

## APPENDIX E

### WATER QUALITY PRIORITIES

There are several overarching water quality issues facing the North Coast RWQCB. The coastline in this region has world-renowned beauty and is relatively pristine. The Regional Water Board is challenged with protection of this national asset. Coastal streams were once abundant with anadromous fish. However, severe declines in fish populations have put these species on the threatened and endangered species lists of the Endangered Species Act. The Regional Water Board works tirelessly on the protection and restoration of this beneficial use. The highest beneficial use is for drinking water, and this is an issue of utmost importance. The Regional Water Board actively endeavors to protect this resource. In addition, the issue of impaired waterbodies is addressed not only by permitting and cleanup activities, but also by pollution prevention through a strong regulatory program.

More specifically, water quality problems include contamination of surface water due to nonpoint source pollution from storm water runoff, erosion and sedimentation (roads, agriculture, and timber harvest), failing septic tanks, channel modification, gravel mining and dairies, and MTBE and dioxin contamination. Ground water contamination from PCE and leaking underground tanks and health and safety issues from contaminated areas that are open to the public are also priority issues. High priority water quality problems due to point sources include chronic violations by POTWs and lack of permit compliance.

The major water quality priorities as first described in the Introduction of this document are reiterated below. In addition to Regional Board-directed priorities, priorities are mandated by legislation, statute, regulation, State Water Board, Cal-EPA, USEPA, and from the mission and need to protect, restore, or enhance water quality. A list of the highest of these collective priorities follows. These are not necessarily arranged in priority order; however, TMDL-related work is considered the highest statewide priority. These Board priorities are further highlighted in the watershed and region-wide sections as appropriate. Grant funding may aid in addressing some of these priorities, at least in part, while others will need to remain within the sole purview of the Board. These priority activities can be used by external stakeholders for pursuit of grant funding or by internal stakeholders for workplan development.

#### **Highest Priority Activities in the North Coast Region**

- Implementing TMDLs for sediment in 16 coastal watersheds
- Completing all Klamath Basin TMDLs by December 2005
- Maintaining the core regulatory program for regulated dischargers, including stormwater
- Developing a monitoring strategy for the region and integrating SWAMP with TMDL monitoring
- Regulating vineyards and timber activities
- Developing policies for runoff from roads
- Maintaining the ground water cleanup programs for high priority sites
- Improving outreach and community involvement in decisions
- Fostering watershed groups and citizen monitoring
- Protecting Critical Coastal Areas
- Promote water recycling activities
- Developing a freshwater beach program with the Sonoma Co. Health Dept. for the Russian River

**Potential Projects and Activities to Meet Board Priorities or Otherwise Improve Water Quality**

Table 8 lists activities or projects that the Regional Water Board, or stakeholders, see as potential projects for improvement of water quality and beneficial uses in the various watersheds (or region-wide). Those projects most directly involved with the funding priorities listed above are highlighted in **bold**, however, projects not directly involved with addressing one of the major water quality priorities may still be competitive during grant-funding cycles. Several of the priority activities listed above such as maintaining the core regulatory program are not conducive to grant funded projects and are conducted by the Regional Water Board.

Funding (<http://calwatershedfunds.org/index.php>) is available from a large variety of state and federal agencies as well as private groups and these should be utilized as fully as possible even when a proposal involves addressing one of the Regional Water Board’s water quality priorities. Funding source requirements should be carefully researched to ensure a good match with potential projects.

In addition, there is a list of projects that proponents can apply for a loan from the State Revolving Fund (SFR) program at the State Water Resources Control Board. Please see [http://www.waterboards.ca.gov/cwphome/srf/srf\\_plist.html](http://www.waterboards.ca.gov/cwphome/srf/srf_plist.html)

For Table 6, since funding sources often reference an activity or endpoint such as restoration or water quality improvement, the potential projects are organized generally by those endpoints.

