

**SUPPLEMENTAL REPORT OF THE 2001 BUDGET ACT
ITEM 3940-001-0001
TOTAL MAXIMUM DAILY LOAD (TMDL) PROGRAM
WATER QUALITY ATTAINMENT BUDGET STRATEGY**

January 2002

The Supplemental Report of the 2001 Budget Act requires that the State Water Resources Control Board (SWRCB) submit to the Legislature, on or before January 10, 2002, a long-term strategy to develop TMDLs for all impaired water bodies, consistent with the requirements of the federal Clean Water Act (CWA) section 303(d). The strategy must include the following:

- (i) A five-year schedule that identifies specific TMDLs to be completed and their expected completion dates, and major activities to be completed.
- (ii) A long-term schedule, not to extend beyond 2013, for the completion of all TMDLs on the 1998 impaired waters list [303(d) list].
- (iii) A description of the existing resources used to address TMDL requirements organized by fund source and department.
- (iv) An estimate of the resources needed to adhere to the long-term schedule and achieve the 2013 date for completion.
- (v) Identification of any shortfalls between existing resources and estimated resource needs to achieve the 2013 date for completion.
- (vi) Proposed fund sources to address identified shortfalls.
- (vii) Identification of technical assistance needs of the Regional Water Quality Control Boards (RWQCBs) and a strategy for addressing those needs.
- (viii) A schedule to develop policies to guide the RWQCBs in developing and implementing TMDLs including, but not limited to, cost estimates to develop the policies.

The following report presents a five-year schedule and a 12-year schedule, beginning in Fiscal Year (FY) 2002-03, for the completion of TMDLs based on the 1998 303(d) list and an analysis of the resources needed to support the TMDL activities. In summary, we estimate that a total of 383 TMDL projects will be completed in the 12-year planning period that addresses over 1,400 water body/pollutant combinations on the 1998 303(d) list. The total cost for the development and implementation of TMDLs over the 12-year period is estimated at \$467 million. The projected annual funding shortfall ranges from \$18 million to \$32 million. The average cost for TMDL development is \$667,164 per TMDL project.

INTRODUCTION

CWA section 303(d) requires that the SWRCB compile, and periodically revise, a list of waters that do not attain water quality standards. The law also requires that a calculation of the maximum allowable pollution be developed for any water on this list, if such a calculation is determined to be appropriate by the Administrator of the U.S. Environmental Protection Agency (USEPA). These calculations are called Total Maximum Daily Loads or TMDLs. Although the words “daily load” appear in the name of the calculations, the calculations can be cast in other terms. Federal regulations provide for these calculations to be expressed in terms of “mass per unit time,” toxicity, or other appropriate measures (40 CFR 130.2(i)). This is a critical detail in that it allows the State to develop water quality attainment strategies tailored to the specific circumstances of the pollution problem without addressing the daily event issue. TMDLs can be specified in any number of ways to allow for appropriate definition of the problem. The essential characteristic of a TMDL is that it provides a measurable feature that describes when water quality standards are attained.

Developing TMDLs is not sufficient to provide for improved water quality management. A means of implementing the TMDL must also be developed and followed through to ensure that implementation is taking place as needed. In most cases, undertaking these steps will bring waters into conformity with water quality standards. However, in some cases, the uncertainty surrounding the initial assessments of impairment and other factors could lead to actions that do not in fact result in desired water quality attainment. Therefore, all TMDLs should undergo regular evaluation and be revised when necessary.

The SWRCB strategy for attaining water quality standards in impaired waters encompasses all of these features. The strategy is designed to attain water quality first and foremost. It relies on developing TMDLs, unless a more expedient and effective method can be designed and implemented. It assumes a very broad definition for a TMDL and does not consider “mass per unit time” as the only credible measurable feature that describes attainment of standards.

TMDLs in the SWRCB approach serve both to define the desired condition of specific waters and as an integrating tool that provides guidance and definition to various water quality programs. Recently, the SWRCB developed a TMDL Initiative Action Plan (Action Plan) that provides strategic guidance in the short-term timeframe for the TMDL program (Appendix A). This Water Quality Attainment Budget Strategy (Budget Strategy) provides the fiscal planning for contract and staff resources to carry out the Action Plan.

THE TMDL ADMINISTRATIVE PROCESS

In California, the formal TMDL process requires that each of the nine RWQCBs adopt TMDLs as amendments to its Water Quality Control Plan (Basin Plan) using a public hearing process that is governed by the Porter Cologne Water Quality Control Act, California Environmental Quality Act, and the Administrative Procedures Act. During this process, the RWQCBs consider policy and technical implications of a TMDL. If approved by a RWQCB, the TMDL is submitted to the SWRCB for review and approval. The SWRCB reviews policy, technical, and administrative

issues. The TMDL is first considered at an SWRCB workshop, and final consideration is undertaken at a board meeting. If approved by the SWRCB, the TMDL is submitted to the Office of Administrative Law (OAL) for approval. OAL reviews the TMDL for regulatory sufficiency, clarity, and authority. Upon approval of OAL, the TMDL is submitted to the USEPA for approval. USEPA reviews the TMDL for policy, technical, and administrative issues related to federal law. Once approved by USEPA, the TMDL is complete. This multi-step, formal process is resource-intensive.

THE TWELVE-YEAR SCHEDULE

The CWA requires the states to develop a list of impaired waters and to revise the list periodically. Current practice is to revise the list every two years. However, because USEPA has been in the process of revising the regulations governing listing and TMDL development, there was a four-year interval between the latest list developed in 1998 and the next list to be established by October 2002. This Budget Strategy is based on the 1998 303(d) list. As part of the listing process, USEPA has requested that a long-term schedule for developing TMDLs be included in the 303(d) list. In California, a schedule was provided with the 1998 list, but not all waters listed were assigned a TMDL completion date. While a complete TMDL must include the entire process summarized above, the schedules developed for 303(d) listing purposes extended only to the dates the TMDLs would be considered by the RWQCBs. This is because of the uncertainty associated with the timelines in the TMDL review and approval process after adoption by the RWQCB. The 1998 303(d) list identified the year and month that a RWQCB was expected to consider the TMDL. The criteria used to set priorities for TMDL development was discussed in SWRCB's previous report to the Legislature pursuant to the requirement of the FY 2000-01 Budget Act, titled *State's Effort to Comply with the Federal Clean Water Act Section 303(d)* (January 2001).

The long-term schedule included in the 1998 303(d) list contained dates extending to FY 2010-11. This timeframe is consistent with a USEPA requirement that all TMDLs be scheduled for completion within an eight to 13-year timeframe. The 13-year schedule included in the 1998 303(d) list served as the initial prioritization of efforts to fully attain water quality standards. The Supplemental Report language requires that the SWRCB develop a long-term schedule not to extend beyond 2013. This 12-year schedule (Appendix B) begins in FY 2002-03; it does not include the TMDLs that have been completed to date. A list of TMDLs completed as of December 2001 is presented in Appendix C of this report.

THE FIVE-YEAR SCHEDULE

In order to better define priorities, the SWRCB has initiated a regular strategic planning and priority setting exercise that is captured in the Watershed Management Initiative (WMI) annual chapters. The WMI includes a rolling five-year planning horizon that is updated annually. In the attached five-year schedule for TMDL development (Appendix D), the priorities established in the 12-year schedule serve as a starting point. The five-year schedule either affirms the 12-year priorities or modifies them to reflect new information or opportunities for expediting corrective actions. The five-year schedule also considers resources available for the immediate upcoming year and various restrictions on funding that may limit allocation of staff or contract resources.

For example, federal grant funds constitute a major portion of the dedicated TMDL support. These funds come with certain restrictions or constraints that are designed to focus the money on the highest priority issues nationally or on the most important features of the program under which the funds are authorized. Currently, USEPA Region 9 provides TMDL support from grants authorized by the CWA sections 104, 106, and 319. Each of these grants come with limitations on how the funds can be spent. The SWRCB must therefore design work that meets the demands of the grants in order to take full advantage of these resources. The five-year schedule is developed to achieve a mix of projects that reflect immediate priorities and allows full access to federal grants or other funds.

A number of other SWRCB/RWQCB water quality control programs, such as nonpoint source and monitoring and assessment programs, also provide support for the TMDL program in one aspect or another. In many cases, TMDL development is affected by the resources available for these other programs. For example, increases in monitoring and assessment information generated by other programs reduce the demand for assessments conducted under the TMDL program. The five-year schedule includes consideration of the impact of innovations and improvements (or declines) in these programs.

CURRENT BASELINE RESOURCES AND PRODUCTION

SWRCB/RWQCB Resources

Currently, \$11.4 million (\$8.4 million for staff and \$3 million for contracts) in annual State and federal funding are provided for TMDL development. An additional \$2.97 million in State funds are provided for implementing established TMDLs. A number of other water quality programs also provide support for the TMDLs in one aspect or another but do not directly fund TMDL development or implementation. The workload associated with these efforts has not been estimated.

Baseline funds are dependable resources that are dedicated to TMDL activities. In addition to baseline funding, other funds may also be made available to the TMDL efforts. For example, in FY 2001-02 the TMDL program received a one-time federal grant of \$1.45 million in contract resources. This funding is not included in the baseline TMDL budget because allocation of these federal grant funds is based on competing regulatory priorities (e.g., storm water) and is subject to USEPA approval each year. Current funding for TMDL development is summarized in Table 1. Other programs funded by federal grants, such as the National Pollutant Discharge Elimination System (NPDES) Program, the NPDES Storm Water Program, and the Nonpoint Source Program, also contribute to TMDL development and implementation, but their contributions are not included in TMDL baseline funding identified in this report.

Baseline resources for the implementation of established TMDLs are presented in Table 2. The resources for TMDL implementation have been minimal due to the fact that the program has been in an early phase and only a limited number of TMDLs have been established and are being implemented.

**Table 1. SWRCB TMDL Development Resources
Annual Augmentations and Total for FY 2001-02**

| Fiscal Year | Fund Source | Total Dollars | PYs* | Staff Dollars | Contract Dollars |
|--------------------|--------------------|----------------------|-------------|----------------------|-------------------------|
| 1999-00 | | | | | |
| | Federal | \$3,000,000 | 28.5 | \$3,000,000 | 0 |
| | General Fund | \$3,923,000 | 31.5 | \$2,323,000 | \$1,600,000 |
| 2000-01 | | | | | |
| | General Fund | \$4,500,000 | 34.5 | \$3,100,000 | \$1,400,000 |
| 2001-02 | | | | | |
| | Federal | \$1,450,000 | | | \$1,450,000 |
| | Totals | \$12,873,000 | 94.5 | \$8,423,000 | \$4,450,000 |

*Personnel Years

**Table 2. SWRCB TMDL Implementation Resources
Annual Augmentations and Total for FY 2001-02**

| Fiscal Year | Fund Source | Total Dollars | PYs | Staff Dollars | Contract Dollars |
|--------------------|--------------------|----------------------|------------|----------------------|-------------------------|
| 2000-01 | | | | | |
| | General Fund | \$2,970,000 | 21 | \$1,970,000 | \$1,000,000 |
| 2001-02 | Totals | \$2,970,000 | 21 | \$1,970,000 | \$1,000,000 |

The federal fund contribution is comprised of three separate grants: the CWA section 104, section 106, and section 319 grants. Only portions of these grants are dedicated to TMDL development. The mix of grants and the amount of each grant vary from year to year. The SWRCB and USEPA currently have an agreement to fund TMDLs at a rate of \$3 million per year in grant funds, provided the funds remain available. USEPA will provide additional grant funds when such funds become available in USEPA's budget. In FY 2001-02, the following grant amounts comprise the baseline federal TMDL resources: section 104 grant - \$750,000, section 106 grant - \$895,488, and section 319 grant - \$1,355,000.

Department of Pesticide Regulation (DPR) Resources

The Department of Pesticide Regulation (DPR) received three permanent budget augmentations in FY 1999-00 and FY 2000-01, which provided a total of \$3,480,000 for assisting in the development of pesticide-related TMDLs. These resources were provided to enhance DPR's

Surface Waters Program (\$2,086,000 in DPR Fund and \$894,000 in General Fund), and for work in the San Joaquin Valley (\$500,000 in General Fund). The work of the Surface Waters Program addresses six areas: (1) surface water monitoring, (2) source assessment, (3) evaluation and validation of the effectiveness of management practices in reducing pesticide runoff, (4) database management, (5) interagency coordination, and (6) outreach and education. The program has allocated \$820,000 annually for contracts to assist the RWQCBs in TMDL development

ANTICIPATED NEEDS

TMDL Development and Implementation Needs

Additional resources must be provided in order for the SWRCB and RWQCBs to adhere to the proposed five-year and 12-year schedules for completion of TMDLs. For the purpose of this needs analysis, the definition of a complete TMDL includes a technical TMDL report and an implementation plan, and adoption of the TMDL with implementation plan as a Basin Plan amendment. To ensure meaningful implementation of TMDLs, this analysis includes resources needed to coordinate implementation following TMDL development and to stimulate early implementation of corrective actions. Early implementation is a process of identifying and taking steps to implement corrective actions that are identified while the TMDL assessment is underway. As staff assessed the causes and dynamics of how impairments occurred, they often found relatively easy solutions to parts of the problems. Early implementation staff is dedicated to seeking and carrying out these simple, straightforward actions. These corrective actions may involve SWRCB/RWQCB authorities or authorities of other entities. Early implementation also involves pilot testing of certain management practices. In some cases it is necessary to evaluate the potential efficacy or suitability of a management practice before the TMDL implementation plan can be developed.

It is important to effectively manage the interplay of development and implementation resources. If the implementation staff is not provided, TMDL development work would not be able to benefit from the coordination and application of defined implementation approaches. TMDL development resources would then need to be increased to generate the information needed for TMDL development that could have been generated by implementing already established TMDLs. For example, information regarding dredging and sediment trap costs and volumes generated by implementing the Newport Bay TMDLs has been used to develop other nutrient TMDLs. Without that information, a considerably larger effort would have been required in developing other nutrient TMDLs. Additional support for TMDL implementation is anticipated to be provided by various programs both within the SWRCB/RWQCBs and by programs of other agencies. The full cost of implementation, which includes support from other programs, is not analyzed in this report. This analysis also assumes that a certain portion of the costs of assessments and public outreach will be covered through collaborations and the participation of stakeholders in the development of the TMDLs.

Table 3 presents an estimated schedule for developing TMDLs, the staffing needs for the development and implementation of TMDLs, and the assumptions used to achieve these

Table 3. Estimated TMDL Completion Schedule and Staff Resource Needs

| | FY 02-03 | FY 03-04 | FY 04-05 | FY 05-06 | FY 06-07 | FY 07-08 | FY 08-09 | FY 09-10 | FY 10-11 | FY 11-12 | FY 12-13 | FY 13-14 |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 | Yr 7 | Yr 8 | Yr 9 | Yr 10 | Yr 11 | Yr 12 |
| A # of TMDLs to be completed each year | 26 | 23 | 40 | 60 | 31 | 46 | 23 | 24 | 30 | 40 | 13 | 27 |
| B # of TMDLs in progress each year | 149 | 154 | 177 | 160 | 124 | 123 | 117 | 107 | 110 | 80 | 40 | 27 |
| C Staff needed for development | 149 | 154 | 177 | 160 | 124 | 123 | 117 | 107 | 110 | 80 | 40 | 27 |
| D Staff needed for implementation | 21 | 31.4 | 40.6 | 56.6 | 80.6 | 93 | 111.4 | 120.6 | 130.2 | 142.2 | 158.2 | 163.4 |
| E Staff needed for early implementation | 4 | 10 | 9.1 | 7.7 | 6.9 | 4.7 | 5.4 | 7 | 5.3 | 4 | 2.7 | 0 |
| F Staff needed for phased review | 0 | 0 | 0 | 5.2 | 9.8 | 12.6 | 20 | 18.2 | 15.4 | 13.8 | 9.4 | 10.8 |
| G Staff needed for modeling, GIS* and Web support | 0 | 4 | 8 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| H Total # of staff needed each year | 174 | 199.4 | 234.7 | 241.5 | 233.3 | 245.3 | 265.8 | 264.8 | 272.9 | 252 | 222.3 | 213.2 |
| I Current baseline staff | 115.5 | 115.5 | 115.5 | 115.5 | 115.5 | 115.5 | 115.5 | 115.5 | 115.5 | 115.5 | 115.5 | 115.5 |
| J Annual staff shortfall | -58.5 | -83.9 | -119.2 | -126 | -117.8 | -129.8 | -150.3 | -149.3 | -157.4 | -136.5 | -106.8 | -97.7 |

- A. Based on the 12-year completion schedule provided by RWQCBs.
- B. On an average, it would take four years to complete a TMDL project. The number of TMDLs in progress each year equals the total of TMDL projects to be completed that year and the following three years.
- C. One PY is needed per TMDL project for four years.
- D. Implementation staff needs are based on the number of TMDL projects completed in the previous year @ 0.4 PY per project. Staff needs within this 12-year time frame are cumulative because implementation efforts are continuous to ensure that water quality standards are sustained.
- E. Early implementation needs are based on the number of TMDL projects to be completed two years later @ 0.1 PY per project. Once a TMDL project is completed, early implementation PYs are eliminated.
- F. Phased review will begin three years after completion of a TMDL project. Staff needs are based on the assumption that 40 percent of the completed TMDL projects will need phased review and 0.5 PY will be needed to review each project for two years. At the completion of each phased review, the PYs are eliminated. The number of staff for phased review does not zero out at the end of the 12-year planning period because staff will be needed to review TMDLs scheduled to be completed in Year 10, Year 11, and Year 12.
- G. Work of the modeling teams, GIS, and Web support is continuous.

*Geographic Information System

estimates. This needs analysis contemplates a total of 383 TMDL projects being completed that addresses all listed waters (1,471 water body/pollutant combinations) on the 1998 303(d) list. A TMDL project may include a combination of impaired waters and pollutants causing impairment and ranges from one pollutant in one water body to multiple pollutants in multiple water bodies. This number does not include the TMDLs completed prior to 2002. The SWRCB previously estimated that approximately 800 TMDL projects needed completion. The new, lower number reflects new perspectives on how listed waters and pollutants might be grouped to reduce administrative burdens. However, future changes in the 303(d) list, beginning in 2002, will increase the number of TMDLs to be completed. While the total estimated number of TMDL projects to be completed is lower than previously projected, the work associated with developing these TMDLs is not reduced proportionally. The average cost of a TMDL project will increase due to the need for technically sound assessments and implementation planning for more pollutants and water bodies included in each TMDL project. Costs are saved in reduced administrative processing and in some consolidation of assessments.

Staffing needs for TMDL development decrease each year after Year 4 to a total of 27 PYs in Year 12, while the number of staff for implementation increases each year as more TMDLs are completed. At the end of the 12-year planning period, the estimated total number of implementation staff is 163. Staffing needs for TMDL implementation will continue for some time after the 12-year planning period in order to ensure that water quality standards are sustained. In addition to the TMDL development and implementation staff, we also need staff for early implementation, phased TMDL reviews, modeling, GIS, and Web support. The need for early implementation diminishes at the end of the 12-year period when all TMDLs for the 1998 303(d) list are developed, but the work of modeling, GIS and Web support continues. This analysis also assumes that approximately 40 percent of the TMDLs will be developed in phases, which requires continued evaluation of progress and making necessary changes to the requirements in the TMDL. Phased review begins three years after the completion of a TMDL; therefore, staff for phased review will not diminish until three years after the 12-year period.

Cost of TMDL development includes \$200,000 per TMDL project for contracts. Contract resources will support needs such as water quality monitoring, laboratory services, aerial photography, land use analysis, hiring of technical experts such as geomorphologists to assist with complex technical issues, and public outreach needs.

The estimated annual costs for staff and contracts and the funding gap between baseline resources and anticipated needs are presented in Table 4. Annual costs fluctuate depending on the number of TMDL projects in progress each year and the number of TMDLs completed each year.

These estimates will change with the new 2002 303(d) list which is currently being developed. The 303(d) list is revised every two years. It is anticipated that more water bodies and pollutants will be listed and more TMDLs will need to be developed. This is because approximately 90 percent of the water bodies in the State have not been assessed, and because the water bodies on the existing 303(d) list may be relisted for new pollutants. Until water quality standards are

Table 4. Estimated TMDL Development and Implementation Resource Needs and Annual Shortfall

| | FY 02-03 | FY 03-04 | FY 04-05 | FY 05-06 | FY 06-07 | FY 07-08 |
|----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 | Yr 6 |
| Annual staff need | \$20,497,200 | \$23,489,320 | \$27,647,660 | \$28,448,700 | \$27,482,740 | \$28,896,340 |
| Annual contract need | \$19,886,667 | \$8,850,000 | \$11,425,000 | \$7,825,000 | \$9,525,000 | \$11,500,000 |
| Total annual need | \$40,363,867 | \$32,339,320 | \$39,072,660 | \$36,273,700 | \$37,007,740 | \$40,396,340 |
| Current baseline | \$14,418,332 | \$14,418,332 | \$14,418,332 | \$14,418,332 | \$14,418,332 | \$14,418,332 |
| Projected shortfall | -\$25,945,535 | -\$17,920,988 | -\$24,654,328 | -\$21,855,638 | -\$22,589,407 | -\$25,978,008 |
| | FY 08-09 | FY 09-10 | FY 10-11 | FY 11-12 | FY 12-13 | FY 13-14 |
| | Yr 7 | Yr 8 | Yr 9 | Yr 10 | Yr 11 | Yr 12 |
| Annual staff need | \$31,311,240 | \$31,193,440 | \$32,147,620 | \$29,685,600 | \$26,186,940 | \$25,114,960 |
| Annual contract need | \$14,650,000 | \$9,825,000 | \$13,225,000 | \$8,575,000 | \$9,575,000 | \$9,900,000 |
| Total annual need | \$45,961,240 | \$41,018,440 | \$45,372,620 | \$38,260,600 | \$35,761,940 | \$35,014,960 |
| Current baseline | \$14,418,332 | \$14,418,332 | \$14,418,332 | \$14,418,332 | \$14,418,332 | \$14,418,332 |
| Projected shortfall | -\$31,542,908 | -\$26,600,108 | -\$30,954,288 | -\$23,842,268 | -\$21,343,608 | -\$20,596,628 |

- Staff cost is estimated at \$117,800 per PY. All staff performing TMDL development and implementation tasks are technical staff (engineers and scientists). Because of the knowledge, skills, and experience that are required for these tasks, staff is employed at a higher-than-entry level in those classifications.
- Contract support for TMDL development is estimated at \$200,000 per TMDL project. Contract resources are needed in the year a project begins (three years prior to the year of project completion), and are expended in the first three years.
- Development contract resources for Year 1 include prorated contract costs for Year 2, Year 3, and Year 4 because resources are needed three years prior to the year the project is complete.
- Implementation contract resources are based on the number of TMDL projects completed in the previous year @ \$25,000 per project. Implementation staff and contract resource needs are cumulative within the 12-year planning period and will continue after the 12-year period to ensure that water quality standards are sustained. Contract resources will support activities such as water quality monitoring, laboratory analysis, public outreach/education, and management practices.
- Implementation staff and contract resources for Year 1 reflect current baseline resources for implementation.

attained in all waters of the State, TMDL development and implementation efforts will continue, which will require continued resources.

Technical Assistance Needs

This analysis includes a ramping up of resources to support modeling of various aspects of pollutant dynamics and implementation measures, the application of GIS, and support for Web-based information posting and utilization. The computer models are necessary to ensure accurate TMDLs that allow for smaller margins of safety and, therefore, more precise allocations of pollutant load. This in turn will allow those responsible for managing pollutant loads to better respond to the TMDL limitations at a lower cost. Additionally, the modeling support will expedite future TMDL work by allowing the transfer of technical information from one TMDL to another. A total of 12 PYs and \$1 million in contract support are estimated for modeling, GIS, and Web support. Other technical assistance will be addressed in part through the contract resources provided and in part through workgroups of the TMDL Roundtable.¹

Policy Development Needs

SWRCB staff is currently developing two statewide policies to provide guidance to RWQCBs for TMDL development and implementation and 303(d) listing and delisting activities. Staff will work closely with the PAG in developing these policies. These statewide policies will be developed with existing resources.

The policy for TMDL development and implementation will be developed by workgroups of SWRCB and RWQCB staff, and with support from USEPA. Outside experts will be acquired as needed to support the effort. The workgroups will formulate the basic technical and policy issues; the SWRCB staff will conduct public review and the SWRCB will formally adopt the policy following the State's rule-making process. The workgroups are expected to first formulate technical and policy issues for TMDLs associated with classes of pollutants, e.g., nutrients, pesticides, pathogens, sediments, and bioaccumulative substances. In addition, they will formulate technical and policy issues for TMDLs in general, e.g., numeric targets, use of models, pollutant load allocations, and implementation requirements. The estimated cost for developing the statewide TMDL policy is \$1.4 million (two PYs for 2.5 years and \$800,000 in contract support).

The timeline for developing the statewide TMDL policy is presented in Table 6. The formal process of adopting a policy begins with the "initiate approval process" step. This process requires public hearings by the SWRCB. The adoption of the policy is expected to take between six and 12 months to complete.

The 303(d) listing/delisting policy will outline the factors for listing and delisting, acceptable data quality, the criteria for assigning priority to section 303(d)-listed water bodies, the need for a watch list, public notice procedures, data solicitation procedures, and other pertinent factors.

¹ The TMDL Roundtable is a group of RWQCB, SWRCB, and USEPA staff that meets quarterly to discuss and manage collective issues and problems associated with TMDLs. Workgroups are formed to address pressing issues. Workgroups are supported with contract resources where needed and may include participation of outside experts.

Table 7 summarizes the timeline for the development and adoption of the 303(d) listing/delisting policy.

