and industrial water supply uses**
- **GOAL 3: Protect/enhance coldwater fisheries**
- **GOAL 4: Protect/enhance warmwater fisheries**
- **GOAL 5: Protect aquatic life and public health in Bodega Harbor**
- **GOAL 6: Objectives attainment in the Laguna de Santa Rosa**
- **GOAL 7: Stemple Creek and Americano Creek Waste Reduction Strategies**
- **GOAL 8: Water Rights Coordination**
- **GOAL 9: Assessment of Salmon Creek and other tributaries**

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

High quality water is required to protect these primary beneficial uses. The Regional Water Board recognizes that protecting and enhancing water quality for the primary beneficial uses will generally maintain and protect all other uses.

Point Source Issues

Current Activities

- Continue to track compliance with time schedules in NPDES Permits and enforcement orders
- Keep all Russian River municipal dischargers on schedule for advanced wastewater treatment.

- Maintain bacterial sampling at public water- contact recreation areas.
- Maintain the sampling regimen at the four long-term historical water quality monitoring stations to provide long-term monitoring data for the Russian River mainstem under SWAMP. Evaluate monitoring sites in other streams in the WMA and schedule monitoring under the SWAMP rotating schedule for FY 2004-05.
- Propose modified Basin Plan water quality objectives for Regional Board consideration to address protection of FESA listed salmonid fish.
- Provide assistance/coordination to Sonoma County Water Agency for the development of an early warning system for the mainstem Russian River.
- Evaluate the cumulative impacts of flow changes proposed as alternatives in the Sonoma County Water Agency/US Army Corps FESA Section 7 consultation and of waste discharges using the Russian River water quality model and other methods.
- Continue to regulate industrial and construction storm water dischargers in the Roseland Creek watershed and other watersheds.
- Renew the municipal storm water permit for the Santa Rosa area
- Continue working with a new mushroom composting facility on a waste discharge permit.

Additional Needs

- Continue and also seek additional staffing to work with the City of Santa Rosa and their co-permittees to fully implement their Municipal Storm Water Permit.
- Inspect all regulated facilities in accordance with the State Administrative Procedures manual.
- Identify any point source discharges of hazardous or toxic substances to Santa Rosa Creek and mitigate.
- Target subwatersheds to assess filing status and compliance with industrial and construction storm water permits.
- Pursue enforcement actions on non-filers for industrial and construction storm water permits.
- Provide comment on environmental documents, modify permits, and generally promote concerns for maintaining stream channel form and function.
- Assess spill contingency planning and compliance on aboveground storage tanks.
- Coordinate activities with local agencies and groups.
- Pursue post construction storm water management to improve water quality and flood control.

Nonpoint Source Issues

Current Activities

- Use education, outreach and enforcement of Basin Plan provisions to reduce or eliminate nonpoint source discharges from hillside vineyard development and other agricultural operations.
- Expand the outreach and enforcement activities on hillside vineyards including further development of interagency coordination and cooperation.
- For erosion problems, blatant violations of the Basin Plan are addressed through increased enforcement.

- Continue to work with animal facility operations to develop and implement improved animal waste management practices.
- Maintain the effective individual on-site waste disposal system program described in the Basin Plan and promote reasonable resolution of localized problems.
- Support the Sonoma County's hillside vineyard ordinance that addresses the issue of erosion and sediment discharges from hillside vineyard development.
- Support the Marin County RCD and Southern Sonoma County RCD and Natural Resource Conservation Service efforts to address erosion and mass wasting (landslides) sediment issues in the Stemple Creek watershed with education, outreach and grant assistance.
- Continue to review timber harvest operations in coordination with the California Department of Forestry for control of sediment discharges.
- Monitoring for compliance with water quality objectives associated with timberland activities in key areas (e.g., Jenner Gulch).
- Continue the restoration of portions of Santa Rosa Creek.
- Monitor for MTBE in Lake Sonoma and Lake Mendocino.
- Screen for xenobiotic estrogens by using vitellogenin testing of fish under SWAMP. Monitor for toxic chemicals through coordination with the SWAMP rotation in FY 2004-05.
- Conduct a pathogen source analysis on the mainstem and tributaries.
- Post, on the Regional Water Board web site, the results of summertime bacteriological sampling at swimming beaches conducted by the county health department with the Regional Board's assistance.
- Continue working with the Sonoma Land Trust on mitigation projects for restoration in the lower Russian River and Bodega Bay areas.
- Under the Sonoma County Water Agency contract, monitor aluminum and temperature in the mainstem and tributaries, especially the East Fork and at gravel mining areas near Healdsburg.