**Table 6 Target Projects and Activities**

| Project Type and Description   | Watershed Management Areas   |             |                        |                  |               |                   |             |
|--|------------------------------|-------------|------------------------|------------------|---------------|-------------------|-------------|
|  | Russian River/Bodega Bay WMA | Klamath WMA | North Coast Rivers WMA | Humboldt Bay WMA | Eel River WMA | Trinity River WMA | Region-wide |
| <i>Implement BMPs/Improve Water Quality</i>  |                              |             |                        |                  |               |                   |             |
| Rehabilitate abandoned mines to improve water quality; address abandoned mine dam failures to prevent/control sediment releases; monitor water quality downstream from abandoned mines (especially for mercury); restore riparian habitat and function to river reaches affected by mine tailings.   |                              | X           |                        |                  |               | X                 |             |
| <b>Implement BMPs to prevent/reduce contaminated runoff from horse and cattle operations; implement pasture rotation for erosion and nutrient control; recycle agricultural waste including dairy waste to reduce pathogen and nutrient loading to surface and ground water; develop alternative stock watering systems, construct livestock fencing to protect riparian areas</b> | X                            | X           | X                      | X                |               | X                 |             |
| <b>Implement agricultural practices to reduce pesticides in surface waters</b>   |                              |             |                        |                  |               |                   | X           |
| <b>Implementation of a program to reduce runoff discharges from residential, commercial, and industrial properties and improve stream habitat</b>  | X                            |             |                        |                  |               |                   |             |
| <b>Wetland, polishing marsh for storm water runoff</b>   | X                            |             |                        |                  |               |                   |             |
| Coordinate permitting efforts and/or streamline permit process for restoration projects  |                              |             |                        |                  |               |                   | X           |
| <b>Implement technical TMDLs in cooperative efforts with private and federal landowners</b>  |                              |             |                        |                  |               |                   | X           |
| Implement forest fuels reduction management  |                              | X           | X                      |                  |               | X                 |             |

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| Decommission, upgrade, storm proof, restore and maintain roads for erosion control to reduce sediment loading  |                              |             | X                      | X                | X             |                   |             |
| Conduct parking lot storm water management including porous pavement projects  |                              |             |                        |                  |               |                   | X           |
| Road erosion control under powerlines, secure utility easement access  |                              |             |                        |                  |               |                   | X           |
| Use erosion control BMPs in developing and maintaining hiking trails   |                              |             |                        |                  |               |                   | X           |
| Convert septic systems to sewer systems, develop filtration system for sediment trapping and water re-use  | X                            |             |                        |                  |               |                   |             |
| Promote the coordination of Klamath River and Trinity River dam releases to maximize beneficial uses   |                              | X           |                        |                  |               |                   |             |
| Implement program to reduce the amount of water used by agriculture either through increased efficiencies or land acquisitions   |                              | X           |                        |                  |               |                   |             |
| Improve irrigation tail water recovery to reduce nonpoint source pollution and water consumption   |                              | X           |                        |                  |               |                   |             |
| Pipe or line irrigation diversion ditches to increase stream flows   |                              | X           |                        |                  |               |                   |             |
| <i>Habitat Restoration/Beneficial Use Enhancement</i>  |                              |             |                        |                  |               |                   |             |
| Protect/restore/enhance historic flood plains  |                              |             |                        |                  |               |                   | X           |
| Stream restoration, road restoration/retirement or other erosion/sedimentation reduction activities, especially where TMDLs are established  |                              |             |                        |                  |               |                   | X           |
| Develop and implement BMPs for noxious weed control in water ways and/or control of invasive plant species   |                              |             |                        |                  |               |                   | X           |
| Implement riparian revegetation and stream canopy enhancement using native plants  |                              |             |                        |                  |               |                   | X           |
| Riparian revegetation, channel protection and animal exclusion zones as set forth in an approved technical TMDL  | X                            |             | X                      |                  |               |                   |             |
| Install streambank stabilization and restoration measures including bioengineering   |                              |             |                        |                  |               |                   | X           |
| Large woody debris (LWD) recruitment and placement, and protection of LWD recruitment areas to create fish habitat   |                              |             |                        |                  |               |                   | X           |
| Install fish screens on diversion outlets  |                              | X           |                        |                  |               |                   |             |
| Identify, protect and enhance salmonid refugia in streams  |                              |             |                        |                  |               |                   | X           |
| Re-create wetlands in flood prone areas and freshwater portions of upper tidal and low gradient channels of coastal streams  |                              |             |                        |                  |               |                   | X           |
| Protect, restore, and enhance wetlands, riparian areas, estuaries, and adjacent lands. Restore fluvial processes in wetland areas.   |                              |             |                        |                  |               |                   | X           |
| <i>Assess loading and impacts</i>  |                              |             |                        |                  |               |                   |             |
| Evaluate wildlife health in estuaries due to cumulative effects from the watershed   |                              |             |                        |                  |               |                   | X           |
| Evaluate hydrological connections between estuaries, wetlands and streams  |                              |             |                        |                  |               |                   | X           |
| Inventory of surface and ground water withdrawals for agricultural and upland areas  |                              |             |                        |                  |               |                   | X           |
| Assessments and inventories of roads as sediment sources to streams in watersheds where sediment TMDLs are established or are pending in the next five years including recommendations for |                              |             |                        |                  |               |                   | X           |