Table 6. Timeline for TMDL Development and Implementation

| Product/Deliverable | Due Date |
|--|-----------------|
| Establish Workgroups | April 2002 |
| Compile tools and guidelines and formulate technical and policy issues for TMDLs associated with classes of pollutants | October 2002 |
| Compile tools and guidelines and formulate technical and policy issues for TMDLs in general | April 2003 |
| Initiate approval process | July 2003 |
| SWRCB adoption | July 2004 |

Table 7. Timeline for 303(d) Listing Policy

| Activity | Completion Date |
|---|------------------------|
| Collect Background Information | January 2002 |
| Consultation with PAG | February 2002 |
| 2002 List (pre-policy-related) Activities | March 2002 |
| Prepare Draft Policy/Functional Equivalent Document (FED) | July 2002 |
| Public Hearing | August 2002 |
| Prepare Final Draft Policy and FED | October 2002 |
| SWRCB Workshop Item | November 2002 |
| SWRCB Meeting Item (adoption) | November 2002 |
| Prepare Administrative Record | January 2003 |
| OAL Review | February 2003 |
| Transmit Final Guidance | April 2003 |

FUNDING OPTIONS

To fully fund the TMDL program will require looking at resources within the SWRCB and at new, outside resources. Legislative options also must be considered. Some resources may be made available through collaborations with other agencies and stakeholders or through increases in federal grants. Below is a summary of potential funding options.

The following funding options would require legislative action:

General Fund Augmentation

Currently, the General Fund provides \$8.4 million for TMDL development and \$2.97 million for TMDL implementation annually. Given the State's immediate fiscal condition, it is unlikely that more General Fund will be made available for the TMDL effort in the near term. However, in later years the General Fund is a valid option for supporting TMDL work.

Permit Fees

Water Code sections 13260 and 13274 provide for the collection of fees associated with Waste Discharge Requirements (WDR). Currently, the law limits the total amount of fees and the maximum fee allowable. The fees collected are dedicated to developing WDRs. The Legislature could amend the existing WDR fee requirements to allow for the collection of fees to support TMDL development. Special fees could be levied on discharges to 303(d) listed waters for this purpose.

Bonds

Recent bond measures contained provisions for supporting watershed planning and for implementing practices that are designed to improve aquatic habitat and support full attainment of water quality standards. To date, these funds have not been made available for TMDL development, although in some cases the watershed planning efforts funded by the bond funds could address TMDLs. To cover the funding shortfall identified for TMDLs, a new bond could be authorized that specifically allows for support of RWQCB staff activities for developing and implementing TMDLs. The bond measure could also provide funding for implementation of corrective actions. In many cases, municipalities and private businesses need to make changes to their methods of conducting business to meet the requirements of a TMDL. Many municipalities do not have funds to pay for these changes.

Special Funds

A number of special funds exist, such as the Environmental License Plate Fund, that could be used to support TMDL work. All of these funds are currently dedicated to programs of various agencies. Redirecting the revenues from these funds to TMDLs would diminish the support these funds provide to other environmental programs. In many cases, successful implementation of the TMDL may rely on the programs currently supported by special funds. Therefore, before special funds are redirected to TMDLs the potential impact on implementing corrective management actions should be considered.

Other Options

Federal Grants

USEPA has increased the support for TMDL development to the current level of \$3 million per year as a baseline budget and has made available another \$1.45 million in one-time grant funds

for FY 2001-02. Significantly increasing federal support for TMDLs in California would require federal budget action.

Securing an increase in baseline federal support for TMDLs would provide a significant improvement in the TMDL program. In addition to grants now considered baseline support, USEPA provides some grant funds on an as-available basis. These funds are considered one-year funding which must be encumbered in the year they are offered, and USEPA makes no commitment to continue the grant in subsequent years. Making money available year-by-year without a commitment to a baseline level of support diminishes the ability to efficiently use the funds. For example, it is impossible to use the one-year funding to hire new staff because of the time involved in hiring and training. Therefore, federal grant funds made available without commitment to subsequent years can only be expended as contract funds. The TMDL effort currently operates on a three-year planning timeframe that includes identification of contract needs. This allows one-year federal grant money to be integrated into the effort. However, to allow more efficient use of funds and more effective long-term planning, it is preferred that funds are provided as baseline instead of one-time funding.

Collaborations

As previously noted in this report, the SWRCB is actively seeking collaboration with local, State, and federal government agencies, and in some cases with nongovernmental agencies, to develop and implement TMDLs. In some instances, local agencies are better placed to complete needed work than are the RWQCBs. In other cases, local agencies see tangible benefits of expediting the work of the RWQCBs. Successful collaborations have already taken place in the San Francisco Bay Area and in Southern California. Others are currently underway. It is anticipated that these collaborations will offset some of the needed resources at the state level. Collaborations can expedite the TMDL work and improve the quality of technical analyses and implementation programs.

Supplemental Environmental Projects (SEPs)

SEPs are projects funded directly by a violator of a water quality control permit in lieu of paying penalties into the Cleanup and Abatement Account. SEPs are currently projected to provide approximately \$3 million to \$5 million per year in project support. There are certain aspects of TMDL development that could be pursued as a SEP. The RWQCBs would need to develop partnerships with community entities that are eligible for SEP funds to carry out the desired project, since the RWQCBs do not have direct access to SEP resources.

Appendix A

TOTAL MAXIMUM DAILY LOADS (TMDL) INITIATIVE ACTION PLAN

**TOTAL MAXIMUM DAILY LOADS
(TMDL) INITIATIVE
ACTION PLAN**

Edition 1.0

Revised December 2001

**STATE WATER RESOURCES
CONTROL BOARD**
California Environmental Protection Agency

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TMDL INITIATIVE ACTION PLAN

Edition 1.0 (Revised December 2001)

I. PURPOSE/GOALS

The Total Maximum Daily Load (TMDL) Initiative has been established to ensure that the TMDL effort in California results in tangible water quality improvements in the shortest possible time with the ultimate objective of restoring and maintaining the water quality standards of these waters. The purpose of the TMDL Initiative Action Plan is to identify strategies and specific actions to be taken to meet the three goals of the TMDL Initiative: (1) improve TMDL program performance; (2) enhance communication among the State Water Resources Control Board (State Board), Regional Water Quality Control Boards (Regional Boards), and stakeholders; and (3) enhance collaboration and support among all stakeholders, including the State and Regional Boards, other regulatory and resource agencies, the regulated community, and the public. Because the strategies and actions needed to support these goals are expected to change to some degree over time, this Action Plan is a dynamic planning document that will be revised in subsequent editions. Edition 1.0 focuses on strategies and actions identified to promote statewide TMDL efforts in the near-term. We will review, update, and revise the strategies and actions semiannually to reflect progress, new information, and unforeseen circumstances. Most importantly, we will evaluate the strategies and actions relative to effective and timely attainment of the goals of the TMDL Initiative and the ultimate objective to attain water quality standards.

II. TMDL DEFINED

A TMDL has essentially two meanings (*Guidance for Water-Quality-based Decisions: The TMDL Process*, US EPA, 1991, EPA440-4-91-001):

- The TMDL process is used for implementing state water quality standards – that is, it is a planning process that will lead to the goal of meeting the water quality standards; and
- The TMDL is a numerical quantity determining the present and near future maximum load of pollutants from point and nonpoint sources as well as from background sources, to receiving water bodies that will not violate the state water quality standards with an adequate margin of safety. The permissible load is then allocated among point and nonpoint sources.

The former is essentially the means by which the latter is accomplished. As used in this Action Plan, the term TMDL means the TMDL process to design and implement programs, policies, and actions that result in correcting water quality impairments and sustaining water quality improvements. A complete TMDL includes documentation that satisfies the Clean Water Act Section 303(d) requirements and State law pertaining to water quality management, amendments to Basin Plans, California Environmental Quality Act (CEQA), and administrative requirements. As such, a TMDL includes measurable features that describe attainment of the applicable water quality standard including the maximum allowable pollutant load, and an allocation of the responsibility to take corrective and preventive actions, including an implementation plan.

The timelines and documentation associated with a complete TMDL, as used in this Action Plan, are more extensive than those associated with merely calculating the maximum pollutant load. More importantly, the complexity of designing and implementing integrated efforts to achieve water quality improvements is far greater than calculating loads. Therefore, the workload and time requirements associated with this Action Plan envision time frames that often extend several years into the future. This Action Plan also envisions involvement of stakeholders in the TMDL process, and therefore

contains many features designed to communicate with and engage stakeholders in the process. These more expansive characteristics of a TMDL are implicit in the definition of a TMDL as used in this Action Plan. A TMDL may also address more than one pollutant/water body combination listed on the 303(d) list of impaired waters. Currently 1472 pollutant/water body combinations are listed and it is estimated that 400 to 800 TMDL projects will be needed to address all of these listings.

III. CURRENT PROGRAM DESCRIPTION

Currently, 94.5 Personnel Years (PYs) are dedicated to TMDL development; 28.5 PYs are supported through federal grants and the balance is funded through the State General Fund. Total direct support for TMDL work amounts to \$11.4 million per year, of which \$8.4 million is for staff and \$3 million is for contract support. An additional 21 PYs are dedicated to implementation of TMDLs addressing nonpoint source problems. In FY 2001-02 the TMDL program also received a one-time federal grant of \$1.45 million in contract resources. Executive management oversight and program direction is provided by statewide coordination through the Management Coordinating Committee (MCC), comprised of State Board Executive management and Regional Board Executive Officers. Direct program management is provided by the Statewide TMDL Program Manager along with the TMDL Roundtable comprised of managers directly responsible for TMDL efforts at the State and Regional Boards.

TMDL work is planned and scheduled on an annual, three-year, and five-year basis. In addition, at each revision of the impaired waters list a long-term schedule and priorities for TMDL development are established. The one-, three-, and five-year schedules are consistent with the long-term priorities but we may modify the schedule to take advantage of opportunities that arise. Work is being conducted in all regions and at the State Board. In some cases, court supervised consent decrees have established schedules for development of technical work leading to the federally required total load calculation. In the North Coast Region (Region 1), this schedule precludes the ability to develop Basin Plan amendments and a complete TMDL as described above, given the current level of support. In the Los Angeles Region (Region 4), the consent decree schedule has allowed for developing TMDLs as Basin Plan amendments to date, but the pace accelerates in coming years and under the current staffing level most, if not all, future work may be truncated to load calculations and allocations without implementation plans and Basin Plan amendments. In the Santa Ana Region (Region 8), all consent decree schedule dates have been met. In these consent decree cases, the U.S. Environmental Protection Agency (USEPA) is required to establish the technical load calculations as TMDLs that meet federal requirements. These USEPA-established TMDLs do not include the management and implementation features included in State-adopted TMDLs.

IV. CURRENT TMDL PROGRAM COMMITMENT

Commitments to complete TMDL work are established annually in the TMDL workplan which reflects allocated resources. The three-year, five-year, and long-term schedules are planning tools and are contingent on availability of resources. Currently the State Board estimates that adhering to the long-term schedule would require more than doubling the current level of support. The workplan for FY 2001-02 identifies work to be undertaken to continue development of 144 TMDLs (this number includes the technical support documents used by USEPA for establishing TMDLs). Thirty-two of these are scheduled for Regional Board consideration by December 2002 (see Attachment 1). This Action Plan describes activities above and beyond these existing commitments. To carry out these new activities staff will need to be redirected from existing work. In some cases this may lead to temporarily slowing

the pace of TMDL development in the regions and may require adjusting this year's workplan commitments. However, it is believed that all the activities described in this Action Plan will quickly result in enhancements to the overall effort and expedite the pace of TMDLs in the near future.

V. TMDL INITIATIVE TEAM

This TMDL Initiative Action Plan was developed by a team led by the Statewide TMDL Program Manager, Tom Mumley (San Francisco Bay Regional Board). The team also included: Tom Howard (State Board Deputy for Water Quality and Policy Development), Stefan Lorenzato (TMDL Coordinator, State Board Division of Water Quality), Gail Linck (State Board Office of Statewide Initiatives), and Greg Gearheart (State Board Office of Statewide Initiatives).

VI. STRATEGIES

In this edition of the Action Plan, we present nine strategies for meeting the goals of the TMDL Initiative and the Strategic Plan. These strategies are interrelated and dynamic, and may be integrated, deleted, or augmented in subsequent editions of the Action Plan. Brief descriptions of the nine strategies are presented below. The actions, tasks, products, and due dates for each strategy are presented in Section VII.

A. TMDL Program Structure and Management

We will assess the current program structure related to TMDL efforts, identify and establish improvements, and establish organizational modifications to address them. We will identify the interrelationship of TMDL efforts with other water quality programs and establish mechanisms to ensure effective program collaboration and integration. The role of management advocates with responsibility for TMDL efforts and integration of TMDL efforts with other water quality programs will be defined, and individuals will be assigned to these new roles. We will establish communication procedures and expectations within the TMDL program and related programs.

B. Information Management

We will establish a user-friendly information management system as part of the existing System for Water Information Management (SWIM) and enhancements to SWIM. This system will include data on all TMDL projects, with more detail for TMDL projects within a 3-year planning horizon, and even more detail associated with tasks in the active fiscal year. The latter will be part of an effort to produce electronic workplans (e-workplans). The information and data in the system will also be used to produce fact sheets, workplans, and other reports for specific TMDL projects. Intranet and Internet web sites will be established for access to the information and relevant products. Contract mechanisms such as master contracts and tracking mechanisms will also be built into the system.

C. TMDL Toolbox and Guidelines

We will produce tools and guidelines for listing and delisting impaired water bodies, developing TMDLs, and implementing the TMDL program. These products will include technical tools, methods and procedures for their use, and regulatory and policy tools, guidelines, and procedures for their use. Tools and guidelines will be produced for 303(d) listings, categorical TMDLs (pathogens, pesticides,

metals, etc.), and TMDL process elements (numeric targets, source analysis, linkage analysis, allocations, implementation plan, etc.).

D. Outreach, Communication, and Participation

We will develop tools, mechanisms, and procedures to enhance external (other agencies, stakeholders, and public) outreach, communication, and participation. Successful development of TMDLs will require participation and support of various stakeholders. Inherent to this participation and support is the need to ensure that stakeholders are informed of and understand the issues associated with developing the TMDLs. These efforts will include creating and identifying opportunities to enhance collaboration and cooperation with other agencies and stakeholders, more effectively describing and reporting on TMDL activities, and providing forums for information exchange. Actions will include general and specific outreach and communication efforts, stakeholder participation and collaboration, and coordination and collaboration with other agencies.

E. Early Implementation

Early Implementation refers to actions that may be implemented prior to completion of a TMDL. We will pursue opportunities for early actions that promote or possibly eliminate the need for TMDLs using existing authorities, program integration, process improvements, and stakeholder assistance and collaboration. Such opportunities may include: evaluating actions already taking place that may be recognized in the implementation plan for a TMDL; groundtruthing or pilot testing potential actions that may or are being considered for an implementation plan; and identifying and evaluating actions that if implemented may negate the need for a TMDL, such as implementation of existing technology-based requirements or enhancements of them, or clean-up and abatement of hotspots or illicit discharges. Early Implementation will not be early implementation of TMDLs that do not exist, nor will it be used in lieu of TMDLs where TMDLs are needed.

F. Monitoring and Assessment

We will continue to design and implement a comprehensive statewide Surface Water Ambient Monitoring Program (SWAMP) to improve identification of impaired or threatened waters. We will augment SWAMP, where appropriate, with monitoring required by or associated with other water quality programs (NPDES, Storm Water, Nonpoint Source programs, etc.) and with monitoring conducted by other agencies (U.S. Geological Survey, Department of Water Resources, Department of Pesticide Regulation [DPR], etc.).

G. Basin Planning

We will streamline and improve the existing basin planning process based on the new Administrative Procedures Manual chapter on basin planning through training, enhanced coordination and communication, and resourcefulness. We will also pursue options to revise or modify the existing process.

H. TMDL Implementation

We will establish procedures and requirements to implement TMDLs in general and to implement specific TMDLs. We will establish procedures to track and enforce TMDL implementation actions and to monitor effectiveness of actions. We will also establish adaptive management procedures to ensure that implementation actions result in attainment of water quality standards. We will use and enhance existing regulatory mechanisms, and where necessary, establish new ones or seek collaboration with other agencies with applicable authorities.

I. Budget Development and Management

We will address budget issues relevant to TMDL efforts. They include: assessment and management of existing budget allocations; use or redirection of funds associated with other programs; development of initiatives to seek additional resources through the State budget process; and development of initiatives to seek resources through external sources such as dischargers or other collaborators.

VII. ACTIONS TO IMPLEMENT THE STRATEGIES

Described below for each strategy are actions, tasks, products/deliverables, and due dates. With each edition of the Action Plan, these elements will be updated and expanded. Attachment 2 provides a compilation of all the actions and products and the timeline for them.

A. TMDL Program Structure and Management

We will articulate and solidify expectations for TMDL development, products, and timelines, and communicate these expectations to all staff involved in TMDL development. The current program structure related to TMDL efforts will be assessed, and improvements and organizational options to address them will be identified and established. We will identify the interrelationship of TMDL efforts with other water quality programs and establish mechanisms to ensure effective program collaboration and integration. Roles and responsibilities of management and staff within the TMDL program and other water quality programs will be articulated. The role of management advocates with responsibility for TMDL efforts and integration of TMDL efforts with other water quality programs will be defined, and individuals will be assigned to these new roles. We will establish communication procedures and expectations within the TMDL program and related programs.

Action 1: Program Structure Assessment and Improvement

Description: The expectations of the TMDL Program at the State Board and the Regional Boards will be articulated. Expectations for products, timelines, tracking and documentation, and legal commitments will be communicated to all staff. Integral to this effort will be the identification and truncation of non-essential activities that impede the pace of TMDL production. The TMDL program structure will be reviewed and evaluated accordingly. Improvements and options will be identified and established.

Tasks:

- Articulate expectations regarding TMDL program objectives and products.
- Assess current program structure, including roles and responsibilities of State and Regional Board TMDL Team members and staff of related programs.
- Identify needed improvements in program structure and present organizational options to address them to MCC.
- Implement program improvements approved by MCC.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|------------------------------------|-----------------------------------|
| Program Structure Improvement Plan | February 2002 |
| MCC review and approval of plan | March 2002 |
| Implement structural improvements | Ongoing (beginning February 2002) |

Action 2: Program Integration

Description: TMDL efforts encompass activities associated with nearly all other water quality programs. We will establish a clear understanding of these interrelationships (particularly the NPDES and Nonpoint Source Programs) and establish mechanisms to ensure effective collaboration and integration of program efforts, and to prevent conflicts or redundancies between these programs and TMDL efforts.

Tasks:

- Identify programs (e.g., NPDES Wastewater, NPDES Storm Water, and Nonpoint Source programs) associated with TMDLs in general and with specific TMDL projects.
- Describe interrelationships between TMDLs and these programs.
- Identify roles and responsibilities of these programs and program staff, and establish management advocates or other mechanisms to ensure effective collaboration and integration, and to prevent conflicts or redundancies between these programs and TMDL efforts.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|---|--------------------------------|
| Matrix of TMDL projects and affected programs | February 2002 |
| Program interrelationship report with opportunities for improvement | March 2002 |
| Identify key roles and responsibilities to maintain and improve integration | March 2002 |
| Assign staff or functions as necessary to ensure integration | Ongoing (beginning March 2002) |

Action 3: Program Management

Description: We will review the roles and responsibilities of management and staff within the TMDL program at the State Board and Regional Boards. This effort will include executive management and division management at the State Board, the Management Coordinating Committee (State Board management and Regional Board Executive Officers), the Assistant Executive Officers, the Statewide TMDL Program Manager, the TMDL Program Coordinator, the TMDL Roundtable, and others as necessary. The role of TMDL management advocates will be defined. We will identify key individuals to serve as management advocates with responsibility for TMDL efforts (including the TMDL Initiative and this Action Plan), and integration and coordination of TMDL efforts with other water quality programs and the Strategic Plan. We will establish communication procedures and expectations with the TMDL program and interrelated programs.

Tasks:

- Review management roles and responsibilities.
- Define the role and responsibilities for management advocates.
- Identify management advocates.
- Establish management advocates expectations for TMDL efforts and products (including the TMDL Initiative and this Action Plan) and integration and coordination of TMDL efforts with other water quality programs and the Strategic Plan.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|--|-----------------|
| Roles and responsibilities of management advocates | January 2002 |
| TMDL program management description | January 2002 |
| Report on expectations of management advocates | February 2002 |
| Memorandum announcing the State and Regional Board management advocates for TMDLs. | February 2002 |

Action 4: Internal Communication

Description: The importance and complexity of the TMDL program and its interrelationship with other water quality programs calls for effective internal communication. Communication expectations and procedures within the TMDL program and interrelated programs will be established.

Tasks:

- Convene quarterly TMDL Roundtable of State and Regional Board program coordinators.
- Convene annual, two-day TMDL symposiums (Day 1 – discussion sessions; Day 2 – training).
- Identify key communication expectations (management to staff, program to program, State Board to Regional Boards, etc.) and pathways.
- Establish communication procedures.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|--|-----------------|
| TMDL symposium | October 2001 |
| Key communication pathways and expectations pathways | February 2002 |
| Communication procedures | March 2002 |
| TMDL symposium | October 2002 |

B. Information Management

We will establish a user-friendly information management system as part of the existing System for Water Information Management (SWIM) and enhancements to SWIM. This system will include data on all TMDL projects, with more detail for TMDL projects within a 3-year planning horizon, and even more detail associated with tasks in the active fiscal year. The latter will be part of an effort to produce electronic workplans (e-workplans). The information and data in the system will also be used to produce fact sheets, workplans, and other reports for specific TMDL projects. Intranet and Internet web sites will be established for access to the information and relevant products. Contract mechanisms such as master contracts and tracking mechanisms will also be built into the system.

Action 1a: Database Enhancement - Phase One

Description: An existing database in MS Access will be converted to Oracle as part of development of SWIM and e-workplans. The database will include relevant information for all TMDL projects underway. This will include specific tasks/products that will be conducted/produced during the current fiscal year, and associated personnel and contract resources. Projected tasks/products and associated personnel and contract resources for the next two fiscal years will also be entered into the database.

Tasks:

- Convert database to Oracle with enhanced (early) milestones/tasks fields and prepare user guide.
- Enter data for FY 2001/02.
- Define reporting needs, incorporate appropriate formats for reports into database, and revise user guide.
- Produce report(s) based on FY 2001/02 data.
- Enter data for FYs 2002/03 and 2003/04.
- Produce report(s) based on FY 2001/02 data.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|---|-----------------|
| Complete database conversion and user guide | January 2002 |
| Complete FY 2001/02 data entry | February 2002 |
| Reports formats and revised user guide | February 2002 |
| FY 2001/02 report(s) | February 2002 |
| Complete data entry for FYs 2002/03 and 2003/04 | March 2002 |

Action 1b: Database Enhancement - Phase Two

Description: The database will be enhanced for planning, reporting, contract tracking, and implementation purposes. Additional information/data fields will include:

- TMDL project problem definition, approach description, major work focus, and weak link(s) or obstacle(s).
- Water quality programs affected.
- Type/extent of stakeholder participation (e.g., mail list, staff workshops, watershed stewardship group with Regional Board lead, Watershed Group with Regional Board participant, TAC, PAG, etc.)
- Interagency coordination required/desired.
- Early implementation focus -- status, opportunities, projects, regulatory options
- Contract tracking information field (e.g., contract #, amount, scope, contractor)
- Implementation milestones (e.g., projects, contacts, lead, duration, Nonpoint Source Management Measures, PYs, contracts, fund source).

The additional information and data associated with these enhancements will be used to produce workplans and fact sheets for TMDL projects and improved justification for project tasks, costs, and timing.

Tasks:

- Define and create enhanced information/data fields and revise user guide.
- Enter additional information/data.
- Define/design enhanced reports/products, incorporate appropriate formats into database, and revise user guide.
- Produce TMDL project workplans/fact sheets.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|--|-----------------|
| Complete enhanced fields and user guide | April 2002 |
| Complete additional information/data entry | May 2002 |
| Enhanced report formats and revised user guide | June 2002 |
| TMDL project workplans/fact sheets | July 2002 |

Action 2: E-Workplan

Description: An important application of the database will be production of electronic workplans (e-workplans). The information/data in the database associated with TMDL phase (TMDL development, implementation planning, basin planning, and implementation), milestones, tasks, costs, and timelines will be used to generate reports that will serve as the annual fiscal year workplans for the TMDL program.

Tasks:

- Generate e-workplan for FY 2001/02 based on database and data entered via Action 1a.
- Generate draft e-workplan for FY 2002/03.
- Revise FY 2002/03 data to reflect FY 2002/03 budget.
- Produce final e-workplan for FY 2002/03.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|-----------------------------|-----------------|
| FY 2001/02 e-workplan | February 2002 |
| Draft FY 2002/03 e-workplan | April 2002 |
| Revise FY 2002/03 data | June 2002 |
| FY 2002/03 e-workplan | July 2002 |

Action 3: Intranet/Internet Web Pages

Description: Produce appropriate Intranet/Internet access to database, e-workplans, and other products.

Tasks, products, and due dates, etc. to be determined.

Action 4: Tracking Reports

Description: TMDL program workplans will be regularly developed to describe the intended work in the upcoming one- and three-year periods. Reports on the progress of this work will be produced and reviewed on a regular basis.

Tasks, products, and due dates, etc. to be determined by April 2002.

Action 5: Legislature Reports

Description: Annual reports to the legislature required by Section 13191 of the California Water Code on the structure and effectiveness of the water quality program as it relates to Section 303(d) of the Clean Water Act. Additional reports are often required by budget control language.