Additional Needs

- Volunteer monitoring should receive additional attention.
- Promote additional outreach and enforcement where appropriate for road maintenance and sediment control, agricultural operations, implementation of best management practices and pollution prevention at commercial and industrial facilities, and new development of hillside vineyards.
- Seek funding for additional assessment of semi volatile, volatile, and metal pollutants in Laguna de Santa Rosa tributaries.
- Participate in the Regional Committee for Critical Coastal Areas to protect Critical Coastal Areas and promote Critical Coastal Area Action Plans and implementation of CCA projects

GOAL 2: Protect and maintain ground water quality and quantity for the beneficial uses of domestic, municipal, agricultural, and industrial water supply uses.

The discharges to ground water from underground and above ground tanks, wrecking yards, maintenance yards, septic systems, landfills, herbicide and pesticides applications, dairies, illegal disposal sites, and other agricultural and industrial facilities have resulted in contamination and degradation of ground water. Sonoma County relies heavily on ground water as a domestic supply. The extent to which some ground water

contamination areas affect surface waters is not well known, but several toxic sites are documented as affecting nearby streams with contaminated ground water.

Point Source Issues

Current Activities

- Continue with pollution prevention activities to promote the continuing development and application of best management practices for storage, treatment, and disposal of hazardous substances, storm water pollution prevention controls, solid waste, dairy waste, municipal waste water, agricultural and domestic and industrial wastes.
- Continue to address the sites that have the highest ground water contamination, greatest risk to the beneficial ground water uses and greatest risk to drinking water sources.
- Assist City of Sebastopol in a source water protection program and continue efforts at source control for the ground water contaminated with solvents and petroleum products.
- Coordinate with local agencies to protect ground water, assess effects of gravel mining and other land use activities on local water tables, and assess impacts of industrial and agricultural chemicals in the ground water.

Additional Needs

- Expand source water protection programs to areas beyond Sebastopol.
- Evaluate local program efforts for eliminating Class V injection wells and unpermitted discharges to the subsurface. Promote eliminating Class V wells and coordinate with US EPA on identifying locations of other Class V wells in the WMA.
- Provide needed enforcement follow-up on unpermitted discharges.
- Expand cleanup efforts to address Priority II and III SLIC dischargers. Expand assessment program for determining sources of polluted well contamination.
- Pursue innovative approaches to funding ground water and volunteer monitoring efforts.

Nonpoint Source Issues

Current Activities

- Maintain the Regional Water Board and County of Sonoma's and County of Mendocino's individual waste disposal system programs and promote reasonable resolution of localized issues.

Additional Needs

- Promote the continuing development and application of best management practices for storage, treatment, and disposal of hazardous substances, storm water runoff, solid waste, dairy waste, municipal wastewater, agricultural, and industrial wastes.
- Coordinate with local agencies to protect ground water, assess effects of gravel mining and other land use activities on local water tables, and assess impacts of industrial and agricultural chemicals in the ground water.
- Coordinate with other agencies and groups regarding ground water issues and funding.
- Establish a monitoring network in high risk/high ground water use areas.

- Determine source of pollutant discharges from ground water-to-surface water pathway.
- Assess nonpoint source impacts of Sonoma County Central Landfill on Stemple Creek.

GOAL 3: Protect/enhance coldwater fisheries

The historic anadromous fishery is in decline due to a combination of factors, including dams, siltation, loss of habitat, low tributary flows, high tributary temperatures, and other factors. The condition of water resources with respect to maintaining and enhancing those uses is being addressed by other agencies, however the Regional Water Board shares responsibility for determining the level of attainment.

Point Source Issues

Point source issues are addressed in Goals 1 and 2.

Nonpoint Source Issues

Current Activities

- Under contract to the Sonoma County Water Agency (SCWA), the adequacy of water quality objectives and the current regulatory structure in attaining federal Endangered Species Act requirements for threatened salmonids will be evaluated. Included in the analysis was an evaluation of existing data for compliance with water quality objectives related to fisheries.
- Propose changes to water quality objectives for water temperature, dissolved oxygen, sediment, and aluminum, and take those changes, as well as implementation plans, to the Regional Board for their consideration.
- Under the SCWA contract we also established monitoring protocols to detect any changes in water quality.
- Develop a database of mitigation and enhancement activities that could influence the changes in water quality objectives for listed and unlisted species, and enhance the quality of surface water for the benefit of listed and unlisted species.
- The Russian River water quality model is being refined under the SCWA contract and used in scenario analysis of flow changes associated with the Section 7 consultation. It will be used for evaluating discharge effects on water quality as well.
- The SCWA has proposed a watershed data gathering, analysis, and information system for Sonoma and Marin counties. That system will include the Russian/Bodega WMA and play a significant role in FESA-listed salmonid recovery planning.
- Continue to review timber harvest operations.
- Continue to work with the dairy industry to promote management practices that protect water quality.
- Support the Marin and Southern Sonoma County RCDs erosion control efforts in the Stemple Creek watershed.
- Maintain current involvement in the Russian River Watershed Council.
- Continue outreach and interagency coordination and cooperation to the grape growing industry to reduce impacts of vineyards on water resources, especially the anadromous fishery.
- Continue to coordinate with local agencies/groups in the support of local non-regulatory, cooperative efforts for erosion/sedimentation controls.