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|  | Russian River/Bodega Bay WMA | Klamath WMA | North Coast Rivers WMA | Humboldt Bay WMA | Eel River WMA | Trinity River WMA | Region-wide |
| implementation of road improvements  |                              |             |                        |                  |               |                   |             |
| Evaluate and monitor urban storm water runoff, research control measure for reduction of future storm water pollutants   | X                            |             |                        |                  |               |                   |             |
| Develop GIS map layers of sediment sources in Freshwater Creek and Elk River   |                              |             |                        | X                |               |                   |             |
| Identify sources of HVOCs in Santa Rosa Creek  | X                            |             |                        |                  |               |                   |             |
| Conduct water quality assessment of salmonid restoration   |                              |             |                        |                  |               |                   | X           |
| Assess, inventory and prioritize tributaries with salmonid fish passage deficiencies from iron Gate dam to the confluence with Trinity River, develop an ArcView watershed planning tool for all tributaries |                              |             |                        |                  |               | X                 |             |
| Assessment of natural and anthropogenic origins of aluminum  | X                            |             |                        |                  |               |                   |             |
| Conduct temperature and nutrient baseline sampling and modeling to analyze limited water quality conditions and predict impacts of different flow regimes  |                              | X           |                        |                  |               |                   |             |
| Stream Channel assessments   |                              |             |                        |                  |               |                   | X           |
| <i>Research-oriented studies</i>   |                              |             |                        |                  |               |                   |             |
| Evaluate the effects of water impoundments on the watershed and wildlife habitat   |                              | X           |                        |                  |               |                   |             |
| Evaluate the impacts of ground water withdrawal on streams and the effects of vegetation management on ground water  |                              |             |                        |                  |               |                   | X           |
| Develop mitigation standards and/or BMPs for toxics such as mercury in mine tailing and aggregate mining   |                              |             |                        |                  |               | X                 |             |
| Conduct a feasibility study for dam removal  | X                            |             | X                      |                  |               |                   |             |
| Develop a feasibility study for fish passage improvement   | X                            |             | X                      |                  |               |                   |             |
| Develop an incentive program to reduce the use of two-stroke engines in reservoir and water ways   |                              |             |                        |                  |               |                   | X           |
| Temperature modeling to predict impacts of different riparian land use   | X                            |             | X                      |                  |               |                   |             |
| Develop and use hydrodynamic water quality and flow models including data collection for "ground truthing"   |                              | X           |                        |                  |               | X                 |             |
| Study to determine the effects of over-drafting of ground water in watershed areas associated with vineyard development  |                              |             |                        |                  |               |                   | X           |
| Study the relationship of turbidity and total dissolves solids and total suspended solids  |                              |             |                        |                  |               |                   | X           |
| Study/inventory and mapping of wetlands  |                              |             |                        |                  |               |                   | X           |
| Develop an emergency action response plan for droughts regarding salmonids and irrigation efficiencies improvement planning  |                              | X           |                        |                  |               |                   |             |
| Alternative water diversion demonstrations to reduce the adverse impacts from irrigation and non-irrigation situations   |                              |             |                        |                  |               |                   | X           |
| <i>Monitoring</i>  |                              |             |                        |                  |               |                   |             |
| GIS map layers of sources, monitoring wells, and groundwater pollution   | X                            |             |                        |                  |               |                   |             |