Tasks, products, and due dates, etc. to be determined by April 2002.

Action 6: Contract Development and Management

Description: Regional Boards rely heavily on their ability to contract for special services needed to complete specific TMDLs. To improve the efficiency of the contracting process, master contracts can be established with the University systems and private consultants to provide TMDL support through a task order mechanism. Initially a master contract with the University systems will be developed. A companion master contract for private sector consultants will follow. The University master contract will be limited to TMDL tasks that match the teaching and research mission of the universities. The private sector contract will be designed to provide broad TMDL support, including technical, administrative, and public process work.

Tasks, products, and due dates, etc. to be determined by April 2002.

C. TMDL Toolbox and Guidelines

We will produce tools and guidelines for listing and delisting impaired water bodies, developing TMDLs, and implementing the TMDL program. These products will include technical tools, methods and procedures for their use, and regulatory and policy tools, guidelines, and procedures for their use. Tools and guidelines will be produced for 303(d) listings, categorical TMDLs (pathogens, pesticides, metals, etc.), and TMDL process elements (numeric targets, source analysis, linkage analysis, allocations, implementation plan, etc.).

Action 1: Impaired Water Bodies Listing/Delisting Tools and Guidelines

Description: The State Board has stated its intent to develop a policy to guide those involved in the listing and delisting of impaired waters (pursuant to Clean Water Act Section 303(d)). The 2002 listing process is currently underway and an official policy cannot be developed in time to apply to the current list process. The 2002 listing effort will instead be used as a scoping mechanism to develop an official policy. The policy will seek to provide consistency among the regions and DWQ in the assessment of data, and in the prioritization of listed waters. The State Board also will address aspects of data quality and sufficiency. The policy will be developed with public participation, including the AB 982 Public Advisory Group (PAG).

Tasks:

- Summarize key points in Regional Board workshops and meetings related to 303(d) listing.
- Summarize key public comments on 2002 list.
- Develop working draft listing policy.
- Conduct public workshops on working draft.
- Develop draft policy.
- Conduct State Board public hearing process (hearing, workshop, response to comments, and adoption).
- Provide Regional Board training and technical support for new policy.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|-----------------------------------|-----------------|
| Preliminary summary of key issues | January 2002 |
| Review and feedback by PAG | February 2002 |
| Revised summary of key issues | March 2002 |
| Working draft policy | May 2002 |
| Draft policy | October 2002 |
| State Board consideration | January 2003 |

Action 2: Categorical TMDL Tools and Guidelines

Description: Tools and guidelines for developing and implementing categorical TMDLs (pathogens, pesticides, metals, etc.) will be produced by forming workgroups of State and Regional Board staff with experience and/or expertise in categorical TMDLs. These will include: how to address the programmatic and technical aspects of TMDL development, including criteria for level of effort (how much is enough); identification of the TMDL elements that are significant and/or pose particular problems (coordinate with Action 3); stakeholder involvement opportunities and issues; interagency issues (collaboration/conflict); and early implementation opportunities. Key to the success of these workgroups will be provision for meeting management, facilitation, and product production support (contract).

Tasks:

- Form categorical TMDL workgroups.
- Compile relevant literature, existing products, and existing tools.
- Identify additional tools, needs, and issues, and schedule for their production, evaluation, and/or resolution.
- Complete compilation of technical tools, methods, and procedures for their use, and regulatory and policy tools, guidelines, and procedures for their use.
- Initiate appropriate approval mechanisms for tools and guidelines.
- Establish standing workgroups or “strike teams” to aid the use of tools and guidelines and to update/revise them as necessary.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|---|-----------------|
| Form workgroups | November 2001 |
| Compilation of existing tools | February 2002 |
| Identification of additional tools, needs, and issues | April 2002 |
| Complete compilation of tools and guidelines | October 2002 |
| Initiate approval process | October 2002 |
| Establish standing workgroup or “strike teams” | October 2002 |

Action 3: TMDL Elements Tools and Guidelines

Description: Complete TMDLs consist of several elements: problem statement, numeric targets, source analysis, linkage analysis, allocations, margin of safety, implementation plan, and monitoring/re-evaluation plan. Tools and guidelines for each of these elements will be produced by workgroups of State and Regional Board staff with experience and/or expertise in these elements. This action area will be coordinated closely with and segue from Action 2.

Tasks:

- Form TMDL element workgroups.
- Compile relevant literature, existing products, and existing tools.
- Identify additional tools, needs, and issues, and schedule for their production, evaluation, and/or resolution.
- Complete compilation of technical tools, methods, and procedures for their use, and regulatory and policy tools, guidelines, and procedures for their use.
- Initiate appropriate approval mechanisms for tools and guidelines.
- Establish standing workgroups or “strike teams” to aid the use of tools and guidelines and to update/revise them as necessary.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|---|-----------------|
| Form workgroups | June 2002 |
| Compilation of existing tools | October 2002 |
| Identification of additional tools, needs, and issues | November 2002 |
| Complete compilation of tools and guidelines | March 2003 |
| Initiate approval process | March 2003 |
| Establish standing workgroup or “strike teams” | March 2003 |

Action 4: TMDL Program Guidelines

Description: The products of the workgroups dedicated to categorical TMDL tools and TMDL elements will be coalesced into consolidated guidelines for developing TMDLs. This effort will require coordinating the efforts of these workgroups, compiling their recommendations, and developing the consolidated guidelines. Products of the workgroups will be implemented as soon as possible and in some cases will precede establishment of the consolidated guidelines. Attachment 3 contains a schedule for producing TMDL guidelines via the combination of Actions 2, 3, and 4.

Tasks:

- Coordinate efforts of categorical and TMDL element workgroups.
- Develop consolidated TMDL development guidelines.
- Conduct approval mechanism for guidelines.

Products/Deliverables and Due Dates:

| PRODUCT/DELIVERABLE | DUE DATE |
|--|-----------------|
| Develop consolidated TMDL development guidelines | July 2003 |
| Establish final TMDL development guidelines | January 2004 |

D. Outreach, Communication, and Participation

We will develop tools, mechanisms, and procedures to enhance external (other agencies, stakeholders, and public) outreach, communication, and participation. Successful development of TMDLs will require participation and support of various stakeholders. Inherent to this participation and support is the need to ensure that stakeholders are informed of and understand the issues associated with developing the TMDLs. These efforts will include creating and identifying opportunities to enhance collaboration and cooperation with other agencies and stakeholders, more effectively describing and reporting on TMDL activities, and providing forums for information exchange. Actions will include general and specific outreach and communication efforts, stakeholder participation and collaboration, and coordination and collaboration with other agencies.

Action 1: Public Advisory Group (PAG) Involvement and Collaboration

Description: We will seek advise on the TMDL Initiative and this Action Plan from the Public Advisory Group (PAG) that has been established pursuant to AB 982 to assist in the evaluation of TMDL program structure and effectiveness. We have cross-referenced this Action Plan to the PAG consensus recommendations received to date. In the spirit of enhancing collaboration between the PAG and the State Board, we requested and received PAG comments on developing and implementing the strategies and actions of this first edition Action Plan, and will continue this process in subsequent editions. Areas where we seek assistance from the PAG include, but are not limited to, implementing opportunities to improve the basin planning process, developing legislative reports, pursuing needed legislative changes to support or improve TMDLs or the TMDL process (e.g., budget initiatives, basin planning), and engaging other agencies in TMDL development and early implementation.

Tasks:

- Cross-reference Action Plan strategies and actions with PAG consensus recommendations.
- Solicit input from PAG on developing, evaluating, and implementing existing and additional Action Plan strategies and actions.
- Establish tasks for the PAG as part of the Action Plan strategies and actions.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|---|-----------------------------|
| Table of strategies/actions versus consensus recommendations | October 2001 |
| Distribute Action Plan for PAG review. | October and April each year |
| Receive and consider comments from PAG in revising future additions of the Action Plan. | November and May each year |
| Establish tasks for the PAG | November and May each year |

Action 2: Stakeholder Involvement and Collaboration

Description: Identify and create opportunities to enhance involvement and collaboration with stakeholders. These efforts will include improved outreach and communication associated with Action 3 and improved descriptions and use of stakeholder involvement and collaboration opportunities and mechanisms. Integral to this effort will be the recognition that stakeholders may bring information and expertise to the table. For each TMDL project, we will strive for the most focused and efficient process that allows all stakeholders to effectively participate and ensures balanced representation on any recognized “watershed” or stakeholder forum. Mechanisms will range from compilation and maintenance of interested parties lists to formally recognized and facilitated stakeholder forums.

Tasks:

- Prepare compendium of stakeholder involvement opportunities and mechanisms, with recommendations.
- Provide training in public process facilitation and negotiation/conflict resolution for staff and stakeholders.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|--------------------------------------|--------------------------------|
| Compendium of stakeholder mechanisms | April 2002 |
| Training | Ongoing (beginning April 2002) |

Action 3: Outreach and Communication

Description: Methods that Regional Boards are using for outreach and communication will be surveyed and described. Key stakeholders will be identified. Other approaches to outreach and public process will be evaluated and training in outreach and public process will be provided. Methods for documenting and tracking public involvement in TMDL development will be evaluated and established where feasible. We will develop informational items that can be used to communicate current activities in TMDL development. Web based bulletin boards will be evaluated and developed where feasible. Lists of interested parties (other agencies, stakeholders, and public) will be established and mechanisms to communicate with them (e.g., reports, web site)

will be evaluated and established. We will compile relevant information on the TMDL program and TMDL projects. This action area will be coordinated with the information management actions described under Strategy B above.

Tasks:

- Report on Regional Board outreach methods and other available public process techniques.
- Develop and offer outreach training.
- Develop and distribute informational materials, in coordination with OLPA, including TMDL fact sheets for each TMDL unit.
- Enhance TMDL web site.
- Convene biennial or triennial TMDL conferences with State and Regional Board staff and stakeholders.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|----------------------------|-----------------|
| Methods report | April 2002 |
| Outreach materials | Ongoing |
| Training module | July 2002 |
| TMDL project fact sheets | July 2002 |
| Enhanced TMDL web site | July 2002 |
| TMDL conference schedule | July 2002 |

Action 4: Interagency Coordination and Collaboration

Description: Opportunities to enhance coordination and collaboration with other agencies will be pursued. Our TMDL efforts overlap authorities and programs of other agencies. Certain TMDLs are dependent on efforts by these other agencies (e.g., pesticide TMDLs and the USEPA and DPR). In some cases, actions by other agencies may even conflict with or create barriers to TMDL efforts. These opportunities, overlaps, conflicts, and barriers will be identified and appropriate resolutions, agreements, etc. will be pursued.

Tasks, products, due dates, etc. to be determined by April 2002.

E. Early Implementation

Early Implementation refers to actions that may be implemented prior to completion of a TMDL. We will pursue opportunities for early actions that promote or possibly eliminate the need for TMDLs using existing authorities, program integration, process improvements, and stakeholder assistance and collaboration. Such opportunities may include: evaluating existing actions that may be recognized in the implementation plan for a TMDL; groundtruthing or pilot testing potential actions that may or are being considered for an implementation plan; and identifying and evaluating actions that if implemented may negate the need for a TMDL, such as implementation of existing technology-based requirements or enhancements of them, or clean-up and abatement of hotspots or illicit discharges. Early Implementation will not be early implementation of TMDLs that do not exist, nor will it be used in lieu of TMDLs where TMDLs are needed.

Action 1: Implement Existing Authorities

Description: Pursue opportunities for early action through existing authorities and program integration including implementation and evaluation of existing requirements.

Tasks:

- Review and clarify technology-based requirements for wastewater and stormwater discharges subject to NPDES permits for control of pollutants causing impairment.
- Review and clarify best management practices for nonpoint source discharges for control of pollutants causing impairment.
- Identify toxic hot spots and/or illicit discharges (particularly those currently subject to regulatory action by a Regional Board) that are causing or may be contributing to water quality impairment.
- Assimilate regulatory requirements/pollutant control information into a matrix or other suitable framework that provides access to such information.
- Pursue stakeholder participation (e.g., Stormwater Quality Task Force) in this process.
- Develop “early alarm system” to notify non-TMDL staff when an activity (e.g., issuing a landfill WDR) is relevant to a scheduled or ongoing TMDL effort, and to alert staff to opportunities to implement actions relevant to TMDLs.
- Apply and track existing requirements on a TMDL pollutant category or project-specific basis.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|---|---------------------------------------|
| Matrix of regulatory requirements/pollutant control information | Six-month updates starting April 2002 |
| Stakeholder participation | Six-month updates starting April 2002 |
| Use of existing authorities/requirements | Six-month updates starting April 2002 |
| Establish “early implementation alarm” | September 2002 |

Action 2: Evaluate Potential Actions

Description: Evaluate (groundtruth or pilot test) potential actions for consideration in TMDL implementation plans.

Tasks:

- Identify potential actions for consideration in TMDL implementation plans on a TMDL pollutant category or project-specific basis (clean-up of PCBs within a storm drain).
- Implement and track special studies or pilot projects to evaluate such potential actions.
- Solicit stakeholder participation/assistance including creation of incentives/rewards.
- Assimilate potential action information into accessible framework.

Products/Deliverables and Due Dates:

| Product/Deliverable | Due Date |
|--|---------------------------------------|
| List of potential actions | Six-month updates starting April 2002 |
| List/status of special studies or pilot projects | Six-month updates starting April 2002 |
| Compilation of potential action information | Six-month updates starting April 2002 |

F. Monitoring and Assessment

We will continue to design and implement a comprehensive statewide Surface Water Ambient Monitoring Program (SWAMP) to improve identification of impaired or threatened waters. We will augment SWAMP, where appropriate, with monitoring required by or associated with other water quality programs (NPDES, Storm Water, Nonpoint Source programs, etc.) and with monitoring conducted by other agencies (U.S. Geological Survey, Department of Water Resources, Department of Pesticide Regulation [DPR], etc.). We will also improve assessment methods and refine environmental indicators. Decision support tools to identify when sufficient information exists for TMDL activities will be developed.

Actions, tasks, products, due dates, etc. to be determined by April 2002.

G. Basin Planning

We will streamline and improve the existing basin planning process based on the new Administrative Procedures Manual chapter on basin planning using the through training, enhanced coordination and communication, and resourcefulness. We will also pursue options to revise or modify the existing process.

Actions, tasks, products, due dates, etc. to be determined by April 2002.

H. TMDL Implementation

We will establish procedures and requirements to implement TMDLs in general and to implement specific TMDLs. We will establish procedures to track and enforce TMDL implementation actions and to monitor effectiveness of actions. We will also establish adaptive management procedures to ensure that implementation actions result in attainment of water quality standards. We will use and enhance existing regulatory mechanisms, and where necessary, establish new ones or seek collaboration with other agencies with applicable authorities.

Actions, tasks, products, due dates, etc. to be determined by April 2002.

I. Budget Development and Management

We will address budget issues relevant to TMDL efforts. They include: assessment and management of existing budget allocations; use or redirection of funds associated with other programs; development of initiatives to seek additional resources through the State budget process; and development of initiatives to seek resources through external sources such as dischargers or other collaborators.

Action 1: TMDL Budget Management

Description: We will document allocation and use of existing TMDL funds and revise the Budget Development and Administration System (BDAS) to reflect allocated resources and to conform to the TMDL program workplan. We will also establish procedures and provide training for TMDL budget management.

Actions, tasks, products, due dates, etc. to be determined by April 2002.

Action 2: Program Fund Integration

Description: TMDL efforts encompass activities associated with nearly all other water quality programs (e.g., NPDES, Storm Water, and Nonpoint Source programs). We will identify tasks associated with these programs that are part of or affect TMDLs (e.g., pollutant source identification, evaluation of pollution prevention or control actions). Where appropriate, we will use or redirect funds associated with these other programs for these tasks.

Actions, tasks, products, due dates, etc. to be determined by April 2002.

Action 3: State Budget Initiatives

Description: We will continue to use the Budget Change Proposal procedures to seek additional state resources to enhance development and implementation of TMDLs.

Actions, tasks, products, due dates, etc. to be determined by April 2002.

Action 4: External Source Support

Description: We will pursue and implement agreements with other agencies and dischargers to use and share their resources for development and implementation of TMDLs.

Actions, tasks, products, due dates, etc. to be determined by April 2002.

TMDL INITIATIVE ACTION PLAN
Edition 1.0

ATTACHMENT 1

TMDL Regional Board Actions
By December 2002

TMDL Regional Board Actions By December 2002

Region 1

| TMDL Planning Unit | Milestones | Date of Action | Revised Completion Date | Actual Completion Date |
|--------------------|------------|----------------|-------------------------|------------------------|
|--------------------|------------|----------------|-------------------------|------------------------|

Region1 expects Regional Board consideration of at least one TMDL by December 2002.

Region 2

| TMDL Planning Unit | Milestones | Date of Action | Revised Completion Date | Actual Completion Date |
|--------------------|------------|----------------|-------------------------|------------------------|
|--------------------|------------|----------------|-------------------------|------------------------|

San Francisco Bay - Mercury

| | | | | |
|----------------|-----------------------------|---------|--|--|
| Basin Planning | Prepare Amendment | 08/2001 | | |
| | Regional Board Hearing Date | 11/2001 | | |

South San Francisco Bay - Copper

| | | | | |
|----------------|-----------------------------|---------|--|--|
| Basin Planning | Prepare Amendment | 01/2002 | | |
| | Regional Board Hearing Date | 06/2002 | | |

South San Francisco Bay - Nickel

| | | | | |
|----------------|-----------------------------|---------|--|--|
| Basin Planning | Prepare Amendment | 01/2002 | | |
| | Regional Board Hearing Date | 06/2002 | | |

TMDL Regional Board Actions By December 2002

Region 3

| TMDL Planning Unit | Milestones | Date of Action | Revised Completion Date | Actual Completion Date |
|--|-----------------------------|----------------|-------------------------|------------------------|
| <u><i>Chorro Creek - Metals</i></u> | | | | |
| Basin Planning | Prepare Amendment | 06/2001 | | |
| | Regional Board Hearing Date | 12/2001 | | |
| <u><i>Las Tablas Creek- Nacimiento Reservoir - Mercury</i></u> | | | | |
| Basin Planning | Prepare Amendment | 12/2001 | | |
| | Regional Board Hearing Date | 06/2002 | | |
| <u><i>Morro Bay - Nutrients</i></u> | | | | |
| Basin Planning | Prepare Amendment | 12/2001 | | |
| | Regional Board Hearing Date | 06/2002 | | |
| <u><i>Morro Bay - Pathogens</i></u> | | | | |
| Basin Planning | Prepare Amendment | 06/2002 | | |
| | Regional Board Hearing Date | 12/2002 | | |
| <u><i>Morro Bay - Siltation</i></u> | | | | |
| Basin Planning | Prepare Amendment | 06/2001 | | |
| | Regional Board Hearing Date | 12/2001 | | |
| <u><i>San Lorenzo River - Siltation</i></u> | | | | |
| Basin Planning | Prepare Amendment | 06/2002 | | |
| | Regional Board Hearing Date | 06/2002 | | |
| <u><i>San Luis Obispo Creek - Nutrients</i></u> | | | | |
| Basin Planning | Prepare Amendment | 06/2002 | | |

TMDL Regional Board Actions By December 2002

Region 4

| TMDL Planning Unit | Milestones | Date of Action | Revised Completion Date | Actual Completion Date |
|---|-----------------------------|----------------|-------------------------|------------------------|
| <u><i>Ballona Creek - Coliform</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 10/2001 | 7/1/02 | |
| <u><i>Ballona Creek - Trash</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 04/2001 | 8/1/01 | |
| <u><i>Calleguas Creek - Nutrients</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 01/2002 | | |
| <u><i>Dominguez Channel - Coliform</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 02/2002 | 4/1/02 | |
| <u><i>Los Angeles River - Coliform</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 07/2001 | 12/1/01 | |
| <u><i>Los Angeles River - Metals</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 07/2002 | 6/1/02 | |
| <u><i>Los Angeles River - Nutrients</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 07/2001 | 12/1/01 | |
| <u><i>Malibu Creek - Coliform</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 06/2001 | 1/1/02 | |
| <u><i>Malibu Creek - Nutrients</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 06/2001 | 1/1/02 | |
| <u><i>Marina del Rey Harbor - Coliform</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 12/2002 | | |
| <u><i>McGarath Beach - Coliform</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 10/2002 | | |
| <u><i>San Gabriel River - Nutrients</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 11/2002 | | |
| <u><i>Santa Clara River - Chloride</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 08/2001 | 11/1/01 | 12/1/00 |
| <u><i>Santa Monica Bay Beaches - Coliform</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 01/2002 | | |

TMDL Regional Board Actions By December 2002

Region 5

| TMDL Planning Unit | Milestones | Date of Action | Revised Completion Date | Actual Completion Date |
|---|-----------------------------|----------------|-------------------------|------------------------|
| <u><i>Clear Lake - Mercury</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 12/2002 | | |
| <u><i>Sacramento and Feather Rivers - Diazinon</i></u> | | | | |
| Basin Planning | Prepare Amendment | 09/2002 | | |
| <u><i>Sacramento River - Cadmium, Copper, Zinc</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 08/2001 | | |
| <u><i>San Joaquin River - Electrical Conductivity and Boron</i></u> | | | | |
| Basin Planning | Prepare Amendment | 09/2002 | | |

Region 6

| TMDL Planning Unit | Milestones | Date of Action | Revised Completion Date | Actual Completion Date |
|--|-----------------------------|----------------|-------------------------|------------------------|
| <u><i>Indian Creek Reservoir - Nutrients</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 06/2002 | | |

Region 7

| TMDL Planning Unit | Milestones | Date of Action | Revised Completion Date | Actual Completion Date |
|------------------------------------|-----------------------------|----------------|-------------------------|------------------------|
| <u><i>New River - Sediment</i></u> | | | | |
| Basin Planning | Regional Board Hearing Date | 12/2001 | | |

TMDL Regional Board Actions By December 2002

Region 8

| TMDL Planning Unit | Milestones | Date of Action | Revised Completion Date | Actual Completion Date |
|--------------------|------------|----------------|-------------------------|------------------------|
|--------------------|------------|----------------|-------------------------|------------------------|

Newport Bay - diazinon, chlopyrifos

| | | | | |
|----------------|-----------------------------|---------|--|--|
| Basin Planning | Regional Board Hearing Date | 06/2002 | | |
|----------------|-----------------------------|---------|--|--|

Region 9

| TMDL Planning Unit | Milestones | Date of Action | Revised Completion Date | Actual Completion Date |
|--------------------|------------|----------------|-------------------------|------------------------|
|--------------------|------------|----------------|-------------------------|------------------------|

Chollas Creek - Diazinon

| | | | | |
|----------------|-----------------------------|---------|--------|--|
| Basin Planning | Prepare Amendment | 07/2002 | 7/1/02 | |
| | Regional Board Hearing Date | 04/2002 | | |

Chollas Creek - Metals

| | | | | |
|----------------|-----------------------------|---------|---------|--|
| Basin Planning | Prepare Amendment | 01/2002 | 12/1/02 | |
| | Regional Board Hearing Date | 08/2002 | | |

Rainbow Creek - Nutrients

| | | | | |
|----------------|-----------------------------|---------|--------|--|
| Basin Planning | Regional Board Hearing Date | 04/2002 | | |
| Implementation | Prepare Amendment | 07/2001 | 7/1/02 | |

San Diego Bay - Shelter Island Yacht Basin - Dissolved Copper

| | | | | |
|----------------|-----------------------------|---------|---------|--|
| Basin Planning | Prepare Amendment | 07/2002 | 10/1/02 | |
| | Regional Board Hearing Date | 08/2002 | | |