- Continue to coordinate with the Division of Water Rights regarding water supply issues and the decline of summer flows.
- Continue to work with the SCWA on channel maintenance activities.

Additional Needs

- Promote additional outreach and enforcement where appropriate for improved road maintenance and sediment control on rural residential roads.
- Continue to expand efforts to conduct additional outreach and enforcement to promote control of soil erosion and riparian habitat reduction by conversion of hardwood and coniferous forest to hillside vineyard.
- Promote habitat/riparian restoration in existing agricultural areas.
- Promote restoration, enhancement, and maintenance of riparian areas through grant funding, public education and outreach, and coordination and assistance to other agencies and groups.
- Implement and enforce best management practices for nonpoint source regulation; react to complaints and conduct enforcement.
- Evaluate the sediment data collected by the US Geological Survey for the Russian River with respect to erosion and sedimentation issues and the anadromous fishery.
- Evaluate and pursue methods for evaluating sediment sources (e.g., satellite imagery, aerial photography).
- Pursue innovative approaches to funding and volunteer monitoring.
- Monitor for toxic chemicals in water, sediment, and tissue.
- Coordinate with California Department of Fish and Game in their salmonid restoration activities.
- Increase coordination with the local planning agencies.
- Promote awareness of the effects of increased erosion on channel morphology.
- Promote development and adoption of a county grading ordinance.

GOAL 4: Protect/enhance warmwater fisheries

The protection and enhancement of warm water fisheries and ecosystems (beneficial use WARM) also is important in the Russian/Bodega WMA. The Laguna de Santa Rosa may be re-listed for dissolved oxygen and nutrients because recent water quality indicates they are still a problem.

The issues and actions overlap significantly with those for coldwater habitat and are not restated here.

GOAL 5: Protect aquatic life and public health in Bodega Harbor

Bodega Harbor supports the following beneficial uses: REC-1, REC-2, COMM, COLD, MAR, WILD, MIGR, SPWN, AND SHELL. The local sewage treatment plant, marina and dry dock operations, and storm water runoff from agricultural, urban, and industrial sites threaten those uses to varying degrees.

Point Source Issues

Current Activities

- Inspect the marina and dry dock operations, and the dredge-tailing site.
- Inspect and update Waste Discharge Requirements for Bodega Harbor Wastewater Treatment Plant.

- Work with the Army Corps of Engineers on their Bodega Harbor dredging proposal.

Additional Needs

- Review and inspect selected industrial and construction storm water permit holders.

Nonpoint Source Issues

Current Activities

- Continue working with individual agricultural operations to improve management practices.
- Continue cooperative investigations with the Sonoma County Department of Environmental Health and the Bodega Marine Laboratory regarding high bacterial levels at Campbell Cove and Doran Park beaches. Look into DNA analysis to identify source species.

Additional Needs

- Evaluate the extent of complex organic contamination in sediments in Bodega Harbor.
- Determine the need for cleanup and begin cleanup action.
- Develop a monitoring program for the Bay, including water, sediment, and tissue monitoring.
- Eliminate discharges currently not under permit or other regulation.
- Determine sources and extent of sedimentation in Cheney Gulch and refer concern to Sonoma County Planning Department or other responsible agency.
- Work with agricultural, and other runoff discharges, primarily through grant-funded projects, volunteer monitoring coordination, and public education and outreach; conduct enforcement.
- Improve agency coordination regarding runoff issues and marina and dry dock operations; encourage the pursuit of grants.
- Participate on the Regional Committee to develop a Critical Coastal Area Action Plan and projects to protect the Critical Coastal Area Bodega Marine Life Refuge.

