State Water Resources Control Board

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Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

ORIGINAL

April 8, 1999

FILED
OFFICE OF THE SECRETARY
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FEDERAL ENERGY
REGULATORY COMMISSION

Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

Dear Ms. Cashell:

FILING OF WATER QUALITY CONTROL PLANS AND POLICIES ADOPTED AS PART OF STATE COMPREHENSIVE PLAN

By letters dated June 24, 1996, and September 29, 1997, I submitted for filing the water quality control plans and state policy for water quality control currently in effect in California. Enclosed for filing are an additional policy, a policy amendment, and six water quality control plan amendments. These policies, policy amendments and plan amendments are being submitted for filing pursuant to Federal Energy Regulatory Commission (FERC) regulations, 40 C.F.R. § 2.19, as a supplement to the June 24, 1996, and September 29, 1997, submissions. These policies, policy amendments and plan amendments have all been validly adopted or approved by the California State Water Resources Control Board (SWRCB) and are part of the State of California's comprehensive plan for the orderly and coordinated control, protection, conservation, development and utilization of the water resources of the state.

Enclosed is a list of the policy, policy amendment, and plans amendments being submitted as part of this supplemental filing. Also enclosed is a complete list of the policies and plans submitted with this submittal and my June 24, 1996, and September 29, 1997 transmittals. These plans and policies should remain on file as part of the state comprehensive plan.

If you have questions, please call me at (916) 657-0662.

Sincerely,

Andrew H. Sawyer
Assistant Chief Counsel

Enclosures (3 sets):

[1] Additional policy [state policy for water quality control], a policy amendment, and six water quality control plan amendments.

[2] A list of the policy, policy amendment, and plans amendments being submitted as part of this supplemental filing.

[3] A complete list of the policies and plans submitted with this submittal and my June 24, 1996, and September 29, 1997 transmittals.

cc: See next page

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D

cc: (w/Enclosure [2] only)

Mr. Jim Haimes
Federal Energy Regulatory Commission
825 North Capitol Street, NE, HL-20.3
Washington, DC 20426

(w/Enclosures [2 & 3] only)

Matt Francois, Esq.
Assistant General Counsel
California Resources Agency
1416 Ninth St., Suite 1311
Sacramento, CA 95814

ENCLOSURE 1

Additional policy [state policy for water quality control],
a policy amendment, and
six water quality control plan amendments.

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 97-085

WATER QUALITY ENFORCEMENT POLICY
AND GUIDANCE AMENDMENTS

WHEREAS:

1. The State Water Resources Control Board (State Water Board) adopted a Water Quality Enforcement Policy (Policy) as a State Policy for Water Quality Control on April 18, 1996.

2. An associated Guidance to Implement the Water Quality Enforcement Policy (Guidance) was also adopted on that date. The Policy and associated Guidance were approved by the Office of Administrative Law on August 28, 1996.

3. The Policy is to be periodically reviewed and revised as appropriate.

4. Chapter 5.8 (commencing with section 13399) of Division 7 of the Water Code, which became effective January 1, 1997, provides for an expedited approach for dealing with minor violations of the Porter-Cologne Water Quality Control Act.

5. This new law requires the State Water Board to define what types of violations are minor in nature and therefore subject to this new law.

6. Amendments to the Enforcement Policy are an appropriate means of complying with Water Code Section 13399.

7. A hearing to determine what are minor violations was held on August 6, 1997.

8. It is appropriate to revise the Enforcement Policy and Guidance to define what are minor violations and to describe the new law.

THEREFORE BE IT RESOLVED:

1. The attached revisions to Policy and Guidance are hereby adopted.

2. These revisions shall be incorporated into Enforcement Policy and Guidance.

3. Staff is directed to forward the revisions to the Office of Administrative law for approval in accordance with Government Code Section 11353.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 18, 1997.

Maureen Marché
Administrative Assistant to the Board

ENFORCEMENT POLICY AMENDMENT: MINOR VIOLATIONS

Whereas (new No. 11)

11. Chapter 5.8 (commencing with Section 13399) of Division 7 of the Water Code establishes a program for minor violations and requires the State Water Board to determine the types of violations that are minor violations.