TMDL Initiative Action Plan Timeline

| Strategy-Action-Product | October | November | December | January | February | March | Spring 02 | Summer 02 | Fall 02 | Winter 03 | Other |
|--|---------|----------|----------|---------|----------|-------|---------------------------------|-----------|---------|-----------|-------|
| A. Program Structure and Management | | | | | | | | | | | |
| Action 1: Structure Assessment | | | | | | | | | | | |
| Structure Improvement Plan | | | | | | | | | | | |
| MCC review and approval of plan | | | | | | | | | | | |
| Implementation of structural improvements | | | | | | | ongoing beginning February 2002 | | | | |
| Action 2: Program Integration | | | | | | | | | | | |
| Matrix of TMDL proj. and affected programs | | | | | | | | | | | |
| Program interrelationship report | | | | | | | | | | | |
| Identify key roles and responsibilities | | | | | | | | | | | |
| Assign staff & functions | | | | | | | ongoing beginning March 2002 | | | | |
| Action 3: Program Management | | | | | | | | | | | |
| Roles of Management Advocates | | | | | | | | | | | |
| Program management description | | | | | | | | | | | |
| Report on expectations | | | | | | | | | | | |
| Memo announcing Advocates | | | | | | | | | | | |
| Action 4: Internal Communication | | | | | | | | | | | |
| TMDL symposium | | | | | | | | | | | |
| Communication pathways and expectations | | | | | | | | | | | |
| Communication procedures | | | | | | | | | | | |
| TMDL symposium | | | | | | | | | | | |
| B. Information Management | | | | | | | | | | | |
| Action 1a: Database - Phase 1 | | | | | | | | | | | |
| Database conversion & user guide | | | | | | | | | | | |
| FY 2001/02 data entry | | | | | | | | | | | |
| Report formats & revised user guide | | | | | | | | | | | |
| FY 2001/02 report | | | | | | | | | | | |
| Data entry FY 02-03, FY 03-04 data | | | | | | | | | | | |
| Action 1b: Database - Phase 2 | | | | | | | | | | | |
| Enhanced data fields | | | | | | | | | | | |
| Added data entry | | | | | | | | | | | |
| Enhanced reports/revised user guide | | | | | | | | | | | |
| TMDL project workplans/ fact sheets | | | | | | | | | | | |
| Action 2: E-Workplan | | | | | | | | | | | |
| FY 01/02 e-workplan | | | | | | | | | | | |
| Draft 02/03 e-workplan data entry | | | | | | | | | | | |
| Revise 02/03 data | | | | | | | | | | | |
| Final FY 02/03 e-workplan | | | | | | | | | | | |

| Strategy-Action-Product | October | November | December | January | February | March | Spring 02 | Summer 02 | Fall 02 | Winter 03 | Other |
|---|---------|----------|----------|---------|----------|-------|-----------|-----------|---------|-----------|-------|
| Action 3: Intranet/Internet Web Pages TBD (To be determined) | | | | | | | | | | | |
| Action 4: Tracking reports TBD | | | | | | | | | | | |
| Action 5: Legislative Reports TBD | | | | | | | | | | | |
| Action 6: Contract Development & Management TBD | | | | | | | | | | | |
| C. TMDL Toolbox and Guidelines | | | | | | | | | | | |
| Action 1: Listing guidelines | | | | | | | | | | | |
| Preliminary summary of key issues | | | | | | | | | | | |
| Review and feedback from PAG | | | | | | | | | | | |
| Revised summary of issues | | | | | | | | | | | |
| Working draft policy | | | | | | | | | | | |
| Draft policy | | | | | | | | | | | |
| State Board consideration | | | | | | | | | | | |
| OAL approval | | | | | | | | | | | |
| Action 2: Categorical TMDL Tools | | | | | | | | | | | |
| Form workgroups | | | | | | | | | | | |
| Compile existing tools | | | | | | | | | | | |
| Identify additional tools and guidelines | | | | | | | | | | | |
| Complete compilation of tools and guidelines | | | | | | | | | | | |
| Initiate approval process | | | | | | | | | | | |
| Establish strike teams | | | | | | | | | | | |
| Action 3: TMDL Elements Tools | | | | | | | | | | | |
| Form workgroups | | | | | | | | | | | |
| Compile existing tools | | | | | | | | | | | |
| Identify additional tools, needs and issues | | | | | | | | | | | |
| Compile compilations of tools and guidelines | | | | | | | | | | | |
| Initiate approval process | | | | | | | | | | | |
| Establish strike teams | | | | | | | | | | | |
| Action 4: TMDL Program Guidelines | | | | | | | | | | | |
| Consolidate TMDL development guidelines | | | | | | | | | | | |
| Establish Final TMDL development guidelines | | | | | | | | | | | |
| D. Outreach, Communication, and Participation | | | | | | | | | | | |
| Action 1: PAG Involvement and collaboration | | | | | | | | | | | |
| Tbl. strategies/actions x recommendations | | | | | | | | | | | |
| Initiative and Action Plan, PAG review | | | | | | | | | | | |
| PAG comments/ revised Action Plan | | | | | | | | | | | |
| PAG Tasks | | | | | | | | | | | |

| Strategy-Action-Product | October | November | December | January | February | March | Spring 02 | Summer 02 | Fall 02 | Winter 03 | Other |
|---|---------|----------|----------|---------|----------|---------|------------------------------|--------------------------------------|---------|-----------|-------|
| Action 2: Stakeholder Involvement and Collaboration | | | | | | | | | | | |
| Compendium of stakeholder mechanisms | | | | | | | | | | | |
| Training | | | | | | | ongoing beginning April 2002 | | | | |
| Action 3: Outreach and Communication | | | | | | | | | | | |
| Methods report | | | | | | | | | | | |
| Outreach materials | ongoing | | | | | | | | | | |
| Training module | | | | | | Ongoing | | | | | |
| TMDL project fact sheets | | | | | | | | | | | |
| Enhanced TMDL web site | | | | | | | | | | | |
| TMDL conference schedule | | | | | | | | | | | |
| Action 4: Interagency Coordination & Collaboration | | | | | | | | | | | |
| TBD | | | | | | | | | | | |
| E. Early Implementation | | | | | | | | | | | |
| Action 1: Implement Existing Authorities | | | | | | | | | | | |
| Matrix of regulatory requirements/controls | | | | | | | | 6 month updates beginning April 2002 | | | |
| Stakeholder participation | | | | | | | | 6 month updates beginning April 2002 | | | |
| Use of existing authorities/requirements | | | | | | | | 6 month updates beginning April 2002 | | | |
| Early implementation "alarm" | | | | | | | | | | | |
| Action 2: Evaluate Potential Actions | | | | | | | | | | | |
| List of potential actions | | | | | | | | 6 month updates beginning April 2002 | | | |
| List/status of special studies or pilots | | | | | | | | 6 month updates beginning April 2002 | | | |
| Compendium of potential actions | | | | | | | | 6 month updates beginning April 2002 | | | |
| F. Monitoring | | | | | | | | | | | |
| Actions TBD | | | | | | | | | | | |
| G. Basin Planning | | | | | | | | | | | |
| Actions TBD | | | | | | | | | | | |
| H. TMDL Implementation | | | | | | | | | | | |
| Actions TBD | | | | | | | | | | | |
| I. Budget Development and Management | | | | | | | | | | | |
| Action 1: Budget Management | | | | | | | | | | | |
| TBD | | | | | | | | | | | |
| Action 2: Program Fund Integration | | | | | | | | | | | |
| TBD | | | | | | | | | | | |
| Action 3: State Budget Initiatives | | | | | | | | | | | |
| TBD | | | | | | | | | | | |
| Action 4: External Source Support | | | | | | | | | | | |
| TBD | | | | | | | | | | | |

Attachment 3

Proposed TMDL Guideline Schedule

December-01

| Task | Fall 01 | Winter 02 | Spring 02 | Summer 02 | Fall 02 | Winter 03 | Spring 03 | Summer 03 | Fall 03 | Winter 04 |
|--|---------|-----------|-----------|-----------|---------|-----------|-----------|-----------|---------|-----------|
| Review and finalize schedule | | | | | | | | | | |
| Workgroup assistance contract | | | | | | | | | | |
| Form Categorical Workgroups | | | | | | | | | | |
| Compile existing Categorical tools | | | | | | | | | | |
| Identify Categorical tools, needs, issues | | | | | | | | | | |
| Form TMDL Elements workgroup | | | | | | | | | | |
| Complete draft Categorical guidelines | | | | | | | | | | |
| Compile existing Element tools | | | | | | | | | | |
| Identify Elements tools, needs, issues | | | | | | | | | | |
| Complete draft Elements guidelines | | | | | | | | | | |
| DWQ Consolidate draft elements and category guidelines | | | | | | | | | | |
| Workgroup and Public review of draft consolidated guidelines | | | | | | | | | | |
| Approval process for guidelines | | | | | | | | | | |

Production of guidelines for developing TMDLs will be coordinated by DWQ and rely on workgroups on categorical TMDL tools and TMDL element tools. DWQ will consolidate products from the workgroups to form the draft guidelines. Workgroups will be supported by facilitators and administrative support provided through contract services.

Appendix B

TWELVE-YEAR TMDL COMPLETION SCHEDULE (1998 – 303(D) List)