GOAL 6: Objectives attainment in the Laguna de Santa Rosa

High ammonia concentrations threaten aquatic life in the Laguna, as do frequent events of low dissolved oxygen. The 1995 TMDL and a waste reduction strategy (WRS) require revision to fine-tune the estimates and goals. Implementation monitoring documents an improvement in nitrogen concentrations to the point of meeting the interim instream goals for nitrogen. Dissolved oxygen appears to be largely dependent on internal processes in the Laguna and requires further investigation to support revision of the TMDL and strategy.

Point Source Issues

Current Activities

- Maintain NPDES permit oversight for the dischargers to the Laguna.

Additional Needs

- Evaluate load estimates for point source discharges.

- Revise load estimates and the WRS to more accurately reflect conditions in the Laguna and status of dischargers.

Nonpoint Source Issues

Current Activities

- Continue to implement the plan for reduction of nutrient and organic matter loading; maintain liaison with RCDs and Sonoma-Marín Animal Waste Committee.
- Continue to promote restoration and enhancement of riparian areas.
- Expand the hillside vineyard outreach program to educate vineyard landowners of best management practices and conduct enforcement activities to address erosion from hillside vineyards.

Additional Needs

- Coordinate activities with other agencies and groups, using cooperative, non-regulatory programs.
- Work cooperatively with agricultural and other runoff discharges; conduct enforcement.
- Encourage the maintenance of riparian vegetation along the banks of streams.
- Revise load estimates and the WRS to more accurately reflect conditions in the Laguna and status of nonpoint source loads.
- Continue to expand effort to identify erosion and sediment sources and potential sources related to new development of hillside vineyards
- Expand outreach on best management practices for hillside vineyards, including further development of interagency coordination and cooperation on addressing erosion problems.

GOAL 7: Stemple and Americano Creeks Waste Reduction Strategies

This goal provides for the continued implementation of a waste reduction strategy for the Stemple Creek watershed to meet dissolved oxygen and ammonia objectives. It will be used as a model for Americano Creek in the future. For that reason, only the Stemple Creek activities are described below.

Point Source Issues

Current Activities

- Continue regulatory oversight of the Sonoma County Landfill.
- Continue investigation of the US Coast Guard Petaluma Training Facility Wastewater Treatment and Disposal Facilities and wet weather operational problems.

Additional Needs

- Investigate the impacts to ground water by petroleum products and other toxic materials from leaky underground tanks and any other sources.
- Work with the US Coast Guard Petaluma Training Facility on leaky underground tanks and other sources.
- Work with dairies on strategies for reducing water quality impacts from these operations.

Nonpoint Source Issues

Current Activities

- Continue on-going data analysis and water quality data collection.
- Continue to encourage the maintenance of riparian vegetation along the banks of streams.

Additional Needs

- Coordinate with the RCDs on public participation and in compiling land use information to support a watershed runoff model.
- Implement and enforce best management practices for nonpoint sources, including work with agricultural, and other runoff discharges; conduct enforcement.
- Investigate the nonpoint source impacts of the Sonoma County Landfill on the surface water and ground water in the Stemple Creek watershed.
- Participate in the Regional Committee to develop Critical Coastal Area Action Plans and promote projects in the Critical Coastal Areas Estero Americano and Estero de San Antonio

GOAL 8: Water Rights Coordination

Water use in the WMA has increased over the years, with competing demands among agriculture, domestic, and wildlife/fishery uses creating conflict over availability.

Concern has been expressed regarding excessive summer diversions and temporary diversion structures impacting salmonid resources in Russian River tributaries. We are increasing our coordination with the state Division of Water Rights and reviewing water rights permits for water quality concerns. The issues associated with water diversions are covered under GOAL 3.

GOAL 9: Assessment of Salmon Creek and other tributaries

Little is known about the water quality condition of the coastal tributaries between the Russian River to the north and Americano Creek to the south. Concerns have been raised by the public regarding sedimentation, water temperature, nutrients, and salmonid habitat values. This goal provides for water quality monitoring and water quality problem assessment in Salmon Creek and other coastal tributaries.

Current Activities

- Actions associated with this goal are contained in Goal 3.

Additional Needs

- SWAMP is scheduled for FY 2004-05 to perform water quality sampling but lack of resources preclude cursory watershed assessments for Salmon Creek and Cheney Gulch as well as other coastal tributaries south of the Russian River such as Stemple and Americano Creeks.