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| Develop self-assessment monitoring program for vineyard managers to assess cold water fisheries impacts from vineyards   | X                            |             | X                      |                  |               |                   |             |
| Develop and implement a monitoring program for turbidity and suspended sediment  | X                            |             | X                      | X                | X             | X                 |             |
| Develop and implement a monitoring program for streambed and habitat parameters including V star   |                              |             |                        |                  |               |                   | X           |
| Monitor urban creeks for nutrients, CTR pollutants, and bacterial loading characteristics  | X                            |             |                        | X                |               |                   |             |
| "All party" monitoring for upslope risk assessment and mitigation effectiveness monitoring for timber harvesting   |                              |             |                        |                  |               |                   | X           |
| Implement flow monitoring and availability of flow gauges  |                              |             |                        |                  |               |                   | X           |
| Conduct bacteriological sampling in summer recreation areas including ocean beaches with emphasis on QA/AC   | X                            |             |                        |                  |               |                   |             |
| Baseline monitoring for water quality to include bacteria, oil, grease, fuels, nutrients, sediment/turbidity, storm water and waste water, and fish, macroinvertebrate, and shellfish populations in coastal estuaries and streams |                              |             |                        |                  |               |                   | X           |
| Monitor ground water quality for constituents not currently being monitored, such as pesticides, including small, private wells  |                              |             |                        |                  |               |                   | X           |
| Effectiveness monitoring of implementation projects and activities to determine impacts on aquatic species and other beneficial uses   |                              |             |                        |                  |               |                   | X           |
| Implement and utilize citizens' monitoring or establish a volunteer monitoring network to track effectiveness of management measures and establish baseline conditions   |                              |             |                        |                  |               |                   | X           |
| Promote self-monitoring for nutrients and sediment from dairies  | X                            |             |                        | X                |               |                   |             |
| Conduct trend monitoring for water quality, temperature macroinvertebrates, riparian habitat, gravel quality etc.  |                              |             |                        |                  |               |                   | X           |
| <i>Education and Outreach</i>  |                              |             |                        |                  |               |                   |             |
| Salmonid habitat/aquatic species education for agencies, organizations, landowners and private organizations   |                              |             |                        |                  |               |                   | X           |
| Bioengineering education for agencies, organizations, landowners and private organizations   |                              |             |                        |                  |               |                   | X           |
| Heavy equipment operation training for restoration and road work, and technology transfer to organizations and landowners  |                              |             |                        |                  |               |                   | X           |
| Landowner outreach and education for road decommissioning/storm-proofing/maintenance   |                              |             |                        |                  |               |                   | X           |
| Stakeholder education and outreach on cumulative effects of water withdrawals (diversions) from tributaries  |                              |             |                        |                  |               |                   | X           |
| Provide education and outreach to urban citizens and stream side property owners on nonpoint source pollution, especially from septic systems and pesticide and fertilizer use   |                              |             |                        |                  |               |                   | X           |
| "Shrimp Club" type education/outreach/restoration  | X                            |             |                        |                  |               |                   |             |
| Form partnerships with public agencies, organizations, and stakeholders to plan,   |                              |             |                        |                  |               |                   | X           |

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| <b>implement, and monitor projects</b>   |                              |             |                        |                  |               |                   |             |
| Technology transfer for vineyard installation, education and outreach; changes to BMPs and innovative technology for vineyards on slopes > 30% and adjacent to water courses                                   |                              |             | X                      |                  |               |                   |             |
| <b>Watershed Planning</b>  |                              |             |                        |                  |               |                   |             |
| Watershed planning and assessment using an adaptive management approach  |                              |             |                        |                  |               |                   | X           |
| Develop regional watershed group networks  |                              |             |                        |                  |               |                   | X           |
| <b>Monitoring, TMDL development and implementation planning</b>  |                              | X           | X                      |                  |               |                   |             |
| <b>Develop a restoration plan that incorporates the TMDL and the North Coast Watershed Assessment in the Big River</b>   |                              |             | X                      |                  |               |                   |             |
| <b>Collect and provide information to revise TMDL for EPA approval, revise Enhancement Plan for Stemple Creek</b>  | X                            |             |                        |                  |               |                   |             |
| <b>Land Acquisition</b>  |                              |             |                        |                  |               |                   |             |
| Land acquisition for growing trees for riparian canopy and irrigation water use, habitat improvement, preservation and restoration for a buffer from adjacent land use, and protect and restore riparian areas | X                            |             | X                      |                  |               | X                 |             |
| Acquisitions of conservation easements, fee title lands and trusts to prevent surface water quality degradation from timber harvest, urban development, agricultural activities, and roads                     |                              |             |                        |                  |               |                   | X           |
| <b>Municipal Wastewater Control</b>  |                              |             |                        |                  |               |                   |             |
| <b>Upgrade POTWs in disadvantaged communities with a threat to public health or impaired water bodies, or under compliance and/or enforcement orders</b>   |                              |             |                        |                  |               |                   | X           |
| Eliminate cross connections between sewer pipes and storm water pipes  |                              |             |                        |                  |               |                   | X           |
| Install treatment wetlands to "polish" treated waste water   |                              |             |                        |                  |               |                   | X           |