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|---|--|
| 1 | Americano Creek TMDL Project | Bodega HU, Estero Americano Bodega HU, Estero Americano Bodega HU, Americano Creek | Nutrients Sedimentation/Siltation Nutrients | 2008 |
| 1 | Lake Pillsbury Mercury TMDL Project | Lake Pillsbury, HSA 11163 | Mercury | 2013 |
| 1 | Albion River Sediment TMDL Project | Albion River | Sedimentation/Siltation | 2003 |
| 1 | Big River Sediment TMDL Project | Big River | Sedimentation/Siltation | 2003 |
| 1 | Stemple Creek Nutrient TMDL Project | Bodega HU, Estero De San Antonio/Stemple Creek | Nutrients | 2005 |
| 1 | Eel River Delta TMDL Project | Eel River Delta | Sedimentation/Siltation Temperature | 2007 |
| 1 | Middle Fork Bel River TMDL Project | Bel River, Middle Fork | Sedimentation/Siltation Temperature | 2006 |
| 1 | Middle Main Bel River TMDL Project | Bel River, Middle Main | Sedimentation/Siltation Temperature | 2007 |
| 1 | North Fork Eel River TMDL Project | Bel River, North Fork | Sedimentation/Siltation Temperature | 2006 |
| 1 | South Fork Eel River TMDL Project | Bel River, South Fork | Sedimentation/Siltation Temperature | 2006 |
| 1 | Upper Main Bel River TMDL Project | Bel River, Upper Main (Includes Tomki Creek) | Sedimentation/Siltation Temperature | 2006 |
| 1 | Elk River Sediment TMDL Project | Bel River, Upper Main, Tomki Creek | Sedimentation/Siltation | 2011 |
| 1 | Freshwater Creek Sediment TMDL Project | Elk River | Sedimentation/Siltation | 2012 |
| 1 | Garcia River Sediment TMDL Project | Freshwater Creek | Sedimentation/Siltation | 2002 |
| 1 | Garcia River Temperature TMDL Project | Garcia River | Sedimentation/Siltation | 2011 |
| 1 | Gualala River Sediment TMDL Project | Garcia River | Temperature | 2004 |
| 1 | Upper Lost River TMDL Project | Gualala River | Sedimentation/Siltation | 2007 |
| 1 | Lower Lost River TMDL Project | Klamath River HU, Lost River HA, Clear Lake HSA, Boles HSA | Nutrients Temperature | 2007 |
| 1 | Klamath River TMDL Project | Klamath River HU, Lost River HA, Tule Lake HSA, Mt. Dome HSA | Nutrients Temperature | 2007 |
| 1 | Klamath River TMDL Project | Klamath River HU, Lower HA, Klamath Glen HSA | Nutrients Temperature | 2007 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|--|--|
| | | Klamath River HU, Middle HA, Beaver Creek HSA, Hornbrook HSA | Org. enrichment/Low D.O. Nutrients Temperature | |
| | | Klamath River HU, Middle HA, Iron Gate HSA, Klamath River HU, Middle and Lower HAs, Orleans HSA, Ukonom HSA, Happy Camp HSA, Seiad HSA | Org. enrichment/Low D.O. Nutrients Temperature | |
| 1 | Salmon River TMDL Project | Klamath River HU, Salmon River HA | Nutrients Temperature | 2007 |
| 1 | Mad River Sediment TMDL Project | Mad River | Sedimentation/Siltation Turbidity | 2008 |
| 1 | Mattole River Sediment TMDL Project | Mattole River | Sedimentation/Siltation | 2004 |
| 1 | Mattole River Temperature TMDL Project | Mattole River | Temperature | 2004 |
| 1 | Navarro River Sediment TMDL Project | Navarro River | Sedimentation/Siltation | 2004 |
| 1 | Navarro River Delta | Navarro River Delta | Sedimentation/Siltation | 2004 |
| 1 | Navarro River Temperature TMDL Project | Navarro River | Temperature | 2004 |
| 1 | Noyo River Sediment TMDL Project | Noyo River | Sedimentation/Siltation | 2003 |
| 1 | Redwood Creek Sediment TMDL Project | Redwood Creek (Above Redwood National Park Redwood Creek (Below Redwood National Park | Sedimentation/Siltation Sedimentation/Siltation | 2005 |
| 1 | Russian River Sediment TMDL Project | Russian River HU, E Pk, Upper Russian River HA, Coyote Valley H Russian River HU, Lower Russian River HA, Austin Creek HSA Russian River HU, Lower Russian River HA, Russian River HU, Middle Russian River HA, Big Sulphur Creek HS Russian River HU, Middle Russian River HA, Dry Russian River HU, Middle Russian River HA, Russian River HU, Middle Russian River HA, Mark West Creek HSA Russian River HU, Middle Russian River HA, Santa Rosa Creek HSA Russian River HU, Upper Russian River HA, Forsythe Creek HSA Russian River HU, Upper Russian River HA, Ukiah | Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation | 2013 |
| 1 | Scott River Sediment TMDL Project | Scott River | Sedimentation/Siltation | 2007 |
| 1 | Scott River Temperature TMDL Project | Scott River | Temperature | 2007 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|--|--|
| 1 | Shasta River TMDL Project | Shasta River | Org. enrichment/Low D.O. Temperature | 2007 |
| 1 | Ten Mile River Sediment TMDL Project | Ten Mile River | Sedimentation/Siltation | 2003 |
| 1 | Trinity River Sediment TMDL Project | Trinity River, Lower Trinity River, Upper Trinity River, Middle | Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation | 2005 |
| 1 | South Fork Trinity River TMDL Project | Trinity River, South Fork | Sedimentation/Siltation Temperature | 2005 2010 |
| 1 | Van Duzen Sediment TMDL Project | Van Duzen River (tributary to Bel River) | Sedimentation/Siltation | 2006 |
| 2 | San Francisco Bay Mercury | Richardson Bay SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Mercury Mercury Mercury Mercury Mercury Mercury Mercury | 2002 |
| 2 | San Francisco Bay PCBs | Richardson Bay SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) | 2004 |
| 2 | San Francisco Bay Exotic Species | Richardson Bay SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Exotic Species Exotic Species Exotic Species Exotic Species Exotic Species Exotic Species Exotic Species | 2006 |
| 2 | South San Francisco Bay Copper | South San Francisco Bay | Copper | 2002 |
| 2 | South San Francisco Bay Nickel | South San Francisco Bay | Nickel | 2002 |
| 2 | San Francisco Bay Urban Creeks Diazinon | Alameda Creek Arroyo Corte Madera Del Presidio Arroyo De La Laguna Arroyo Del Valle Arroyo Hondo Calabazas Creek | Diazinon Diazinon Diazinon Diazinon Diazinon Diazinon | 2004 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|-------------------------------------|---|--|--|
| 2 | Napa River Watershed | Napa River | Nutrients Pathogens Sedimentation/Siltation | 2005 |
| 2 | San Francisco Creek Watershed | San Francisco Creek | Sedimentation/Siltation | 2005 |
| 2 | Walker Creek/Tomales Bay Mercury | Walker Creek Tomales Bay | Mercury (Metals) Mercury (Metals) | 2005 |
| 2 | Sonoma Creek Watershed | Sonoma Creek | Sedimentation/Siltation Nutrients Pathogens | 2006 |
| 2 | Pescadero / Butano Creeks Watershed | Pescadero Creek Butano Creek | Sedimentation/Siltation Sedimentation/Siltation | 2006 |
| 2 | Petaluma River Watershed | Petaluma River | Sedimentation/Siltation Nutrients Pathogens | 2007 |
| 2 | San Gregorio Creek Watershed | San Gregorio Creek | Sedimentation/Siltation | 2007 |
| 2 | San Francisco Bay Diazinon | SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Diazinon Diazinon Diazinon Diazinon Diazinon Diazinon Diazinon | 2007 |
| 2 | Tomales Bay Watershed | Tomales Bay | Sedimentation/Siltation Nutrients | 2007 |
| 2 | Walker Creek Watershed | Walker Creek | Sedimentation/Siltation Nutrients | 2007 |
| 2 | Lagunitas Creek Watershed | Lagunitas Creek | Sedimentation/Siltation Nutrients Pathogens | 2007 |
| 2 | San Francisco Bay Legacy Pesticides | Richardson Bay SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin | 2007 |
| 2 | Richardson Bay Pathogens | Richardson Bay | Pathogens (High Coliform Count) | 2008 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|----------------------------|--|--|--|
| 2 | Suisun Marsh Wetlands | Suisun Marsh | Metals Nutrients Low Dissolved Oxygen Organic Enrichment Salinity / TDS/ Chlorides | 2008 |
| 2 | Lake Herman Mercury | Lake Herman | Mercury | 2010 |
| 2 | San Francisco Bay Selenium | SF Bay Central SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Selenium Selenium Selenium Selenium Selenium | 2010 |
| 2 | Lake Merritt Trash | Lake Merritt | Floating Material Low Dissolved Oxygen Organic Enrichment | 2010 |
| 2 | San Francisco Bay Furans | Richardson Bay SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Furan Compounds Furan Compounds Furan Compounds Furan Compounds Furan Compounds Furan Compounds Furan Compounds Furan Compounds | 2013 |
| 2 | San Francisco Bay Dioxins | Richardson Bay SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Dioxins Dioxins Dioxins Dioxins Dioxins Dioxins Dioxins | 2013 |
| 3 | Salinas River Nutrients | Old Salinas River Estuary Salinas River Lagoon (North) Salinas River Refuge Lagoon (South) Salinas River | Nutrients Nutrients Nutrients | 2007 |
| 3 | Salinas River Pesticides | Old Salinas River Estuary Salinas River Lagoon (North) Salinas River Refuge Lagoon (South) Salinas River Tembladero Slough Blanco Drain Salinas Reclamation Canal Espinosa Slough Moro Cojo Slough | Pesticides Pesticides Pesticides Pesticides Pesticides Pesticides Pesticides Pesticides Pesticides | 2007 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|--|---|--|
| 3 | Salinas River Salinity | Salinas River Salinas River Refuge Lagoon (South) | Salinity/TDS/Chlorides Salinity/TDS/Chlorides | 2011 |
| 3 | Salinas River Siltation | Salinas River Salinas River Lagoon (North) | Sedimentation/Siltation Sedimentation/Siltation | 2005 |
| 3 | San Lorenzo River Nutrients | Carbonera Creek Lompico Creek San Lorenzo River Shingle Mill Creek | Nutrients Nutrients Nutrients Nutrients | 2000 |
| 3 | San Lorenzo River Pathogens | Carbonera Creek Lompico Creek San Lorenzo River San Lorenzo River Estuary | Pathogens Pathogens Pathogens Pathogens | 2005 |
| 3 | San Lorenzo Siltation | Carbonera Creek Lompico Creek San Lorenzo River San Lorenzo River Estuary Shingle Mill Creek | Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation | 2003 |
| 3 | Santa Cruz County Pathogens | Soquel Lagoon Valencia Creek Aptos Creek Schwan Lake | Pathogens Pathogens Pathogens Pathogens | 2005 |
| 3 | San Luis Obispo Creek Nutrients | San Luis Obispo Creek (Below W. Marsh Street) | Nutrients | 2004 |
| 3 | San Luis Obispo Creek Pathogens | San Luis Obispo Creek (Below W. Marsh Street) | Pathogens | 2004 |
| 3 | San Luis Obispo Creek Priority Pollutants | San Luis Obispo Creek (Below W. Marsh Street) | Priority Organics | 2002 |
| 3 | Santa Ynez Nutrients | Santa Ynez River | Nutrients | 2013 |
| 3 | Santa Ynez Salinity/TDS/Chlorides | Santa Ynez River | Salinity/TDS/Chlorides | 2013 |
| 3 | Santa Ynez Siltation | Santa Ynez River | Sedimentation/Siltation | 2013 |
| 3 | Schwan Lake Nutrients | Schwan Lake | Nutrients | 2013 |
| 3 | Schwan Lake Pathogens | Schwan Lake | Pathogens | 2011 |
| 3 | Soquel Lagoon Nutrients | Soquel Lagoon | Nutrients | 2013 |
| 3 | Soquel Lagoon Pathogens | Soquel Lagoon | Pathogens | 2005 |
| 3 | Soquel Lagoon Siltation | Soquel Lagoon | Sedimentation/Siltation | 2011 |
| 3 | Valencia Creek and Aptos Creek Siltation | Aptos Creek Valencia Creek | Sedimentation/Siltation Sedimentation/Siltation | 2011 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|---|--|
| 3 | Valencia Creek and Aptos Creek Pathogens | Aptos Creek Valencia Creek | Pathogens Pathogens | 2005 |
| 3 | Waddell Creek Nutrients | Waddell Creek, East Branch | Nutrients | 2011 |
| 3 | Watsonville Slough Metals | Watsonville Slough | Metals | 2005 |
| 3 | Watsonville Slough Oil and Grease | Watsonville Slough | Oil and grease | 2005 |
| 3 | Watsonville Slough Pathogens | Watsonville Slough | Pathogens | 2005 |
| 3 | Watsonville Slough Pesticides | Watsonville Slough | Pesticides | 2011 |
| 3 | Bolsa Nueva Pathogens | Elkhorn Slough | Pathogens | 2013 |
| 3 | Bolsa Nueva Pesticides | Elkhorn Slough | Pesticides | 2013 |
| 3 | Bolsa Nueva Siltation | Elkhorn Slough | Sedimentation/siltation | 2013 |
| 3 | Chorro Creek Metals | Chorro Creek | Metals | 2002 |
| 3 | Clear Creek/Hernandez Reservoir Metals | Clear Creek Hernandez Reservoir | Mercury Mercury | 2005 |
| 3 | Las Tablas Creek/Nacimiento Reservoir | Las Tablas Creek Las Tablas Creek, North Fork Las Tablas Creek, South Fork Nacimiento Reservoir | Metals Metals Metals Metals | 2003 |
| 3 | Monterey Bay South Metals | Monterey Bay | Metals | 2013 |
| 3 | Monterey Bay South Pesticides | Monterey Bay | Pesticides | 2013 |
| 3 | Monterey Harbor Metals | Monterey Harbor | Metals | 2007 |
| 3 | Morro Bay Metals | Morro Bay | Metals | 2005 |
| 3 | Morro Bay Nutrients | Chorro Creek Los Osos Creek | Nutrients Nutrients | 2003 2003 |
| 3 | Morro Bay Pathogens | Morro Bay | Pathogens | 2004 |
| 3 | Morro Bay Priority Pollutants | Los Osos Creek | Priority Organics | 2002 |
| 3 | Morro Bay Siltation | Chorro Creek Los Osos Creek Morro Bay | Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation | 2003 |
| 3 | Pajaro River Nutrients | Llagas Creek Pajaro River | Nutrients Nutrients | 2005 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|-----------------------------------|---|--|--|
| 3 | Pajaro River Siltation | Llagas Creek Pajaro River San Benito River Watsonville Slough Rider Gluch Creek | Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation | 2005 |
| 3 | Salinas River Priority Pollutants | Espinosa Slough Salinas Reclamation Canal | Priority Organics Priority Organics Priority Organics | 2007 |
| 4 | Calleguas Creek Nutrient TMDL | Mugu Lagoon Arroyo Las Posas Reach 1 (Lewis Somis Rd to Fox Barranca) Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23)) Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn) and 2 (Beardsley Channel (Above Central Avenue) Calleguas Creek Reach 1 and 2 (Estuary to Calleguas Creek Reach 3 (Potrero to Somis Rd.)) Conejo Creek Reach 1 (Confl Call to Santa Rosa Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks City Limit Conejo Creek Reach 3 (Thousand Oaks City Limit to Lynn Rd.) Conejo Creek Reach 4 (Above Lynn Rd.) Conejo Creek/Arroyo Conejo North Fork Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No. 2 Fox Barranca Revolon Slough Main Branch (Mugu Lagoon to Central Avenue) Rio De Santa Clara/Oxnard Drain No. 3 | Nitrogen Ammonia Nitrate and Nitrite Ammonia Nitrate and Nitrite Ammonia Algae Nitrogen Ammonia Nitrogen Nitrate and Nitrite Algae Ammonia Org. enrichment/Low D.O. Algae Ammonia Org. enrichment/Low D.O. Algae Ammonia Org. enrichment/Low D.O. Ammonia Ammonia Nitrogen Nitrate and Nitrite Algae Nitrogen Nitrogen | 2002 |
| 4 | Calleguas Creek Toxicity TMDL | Beardsley Channel (Above Central Avenue) Calleguas Creek Reach 1 and 2 (Estuary to Conejo Creek Reach 1 (Confl Call to Santa Rosa | Chlorpyrifos Toxicity Toxicity Toxicity | 2003 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|--|--|--|
| 4 | Legacy Chlorinated Pesticides, Sediment | <p>Mugu Lagoon</p> <p>Arroyo Las Posas Reach 1 (Lewis Somis Rd to Fox Barranca)</p> <p>Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23))</p> <p>Beardsley Channel (Above Central Avenue)</p> <p>Calleguas Creek Reach 1 and 2 (Estuary to</p> <p>Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks City Limit</p> <p>Conejo Creek Reach 3 (Thousand Oaks City Limit to Lynn Rd.)</p> <p>Conejo Creek Reach 4 (Above Lynn Rd.)</p> <p>Conejo Creek/Arroyo Conejo North Fork</p> <p>Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No. 2</p> <p>Revolon Slough Main Branch (Mugu Lagoon to Central Avenue)</p> | <p>Chlordane</p> <p>Dacthal</p> <p>DDT</p> <p>Endosulfan</p> <p>Sediment Toxicity</p> <p>Sedimentation/Siltation</p> <p>DDT</p> <p>DDT</p> <p>ChemA</p> <p>Chlordane</p> <p>Dacthal</p> <p>DDT</p> <p>Dieldrin</p> <p>Endosulfan</p> <p>Toxaphene</p> <p>ChemA</p> <p>Chlordane</p> <p>DDT</p> <p>Endosulfan</p> <p>Sediment Toxicity</p> <p>Toxaphene</p> <p>ChemA</p> <p>Chlordane</p> <p>DDT</p> <p>Sediment Toxicity</p> <p>Toxaphene</p> <p>ChemA</p> <p>Chlordane</p> <p>Dacthal</p> <p>DDT</p> <p>Dieldrin</p> <p>Endosulfan</p> <p>Toxaphene</p> | 2004 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|--|--|
| 4 | Calleguas Creek Metals | Mugu Lagoon Arroyo Simi Reach 1 (Moorpark Frwy (23) to Brea Cyn) and 2 (Conejo Creek Reach 1 (Confl Call to Santa Rosa Oaks City Limit Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks City Limit Conejo Creek Reach 3 (Thousand Oaks City Limit to Lynn Rd.) Revolon Slough Main Branch (Mugu Lagoon to Central Avenue) | Copper Mercury Nickel Zinc Chromium Nickel Selenium Silver Zinc Cadmium Chromium Nickel Silver Cadmium Chromium Nickel Silver Cadmium Chromium Nickel Silver Selenium | 2005 |
| 4 | Calleguas Creek PCBs | Mugu Lagoon Beardsley Channel (Above Central Avenue) Calleguas Creek Reach 1 and 2 (Estuary to Revolon Slough Main Branch (Mugu Lagoon to Central Avenue) | PCBs PCBs PCBs PCBs | 2004 |
| 4 | Calleguas Creek Legacy chlorinated pesticides, PCBs, sediment toxicity | Rio De Santa Clara/Oxnard Drain No. 3 | ChemA Chlordane DDT PCBs Sediment Toxicity Toxaphene | 2005 |
| 4 | Revolon Slough Trash | Beardsley Channel (Above Central Avenue) Revolon Slough Main Branch (Mugu Lagoon to Central Avenue) | Trash Trash | 2008 |
| 4 | Los Angeles River Nutrient | Arroyo Seco Reach 1 (LA River to West Holly) Arroyo Seco Reach 2 (Figueroa St. to Riverside Burbank Western Channel | Algae Algae Algae Ammonia Odors Scum/Foam-unnatural | 2002 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--------------------------|---|---|--|
| | | <p>Compton Creek Los Angeles River Reach 1 (Estuary to Carson)</p> <p>Los Angeles River Reach 2 (Carson to Figueroa)</p> <p>Los Angeles River Reach 3 (Figueroa St. to Verdugo Wash)</p> <p>Los Angeles River Reach 4 (Sepulveda Dr. to Sepulveda Dam)</p> <p>Los Angeles River Reach 5 (at Sepulveda Basin)</p> <p>Rio Hondo Reach 1 (Confl. LA River to Snt Ana)</p> <p>Rio Hondo Reach 2 (At Spreading Grounds)</p> <p>Tujunga Wash (LA River to Hansen Dam)</p> <p>Verdugo Wash Reach 1 (LA River to Verdugo Rd.)</p> <p>Verdugo Wash Reach 2 (Above Verdugo Road)</p> | <p>pH Ammonia Nutrients (Algae)</p> <p>pH Scum/Foam-unnatural Ammonia Nutrients (Algae) Odors</p> <p>Scum/Foam-unnatural Ammonia Nutrients (Algae) Odors</p> <p>Ammonia Nutrients (Algae) Odors</p> <p>Scum/Foam-unnatural Ammonia Nutrients (Algae) Odors</p> <p>Ammonia pH Ammonia Ammonia Odors</p> <p>Scum/Foam-unnatural Algae Algae</p> | |
| 4 | Los Angeles River Trash | <p>Arroyo Seco Reach 1 (LA River to West Holly)</p> <p>Arroyo Seco Reach 2 (Figueroa St. to Riverside)</p> <p>Burbank Western Channel</p> <p>Los Angeles River Reach 1 (Estuary to Carson)</p> <p>Los Angeles River Reach 2 (Carson to Figueroa)</p> <p>Los Angeles River Reach 3 (Figueroa St. to Sepulveda Dam)</p> <p>Los Angeles River Reach 4 (Sepulveda Dr. to Sepulveda Basin)</p> <p>Rio Hondo Reach 1 (Confl. LA River to Snt Ana)</p> <p>Tujunga Wash (LA River to Hansen Dam)</p> <p>Verdugo Wash Reach 1 (LA River to Verdugo Rd.)</p> <p>Verdugo Wash Reach 2 (Above Verdugo Road)</p> | <p>Trash Trash Trash Trash Trash Trash Trash Trash Trash Trash Trash Trash Trash</p> | 2001 |
| 4 | Los Angeles River Metals | <p>Aliso Canyon Wash</p> <p>Burbank Western Channel</p> <p>Compton Creek</p> <p>Los Angeles River Reach 1 (Estuary to Carson)</p> <p>Los Angeles River Reach 2 (Carson to Figueroa)</p> | <p>Selenium Cadmium Copper Lead Lead Lead</p> | 2003 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|---|--|
| | | Peck Road Park Lake | Chlordane DDT | |
| 4 | Los Angeles River Metals | Peck Road Park Lake Echo Park Lake | Lead Copper Lead | 2010 |
| 4 | Los Angeles River Oil | Los Angeles River Reach 2 (Carson to Figueroa Los Angeles River Reach 5 (at Sepulveda Basin) | Oil Oil | 2010 |
| 4 | Los Angeles River VOCs | Los Angeles River Reach 6 (Above Sepulveda Fld Cntrl Basin) | Dichloroethylene/1,1-DCE Tetrachloroethylene/PCE Trichloroethylene/TCE | 2010 |
| 4 | Ventura Beaches Pathogen | Mandalay Beach McGrath Beach | Beach Closures Beach Closures High Coliform Count High Coliform Count | 2002 |
| 4 | Ventura Harbor Pathogen | Santa Clara River Estuary Beach-Surfers Knoll Ventura Harbor: Ventura Keys | High Coliform Count | 2006 |
| 4 | McGrath Lake Legacy Chlorinated Pesticides, Sediment Toxicity | McGrath Lake (Estuary) | Chlordane DDT Pesticides Sediment Toxicity | 2006 |
| 4 | Port Hueneme Harbor DDT and PCBs | Port Hueneme Harbor (Back Basins) | DDT PCBs | 2006 |
| 4 | Port Hueneme Harbor PAHs | Port Hueneme Harbor (Back Basins) | PAHs | 2006 |
| 4 | Port Hueneme Harbor Zinc | Port Hueneme Harbor (Back Basins) | Zinc | 2006 |
| 4 | Channel Islands Harbor Metals | Channel Islands Harbor | Lead Zinc | 2010 |
| 4 | Port Hueneme Harbor Trybutyltin | Port Hueneme Harbor (Back Basins) | Tributyltin | 2010 |
| 4 | Santa Clara River Chloride | Santa Clara River Reach 3 (Dam to Abv Sp Crk/Blw Timber Cyn) Santa Clara River Reach 7 (Blue Cut to West Pier Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd.) | Chloride Chloride Chloride | 2002 |
| 4 | Santa Clara River Nutrients | Brown Barranca/Long Canyon Mint Canyon Creek Reach 1 (Confl to Rowler Cyn) Santa Clara River Reach 3 (Dam to Abv Sp Crk/Blw Timber Cyn) Santa Clara River Reach 7 (Blue Cut to West Pier | Nitrate and Nitrite Nitrate and Nitrite Ammonia Ammonia Nitrate and Nitrite | 2002 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|-------------------------------------|---|---|--|
| | | Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd.) | Ammonia Nitrate and Nitrite Org. enrichment/Low D.O. Nitrate and Nitrite | |
| 4 | Santa Clara Estuary ChemA Toxaphene | Torrey Canyon Creek Wheeler Canyon/Todd Barranca | ChemA Toxaphene | 2006 |
| 4 | Santa Clara River Pathogen | Santa Clara River Estuary Santa Clara River Reach 7 (Blue Cut to West Pier) Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd.) Santa Clara River Reach 9 (Bouquet Cyn Rd. to abv Lang Gagi | High Coliform Count High Coliform Count High Coliform Count High Coliform Count | 2005 |
| 4 | Santa Clara River Lakes Pathogen | Elizabeth Lake Lake Hughes Munz Lake | Eutrophic Org. enrichment/Low D.O. pH Algae Eutrophic Fish Kills Odors Eutrophic | 2004 |
| 4 | Santa Clara River Lakes Trash | Elizabeth Lake Lake Hughes Munz Lake | Trash Trash Trash | 2004 |
| 4 | San Gabriel River Nutrients | Coyote Creek San Gabriel River Reach 1 (Estuary to Firestone) San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam San Gabriel River Reach 3 (Whittier Narrows to San Gabriel River, East Fork San Jose Creek Reach 2 (Temple to I-10 at White Walnut Creek Wash (Drains from Puddingstone Res) | Algae Ammonia Algae Ammonia Toxicity Ammonia Toxicity Algae Ammonia Algae Ammonia pH Toxicity | 2004 |
| 4 | San Gabriel River Trash | San Gabriel River, East Fork | Trash | 2000 |
| 4 | San Gabriel River Metals | Coyote Creek San Gabriel River Estuary San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam | Silver Arsenic Lead | 2004 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|--|--|
| 4 | San Gabriel River Lakes Trash | Legg Lake | Trash | 2008 |
| 4 | San Gabriel Lakes Legacy Chlorinated Pesticides and PCBs | Puddingstone Reservoir Fmoorpark Fwy | Chlordane DDT PCBs | 2005 |
| 4 | San Gabriel River Lakes Metals | El Dorado Lakes Legg Lake Puddingstone Reservoir Santa Fe Dam Park Lake | Copper Lead Mercury Copper Lead Mercury Copper Lead | 2005 |
| 4 | San Gabriel River Abnormal Fish Histology | Coyote Creek San Gabriel River Estuary San Gabriel River Reach 1 (Estuary to Firestone) | Abnormal Fish Histology Abnormal Fish Histology Abnormal Fish Histology | 2005 |
| 4 | San Gabriel River Lakes Nutrients | Crystal Lake El Dorado Lakes Legg Lake Fmoorpark Fwy Santa Fe Dam Park Lake | Org. enrichment/Low D.O. Algae Ammonia Eutrophic pH Ammonia Odors pH Org. enrichment/Low D.O. pH | 2003 |
| 4 | San Gabriel River Pathogen | Coyote Creek San Gabriel River Reach 1 (Estuary to Firestone) San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam San Gabriel River, East Fork San Jose Creek Reach 2 (Temple to I-10 at White | High Coliform Count High Coliform Count High Coliform Count High Coliform Count High Coliform Count | 2002 |
| 4 | Marina del Rey Pathogens | Marina del Rey Harbor - Back Basins Marina del Rey Harbor Beach | High Coliform Count Beach Closures High Coliform Count | 2003 |
| 4 | Malibu Creek Pathogens | Malibu Lagoon Las Virgenes Creek Lindero Creek Reach 1 Lindero Creek Reach 2 (Above Lake) Malibu Creek Medea Creek Reach 1 (Lake to Confl. with | Enteric Viruses High Coliform Count Shellfish Harvesting Adv. Swimming Restrictions High Coliform Count High Coliform Count High Coliform Count High Coliform Count High Coliform Count High Coliform Count | 2002 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|-------------------------|--|---|--|
| 4 | | Sea Level Beach | High Coliform Count Beach Closures Beach Closures High Coliform Count Beach Closures High Coliform Count Beach Closures High Coliform Count Beach Closures High Coliform Count Beach Closures High Coliform Count Beach Closures High Coliform Count Beach Closures High Coliform Count Beach Closures High Coliform Count Beach Closures | 2003 |
| | | Topanga Beach | | |
| | | Torrance Beach | | |
| | | Trancas Beach (Broad Beach) | | |
| | | Venice Beach | | |
| | | Whites Point Beach | | |
| | | Will Rogers Beach | | |
| | | Zuma Beach (Westward Beach) | | |
| | | Ballona Creek | | |
| | | Ballona Creek Estuary | | |
| 4 | Malibu Creek Nutrients | Malibu Lagoon | Eutrophic Algae Eutrophic Eutrophic Odors Algae Ammonia Eutrophic Org. enrichment/Low D.O. Algae Eutrophic Org. enrichment/Low D.O. Algae Ammonia Eutrophic Org. enrichment/Low D.O. Nutrients (Algae) Org. enrichment/Low D.O. Scum/Foam-unnatural Algae Scum/Foam-unnatural Algae Scum/Foam-unnatural Nutrients (Algae) Scum/Foam-unnatural Algae Algae | 2002 |
| | | Lake Lindero | | |
| | | Lake Sherwood | | |
| | | Malibu Lake | | |
| | | Westlake Lake | | |
| | | Las Virgenes Creek | | |
| | | Lindero Creek Reach 1 | | |
| | | Lindero Creek Reach 2 (Above Lake) | | |
| | | Malibu Creek | | |
| | | Medea Creek Reach 1 (Lake to Confl. with Medea Creek Reach 2 (Abv Confl. with Lindero)) | | |
| 4 | Ballona Creek Trash | Ballona Creek | Trash Trash | 2001 |
| | | Ballona Creek Wetlands | | |
| 4 | Santa Monica Bay Metals | Santa Monica Bay Offshore/Nearshore | Cadmium Copper | 2004 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|---|--|
| 4 | Santa Monica Bay Chlordane | Santa Monica Bay Offshore/Nearshore | Lead Mercury Nickel Silver Zinc Chlordane | 2005 |
| 4 | Marina del Rey Legacy Chlorinated Pesticides and PCBs, Fish Tissue, | Marina del Rey Harbor - Back Basins | Benthic Comm. Effects Chlordane DDT Dieldrin Fish Consumption Advisory PCBs Sediment Toxicity | 2003 |
| 4 | Ballona Creek Legacy Chlorinated Pesticides, PCBs, Sediment Toxicity | Ballona Creek | ChemA Chlordane DDT Dieldrin PCBs Sediment Toxicity Arochlor Chlordane DDT PCBs Sediment Toxicity | 2004 |
| 4 | Marina del Rey Metals | Marina del Rey Harbor - Back Basins | Copper Lead Zinc | 2004 |
| 4 | Ballona Creek Metals | Ballona Creek | Arsenic Cadmium Copper Lead Silver Toxicity | 2003 |
| 4 | Santa Monica Bay DDT, PCBs, Sediment | Ballona Creek Estuary Ballona Creek Wetlands Santa Monica Bay Offshore/Nearshore Abalone Cove Beach Amarillo Beach | Lead Zinc Arsenic DDT Fish Consumption Advisory PCBs Sediment Toxicity DDT PCBs DDT PCBs | 2009 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---------------|---------------------------------|--------------------|--|
| | | Big Rock Beach | DDT | |
| | | Bluff Cove Beach | PCBs | |
| | | Cabrillo Beach (Outer) | DDT | |
| | | Carbon Beach | PCBs | |
| | | Castlerock Beach | DDT | |
| | | Escondido Beach | PCBs | |
| | | Flat Rock Point Beach Area | DDT | |
| | | Inspiration Point Beach | PCBs | |
| | | La Costa Beach | DDT | |
| | | Las Flores Beach | PCBs | |
| | | Las Tunas Beach | DDT | |
| | | Long Point Beach | PCBs | |
| | | Malaga Cove Beach | DDT | |
| | | Malibu Beach | PCBs | |
| | | Malibu Lagoon Beach (Surfrider) | DDT | |
| | | Nicholas Canyon Beach | PCBs | |
| | | Palo Verde Shoreline Park Beach | DDT | |
| | | Paradise Cove Beach | PCBs | |
| | | Point Dume Beach | DDT | |
| | | Point Fermin Park Beach | PCBs | |
| | | Portugese Bend Beach | DDT | |
| | | Puerco Beach | PCBs | |
| | | Redondo Beach | DDT | |
| | | Robert H. Meyer Memorial Beach | PCBs | |
| | | Royal Palms Beach | DDT | |
| | | Sea Level Beach | PCBs | |
| | | Topanga Beach | DDT | |
| | | Trancas Beach (Broad Beach) | PCBs | |
| | | | DDT | |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|---|--|
| 4 | Pico Kenter Ammonia | Whites Point Beach Zuma Beach (Westward Beach) | PCBs DDT PCBs DDT PCBs | 2009 |
| 4 | Pico Kenter Metals | PICO KENTER DRAIN Sepulveda Canyon | Ammonia Ammonia | 2006 |
| 4 | Malibu Creek Lakes Chlordane, PCBs | PICO KENTER DRAIN Santa Monica Canyon Sepulveda Canyon Topanga Canyon Creek | Copper Lead Toxicity Lead Lead Lead | 2009 |
| 4 | Ashland Ave Drain Nutrients | Malibu Lake Westlake Lake | Chlordane PCBs Chlordane | 2008 |
| 4 | Malibu Creek Trash | ASHLAND AVENUE DRAIN Lake Lindero Las Virgenes Creek Lindero Creek Reach 1 Lindero Creek Reach 2 (Above Lake) Malibu Creek Medea Creek Reach 1 (Lake to Confl. with Medea Creek Reach 2 (Abv Confl. with Lindero) | Org. enrichment/Low D.O. Trash Trash Trash Trash Trash Trash | 2006 |