Other More General Additional Needs for the Russian/Bodega WMA

- Identify ways to speed up permit process with other agencies
- Seek funding for additional needs

- Promote incentives for landowners
- Use focus groups to address specific issues or geographic areas
- Maintain a database of projects and actions, possibly with a GIS component
- Promote grants for improved watershed health

IMPLEMENTATION STRATEGY

The general emphasis in this watershed is to; enhance interagency and public coordination, protect existing uses, continue to implement and improve existing permitting programs, clean up contaminated ground water, implement preventative point and nonpoint source programs to protect surface and ground water, assess, monitor, and improve the biotic health of the system, reduce nutrient and sediment loading in selected sub-watersheds, and support efforts to improve the channel and riparian areas. The Regional Water Board plans to accomplish these goals through increased efforts at assessing and evaluating compliance with water quality objectives through reviewing self monitoring reports, conducting compliance inspections and updating permits on a regular cycle. Staff will continue to respond to complaints regarding unpermitted discharges and violations of permit conditions.

Assessment

Focus will be on assessment efforts on identified concerns regarding; objectives attainment (e.g., dissolved oxygen, bacterial quality, sedimentation), biological health (e.g., presence of xenobiotic estrogen responses in fish, benthic macroinvertebrate populations), evaluation of Basin Plan water quality objectives regarding federal Endangered Species Act (FESA) compliance (e.g., dissolved oxygen, temperature), ground water quality, and surface water quality and watershed modeling to assess the relative importance of various factors to changes in water quality. The biennial Water Quality Assessment under Clean Water Act section 305(b) will be supported by the assessment and monitoring activities, including listings for section 303(d). See <http://www.krisweb.com/> for information and data.

Monitoring

Water quality monitoring efforts will be focused on maintaining four long-term monitoring stations in the Russian River watershed, TMDL confirmation monitoring in the Laguna de Santa Rosa, and expanding the temperature monitoring consortium for the watershed to include other water quality parameters. Those activities will be funded through the SWAMP <http://www.waterboards.ca.gov/northcoast/programs/swamp.html>. SWAMP rotated into to the Russian River watershed in FY 04-05 and in addition to the four permanent trend-monitoring stations, thirteen rotating stations have been added. The SWAMP monitoring is being coordinated with the Sonoma County Water Agency and USGS below Dry Creek and with the Sotoyome RCD in Austin Creek. Activities also include ground water quality assessment, and public participation. Specific monitoring for pathogens will continue in the Russian River and Santa Rosa Creek as a result of the identification of bacteria problems in these watersheds. Additional options considered for improved and enhanced monitoring include; the establishment of long-term photo records, fostering voluntary monitoring by individuals and watershed groups; reviewing the USEPA Rapid Bioassessment Protocol, providing spatial analysis of surface and ground water data, and increased coordination with local universities and the UC Extension Service for education and outreach. Additional monitoring and assessment needs are provided in Appendix 2.1-B.

Core Regulatory

The Regional Water Board will continue to support the core regulatory program to the extent feasible based on available resources, and program and water quality priorities. Priorities and expected workloads are contained in annual program workplans developed each year by State and Regional Board staffs. Federal storm water permitting programs that address the control of pollutants contained in storm water runoff from industrial, municipal and construction sites are being implemented. Construction projects involving total ground disturbance of one acre or more are required to implement appropriate BMPs to control pollutant discharges during construction. A municipal NPDES storm water permit has been issued to the City of Santa Rosa/SCWA and the County of Sonoma requiring them to conduct activities aimed at reducing pollution due to the City's storm water discharges. Phase II of the storm water program will require that several smaller municipalities as well as state and federal facilities obtain municipal storm water permits. In addition, the SWRCB has issued a statewide municipal NPDES storm water permit to the California Department of Transportation (CalTrans) requiring the agency to control storm water runoff from their transportation system. Regional Board staff is responsible for enforcing this permit for CalTrans discharges within this Region.

Ground water

Cleanups related to the leaky petroleum underground storage tank program, Superfund program, and other ground water remediation programs will continue for any new and all existing ground water contamination sites. The PCE contamination at West College Avenue and Clover Drive in Santa Rosa is an example of a high priority clean up site because of domestic drinking water wells in the vicinity. Continued public outreach and education regarding hazardous waste handling and the potential for ground water contamination is a priority in preventing future problems. The Source Water Assessment Program administered by the California Department of Health Services may provide additional water quality protections for both ground water and surface water supplies.

Water Quality Certification

The watershed is seeing a considerable increase in projects involving dredge/fill within waters of the US including surface water and wetlands. Most of these projects are a result of development related impacts in the Santa Rosa plains. Staff is responsible for ensuring that these projects comply with all applicable state standards, including the State's "no net loss" policy for wetland impacts. State certification (401 Certification) is required by provisions of the Clean Water Act (CWA) in order for federal CWA section 404 permits to be issued. Adequate staff funding is needed to completely implement the 404/401 programs. Staff continues to pursue innovative approaches to assure appropriate review and certification of all projects. High priority projects (those with a potential for adverse impacts) will continue to receive a complete review.