| 4 | Pico Kenter Drain Trash | PICO KENTER DRAIN | Trash | 2009 |
| 4 | Ballona Creek Wetlands Exotic Vegetation | Ballona Creek Wetlands | Exotic Vegetation Habitat alterations Hydromodification Reduced Tidal Flushing | 2009 |
| 4 | Santa Monica Bay Trash | Santa Monica Bay Offshore/Nearshore | Debris | 2009 |
| 4 | Lake Lindero Chloride, Salinity | Lake Lindero | Chloride Specific conductivity | 2009 |
| 4 | Malibu Creek Lakes Metals | Lake Calabasas Lake Lindero Lake Sherwood Malibu Lake Westlake Lake Las Virgenes Creek Lindero Creek Reach 1 Lindero Creek Reach 2 (Above Lake) | Copper Zinc Selenium Mercury Copper Copper Lead Selenium Selenium Selenium | 2007 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|---|--|
| | | Medea Creek Reach 1 (Lake to Confl. with Medea Creek Reach 2 (Abv Confl. with Lindero) Triunfo Canyon Creek Reach 1 Triunfo Canyon Creek Reach 2 | Selenium Selenium Lead Mercury Lead Mercury | |
| 4 | Ashland Ave Drain Toxicity | ASHLAND AVENUE DRAIN | Toxicity | 2009 |
| 4 | Marina del Rey Tributyltin | Marina del Rey Harbor - Back Basins Ballona Creek | Tributyltin | 2009 |
| 4 | Malibu Lagoon Benthic Effects | Malibu Lagoon | Benthic Comm. Effects | 2009 |
| 4 | Los Angeles Harbor Pathogens | LA Harbor Main Channel Cabrillo Beach (Inner) LA Harbor Area | Beach Closures Beach Closures (Coliform) | 2002 |
| 4 | Los Angeles Harbor Pathogens | LA Fish Harbor | DDT | 2007 |
| 4 | Los Angeles Harbor/Dominguez Channel Legacy Chlorinated Pesticides, PCBs, | LA Fish Harbor LA Harbor Consolidated Slip LA Harbor Inner Breakwater LA Harbor Main Channel LA Harbor Southwest Slip Long Beach Harbor Main Channel, SE, W Basin, Pier J, Breakwa San Pedro Bay Near/Off Shore Zones - Cabrillo Machado Lake (Harbor Park Lake) Port Hueneme Harf Dominguez Channel (above Vermont) | PCBs Benthic Comm. Effects Chlordane DDT PCBs Sediment Toxicity DDT PCBs DDT PCBs Sediment Toxicity DDT PCBs Sediment Toxicity Benthic Comm. Effects DDT PCBs Sediment Toxicity DDT PCBs Sediment Toxicity ChemA Chlordane DDT Dieldrin PCBs Aldrin ChemA Chlordane | 2007 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|--|--|--|
| 4 | Los Angeles Harbor/Dominguez Channel PAHs | Dominguez Channel (Estuary to Vermont) Cabrillo Beach (Inner) LA Harbor Area | DDT Dieldrin PCBs Aldrin Benthic Comm. Effects ChemA Chlordane DDT Dieldrin PCBs DDT PCBs | 2007 |
| 4 | Los Angeles Harbor/Dominguez Channel | LA Fish Harbor LA Harbor Consolidated Slip LA Harbor Inner Breakwater LA Harbor Main Channel Long Beach Harbor Main Channel, SE, W Basin, Pier J, Breakwa San Pedro Bay Near/Off Shore Zones - Cabrillo Dominguez Channel (above Vermont) Dominguez Channel (Estuary to Vermont) | PAHs PAHs PAHs PAHs PAHs PAHs PAHs PAHs | 2006 |
| 4 | Machado Lake Nutrients | LA Harbor Consolidated Slip LA Harbor Main Channel Dominguez Channel (above Vermont) Dominguez Channel (Estuary to Vermont) Torrance Carson Channel WILMINGTON DRAIN Machado Lake (Harbor Park Lake) | Chromium Lead Zinc Copper Zinc Chromium Copper Lead Chromium Copper Lead Zinc Copper Lead Copper Copper Lead | 2010 |
| 4 | Dominguez Channel Nutrients | Dominguez Channel (above Vermont) Dominguez Channel (Estuary to Vermont) WILMINGTON DRAIN | Algae Ammonia Odors | 2007 |
| 4 | San Pedro Bay Metals | San Pedro Bay Near/Off Shore Zones - Cabrillo | Ammonia Ammonia Ammonia Chromium Copper Zinc | 2010 |
| 4 | Los Angeles Harbor Tributyltin | LA Fish Harbor | Tributyltin | 2010 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|---|--|
| | | LA Harbor Consolidated Slip LA Harbor Inner Breakwater LA Harbor Main Channel | Tributyltin Tributyltin Tributyltin | |
| 4 | Dominguez Channel Pathogens | Dominguez Channel (above Vermont) Dominguez Channel (Estuary to Vermont) Torrance Carson Channel WILMINGTON DRAIN | High Coliform Count High Coliform Count High Coliform Count | 2002 |
| 4 | Machado Lake Trash | Machado Lake (Harbor Park Lake) | Trash | 2007 |
| 4 | Colorado Lagoon Legacy Chlorinated Pesticides and Sediment Toxicity | Colorado Lagoon | Chlordane DDT Dieldrin PCBs Sediment Toxicity | 2004 |
| 4 | Colorado Lagoon Lead PAHs and Zinc | Colorado Lagoon | Lead PAHs Zinc | 2004 |
| 4 | Los Cerritos Channel Metals | Los Cerritos Channel | Copper Lead Zinc | 2004 |
| 4 | Los Cerritos Channel Ammonia | Los Cerritos Channel | Ammonia High Coliform Count | 2004 |
| 4 | Ventura River Estuary DDT | Ventura River Estuary | DDT | 2005 |
| 4 | Ventura River Estuary Algae | Ventura River Estuary | Algae Eutrophic Algae | 2005 |
| 4 | Ventura River Hydromodification | Ventura River Reach 1 and 2 (Estuary to Weldon) Ventura River Reach 3 (Weldon Canyon to Confl. w/ Coyote Cr) Ventura River Reach 4 (Coyote Creek to Camino) | Pumping Water Diversion Pumping Water Diversion | 2005 |
| 4 | Ventura River Metals | Ventura River Reach 1 and 2 (Estuary to Weldon) | Copper Silver Zinc | 2005 |
| 4 | Ventura River Trash | Ventura River Estuary | Trash | 2005 |
| 4 | Ventura River Selenium | Ventura River Reach 1 and 2 (Estuary to Weldon) | Selenium | 2005 |
| 5 | Sacramento Delta Waterways - Op | Sacramento Delta Waterways | Chlorpyrifos Diazinon | 2005 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|---|---|--|
| 5 | Sacramento Delta Waterways - OC | Sacramento Delta Waterways | DDT Group A Pesticides | 2011 |
| 5 | Sacramento Delta Waterways - EC | Sacramento Delta Waterways | Electrical Conductivity | 2011 |
| 5 | Sacramento Delta Waterways - Mercury | Sacramento Delta Waterways | Mercury | 2005 |
| 5 | Sacramento Delta Waterways - DO | Sacramento Delta Waterways | Org. enrichment/ Low D.O. | 2011 |
| 5 | Sacramento Delta Waterways - Unknown | Sacramento Delta Waterways | Unknown Toxicity | 2011 |
| 5 | Berryessa, Lake - Mercury | Berryessa, Lake | Mercury | 2011 |
| 5 | Clear Lake - Mercury | Clear Lake | Mercury | 2005 |
| 5 | Clear Lake - Nutrients | Clear Lake | Nutrients | 2011 |
| 5 | Davis Creek Reservoir - Mercury | Davis Creek Reservoir | Mercury | 2011 |
| 5 | Marsh Creek - Mercury | Marsh Creek Reservoir Marsh Creek | Mercury Mercury | 2011 |
| 5 | Shasta Lake - Metals | Shasta Lake | Cadmium Copper Zinc | 2011 |
| 5 | Whiskeytown Reservoir - High Colliform | Whiskeytown Reservoir | High Colliform Count | 2011 |
| 5 | American River, Lower - Group A | American River, Lower | Group A Pesticides | 2011 |
| 5 | American River, Lower - Mercury | American River, Lower | Mercury | 2011 |
| 5 | American River, Lower - Unknown Toxicity | American River, Lower | Unknown Toxicity | 2011 |
| 5 | Sacramento Area Urban Creeks - OP | Arcade Creek Chicken Ranch Slough Elder Creek Elk Grove Creek Morrison Creek Strong Ranch Slough | Chlorpyrifos/Diazinon Chlorpyrifos/Diazinon Chlorpyrifos/Diazinon Chlorpyrifos/Diazinon Chlorpyrifos/Diazinon | 2011 |
| 5 | Cache Creek, Lower - Mercury | Cache Creek, Lower | Mercury | 2005 |
| 5 | Cache Creek, Lower - Unknown Toxicity | Cache Creek, Lower | Unknown Toxicity | 2011 |
| 5 | Colusa Basin Drainage Canal - Rice | Colusa Basin Drainage Canal | Carbofuran/Furadan, Malathion, Methyl Parathion | 2011 |
| 5 | Colusa Basin Drainage Canal - Group A | Colusa Basin Drainage Canal | Group A Pesticides | 2011 |
| 5 | Colusa Basin Drainage Canal - Unknown | Colusa Basin Drainage Canal | Unknown Toxicity | 2011 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|--|--|--|
| 5 | Dolly Creek/Little Grizzly Creek - Metals | Dolly Creek Little Grizzly Creek | Copper/Zinc Copper/Zinc | 2011 |
| 5 | Dunn Creek - Mercury | Dunn Creek | Mercury | 2011 |
| 5 | Dunn Creek - Metals | Dunn Creek | Metals | 2011 |
| 5 | Fall River (Pit) | Fall River (Pit) | Sedimentation/Silt | 2011 |
| 5 | Sacramento/Feather - Diazinon | Feather River, Lower Sacramento River, Red Bluff to Delta | Diazinon Diazinon | 2005 |
| 5 | Feather River, Lower - Group A Pesticides | Feather River, Lower | Group A Pesticides | 2011 |
| 5 | Feather River, Lower - Mercury | Feather River, Lower | Mercury | 2011 |
| 5 | Feather River, Lower - Unknown Toxicity | Feather River, Lower | Unknown Toxicity | 2011 |
| 5 | Stockton Area Sloughs - OP Pesticides | Five Mile Slough Mosher Slough | Chlorpyrifos/Diazinon Chlorpyrifos/Diazinon | 2011 |
| 5 | French Ravine | French Ravine | Bacteria | 2011 |
| 5 | Harding Drain - Ammonia | Harding Drain | Ammonia | 2011 |
| 5 | Harding Drain - OP Pesticides | Harding Drain | Chlorpyrifos Diazinon | 2011 |
| 5 | Harding Drain - Unknown Toxicity | Harding Drain | Unknown Toxicity | 2011 |
| 5 | Harley Gulch - Mercury | Harley Gulch | Mercury | 2011 |
| 5 | Horse Creek - Metals | Horse Creek | Cadmium Copper Lead Zinc | 2011 |
| 5 | Humbug Creek - Metals | Humbug Creek | Copper Zinc | 2011 |
| 5 | Humbug Creek - Mercury | Humbug Creek | Mercury | 2011 |
| 5 | Humbug Creek - Sediment | Humbug Creek | Sedimentation/siltation | 2011 |
| 5 | James Creek - Mercury | James Creek | Mercury | 2011 |
| 5 | James Creek - Nickel | James Creek | Nickel | 2011 |
| 5 | Kanaka Creek | Kanaka Creek | Arsenic | 2011 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|--|--|--|
| 5 | Kings River (Lower) - EC, Moly | Kings River (Lower) | Electrical Conductivity Molybdenum | 2011 |
| 5 | Kings River (Lower) - Toxaphene | Kings River (Lower) | Toxaphene | 2011 |
| 5 | Little Backbone Creek, Lower - Metals | Little Backbone Creek, Lower | Cadmium Copper Zinc | 2011 |
| 5 | Little Cow Creek - Metals | Little Cow Creek | Cadmium Copper Zinc | 2011 |
| 5 | Lone Tree/ Temple Creek - Dairies | Lone Tree Creek Temple Creek | Ammonia/EC/Low DO Ammonia/EC/Low DO Ammonia/EC/Low DO | 2011 |
| 5 | Marsh Creek - Metals | Marsh Creek | Metals | 2011 |
| 5 | SJR Tributaries - OPs | Merced River Stanislaus River Tuolumne River | Chlorpyrifos/Diazinon Chlorpyrifos/Diazinon Chlorpyrifos/Diazinon | 2005 |
| 5 | SJR Tributaries - Group A Pesticides | Merced River Stanislaus River Tuolumne River | Group A Pesticides Group A Pesticides Group A Pesticides | 2011 |
| 5 | SJR Tributaries - Unknown Toxicity | Stanislaus River Tuolumne River | Unknown Toxicity Unknown Toxicity | 2011 |
| 5 | Mokelumne River, Lower - Metals | Mokelumne River, Lower | Copper Zinc | 2011 |
| 5 | Mud/Salt Sloughs - Salts | Mud Slough Salt Slough | Boron Electrical Conductivity | 2011 |
| 5 | Mud/Salt Sloughs - Pesticides | Mud slough Salt Slough | Pesticides/Chlorpyrifos/Diazinon Pesticides/Chlorpyrifos/Diazinon Pesticides/Chlorpyrifos/Diazinon | 2011 |
| 5 | Mud/Salt Sloughs - Unknown Toxicity | Mud Slough Salt Slough | Unknown Toxicity Unknown Toxicity | 2011 |
| 5 | Mud Slough - Selenium | Mud Slough | Selenium | 2011 |
| 5 | Natomas East Main Drainage Canal - | Natomas East Main Drainage Canal | Diazinon | 2011 |
| 5 | Natomas East Main Drainage Canal - PCBs | Natomas East Main Drainage Canal | PCBs | 2011 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|--|--|
| 5 | Orestimba Creek - OP Pesticides | Orestimba Creek | Chlorpyrifos Diazinon | 2011 |
| 5 | Orestimba Creek - Unknown Toxicity | Orestimba Creek | Unknown Toxicity | 2011 |
| 5 | Panoche Creek Watershed - Mercury | Panoche Creek San Carlos Creek | Mercury Mercury | 2011 |
| 5 | Panoche Creek - Sediment | Panoche Creek | Sedimentation/Siltation | 2011 |
| 5 | Panoche Creek - Selenium | Panoche Creek | Selenium | 2011 |
| 5 | Pit River | Pit River | Nutrients Org. Enrichment / Low D.O. Temperature | 2011 |
| 5 | Sacramento River - Mercury | Sacramento River (Red Bluff to Delta) | Mercury | 2006 |
| 5 | Sacramento River - Unknown Toxicity | Sacramento River (Red Bluff to Delta) Sacramento River (Shasta Dam to Red Bluff) | Unknown Toxicity Unknown Toxicity | 2011 |
| 5 | Sacramento River - Metals | Sacramento River (Shasta Dam to Red Bluff) | Cadmium Copper Zinc | 2001 |
| 5 | Sacramento Slough - Diazinon | Sacramento Slough | Diazinon | 2011 |
| 5 | Sacramento Slough - Mercury | Sacramento Slough | Mercury | 2011 |
| 5 | Salt Slough - Selenium | Salt Slough | Selenium | 1998 |
| 5 | San Joaquin River - Salts | San Joaquin River | Boron Electrical Conductivity | 2003 |
| 5 | San Joaquin River - OP Pesticides | San Joaquin River | Chlorpyrifos Diazinon | 2005 |
| 5 | San Joaquin River - OC Pesticides | San Joaquin River | DDT Group A Pesticides | 2011 |
| 5 | San Joaquin River - Selenium | San Joaquin River | Selenium | 2000 |
| 5 | San Joaquin River - Unknown Toxicity | San Joaquin River | Unknown Toxicity | 2011 |
| 5 | Spring Creek, Upper - Metals | Spring Creek, Upper | Cadmium Copper Zinc | 2011 |
| 5 | Stockton Deep Water Channel, Upper (Port Turning Basin) - Ocs | Stockton Deep Water Channel, Upper (Port Turning Basin) | Dioxin PCBs | 2011 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|----------------------------|--------------------------------------|--|
| 5 | Sulphur Creek - Mercury | Sulphur Creek | Mercury | 2005 |
| 5 | Town Creek - Metals | Town Creek | Cadmium Copper Lead Zinc | 2011 |
| 5 | West Squaw Creek - Metals | West Squaw Creek, Upper | Cadmium Copper Lead Zinc | 2011 |
| 5 | Willow Creek- Metals | Willow Creek (Whiskeytown) | Copper Zinc | 2011 |
| 5 | Grassland - Salts | Grassland Marshes | Electrical Conductivity | 2011 |
| 5 | Grassland - Selenium | Grassland Marshes | Selenium | 1998 |
| 6 | Bridgeport Reservoir Nutrients and Sedimentation/Siltation TMDL Project | Bridgeport Reservoir | Nutrients Sedimentation/Siltation | 2005 |
| 6 | Crowley Lake Nutrients TMDL Project | Crowley Lake | Nutrients Arsenic | 2005 |
| 6 | Donner Lake | Donner Lake | Priority Organics | * |
| 6 | Eagle Lake(2) Org. Enrichment/Low D.O. TMDL Project | Eagle Lake(2) | Org. enrichment/Low D.O. | 2008 |
| 6 | Grant Lake | Grant Lake | Arsenic | * |
| 6 | Haiwee Reservoir Copper TMDL Project | Haiwee Reservoir | Copper | 2003 |
| 6 | Horseshoe Lake(2) Sedimentation/Siltation TMDL Project | Horseshoe Lake(2) | Sedimentation/Siltation | 2007 |
| 6 | Indian Creek Reservoir Nutrients TMDL | Indian Creek Reservoir | Nutrients | 2002 |
| 6 | Lake Tahoe Nutrients and Sedimentation/Siltation TMDL Project | Lake Tahoe | Nutrients Sedimentation/Siltation | 2007 |
| 6 | Mono Lake | Mono Lake | Salinity/TDS/Chlorides | * |
| 6 | Pleasant Valley Reservoir Org. Enrichment/Low D.O. TMDL Project | Pleasant Valley Reservoir | Org. enrichment/Low D.O. | 2006 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|-------------------------|-----------------------------------|--|
| 6 | Stampede Reservoir | Stampede Reservoir | Pesticides | * |
| 6 | Tinemaha Reservoir Metals TMDL Project | Tinemaha Reservoir | Metals Arsenic | 2004 * |
| 6 | Topaz Lake Sedimentation/Siltation TMDL | Topaz Lake | Sedimentation/Siltation | 2007 |
| 6 | Twin Lakes Nutrients TMDL Project | Twin Lakes | Nutrients | 2008 |
| 6 | Amargosa River | Amargosa River | Salinity/TDS/Chlorides | * |
| 6 | Aspen Creek Metals TMDL Project | Aspen Creek | Metals | 2011 |
| 6 | Aurora Canyon Creek | Aurora Canyon Creek | Habitat alterations | n/a |
| 6 | Bear Creek Sedimentation/Siltation TMDL | Bear Creek | Sedimentation/Siltation | 2005 |
| 6 | Blackwood Creek Sedimentation/Siltation TMDL Project | Blackwood Creek | Sedimentation/Siltation | 2007 |
| 6 | Bodie Creek Metals TMDL Project | Bodie Creek | Metals | 2004 |
| 6 | Bronco Creek Sedimentation/Siltation TMDL Project | Bronco Creek | Sedimentation/Siltation | 2005 |
| 6 | Bryant Creek Metals TMDL Project | Bryant Creek | Metals | 2011 |
| 6 | Carson River, East Fork | Carson River, East Fork | Nutrients | * |
| 6 | Clark Canyon Creek | Clark Canyon Creek | Habitat alterations | n/a |
| 6 | Clearwater Creek Sedimentation/Siltation TMDL Project | Clearwater Creek | Sedimentation/Siltation | 2005 |
| 6 | Cottonwood Creek | Cottonwood Creek | Water/Flow Variability | n/a |
| 6 | East Walker River Sedimentation/Siltation TMDL Project | East Walker River | Sedimentation/Siltation Metals | 2009 * |
| 6 | Goodale Creek Sedimentation/Siltation TMDL Project | Goodale Creek | Sedimentation/Siltation | 2009 |
| 6 | Gray Creek Sedimentation/Siltation TMDL | Gray Creek | Sedimentation/Siltation | 2004 |
| 6 | Green Creek | Green Creek | Habitat alterations | n/a |
| 6 | Green Valley Lake Creek Priority Organics TMDL Project | Green Valley Lake Creek | Priority Organics | 2006 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|-----------------------------|--------------------------------|--|
| 6 | Heavenly Valley Creek Sedimentation/Siltation TMDL Project | Heavenly Valley Creek | Sedimentation/Siltation | 2001 |
| 6 | Hot Creek (1) | Hot Creek (1) | Metals | * |
| 6 | Hot Creek (2) (Mono County) | Hot Creek (2) (Mono County) | Metals | * |
| 6 | Hot Springs Canyon Sedimentation/Siltation TMDL Project | Hot Springs Canyon | Sedimentation/Siltation | 2005 |
| 6 | Indian Creek | Indian Creek | Habitat alterations | n/a |
| 6 | Lassen Creek | Lassen Creek | Flow alterations | n/a |
| 6 | Lee Vining Creek | Lee Vining Creek | Flow alterations | n/a |
| 6 | Leviathan Creek Metals TMDL Project | Leviathan Creek | Metals | 2011 |
| 6 | Little Hot Creek | Little Hot Creek | Arsenic | * |
| 6 | Mammoth Creek Metals TMDL Project | Mammoth Creek | Metals | 2008 |
| 6 | Mill Creek(1) | Mill Creek(1) | Flow alterations | n/a |
| 6 | Mill Creek(3) Sedimentation/Siltation | Mill Creek(3) | Sedimentation/Siltation | 2011 |
| 6 | Mojave River | Mojave River | Priority Organics | * |
| 6 | Monitor Creek Metals TMDL Project | Monitor Creek | Metals | 2011 |
| 6 | Owens River | Owens River | Arsenic Habitat alterations | * n/a |
| 6 | Pine Creek(2) | Pine Creek(2) | Habitat alterations | n/a |
| 6 | Rough Creek | Rough Creek | Habitat alterations | n/a |
| 6 | Skedaddle Creek Pathogens TMDL Project | Skedaddle Creek | High Coliform Count | 2006 |
| 6 | Snow Creek (Placer County) | Snow Creek (Placer County) | Habitat alterations | * |
| 6 | Squaw Creek Sedimentation/Siltation TMDL | Squaw Creek | Sedimentation/Siltation | 2003 |
| 6 | Susan River Toxicity TMDL Project | Susan River | Unknown Toxicity | 2007 |
| 6 | Truckee River Sedimentation/Siltation TMDL Project | Truckee River | Sedimentation/Siltation | 2005 |
| 6 | Tuttle Creek | Tuttle Creek | Habitat alterations | n/a |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|--------------------------------------|--|--|
| 6 | Ward Creek Sedimentation/siltation TMDL | Ward Creek | Sedimentation/Siltation | 2007 |
| 6 | West Walker River Sedimentation/Siltation TMDL Project | West Walker River | Sedimentation/Siltation | 2009 |
| 6 | Wolf Creek(1) Sedimentation/Siltation TMDL Project | Wolf Creek(1) | Sedimentation/Siltation | 2011 |
| 6 | Alkali Lake, Lower | Alkali Lake, Lower | Salinity/TDS/Chlorides | * |
| 6 | Alkali Lake, Middle | Alkali Lake, Middle | Salinity/TDS/Chlorides | * |
| 6 | Alkali Lake, Upper | Alkali Lake, Upper | Salinity/TDS/Chlorides | * |
| 6 | Deep Springs Lake | Deep Springs Lake | Salinity/TDS/Chlorides | * |
| 6 | Honey Lake | Honey Lake | Arsenic Salinity/TDS/Chlorides | * |
| 6 | Honey Lake Wildfowl Management Ponds | Honey Lake Wildfowl Management Ponds | Flow alterations Metals Salinity/TDS/Chlorides Trace Elements | * |
| 6 | Little Alkali Lake | Little Alkali Lake | Arsenic | * |
| 6 | Owens Lake | Owens Lake | Salinity/TDS/Chlorides | * |
| 6 | Searles Lake | Searles Lake | Salinity/TDS/Chlorides | * |
| 6 | Amedee Hot Springs | Amedee Hot Springs | Metals | * |
| 6 | Big Springs | Big Springs | Arsenic | * |
| 6 | Cinder Cone Springs Nutrients and Salinity/TDS/Chlorides TMDL Project | Cinder Cone Springs | Nutrients Salinity/TDS/Chlorides | 2007 |
| 6 | Fales Hot Springs | Fales Hot Springs | Metals | * |
| 6 | Honey Lake Area Wetlands | Honey Lake Area Wetlands | Metals | * |
| 6 | Keough Hot Springs | Keough Hot Springs | Metals | * |
| 6 | Top Spring | Top Spring | Radiation | * |
| 6 | Wendel Hot Springs | Wendel Hot Springs | Metals | * |
| 7 | Alamo River Pesticides TMDL Project | Alamo River | Pesticides | 2011 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|-----------------------------------|-----------------------------|--|
| 7 | Alamo River Sedimentation TMDL Project | Alamo River | Sedimentation/Siltation | 2001 |
| 7 | Alamo River Selenium TMDL Project | Alamo River | Selenium | 2010 |
| 7 | Coachella Valley Storm Channel Pathogens TMDL Project | Coachella Valley Storm Channel | Pathogens | 2005 |
| 7 | Imperial Valley Drains Pesticides TMDL | Imperial Valley Drains | Pesticides | 2012 |
| 7 | Imperial Valley Drains Sedimentation TMDL | Imperial Valley Drains | Sedimentation/Siltation | 2004 |
| 7 | Imperial Valley Drains Selenium TMDL | Imperial Valley Drains | Selenium | 2010 |
| 7 | New River Pathogens TMDL Project | New River | Pathogens | 2001 |
| 7 | New River Silt TMDL Project | New River | Silt | 2002 |
| 7 | New River Pesticides TMDL Project | New River | Pesticides | 2011 |
| 7 | New River DO TMDL Project | New River | Dissolved Organic Matter/DO | 2006 |
| 7 | New River Trash TMDL Project | New River | Trash | 2007 |
| 7 | New River Chloroform TMDL Project | New River | Chloroform | 2011 |
| 7 | New River Toluene TMDL Project | New River | Toluene | 2011 |
| 7 | New River p-Cymene TMDL Project | New River | p-Cymene | 2009 |
| 7 | New River 1,2,4-trimethylbenzene TMDL | New River | 1,2,4-trimethylbenzene | 2009 |
| 7 | New River m,p-Xylene TMDL Project | New River | m,p-Xylene | 2008 |
| 7 | New River o-Xylene TMDL Project | New River | o-Xylene | 2008 |
| 7 | New River p-DCB TMDL Project | New River | p-DCB | 2010 |
| 7 | Palo Verde outfall Drain pathogens TMDL | Palo Verde Outfall Drain | Pathogens | 2006 |
| 7 | Salton Sea Nutrients TMDL Project | Salton Sea | Nutrients | 2004 |
| 7 | Salton Sea Salinity TMDL Project | Salton Sea | Salinity | 2013 |
| 7 | Salton Sea Selenium TMDL Project | Salton Sea | Selenium | 2010 |
| 8 | Anaheim Bay/Huntington Harbour Pesticide TMDL Project | Anaheim Bay Huntington Harbour | Pesticides Pesticides | 2011 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|---|--|--|
| 8 | Anaheim Bay/Huntington Harbour Metals TMDL Project | Anaheim Bay Huntington Harbour | Metals Metals | 2011 |
| 8 | Anaheim Bay/Huntington Harbour Pathogen TMDL Project | Huntington Harbour | Pathogens | 2011 |
| 8 | Chino Basin Watershed Pathogens TMDL | Mill Creek (Prado area) Chino Creek, Reach 1 Chino Creek, Reach 2 Prado Park Lake Cucamonga Creek, Valley Reach Santa Ana River, Reach 3 | Pathogens Pathogens Pathogens Pathogens Pathogens Pathogens | 2005 |
| 8 | Chino Basin Watershed Nitrogen TMDL | Mill Creek (Prado area) Chino Creek, Reach 1 Prado Park Lake Santa Ana River, Reach 3 | nitrogen nitrogen nitrogen nitrogen | 2005 2005 2011 * |
| 8 | Chino Basin Watershed TDS TMDL Project | Santa Ana River, Reach 3 | TDS | * |
| 8 | Chino Basin Watershed Suspended Solids TMDL Project | Mill Creek (Prado area) | Suspended Solids | 2005 |
| 8 | Lake Elsinore/San Jacinto River Nutrient TMDL Project | Lake Elsinore Canyon Lake | nutrients org. enrichment/low D.O. | 2004 |
| 8 | Lake Elsinore/San Jacinto River Toxics TMDL Project | Lake Elsinore | unknown toxicity | 2004 |
| 8 | Lake Elsinore/San Jacinto River Pathogen TMDL Project | Canyon Lake | Pathogens | 2004 |
| 8 | Lake Elsinore/San Jacinto River Sediment TMDL Project | Lake Elsinore | sediment/siltation | 2004 |
| 8 | Big Bear Lake Watershed Nutrient TMDL | Big Bear Lake Rathbone Creek Summit Creek Grout Creek | nutrients/noxious aquatic plants nutrients/noxious aquatic plants nutrients/noxious aquatic plants nutrients/noxious aquatic plants | 2005 |
| 8 | Big Bear Lake Watershed Metals TMDL | Big Bear Lake Knickerbocker Creek Grout Creek | metals (copper, mercury and others) metals (copper, mercury and others) metals (copper, mercury and others) | 2005 |
| 8 | Big Bear Lake Watershed Sediment TMDL | Big Bear Lake Rathbone Creek | sediment/siltation | 2005 |
| 8 | Big Bear Lake Watershed Pathogen TMDL | Knickerbocker Creek | pathogens | 2005 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|--|--|
| 8 | Mill Creek Pathogen TMDL Project | Mill Creek, Reach 1 Mill Creek, Reach 2 Mt. Home Creek Mt. Home Creek, East Fork | pathogens pathogens pathogens pathogens | 2011 |
| 8 | Lytle Creek Pathogen TMDL Project | Lytle Creek | pathogens | 2011 |
| 8 | Santiago Creek Area pathogen TMDL Project | Silverado Creek | pathogens | 2011 |
| 8 | Santiago Creek Area TDS TMDL Project | Santiago Creek, Reach 4 Silverado Creek | TDS TDS | 2011 |
| 8 | Lake Fulmor Pathogen TMDL | Lake Fulmor | pathogens | 2011 |
| 8 | Upper Newport Bay Watershed Pesticide TMDL Project | Upper Newport Bay San Diego Creek, Reach 1 San Diego Creek, Reach 2 | chlorpyrifos/diazinon chlorpyrifos/diazinon chlorpyrifos/diazinon | 2002 |
| 8 | Newport Bay Watershed Selenium TMDL | Upper Newport Bay Lower Newport Bay -- Rhine Channel San Diego Creek, Reach 1 San Diego Creek, Reach 2 | selenium selenium selenium selenium | 2003 |
| 8 | Newport Bay Watershed Toxics TMDL Project | Upper Newport Bay Lower Newport Bay -- Rhine Channel San Diego Creek, Reach 1 San Diego Creek, Reach 2 | other toxics as identified by USEPA other toxics as identified by USEPA other toxics as identified by USEPA other toxics as identified by USEPA | 2007 |
| 8 | Santa Ana River, Reach 4 Pathogen TMDL | Santa Ana River, Reach 4 | pathogens | 2011 |
| 9 | Chollas Creek Diazinon | Chollas Creek 908.22 | Toxicity (Diazinon) | 2002 |
| 9 | Rainbow Creek Eutrophication | Rainbow Creek | Eutrophic (Nutrients) | 2002 |
| 9 | Chollas Creek Metals | Chollas Creek 908.22* | Metals (Cd, Cu, Pb, Zn) | 2003 |
| 9 | San Diego Bay, Shelter Island Copper | San Diego Bay; Shelter Island Yacht Basin | Metals (dissolved Cu) | 2002 |
| 9 | San Diego Bay, near Chollas Creek Sediment Toxicity | San Diego Bay; near Chollas Creek | Degraded Benthic Community & Sediment Toxicity | 2005 |
| 9 | San Diego Bay, 7th Street Channel | San Diego Bay; Seventh Street Channel | Degraded Benthic Community & Sediment Toxicity | 2005 |
| 9 | Mission Bay Bacteria | Mission Bay Tecolote Creek, 906.50 | Coliform Coliform | 2005 2007 |
| 9 | San Diego Bay, Multiple Locations Sediment Toxicity | San Diego Bay; Downtown Piers* San Diego Bay; near Grape Street* | Degraded Benthic Community & Sediment Toxicity Degraded Benthic Community & Sediment Toxicity | 2007 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--------------------------------------|--|--|--|
| 9 | San Diego Bay Bacteria | San Diego Bay; north of 24th Street Marine San Diego Bay; San Diego Naval Station* San Diego Bay; near Coronado Bridge* San Diego Bay, near Sub Base* | Degraded Benthic Community & Sediment Toxicity Degraded Benthic Community & Sediment Toxicity Degraded Benthic Community & Sediment Toxicity Degraded Benthic Community & Sediment Toxicity | 2006 |
| 9 | San Diego and Scripps Bacteria | Chollas Creek 908.22 San Diego Bay Shoreline, Lindbergh HSA 908.21 San Diego Bay Shoreline, Telegraph HSA 909.11 Pacific Ocean Shoreline, Coronado HA 910.10 | Coliform Coliform Coliform Coliform | 2007 |
| 9 | San Juan HU Bacteria | Pacific Ocean Shoreline, San Diego HU 907.00 Pacific Ocean Shoreline, Scripps HA 906.30 Aliso Creek 901.13 Aliso Creek (mouth) Pacific Ocean Shoreline, Aliso Beach HSA 901.13 Pacific Ocean Shoreline, Dana Point HSA 901.14 Pacific Ocean Shoreline, Laguna Beach HSA 901.12 Pacific Ocean Shoreline, San Clemente HA 901.30 San Juan Creek, lower Pacific Ocean Shoreline, Lower San Juan HSA San Juan Creek (mouth) 901.20 | Coliform Coliform Coliform Coliform Coliform Coliform Coliform Coliform Coliform Coliform Coliform Coliform | 2007 |
| 9 | Carlsbad & San Dieguito HUs Bacteria | Agua Hedionda Lagoon Pacific Ocean Shoreline, Buena Vista (Lagoon) HA Buena Vista Lagoon (lower, middle and upper) Pacific Ocean Shoreline, Escondido Creek HA Pacific Ocean Shoreline, Loma Alta HSA 904.10 Loma Alta Slough Pacific Ocean Shoreline, San Dieguito HU 905.00 San Elijo Lagoon Pacific Ocean Shoreline, San Marcos HA 904.50 | Coliform Coliform Coliform Coliform Coliform Coliform Coliform Coliform Coliform Coliform | 2008 |
| 9 | San Luis Rey Bacteria | Pacific Ocean Shoreline, San Luis Rey HU 903.00 | Coliform | 2008 |
| 9 | Santa Margarita and Carlsbad | Buena Vista Lagoon (upper) Loma Alta Slough San Elijo Lagoon Santa Margarita Lagoon | Eutrophication &/or Nutrients Eutrophication &/or Nutrients Eutrophication &/or Nutrients Eutrophication &/or Nutrients | 2010 2010 2010 2009 |
| 9 | Penasquitos HU, Multiple Pollutants | Famosa Slough and Channel 906.40 Mission Bay Tecolote Creek 906.50 | Eutrophic Eutrophic Metal (PbS) Metals (Cd, Cu, Pb, Zn) Toxicity | 2010 |
| 9 | Lake Guajome Eutrophication | Guajome Lake 908.22 | Eutrophic | 2009 |
| 9 | Carlsbad & Penasquitos Sedimentation | Agua Hedionda Lagoon Buena Vista Lagoon (lower, middle and upper) Los Penasquitos Lagoon San Elijo Lagoon | Sedimentation / Siltation Sedimentation / Siltation Sedimentation / Siltation Sedimentation / Siltation | 2011 2011 2010 2011 |

Twelve-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|-----------------------------------|--|--|--|
| 9 | Tijuana River Bacteria | Tijuana River 911.11 Tijuana River Estuary 911.11 Pacific Ocean Shoreline, Tijuana HU 911.00 | Coliform Coliform Coliform | 2012 |
| 9 | Tijuana River Watershed, Multiple | Tijuana River 911.11 Tijuana River Estuary 911.11 | Organic Enrichment / low Dissolved Oxygen Eutrophic Pesticides Solids Synthetic Organics Trace Elements Trash Eutrophic Metals (Pb, Ni, Tl) Pesticides Trash | 2012 |

Appendix C

TMDLS COMPLETED AS OF DECEMBER 2001

TMDLs Completed or Developed as of December 2001

A complete TMDL includes a technical TMDL report and an implementation plan, has been adopted by the RWQCBs, and has been approved by the SWRCB, the Office of Administrative Law (OAL) and the USEPA. The following is a list of TMDLs that either have been completed, are going through the approval process, or are being considered by the RWQCBs:

TMDLs Completed:

| | |
|-----------------------------|----------------|
| Laguna de Santa Rosa | nitrate |
| Newport Bay/San Diego Creek | nitrogen |
| Newport Bay/San Diego Creek | phosphorus |
| Newport Bay/San Diego Creek | sediment |
| Newport Bay/San Diego Creek | fecal coliform |
| Santa Ana River | nutrients |
| Salt Slough | selenium |
| Grasslands | selenium |
| Upper San Gabriel River | trash |

TMDLs Adopted by the RWQCB and Pending Approval:

| | |
|-------------------|---|
| Garcia River | sediment (pending OAL approval) |
| San Lorenzo River | nitrate (returned to RWQCB for clarification) |
| Los Angeles River | trash (pending SWRCB approval) |
| Ballona Creek | trash (pending SWRCB approval) |
| Heavenly Valley | sediment (pending OAL approval) |
| Alamo River | sediment (pending SWRCB approval) |
| New River | pathogen (pending SWRCB approval) |
| San Joaquin River | selenium (pending USEPA approval) |

TMDLs Pending RWQCB Adoption:

| | |
|----------------------|------------|
| Indian Creek | phosphorus |
| Calleguas Creek | chloride |
| Morro Bay | sediment |
| Santa Monica Beaches | pathogen |
| Santa Clara River | chloride |
| Los Angeles River | nutrients |
| Clear Lake | mercury |

TMDLs Established by USEPA Under Consent Decrees*:

| | |
|----------------|------------------------|
| Gualala River | sediment |
| Navarro River | sediment & temperature |
| Ten Mile River | sediment |

| | |
|--|------------------------|
| South Fork Eel River | sediment & temperature |
| Noyo River | sediment |
| Van Duzen River/Yager Creek | sediment |
| South Fork Trinity River/Hayfork Creek | sediment |
| Redwood Creek | sediment |

*This list does not include the TMDLs established by USEPA that are superseded by the TMDLs adopted by the RWQCBs for the same waterbody/pollutant.

Appendix D

FIVE-YEAR TMDL COMPLETION SCHEDULE (1998 – 303(D) List)

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|-------------------------------------|---|---|---------------------|--|
| 1 | Albion River Sediment TMDL Project | Albion River | Sedimentation/Siltation | 2001 | 2003 |
| 1 | Big River Sediment TMDL Project | Big River | Sedimentation/Siltation | 2001 | 2003 |
| 1 | Stemple Creek Nutrient TMDL Project | Bodega HU, Estero De San Antonio/Stemple | Nutrients | 1998 | 2005 |
| 1 | Eel River Delta TMDL Project | Eel River Delta | Sedimentation/Siltation Temperature | 2006 | 2007 |
| 1 | Middle Fork Eel River TMDL Project | Eel River, Middle Fork | Sedimentation/Siltation Temperature | 2003 | 2006 |
| 1 | Middle Main Eel River TMDL Project | Eel River, Middle Main | Sedimentation/Siltation Temperature | 2005 | 2007 |
| 1 | North Fork Eel River TMDL Project | Eel River, North Fork | Sedimentation/Siltation Temperature | 2002 | 2006 |
| 1 | South Fork Eel River TMDL Project | Eel River, South Fork | Sedimentation/Siltation Temperature | 1999 | 2006 |
| 1 | Upper Main Eel River TMDL Project | Eel River, Upper Main (Includes Tomki Creek) | Sedimentation/Siltation Temperature | 2004 | 2006 |
| 1 | Garcia River Sediment TMDL Project | Eel River, Upper Main, Tomki Creek | Sedimentation/Siltation | 1997 | 2002 |
| 1 | Gualala River Sediment TMDL Project | Garcia River | Sedimentation/Siltation | 2001 | 2004 |
| 1 | Upper Lost River TMDL Project | Gualala River | Sedimentation/Siltation | 2003 | 2007 |
| 1 | Lower Lost River TMDL Project | Klamath River HU, Lost River HA, Tule Lake HSA, Mt.Dome HSA | Nutrients Temperature | 2004 | 2007 |
| 1 | Klamath River TMDL Project | Klamath River HU, Lower HA, Klamath Glen HSA Klamath River HU, Middle HA, Beaver Creek HSA, Hornbrook HSA Klamath River HU, Middle HA, Iron Gate HSA, Copco HSA Klamath River HU, Middle and Lower HAS, Orleans HSA, Ukonom HSA, Happy Camp HSA, | Nutrients Temperature Org. enrichment/Low D.O. Nutrients Temperature Org. enrichment/Low D.O. Nutrients Temperature Org. enrichment/Low D.O. | 2006 | 2007 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|---|---|---------------------|--|
| 1 | Salmon River TMDL Project | Klamath River HU, Salmon River HA | Nutrients Temperature | 2003 | 2007 |
| 1 | Mattole River Sediment TMDL Project | Mattole River | Sedimentation/Siltation | 2002 | 2004 |
| 1 | Mattole River Temperature TMDL Project | Mattole River | Temperature | 2002 | 2004 |
| 1 | Navarro River Sediment TMDL Project | Navarro River | Sedimentation/Siltation | 2000 | 2004 |
| 1 | Navarro River Temperature TMDL Project | Navarro River Delta | Sedimentation/Siltation | 2000 | 2004 |
| 1 | Noyo River Sediment TMDL Project | Navarro River | Temperature | 1999 | 2003 |
| 1 | Redwood Creek Sediment TMDL Project | Noyo River | Sedimentation/Siltation | 1998 | 2005 |
| 1 | Scott River Sediment TMDL Project | Redwood Creek (Above Redwood National Park Boundary) | Sedimentation/Siltation | 2005 | 2007 |
| 1 | Scott River Temperature TMDL Project | Redwood Creek (Below Redwood National Park Boundary) | Sedimentation/Siltation | 2005 | 2007 |
| 1 | Shasta River TMDL Project | Scott River | Temperature | 2005 | 2007 |
| 1 | Ten Mile River Sediment TMDL Project | Scott River | Temperature | 2005 | 2007 |
| 1 | Trinity River Sediment TMDL Project | Shasta River | Org. enrichment/Low D.O. Temperature | 2005 | 2007 |
| 1 | South Fork Trinity River TMDL Project | Ten Mile River | Sedimentation/Siltation | 2000 | 2003 |
| 1 | Van Duzen Sediment TMDL Project | Trinity River, Lower Trinity River, Upper Trinity River, Middle | Sedimentation/Siltation | 2001 | 2005 |
| 2 | San Francisco Bay Mercury | Trinity River, South Fork | Sedimentation/Siltation | 1998 | 2005 |
| | | Van Duzen River (tributary to Eel River) | Sedimentation/Siltation | 1999 | 2006 |
| | | Richardson Bay SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Mercury Mercury Mercury Mercury Mercury Mercury Mercury | 2000 | 2002 |
| 2 | San Francisco Bay PCBs | Richardson Bay SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait | PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) PCBs/PCBs (dioxin-like) | 2002 | 2004 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|-------------------------------------|---|--|---------------------|--|
| 2 | Tomales Bay Pathogens | Tomales Bay | Pathogens | 2002 | 2004 |
| 2 | San Francisco Bay Copper | SF Bay Central SF Bay Lower San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Copper Copper Copper Copper Copper | 2002 | 2004 |
| 2 | San Francisco Bay Nickel | SF Bay Lower San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Nickel Nickel Nickel Nickel | 2002 | 2004 |
| 2 | Guadalupe River Watershed Mercury | Calero Reservoir Guadalupe Reservoir Alamitos Creek Guadalupe Creek Guadalupe River | Mercury Mercury Mercury Mercury Mercury | 2003 | 2005 |
| 2 | Napa River Watershed | Napa River | Nutrients Pathogens Sedimentation/Siltation | 2003 | 2005 |
| 2 | San Francisco Creek Watershed | San Francisco Creek | Sedimentation/Siltation | 2003 | 2005 |
| 2 | Walker Creek/Tomales Bay Mercury | Walker Creek Tomales Bay | Mercury (Metals) Mercury (Metals) | 2003 | 2005 |
| 2 | Sonoma Creek Watershed | Sonoma Creek | Sedimentation/Siltation Nutrients Pathogens | 2004 | 2006 |
| 2 | Pescadero / Butano Creeks Watershed | Pescadero Creek Butano Creek | Sedimentation/Siltation Sedimentation/Siltation | 2004 | 2006 |
| 2 | Petaluma River Watershed | Petaluma River | Sedimentation/Siltation Nutrients Pathogens | 2005 | 2007 |
| 2 | San Gregorio Creek Watershed | San Gregorio Creek | Sedimentation/Siltation | 2005 | 2007 |
| 2 | San Francisco Bay Diazinon | SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Diazinon Diazinon Diazinon Diazinon Diazinon Diazinon Diazinon | 2005 | 2007 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|-------------------------------------|--|--|---------------------|--|
| 2 | Tomales Bay Watershed | Tomales Bay | Sedimentation/Siltation Nutrients | 2005 | 2007 |
| 2 | Walker Creek Watershed | Walker Creek | Sedimentation/Siltation Nutrients | 2005 | 2007 |
| 2 | Lagunitas Creek Watershed | Lagunitas Creek | Sedimentation/Siltation Nutrients Pathogens | 2005 | 2007 |
| 2 | San Francisco Bay Legacy Pesticides | Richardson Bay SF Bay Central SF Bay Lower SF Bay South San Pablo Bay Carquinez Strait Sacramento San Joaquin Delta Suisun Bay | Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin Chlordane/DDT/Dieldrin | 2005 | 2007 |
| 3 | Salinas River Nutrients | Old Salinas River Estuary Salinas River Lagoon (North) Salinas River Refuge Lagoon (South) Salinas River | Nutrients Nutrients Nutrients | 2003 | 2007 |
| 3 | Salinas River Pesticides | Old Salinas River Estuary Salinas River Lagoon (North) Salinas River Refuge Lagoon (South) Salinas River Tembladero Slough Blanco Drain Salinas Reclamation Canal Espihosa Slough Moro Cojo Slough | Pesticides Pesticides Pesticides Pesticides Pesticides Pesticides Pesticides Pesticides Pesticides | 2004 | 2007 |
| 3 | Salinas River Siltation | Salinas River Salinas River Lagoon (North) | Sedimentation/Siltation Sedimentation/Siltation | 2002 | 2005 |
| 3 | San Lorenzo River Pathogens | Carbonera Creek Lompico Creek San Lorenzo River San Lorenzo River Estuary | Pathogens Pathogens Pathogens Pathogens | 2003 | 2005 |
| 3 | San Lorenzo Siltation | Carbonera Creek Lompico Creek San Lorenzo River San Lorenzo River Estuary Shingle Mill Creek | Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation | 2001 | 2003 |
| 3 | Santa Cruz County Pathogens | Soquel Lagoon Valencia Creek Aptos Creek Schwan Lake | Pathogens Pathogens Pathogens Pathogens | 2003 | 2005 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|--|---|---------------------|--|
| 3 | San Luis Obispo Creek Nutrients | San Luis Obispo Creek (Below W. Marsh) | Nutrients | 2002 | 2004 |
| 3 | San Luis Obispo Creek Pathogens | San Luis Obispo Creek (Below W. Marsh) | Pathogens | 2003 | 2004 |
| 3 | San Luis Obispo Creek Priority Pollutants | San Luis Obispo Creek (Below W. Marsh) | Priority Organics | 2001 | 2002 |
| 3 | Soquel Lagoon Pathogens | Soquel Lagoon | Pathogens | 2003 | 2005 |
| 3 | Valencia Creek and Aptos Creek Pathogens | Aptos Creek Valencia Creek | Pathogens Pathogens | 2003 | 2005 |
| 3 | Watsonville Slough Metals | Watsonville Slough | Metals | 2003 | 2005 |
| 3 | Watsonville Slough Oil and Grease | Watsonville Slough | Oil and grease | 2003 | 2005 |
| 3 | Watsonville Slough Pathogens | Watsonville Slough | Pathogens | 2003 | 2005 |
| 3 | Chorro Creek Metals | Chorro Creek | Metals | 2001 | 2002 |
| 3 | Clear Creek/Hernandez Reservoir Metals | Clear Creek Hernandez Reservoir | Mercury Mercury | 2003 | 2005 |
| 3 | Las Tablas Creek/Nacimiento Reservoir | Las Tablas Creek Las Tablas Creek, North Fork Las Tablas Creek, South Fork Nacimiento Reservoir | Metals Metals Metals Metals | 2001 | 2003 |
| 3 | Monterey Harbor Metals | Monterey Harbor | Metals | 2004 | 2007 |
| 3 | Morro Bay Metals | Morro Bay | Metals | 2003 | 2005 |
| 3 | Morro Bay Nutrients | Chorro Creek | Nutrients | 2001 | 2003 |
| 3 | Morro Bay Pathogens | Los Osos Creek | Nutrients | 2001 | 2003 |
| 3 | Morro Bay Priority Pollutants | Morro Bay | Pathogens | 2002 | 2004 |
| 3 | Morro Bay Siltation | Los Osos Creek | Priority Organics | 2001 | 2002 |
| 3 | Pajaro River Nutrients | Chorro Creek Los Osos Creek Morro Bay | Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation | 2001 | 2003 |
| 3 | Pajaro River Siltation | Llagas Creek Pajaro River | Nutrients Nutrients | 2003 | 2005 |
| 3 | Pajaro River Siltation | Llagas Creek/ Pajaro River San Benito River Watsonville Slough Rider Gluch Creek | Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation Sedimentation/Siltation | 2003 | 2005 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|-----------------------------------|--|---|---------------------|--|
| 3 | Salinas River Priority Pollutants | Espinosa Slough Salinas Reclamation Canal | Priority Organics Priority Organics Priority Organics | 2004 | 2007 |
| 4 | Calleguas Creek Nutrient TMDL | Mugu Lagoon Arroyo Las Posas Reach 1 (Lewis Somis Rd to Fox Barranca) Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23)) Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn) and 2 (Beardsley Channel (Above Central Avenue) Calleguas Creek Reach 1 and 2 (Estuary to Calleguas Creek Reach 3 (Potrero to Somis Conejo Creek Reach 1 (Confl Call to Santa Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks City Limit Conejo Creek Reach 3 (Thousand Oaks City Limit to Lynn Rd.) Conejo Creek Reach 4 (Above Lynn Rd.) Conejo Creek/Arroyo Conejo North Fork Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No. 2 Fox Barranca Revolon Slough Main Branch (Mugu Lagoon to Central Avenue) Rio De Santa Clara/Oxnard Drain No. 3 | Nitrogen Ammonia Nitrate and Nitrite Ammonia Nitrate and Nitrite Ammonia Algae Nitrogen Ammonia Nitrogen Nitrate and Nitrite Algae Ammonia Org. enrichment/Low D.O. Algae Ammonia Org. enrichment/Low D.O. Algae Ammonia Ammonia Nitrogen Nitrate and Nitrite Algae Nitrogen Nitrogen | 2002 | 2002 |
| 4 | Calleguas Creek Toxicity TMDL | Beardsley Channel (Above Central Avenue) Calleguas Creek Reach 1 and 2 (Estuary to Conejo Creek Reach 1 (Confl Call to Santa Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks City Limit Conejo Creek Reach 3 (Thousand Oaks City Limit to Lynn Rd.) Conejo Creek Reach 4 (Above Lynn Rd.) | Chlorpyrifos Toxicity Toxicity Toxicity Toxicity Toxicity Toxicity | 2003 | 2003 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|--|---------------------|--|
| 4 | Calleguas Creek Chloride | Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No. 2 Revolon Slough Main Branch (Mugu Lagoon to Central Avenue) | Toxicity Chlorpyrifos Toxicity | 2002 | 2002 |
| 4 | Calleguas Creek Salinity | Arroyo Las Posas Reach 1 (Lewis Somis Rd to Fox Barranca) Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23)) Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn) and 2 (Calleguas Creek Reach 3 (Potrero to Somis Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks City Limit Conejo Creek Reach 4 (Above Lynn Rd.) Tapo Canyon Reach 1 | Chloride Chloride Chloride Chloride Chloride Chloride Chloride | 2003 | 2003 |
| 4 | Legacy Chlorinated Pesticides, Sediment | Arroyo Las Posas Reach 1 (Lewis Somis Rd to Fox Barranca) Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23)) Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn) and 2 (Calleguas Creek Reach 3 (Potrero to Somis Conejo Creek Reach 1 (Confl Call to Santa Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks City Limit Conejo Creek Reach 3 (Thousand Oaks City Limit to Lynn Rd.) Conejo Creek Reach 4 (Above Lynn Rd.) Conejo Creek/Arroyo Conejo North Fork Fox Barranca Tapo Canyon Reach 1 | Sulfates Total Dissolved Solids Sulfates Total Dissolved Solids Boron Sulfates Total Dissolved Solids Total Dissolved Solids Sulfates Total Dissolved Solids Sulfates Total Dissolved Solids Sulfates Total Dissolved Solids Sulfates Total Dissolved Solids Sulfates Total Dissolved Solids Boron Sulfates Total Dissolved Solids Boron Sulfates Total Dissolved Solids Sulfates Total Dissolved Solids Sulfates Total Dissolved Solids Chlordane Dacthal DDT Endosulfan | 2004 | 2004 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|------------------------|---|--|---------------------|--|
| | | Arroyo Las Posas Reach 1 (Lewis Somis Rd to Fox Barranca) Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23)) Beardsley Channel (Above Central Avenue) | Sediment Toxicity Sedimentation/Siltation DDT DDT Chema Chlordane Dacthal DDT Dieldrin Endosulfan Toxaphene Chema Chlordane DDT Endosulfan Sediment Toxicity Toxaphene Chema Dacthal DDT Endosulfan Toxaphene Chlordane DDT Chema Chlordane DDT Sediment Toxicity Toxaphene Chema Chlordane Dacthal DDT Dieldrin Endosulfan Toxaphene | | |
| | | Calleguas Creek Reach 1 and 2 (Estuary to Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks City Limit Conejo Creek Reach 3 (Thousand Oaks City Limit to Lynn Rd.) | | | |
| | | Conejo Creek Reach 4 (Above Lynn Rd.) | | | |
| | | Conejo Creek/Arroyo Conejo North Fork Duck Pond Agricultural Drains/Mugu Drain/Oxnard Drain No. 2 | | | |
| | | Revolon Slough Main Branch (Mugu Lagoon to Central Avenue) | | | |
| 4 | Calleguas Creek Metals | Mugu Lagoon | Copper Mercury Nickel Zinc | 2005 | 2005 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|---|---------------------|--|
| 4 | | Arroyo Simi Reach 1 (Moorpark Frwy (23) to Brea Cyn) and 2 (Conejo Creek Reach 1 (Confl Call to Santa Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks City Limit Conejo Creek Reach 3 (Thousand Oaks City Limit to Lynn Rd.) Revolon Slough Main Branch (Mugu Lagoon to Central Avenue) | Chromium Nickel Selenium Silver Zinc Cadmium Chromium Nickel Silver Cadmium Chromium Nickel Silver Cadmium Chromium Nickel Silver Selenium | | 2004 |
| 4 | Calleguas Creek PCBs | Mugu Lagoon Beardsley Channel (Above Central Avenue) Calleguas Creek Reach 1 and 2 (Estuary to Revolon Slough Main Branch (Mugu Lagoon to Central Avenue) | PCBs PCBs PCBs PCBs | 2004 | 2004 |
| 4 | Calleguas Creek Legacy chlorinated pesticides, PCBs, sediment toxicity | Rio De Santa Clara/Oxnard Drain No. 3 | ChemA Chlordane DDT PCBs Sediment Toxicity Toxaphene | 2005 | 2005 |
| 4 | Los Angeles River Nutrient | Arroyo Seco Reach 1 (IA River to West Holly Arroyo Seco Reach 2 (Figueroa St. to Burbank Western Channel Compton Creek Los Angeles River Reach 1 (Estuary to Carson Los Angeles River Reach 2 (Carson to | Algae Algae Algae Ammonia Odors Scum/Foam-unnatural pH Ammonia Nutrients (Algae) pH Scum/Foam-unnatural Ammonia Nutrients (Algae) Odors Scum/Foam-unnatural | 2002 | 2002 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|----------------------------|--|--|---------------------|--|
| 4 | Los Angeles River Metals | Los Angeles River Reach 3 (Figueroa St. to Riverside Dr.) Los Angeles River Reach 4 (Sepulveda Dr. to Sepulveda Dam) Los Angeles River Reach 5 (at Sepulveda Rio Hondo Reach 1 (Confl. LA River to Snt Rio Hondo Reach 2 (At Spreading Grounds) Tujunga Wash (LA River to Hansen Dam) Verdugo Wash Reach 1 (LA River to Verdugo Verdugo Wash Reach 2 (Above Verdugo Road) | Ammonia Nutrients (Algae) Odors Scum/Foam-unnatural Ammonia Nutrients (Algae) Odors Scum/Foam-unnatural Ammonia Nutrients (Algae) Odors Scum/Foam-unnatural Ammonia pH Ammonia Ammonia Odors Scum/Foam-unnatural Algae Algae | 2003 | 2003 |
| 4 | Los Angeles River Pathogen | Aliso Canyon Wash Burbank Western Channel Compton Creek Los Angeles River Reach 1 (Estuary to Carson Los Angeles River Reach 2 (Carson to Los Angeles River Reach 4 (Sepulveda Dr. to Sepulveda Dam) Monrovia Canyon Creek Rio Hondo Reach 1 (Confl. LA River to Snt Tujunga Wash (LA River to Hansen Dam) Arroyo Seco Reach 1 (LA River to West Holly Arroyo Seco Reach 2 (Figueroa St. to Bell Creek Compton Creek Los Angeles River Reach 1 (Estuary to Carson Los Angeles River Reach 2 (Carson to Los Angeles River Reach 4 (Sepulveda Dr. to Sepulveda Dam) Los Angeles River Reach 6 (Above Sepulveda Fld Cntrl Basin) Rio Hondo Reach 1 (Confl. LA River to Snt Rio Hondo Reach 2 (At Spreading Grounds) Tujunga Wash (LA River to Hansen Dam) Verdugo Wash Reach 1 (LA River to Verdugo Verdugo Wash Reach 2 (Above Verdugo Road) | Selenium Cadmium Copper Lead Lead Lead Lead Lead Copper Lead Zinc Copper High Coliform Count | 2002 | 2002 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|---|---------------------|--|
| 4 | Los Angeles River Chem A | Los Angeles River Reach 5 (at Sepulveda | ChemA | 2005 | 2005 |
| 4 | Ventura Beaches Pathogen | Mandalay Beach McGrath Beach Santa Clara River Estuary Beach-Surfers | Beach Closures Beach Closures High Coliform Count High Coliform Count | 2002 | 2002 |
| 4 | Ventura Harbor Pathogen | Ventura Harbor: Ventura Keys | High Coliform Count | 2006 | 2006 |
| 4 | McGrath Lake Legacy Chlorinated Pesticides, Sediment Toxicity | McGrath Lake (Estuary) | Chlordane DDT Pesticides Sediment Toxicity | 2006 | 2006 |
| 4 | Port Hueneme Harbor DDT and PCBs | Port Hueneme Harbor (Back Basins) | DDT PCBs | 2006 | 2006 |
| 4 | Port Hueneme Harbor PAHs | Port Hueneme Harbor (Back Basins) | PAHs | 2006 | 2006 |
| 4 | Port Hueneme Harbor Zinc | Port Hueneme Harbor (Back Basins) | Zinc | 2006 | 2006 |
| 4 | Channel Islands Harbor Metals | Channel Islands Harbor | Lead Zinc | 2010 | 2010 |
| 4 | Port Hueneme Harbor Trybutyltin | Port Hueneme Harbor (Back Basins) | Tributyltin | 2010 | 2010 |
| 4 | Santa Clara River Chloride | Santa Clara River Reach 3 (Dam to Abv Sp Crk/Blw Timber Cyn) Santa Clara River Reach 7 (Blue Cut to West Pier Hwy 99) Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd.) | Chloride Chloride Chloride | 2002 | 2002 |
| 4 | Santa Clara River Nutrients | Brown Barranca/Long Canyon Mint Canyon Creek Reach 1 (Confl to Rowler Santa Clara River Reach 3 (Dam to Abv Sp Crk/Blw Timber Cyn) Santa Clara River Reach 7 (Blue Cut to West Pier Hwy 99) Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cvn Rd.) Torrey Canyon Creek Wheeler Canyon/Todd Barranca | Nitrate and Nitrite Nitrate and Nitrite Ammonia Ammonia Nitrate and Nitrite Ammonia Nitrate and Nitrite Org. enrichment/Low D.O. Nitrate and Nitrite Nitrate and Nitrite | 2002 | 2002 |
| 4 | Santa Clara Estuary ChemA Toxaphene | Santa Clara River Estuary | ChemA Toxaphene | 2006 | 2006 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|--|---|---------------------|--|
| 4 | Santa Clara River Pathogen | Santa Clara River Estuary Santa Clara River Reach 7 (Blue Cut to West Pier Hwy 99) Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd.) Santa Clara River Reach 9 (Bouquet Cyn Rd. to abv Lang Gagl | High Coliform Count High Coliform Count High Coliform Count High Coliform Count | 2005 | 2005 |
| 4 | Santa Clara River Lakes Pathogen | Elizabeth Lake Lake Hughes Munz Lake | Eutrophic Org. enrichment/Low D.O. pH Algae Eutrophic Fish Kills Odors Eutrophic | 2004 | 2004 |
| 4 | Santa Clara River Lakes Trash | Elizabeth Lake Lake Hughes Munz Lake | Trash Trash Trash | 2004 | 2004 |
| 4 | San Gabriel River Nutrients | Coyote Creek San Gabriel River Reach 1 (Estuary to San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam San Gabriel River Reach 3 (Whittier Narrows San Gabriel River, East Fork San Jose Creek Reach 2 (Temple to I-10 at Walnut Creek Wash (Drains from Puddingstone | Algae Ammonia Algae Ammonia Toxicity Ammonia Toxicity Algae Ammonia Algae Ammonia pH Toxicity | 2004 | 2004 |
| 4 | San Gabriel River Metals | Coyote Creek San Gabriel River Estuary San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam | Silver Arsenic Lead | 2004 | 2004 |
| 4 | San Gabriel Lakes Legacy Chlorinated Pesticides and PCBs | Puddingstone Reservoir Fmoorpark Fwy | Chlordane DDT PCBs | 2005 | 2005 |
| 4 | San Gabriel River Lakes Metals | El Dorado Lakes Legg Lake | Copper Lead Mercury Copper Lead | 2005 | 2005 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|--|---------------------|--|
| 4 | | Puddingstone Reservoir Santa Fe Dam Park Lake | Mercury Copper Lead | | |
| 4 | San Gabriel River Abnormal Fish Histology | Coyote Creek San Gabriel River Estuary San Gabriel River Reach 1 (Estuary to | Abnormal Fish Histology Abnormal Fish Histology Abnormal Fish Histology | 2005 | 2005 |
| 4 | San Gabriel River Lakes Nutrients | Crystal Lake El Dorado Lakes Legg Lake Fmoorpark Fwy Santa Fe Dam Park Lake | Org. enrichment/Low D.O. Algae Ammonia Eutrophic pH Ammonia Odors pH Org. enrichment/Low D.O. pH | 2003 | 2003 |
| 4 | San Gabriel River Pathogen | Coyote Creek San Gabriel River Reach 1 (Estuary to San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam San Gabriel River, East Fork San Jose Creek Reach 2 (Temple to I-10 at | High Coliform Count High Coliform Count High Coliform Count High Coliform Count High Coliform Count High Coliform Count | 2002 | 2002 |
| 4 | Marina del Rey Pathogens | Marina del Rey Harbor - Back Basins Marina del Rey Harbor Beach | High Coliform Count Beach Closures High Coliform Count | 2003 | 2003 |
| 4 | Malibu Creek Pathogens | Malibu Lagoon Las Virgenes Creek Lindero Creek Reach 1 Lindero Creek Reach 2 (Above Lake) Malibu Creek Medea Creek Reach 1 (Lake to Confl. with Medea Creek Reach 2 (Abv Confl. with Palo Comado Creek Stokes Creek | Enteric Viruses High Coliform Count Shellfish Harvesting Adv. Swimming Restrictions High Coliform Count High Coliform Count High Coliform Count High Coliform Count High Coliform Count High Coliform Count High Coliform Count High Coliform Count | 2002 | 2002 |
| 4 | Santa Monica Bay Beaches Pathogen | ASHLAND AVENUE DRAIN PICO KENTER DRAIN Santa Monica Canyon Sepulveda Canyon Abalone Cove Beach Big Rock Beach Bluff Cove Beach | High Coliform Count Enteric Viruses High Coliform Count High Coliform Count High Coliform Count Beach Closures Beach Closures High Coliform Count Beach Closures | 2002 | 2002 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|--|---------------------|--|
| 4 | Ballona Creek Pathogen | Ballona Creek Ballona Creek Estuary | Enteric Viruses High Coliform Count High Coliform Count Shellfish Harvesting Adv. | 2003 | 2003 |
| 4 | Malibu Creek Nutrients | Malibu Lagoon Lake Lindero Lake Sherwood Malibu Lake Westlake Lake Las Virgenes Creek Lindero Creek Reach 1 Lindero Creek Reach 2 (Above Lake) Malibu Creek Medea Creek Reach 1 (Lake to Confl. with Medea Creek Reach 2 (Abv Confl. with | Eutrophic Algae Eutrophic Odors Algae Ammonia Eutrophic Org. enrichment/Low D.O. Algae Eutrophic Org. enrichment/Low D.O. Algae Ammonia Eutrophic Org. enrichment/Low D.O. Nutrients (Algae) Org. enrichment/Low D.O. Scum/Foam-unnatural Algae Scum/Foam-unnatural Algae Scum/Foam-unnatural Nutrients (Algae) Scum/Foam-unnatural Algae Algae | 2002 | 2002 |
| 4 | Santa Monica Bay Metals | Santa Monica Bay Offshore/Nearshore | Cadmium Copper Lead Mercury Nickel Silver Zinc | 2004 | 2004 |
| 4 | Santa Monica Bay Chlordane | Santa Monica Bay Offshore/Nearshore | Chlordane | 2005 | 2005 |
| 4 | Marina del Rey Legacy Chlorinated Pesticides and PCBS, Fish Tissue, | Marina del Rey Harbor - Back Basins | Benthic Comm. Effects Chlordane DDT Dieldrin Fish Consumption Advisory PCBs Sediment Toxicity | 2003 | 2003 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|---|---|---------------------|--|
| 4 | Ballona Creek Legacy Chlorinated Pesticides, PCBs, Sediment Toxicity | Ballona Creek | ChenA Chlordane DDT Dieldrin PCBs Sediment Toxicity Arochlor Chlordane DDT PCBs Sediment Toxicity | 2004 | 2004 |
| 4 | Marina del Rey Metals | Marina del Rey Harbor - Back Basins | Copper Lead Zinc | 2004 | 2004 |
| 4 | Ballona Creek Metals | Ballona Creek | Arsenic Cadmium Copper Lead Silver Toxicity Lead Zinc Arsenic | 2003 | 2003 |
| 4 | Pico Kenter Metals | PICO KENTER DRAIN Santa Monica Canyon Sepulveda Canyon Topanga Canyon Creek | Copper Lead Toxicity Lead Lead Lead | 2006 | 2006 |
| 4 | Malibu Creek Trash | Lake Lindero Las Virgenes Creek Lindero Creek Reach 1 Lindero Creek Reach 2 (Above Lake) Malibu Creek Medea Creek Reach 1 (Lake to Confl. with Medea Creek Reach 2 (Abv Confl. with | Trash Trash Trash Trash Trash Trash Trash | 2006 | 2006 |
| 4 | Malibu Creek Lakes Metals | Lake Calabasas Lake Lindero Lake Sherwood Malibu Lake Westlake Lake Las Virgenes Creek Lindero Creek Reach 1 | Copper Zinc Selenium Mercury Copper Copper Lead Selenium Selenium | 2007 | 2007 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--|---|---|---------------------|--|
| | | Lindero Creek Reach 2 (Above Lake) Medea Creek Reach 1 (Lake to Confl. with Medea Creek Reach 2 (Abv Confl. with Triunfo Canyon Creek Reach 1 Triunfo Canyon Creek Reach 2 | Selenium Selenium Selenium Lead Mercury Lead Mercury | | 2002 |
| 4 | Los Angeles Harbor Pathogens | LA Harbor Main Channel Cabrillo Beach (Inner) LA Harbor Area | Beach Closures Beach Closures (Coliform) | 2002 | 2002 |
| 4 | Los Angeles Harbor Pathogens | LA Fish Harbor | DDT | 2007 | 2007 |
| 4 | Los Angeles Harbor/Dominguez Channel Legacy Chlorinated Pesticides, PCBs, | LA Fish Harbor LA Harbor Consolidated Slip LA Harbor Inner Breakwater LA Harbor Main Channel LA Harbor Southwest Slip Long Beach Harbor Main Channel, SE, W Basin, Pier J, Breakwa San Pedro Bay Near/Off Shore Zones - Cabrillo Pier Area Machado Lake (Harbor Park Lake) Port Hueneme Harf Dominguez Channel (above Vermont) | PCBs Benthic Comm. Effects Chlordane DDT PCBs Sediment Toxicity DDT PCBs DDT PCBs Sediment Toxicity DDT PCBs Sediment Toxicity Benthic Comm. Effects DDT PCBs Sediment Toxicity DDT PCBs Sediment Toxicity ChemA Chlordane DDT Dieldrin PCBs Aldrin ChemA Chlordane DDT Dieldrin PCBs Aldrin Benthic Comm. Effects ChemA Chlordane | 2007 | 2007 |
| | | Dominguez Channel (Estuary to Vermont) | | | |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|--|---------------------|--|
| 4 | Los Angeles Harbor/Dominguez Channel PAHs | Cabrillo Beach (Inner) LA Harbor Area | DDT Dieldrin PCBs DDT PCBs | 2007 | 2007 |
| 4 | Los Angeles Harbor/Dominguez Channel PAHs | LA Fish Harbor LA Harbor Consolidated Slip LA Harbor Inner Breakwater LA Harbor Main Channel Long Beach Harbor Main Channel, SE, W Basin, Pier J, Breakwa San Pedro Bay Near/Off Shore Zones - Cabrillo Pier Area Dominguez Channel (above Vermont) Dominguez Channel (Estuary to Vermont) | PAHs PAHs PAHs PAHs PAHs PAHs PAHs PAHs | 2006 | 2006 |
| 4 | Los Angeles Harbor/Dominguez Channel | LA Harbor Consolidated Slip LA Harbor Main Channel Dominguez Channel (above Vermont) Dominguez Channel (Estuary to Vermont) Torrance Carson Channel WILLMINGTON DRAIN | Chromium Lead Zinc Copper Zinc Chromium Copper Lead Chromium Copper Lead Zinc Copper Lead Copper Lead | 2006 | 2006 |
| 4 | Dominguez Channel Nutrients | Dominguez Channel (above Vermont) Dominguez Channel (Estuary to Vermont) WILLMINGTON DRAIN | Ammonia Ammonia Ammonia | 2007 | 2007 |
| 4 | Dominguez Channel Pathogens | Dominguez Channel (above Vermont) Dominguez Channel (Estuary to Vermont) Torrance Carson Channel WILLMINGTON DRAIN | High Coliform Count High Coliform Count High Coliform Count High Coliform Count | 2002 | 2002 |
| 4 | Machado Lake Trash | Machado Lake (Harbor Park Lake) | Trash | 2007 | 2007 |
| 4 | Colorado Lagoon Legacy Chlorinated Pesticides and Sediment Toxicity | Colorado Lagoon | Chlordane DDT Dieldrin PCBs Sediment Toxicity | 2004 | 2004 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|--------------------------------------|--|---|---------------------|--|
| 4 | Colorado Lagoon Lead PAHs and Zinc | Colorado Lagoon | Lead PAHs Zinc | 2004 | 2004 |
| 4 | Los Cerritos Channel Metals | Los Cerritos Channel | Copper Lead Zinc | 2004 | 2004 |
| 4 | Los Cerritos Channel Ammonia | Los Cerritos Channel | Ammonia High Coliform Count | 2004 | 2004 |
| 4 | Ventura River Estuary DDT | Ventura River Estuary | DDT | 2005 | 2005 |
| 4 | Ventura River Estuary Algae | Ventura River Estuary | Algae Eutrophic Algae | 2005 | 2005 |
| 4 | Ventura River Hydromodification | Ventura River Reach 1 and 2 (Estuary to Ventura River Reach 3 (Weldon Canyon to Confl. w/ Coyote Cr) Ventura River Reach 4 (Coyote Creek to Camino Cielo Rd) | Pumping Water Diversion Pumping Water Diversion | 2005 | 2005 |
| 4 | Ventura River Metals | Ventura River Reach 1 and 2 (Estuary to | Copper Silver Zinc | 2005 | 2005 |
| 4 | Ventura River Trash | Ventura River Estuary | Trash | 2005 | 2005 |
| 4 | Ventura River Selenium | Ventura River Reach 1 and 2 (Estuary to | Selenium | 2005 | 2005 |
| 5 | Sacramento Delta Waterways - OP | Sacramento Delta Waterways | Chlorpyrifos Diazinon | 2004 | 2005 |
| 5 | Sacramento Delta Waterways - Mercury | Sacramento Delta Waterways | Mercury | 2003 | 2005 |
| 5 | Clear Lake - Mercury | Clear Lake | Mercury | 2002 | 2005 |
| 5 | Cache Creek, Lower - Mercury | Cache Creek, Lower | Mercury | 2003 | 2005 |
| 5 | Sacramento/Feather - Diazinon | Feather River, Lower Sacramento River, Red Bluff to Delta | Diazinon Diazinon | 2002 | 2005 |
| 5 | SJR Tributaries - OPs | Merced River Stanislaus River Tuolumne River | Chlorpyrifos/Diazinon Chlorpyrifos/Diazinon Chlorpyrifos/Diazinon | 2003 | 2005 |
| 5 | Sacramento River - Mercury | Sacramento River (Red Bluff to Delta) | Mercury | 2005 | 2006 |