Nonpoint Source Program

The long-term goals of this program are described in the Introduction section of this document. Specifics regarding this WMA include:

- Continue promoting best management practices in the dairy industry and other agricultural operations thorough coordinated outreach and education with local agencies and watershed groups regarding land use effects on water quality,
- Assisting the local Resource Conservation Districts (RCDs) and other agencies with CWA section 319(h), and Water Bonds (Propositions 13, 40 and 50) projects to address riparian issues, sedimentation, and nutrient discharges,

- Addressing forestry issues under the Management Agency Agreement with the California Department of Forestry. When appropriate, monitoring and reporting programs may be issued to achieve compliance with the Basin Plan,
- Assisting in the continuing implementation of the *Total Maximum Daily Load and Attainment Strategy for the Stemple Creek Watershed*, and for the *Laguna de Santa Rosa Watershed*,
- Expanding the outreach program to educate hillside vineyard landowners of best management practices for prevention of increased sedimentation of waters of the State and protection of the beneficial uses of water, and conducting enforcement activities as needed to address erosion from hillside vineyards. Continuing outreach activities intended to assist in project development, water quality improvement and continued monitoring and assessment, and
- Education and outreach are addressing nonpoint source waste discharges from the dairy industry and other agricultural operations.
- Complete development of the Sediment TMDL Implementation Policy and the Regional Sediment Basin Plan Amendment (see Section 3, Regional Activities).

Additional nonpoint source program detail is provided in Appendix B.

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. Where cumulative impacts are present or where ground disturbance from a large concentration of timber harvest activity creates the potential for contributing to adverse impacts to the beneficial uses of water, the Regional Water Board can employ all available authorities, including existing regulatory standards and permitting and enforcement tools. Examples of existing permitting and enforcement tools can include, but are not limited to watershed-wide waste discharge requirements, individual or project-specific waste discharge requirements, and enforcement actions, including, but not limited to, cleanup and abatement orders, time schedule orders, cease and desist orders, and administrative civil liabilities, and other regulatory actions as necessary. Recent adoption of Resolution No. R1-2004-0087 by the Regional Water Board directing staff to address sediment waste discharges at the watershed-specific level, including cumulative impacts, through all available authorities will be an on-going proactive effort by staff to ensure that water quality standards in impaired waterbodies are achieved.

Water Quality Planning

The Basin Plan review process assists in identifying issues that may affect the Russian/Bodega WMA, including the following:

- Evaluate numeric and narrative dissolved oxygen, and temperature objectives,
- Consider numeric and narrative objectives for nutrients and aluminum,
- Establish fish habitat criteria,
- Review nonpoint source control measures,
- Develop a comprehensive action plan for the Russian River,
- Review water quality impacts from gravel mining, and
- Evaluate cumulative impacts
- Evaluate wetland and stream system protection measures

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.

Evaluation and Feedback

Implementation progress will be reviewed annually, and adjustments made to the next year's work based on that review. Additionally, an evaluation of the progress and process will occur at the end of a five-year cycle. The evaluation may result in changes to the overall program, and the Regional Water Board may be able to apply discretionary funding to priority work efforts on a watershed basis.

BUDGET

The Regional Water Board will attempt to fund the highest priority actions as identified in each WMA to the extent funding constraints allow, and will pursue additional funding for those actions not currently addressed.

APPENDIX 2.1-A Stakeholders

Partial list of agencies and groups in the Russian/Bodega WMA

United States

Environmental Protection Agency
Army Corps of Engineers
Geological Survey
National Biological Service
Fish and Wildlife Service
National Marine Fisheries Service (NOAA Fisheries)
Natural Resources Conservation Service

Native American

Pomo Basket Weavers
Yakima

California State

California Environmental Protection Agency
Department of Fish and Game
Department of Health Services
Department of Pesticide Regulation
Office of Environmental Health and Hazard Assessment
Department of Toxic Substance Control
Department of Water Resources
California Coastal Conservancy
UC Agricultural Extension
Hopland Research and Extension Center
California Coastal Commission
Department of Parks and Recreation

Sonoma County

Water Agency
Planning Department
Department of Environmental Health
Agricultural Commissioner's Office
Redevelopment Agency
Economic Development Board
Open Space District

Mendocino County

Water Agency
Planning Department
Department of Environmental Health
Agricultural Commissioner's Office

Local Agencies

City agencies
 planning departments
 public works departments
North Marin Water District
Resource Conservation Districts
 Mendocino County RCD
 Sotoyome RCD

Goldridge RCD
Southern Sonoma County RCD
Marin County RCD
Mendocino Water Supply and Flood Control District
local water districts - numerous
Santa Rosa Waterways Plan
Santa Rosa Creek restoration activities by local agencies
Eel/Russian Commission

Public Interest Groups

Green Valley Creek Watershed Advisory Group (WAG)
Laguna de Santa Rosa Foundation
Laguna Coordinated Resource Management and Planning (CRMP) Task Force
Farm Bureau
Western United Dairymen
United Winegrowers
Stemple Creek WAG
Russian River Watershed Protection Committee
Friends of the Russian River
Russian River Alliance
Vernal Pool Task Force
Environmental Resource Council
Sonoma County Taxpayers Association
Trout Unlimited
Salmon Unlimited
Citizens for Cloverdale
Committee for Sensible Reuse
Surfrider Foundation
Citizens Cleanup Committee
Southwest Area 2000
Roseland Action
Russian River Watershed Council
West College Avenue Citizens Group
Russian River Watershed Alliance
Russian River Watershed Association
Salmon Creek Watershed Council
Santa Rosa Creek Association
Forest Unlimited
McNab Creek Watershed Group
Community Clean Water Institute
Sonoma Ecology Center
Sequoia Paddling Club
Sonoma County Conservation Action
Sonoma County Wetlands Watch
Coastal Land Trust
Redwood Creek Neighborhood Association
Occidental Arts and Ecology
Atascadero/Green Valley Watershed Association
Blucher Creek Watershed Council
Committee for Restoring Santa Rosa Creek
Cunningham Marsh Preservation Committee

Dutch Bill Creek Watershed Group
Friends of Copeland Creek
Friends of the Esteros
Greenbelt Alliance
Mark West Creek Preservation
Friends of Mark West Creek

APPENDIX 2.1-B

Monitoring and assessment needs for the Russian/Bodega WMA.

The prioritized monitoring and assessment activities below support testing hypotheses about support of beneficial uses MUN, REC1, COLD, RARE or provide assessment information essential for program implementation. They are currently unfunded.

The estimates are Regional Water Board needs on a per year basis with desired fiscal year implementations identified.

1. Coordinated Monitoring and Assessment - \$40,000 (0.3PY + \$10,000)

A consortium of monitoring agencies and groups has not yet been established to coordinate discharger self-monitoring, receiving water monitoring, storm water monitoring, fish habitat assessments, flow monitoring, existing long-term water quality stations (4), agricultural chemical use, and special investigations like estrogenic endocrine disruptor screening. Regional Water Board permits will be coordinated to provide the most ecologically significant, efficient, and effective monitoring strategy for the WMA. It is hoped that the efforts of the NMFS, RRWC, and SCWA to develop information systems will promote coordination.

2. TMDL Assessments - \$50,000 (0.3PY + \$20,000 lab)

Continued assessment of water quality, especially nutrient and dissolved oxygen relationships is required by the Laguna and Stemple TMDL waste reduction strategies. The City of Santa Rosa and some local groups are performing chemical monitoring in both streams and the SCWA will deliver some of the analysis, but the Regional Water Board must continue to oversee the program and investigate nutrient and dissolved oxygen problems.

3. Ocean tributary assessments - \$40,000 (0.2 PY + \$10,000 lab)

Water quality assessments of streams tributary to the ocean excluding the Russian River are needed to determine general water quality and to serve as the basis for addressing problems associated with land uses in the watersheds, including Salmon Creek, Cheney Gulch, Americano Creek. The intend is to address this with the SWAMP rotation in FY 04-05.

4. Spatial Data Assessment - \$45,000 (0.4 PY)

A number of dischargers and programs are collecting surface and ground water information in the WMA. Spatial assessment of those data would provide a picture of problems associated with groundwater and storm drain contamination and groundwater to surface water connections, as well as providing direction for developing a coordinated multi-agency approach to monitoring and assessment in the WMA.

The Russian River watershed is 303(d) listed for sedimentation. Further assessment of existing data and collection of new information is needed to develop strategies (TMDLs) for reducing erosion and sedimentation of tributary spawning and rearing streams. The NMFS, RRWC, and SCWA efforts should begin to address watershed assessment needs from a spatial scale, assisting in the assessment of sediment sources.

5. Sediment TMDL Development - \$750,000 (2 PY + \$500,000)

Once assessment is completed a TMDL will need to be developed to identify sources and estimate loading from sediment sources in the watershed by FY 09-10.