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| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---------------------------|---|---------------------|--|
| 5 | San Joaquin River - Salts | San Joaquin River | Boron | 2002 | 2003 |
| 5 | San Joaquin River - OP Pesticides | San Joaquin River | Electrical Conductivity Chlorpyrifos Diazinon | 2002 | 2005 |
| 5 | Sulphur Creek - Mercury | Sulphur Creek | Mercury | 2003 | 2005 |
| 6 | Bridgeport Reservoir Nutrients and Sedimentation/Siltation TMDL Project | Bridgeport Reservoir | Nutrients Sedimentation/Siltation | 2004 | 2005 |
| 6 | Crowley Lake Nutrients TMDL Project | Crowley Lake | Nutrients Arsenic | 2004 | 2005 * |
| 6 | Haiwee Reservoir Copper TMDL Project | Haiwee Reservoir | Copper | 2002 | 2003 |
| 6 | Horseshoe Lake (2) Sedimentation/Siltation TMDL Project | Horseshoe Lake (2) | Sedimentation/Siltation | 2006 | 2007 |
| 6 | Indian Creek Reservoir Nutrients TMDL | Indian Creek Reservoir | Nutrients | 2000 | 2002 |
| 6 | Lake Tahoe Nutrients and Sedimentation/Siltation TMDL Project | Lake Tahoe | Nutrients Sedimentation/Siltation | 2005 | 2007 |
| 6 | Pleasant Valley Reservoir Org. Enrichment/Low D.O. TMDL Project | Pleasant Valley Reservoir | Org. enrichment/Low D.O. | 2005 | 2006 |
| 6 | Tinemaha Reservoir Metals TMDL Project | Tinemaha Reservoir | Metals Arsenic | 2003 | 2004 |
| 6 | Topaz Lake Sedimentation/Siltation TMDL | Topaz Lake | Sedimentation/Siltation | 2006 | 2007 * |
| 6 | Bear Creek Sedimentation/Siltation TMDL | Bear Creek | Sedimentation/Siltation | 2004 | 2005 |
| 6 | Blackwood Creek Sedimentation/Siltation TMDL Project | Blackwood Creek | Sedimentation/Siltation | 2006 | 2007 |
| 6 | Bodie Creek Metals TMDL Project | Bodie Creek | Metals | 2003 | 2004 |
| 6 | Bronco Creek Sedimentation/Siltation TMDL Project | Bronco Creek | Sedimentation/Siltation | 2004 | 2005 |
| 6 | Clearwater Creek Sedimentation/Siltation TMDL Project | Clearwater Creek | Sedimentation/Siltation | 2004 | 2005 |
| 6 | Gray Creek Sedimentation/Siltation TMDL Project | Gray Creek | Sedimentation/Siltation | 2003 | 2004 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|---|---------------------|--|
| 6 | Green Valley Lake Creek Priority Organics TMDL Project | Green Valley Lake Creek | Priority Organics | 2005 | 2006 |
| 6 | Hot Springs Canyon Sedimentation/Siltation TMDL Project | Hot Springs Canyon | Sedimentation/Siltation | 2004 | 2005 |
| 6 | Skedaddle Creek Pathogens TMDL Project | Skedaddle Creek | High Coliform Count | 2005 | 2006 |
| 6 | Squaw Creek Sedimentation/Siltation TMDL | Squaw Creek | Sedimentation/Siltation | 2002 | 2003 |
| 6 | Susan River Toxicity TMDL Project | Susan River | Unknown Toxicity | 2006 | 2007 |
| 6 | Truckee River Sedimentation/Siltation TMDL Project | Truckee River | Sedimentation/Siltation | 2004 | 2005 |
| 6 | Ward Creek Sedimentation/Siltation TMDL | Ward Creek | Sedimentation/Siltation | 2006 | 2007 |
| 6 | Cinder Cone Springs Nutrients and Salinity/TDS/Chlorides TMDL Project | Cinder Cone Springs | Nutrients Salinity/TDS/Chlorides | 2006 | 2007 |
| 7 | Coachella Valley Storm Channel Pathogens TMDL Project | Coachella Valley Storm Channel | Pathogens | 2004 | 2005 |
| 7 | Imperial Valley Drains Sedimentation TMDL | Imperial Valley Drains | Sedimentation/Siltation | 2003 | 2004 |
| 7 | New River Silt TMDL Project | New River | Silt | 2001 | 2002 |
| 7 | New River DO TMDL Project | New River | Dissolved Organic Matter/DO | 2005 | 2006 |
| 7 | New River Trash TMDL Project | New River | Trash | 2006 | 2007 |
| 7 | Palo Verde outfall Drain pathogens TMDL | Palo Verde Outfall Drain | Pathogens | 2005 | 2006 |
| 7 | Salton Sea Nutrients TMDL Project | Salton Sea | Nutrients | 2003 | 2004 |
| 8 | Chino Basin Watershed Pathogens TMDL | Mill Creek (Prado area) Chino Creek, Reach 1 Chino Creek, Reach 2 Prado Park Lake Cucamonga Creek, Valley Reach Santa Ana River, Reach 3 | Pathogens Pathogens Pathogens Pathogens Pathogens | 2003 | 2005 |
| 8 | Chino Basin Watershed Nitrogen TMDL | Mill Creek (Prado area) Chino Creek, Reach 1 | nitrogen nitrogen | 2003 | 2005 |
| 8 | Chino Basin Watershed Suspended Solids TMDL Project | Mill Creek (Prado area) | Suspended Solids | 2003 | 2005 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|---|--|---------------------|--|
| 8 | Lake Elsinore/San Jacinto River Nutrient TMDL Project | Lake Elsinore Canyon Lake | nutrients org. enrichment/low D.O. | 2003 | 2004 |
| 8 | Lake Elsinore/San Jacinto River Toxics TMDL Project | Lake Elsinore | unknown toxicity | 2003 | 2004 |
| 8 | Lake Elsinore/San Jacinto River Pathogen TMDL Project | Canyon Lake | Pathogens | 2003 | 2004 |
| 8 | Lake Elsinore/San Jacinto River Sediment TMDL Project | Lake Elsinore | sediment/siltation | 2003 | 2004 |
| 8 | Big Bear Lake Watershed Nutrient TMDL | Big Bear Lake Rathbone Creek Summit Creek Grout Creek | nutrients/noxious aquatic plants nutrients/noxious aquatic plants nutrients/noxious aquatic plants nutrients/noxious aquatic plants | 2003 | 2005 |
| 8 | Big Bear Lake Watershed Metals TMDL | Big Bear Lake Knickerbocker Creek Grout Creek | metals (copper, mercury and others) metals (copper, mercury and others) metals (copper, mercury and others) | 2003 | 2005 |
| 8 | Big Bear Lake Watershed Sediment TMDL | Big Bear Lake Rathbone Creek | sediment/siltation sediment/siltation | 2003 | 2005 |
| 8 | Big Bear Lake Watershed Pathogen TMDL | Knickerbocker Creek | pathogens | 2003 | 2005 |
| 8 | Upper Newport Bay Watershed Pesticide TMDL Project | Upper Newport Bay San Diego Creek, Reach 1 San Diego Creek, Reach 2 | chlorpyrifos/diazinon chlorpyrifos/diazinon chlorpyrifos/diazinon | 2002 | 2002 |
| 8 | Newport Bay Watershed Selenium TMDL | Upper Newport Bay Lower Newport Bay -- Rhine Channel San Diego Creek, Reach 1 San Diego Creek, Reach 2 | selenium selenium selenium selenium | 2002 | 2003 |
| 8 | Newport Bay Watershed Toxics TMDL Project | Upper Newport Bay Lower Newport Bay -- Rhine Channel San Diego Creek, Reach 1 San Diego Creek, Reach 2 | other toxics as identified by USEPA other toxics as identified by USEPA other toxics as identified by USEPA other toxics as identified by USEPA | 2002 | 2007 |
| 9 | Chollas Creek Diazinon | Chollas Creek 908.22 | Toxicity (Diazinon) | 2001 | 2002 |
| 9 | Rainbow Creek Eutrophication | Rainbow Creek | Eutrophic (Nutrients) | 2001 | 2002 |
| 9 | Chollas Creek Metals | Chollas Creek 908.22* | Metals (Cd, Cu, Pb, Zn) | 2002 | 2003 |
| 9 | San Diego Bay, Shelter Island Copper | San Diego Bay; Shelter Island Yacht Basin | Metals (dissolved Cu) | 2001 | 2002 |

Five-Year TMDL Completion Schedule [1998 - 303(d) List]

| REGION | TMDL PROJECTS | WATER BODY NAME | POLLUTANT/STRESSOR | TECHNICAL TMDL DATE | TMDL COMPLETION DATE (REGIONAL BOARD APPROVAL) |
|--------|---|--|--|---------------------|--|
| 9 | San Diego Bay, near Chollas Creek Sediment Toxicity | San Diego Bay; near Chollas Creek | Degraded Benthic Community & Sediment Toxicity | 2004 | 2005 |
| 9 | San Diego Bay, 7th Street Channel | San Diego Bay; Seventh Street Channel | Degraded Benthic Community & Sediment Toxicity | 2004 | 2005 |
| 9 | Mission Bay Bacteria | Mission Bay Tecolote Creek, 906.50 | Coliform Coliform | 2004 2006 | 2005 2007 |
| 9 | San Diego Bay, Multiple Locations Sediment Toxicity | San Diego Bay; Downtown Piers* San Diego Bay; near Grape Street* San Diego Bay; north of 24th Street Marine San Diego Bay; San Diego Naval Station* San Diego Bay; near Coronado Bridge* San Diego Bay, near Sub Base* | Degraded Benthic Community & Sediment Toxicity Degraded Benthic Community & Sediment Toxicity Degraded Benthic Community & Sediment Toxicity Degraded Benthic Community & Sediment Toxicity Degraded Benthic Community & Sediment Toxicity Degraded Benthic Community & Sediment Toxicity | 2006 | 2007 |
| 9 | San Diego Bay Bacteria | Chollas Creek 908.22 San Diego Bay Shoreline, Lindbergh HSA San Diego Bay Shoreline, Telegraph HSA Pacific Ocean Shoreline, Coronado HA 910.10 | Coliform Coliform Coliform Coliform | 2005 | 2006 |
| 9 | San Diego and Scripps Bacteria | Pacific Ocean Shoreline, San Diego HU 907.00 Pacific Ocean Shoreline, Scripps HA 906.30 | Coliform Coliform | 2006 | 2007 |
| 9 | San Juan HU Bacteria | Aliso Creek 901.13 Aliso Creek (mouth) Pacific Ocean Shoreline, Aliso Beach HSA Pacific Ocean Shoreline, Dana Point HSA Pacific Ocean Shoreline, Laguna Beach HSA Pacific Ocean Shoreline, San Clemente HA San Juan Creek, lower Pacific Ocean Shoreline, Lower San Juan HSA San Juan Creek (mouth) 901.20 | Coliform Coliform Coliform Coliform Coliform Coliform Coliform Coliform | 2006 | 2007 |