6. Sediment TMDL Implementation - \$160,000 (1 PY + \$50,000)

TMDL implementation will require development and adoption of a Basin Plan amendment, estimated to take two years to develop and another year for adoption. Continued implementation will require constant oversight and monitoring for the foreseeable future (at least 20 years).

7. Chemicals in POTWs - \$52,000 (0.2 PY + \$30,000)

Petroleum products, including solvents, MTBE, and gasoline, as well as pesticides should be sampled in the influent and effluent of POTWs. MTBE, gasoline components and pesticides were sampled in 2000.

8. Bodega Harbor Sediment Contamination - \$155,000 (0.5 PY + \$100,000)

Sources of contaminants in Bodega Harbor sediments identified with the Bay Protection and Toxic Cleanup Program need additional assessment and focused cleanup efforts.

9. Ground Water Quality Network

Water quality monitoring of ground water is needed for toxic chemicals at stations throughout the WMA.

Surface Water Monitoring Program

Water quality monitoring efforts will be focused on maintaining four long-term monitoring stations in the Russian River watershed. Funded by the SWAMP program TMDL confirmation monitoring in the Laguna de Santa Rosa, and expanding the temperature monitoring consortium for the watershed to include other water quality parameters may also be included. Activities also include ground water quality assessment and public participation. During FY 04-05 the Russian River will be intensively monitored with 13 rotating stations in addition to the four permanent stations.

Additional needs in the smaller watersheds in the Bodega Unit including monitoring in the Stemple Creek watershed, and monitoring and assessment in the Americano Creek, Cheney Gulch, and Salmon Creek watersheds. These watersheds will be addressed in the SWAMP rotation in FY 2004-05 if resources allow. Additional options considered for improved and enhanced monitoring include; the establishment of long-term photo point monitoring records; fostering voluntary monitoring by individuals and watershed groups; reviewing the USEPA Rapid Bioassessment Protocol; providing spatial analysis of surface and ground water data; and increased coordination with local universities and the UC Extension Service for education and outreach. In addition, the Sonoma County

Water Agency as part of the Roseland Action Plan has funded domestic well sampling in the McMinn Superfund area for the next five years.

Other Monitoring Activities

The Regional Water Board is involved in a number of other programs that are focused in nature, providing useful information on specific issues or areas:

Water temperature monitoring- Russian River

The Regional Water Board is coordinating temperature monitoring in the Russian River watershed with the City of Santa Rosa, the Sonoma County Water Agency, and the California Department of Fish and Game. Station locations are discussed in the spring of each year, and specific protocols are agreed upon for data logger deployment, sampling frequency, and data logger retrieval and data downloading. The intend is to expand that cooperative effort into other interested parties in the future.

MTBE monitoring – Lakes Sonoma and Mendocino

Under a now expired SCWA contract both reservoirs and their outlets were sampled for MtBE on a monthly basis during the summer recreation season at a number of sites and through the water column. A yearly report was produced each winter that details the findings.

Diel sampling – Russian River

The Regional Water Board performs round-the-clock monitoring a few times a year for dissolved oxygen, pH, temperature, and conductance at several sites along the mainstem Russian River to support refinement of the Russian River water quality model. Nutrient samples are taken at specific intervals during the sampling periods.

Bacterial investigations – Bodega Harbor

The Sonoma County Department of Environmental Health monitors bacterial quality of beaches in the county under the SWRCB's Coastal Monitoring Program. High bacterial levels at some beaches in the Bodega Harbor area caused further investigation, including increased sampling frequencies and soliciting the assistance of the Bodega Marine Laboratory in investigating sources. Several potential sources exist and DNA analysis will be done to determine the most likely sources. The Sonoma County Department of Environmental Health has a State Water Resources Control Board Clean Beaches grant to investigate sources using circulation studies and bacterial examinations employing DNA speciation.

Jenner Gulch Turbidity Monitoring

In conjunction with the Sonoma County Department of Transportation and Public Works, Regional Water Board staff conducts turbidity monitoring in Jenner Gulch to assess the potential impacts to the domestic water system for the community of Jenner. High turbidity levels have been known to cause the treatment plant to shut down operations. Potential sources include up-slope land management activities, especially associated with timber harvest operations and logging road conditions.

West College Avenue Ground Water Monitoring

Using Cleanup and Abatement Account funds, the Regional Water Board staff samples domestic wells in the West College Avenue at Clover Drive area of Santa Rosa, and is performing a hydrologic assessment in the area.

McMinn Superfund Area Ground Water Monitoring

Using funds from the Roseland Plan of Action program, the Regional Water Board staff samples domestic wells in the southwest area of Santa Rosa.