Resolved (new No. XI)

XI. The violations listed below are considered to be minor in nature provided the violations do not include the following:

- Any knowing, willful, or intentional violation of Division 7 (commencing with Section 13000) of the Water Code.
- Any violation of Division 7 of the Water Code that enables the violator to benefit economically from noncompliance, either by realizing reduced costs or by gaining a competitive advantage.
- Any violation that is a chronic violation or that is committed by a recalcitrant violator.
- Any violation that cannot be corrected within 30 days.

Minor Violations:

A. Inadvertent omissions or deficiencies in recordkeeping that do not prevent an overall compliance determination.

B. Records not physically available at the time of the inspection provided the records do exist and can be produced in a timely manner.

C. Failure to have permits available during an inspection.

D. Inadvertent violations of insignificant administrative provisions that do not involve a discharge of waste or a threat thereof.

E. Violations that result in an insignificant discharge of waste or a threat thereof; provided, however, there is no significant threat to human health, safety, welfare or the environment and provided further that such violations do not violate any other order or prohibition issued by the State or Regional Boards. Significant threat means the threat of or an actual change in water quality that could result in a violation of water quality objectives or a condition of pollution or nuisance.

GUIDANCE DOCUMENT

1. Table of Contents: III.--new C. Notices to Comply

2. Page 8: Actions taken to address past violations include issuance of notices to comply (minor violations), rescission . . . .

3. Page 9 (new)

   C. Notices to Comply

   Notices to Comply are issued pursuant to chapter 5.8 (commencing with section 13399) of Division 7 of the Water Code. This Chapter provides an expedited approach for dealing with minor violations. Commonly referred to as the "fix-it-ticket" legislation, this law requires the use of field-issued notices to comply as the sole enforcement option in given situations involving minor violations.

   Notices to Comply are ordinarily written during the course of an inspection by an authorized representative of the State or Regional Water Board to require a discharger to address minor violations that can be corrected within 30 days. Major features of this law include the following:

   - An inspector has the discretion not to issue a notice to comply for a minor violation.
   - A notice to comply is not required if there is immediate correction.
   - A single notice to comply is used to cite all minor violations detected during the same inspection.
   - With exceptions, a notice to comply is the sole means by which an inspector may cite a minor violation.
   - If testing is required to determine if there has been a violation, a notice to comply may be issued at a latter date.
   - Other enforcement actions may be taken upon a failure to comply or if necessary to prevent harm to public health or the environment.
   - Criminal proceedings are not limited by the new law.

- Civil penalties may still be assessed for minor violations if warranted or required by federal law.

The violations listed below are considered to be minor in nature provided the violations do not include the following:

- **Any knowing, willful, or intentional violation of Division 7 (commencing with Section 13000) of the Water Code.**
- **Any violation of Division 7 of the Water Code that enables the violator to benefit economically from noncompliance, either by realizing reduced costs or by gaining a competitive advantage.**
- **Any violation that is a chronic violation or that is committed by a recalcitrant violator.**
- **Any violation that cannot be corrected within 30 days.**

Minor Violations:

A. **Inadvertent omissions or deficiencies in recordkeeping that do not prevent an overall compliance determination.**

B. **Records not physically available at the time of the inspection provided the records do exist and can be produced in a timely manner.**

C. **Failure to have permits available during an inspection.**

D. **Inadvertent violations of insignificant administrative provisions that do not involve a discharge of waste or a threat thereof.**

E. **Violations that result in an insignificant discharge of waste or a threat thereof; provided, however, there is no significant threat to human health, safety, welfare or the environment and provided further that such violations do not violate any other order or prohibition issued by the State or Regional Boards. Significant threat means the threat of or an actual change in water quality that could result in a violation of water quality objectives or a condition of pollution or nuisance.**

D. ~~C.~~ Cease and Desist Orders

Water Quality Control Policy for Guidance on Development of Regional Toxic Hot Spot Cleanup Plans

Adopted September 1998
Approved by the Office of Administrative Law
November 1998
New Series No. 4

STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

State of California

STATE WATER RESOURCES CONTROL BOARD

WATER QUALITY CONTROL POLICY

FOR GUIDANCE ON DEVELOPMENT OF REGIONAL TOXIC HOT SPOT CLEANUP PLANS

Adopted and Effective
September 2, 1998

State Water Resources Control Board

John P. Caffrey, Chairman

Peter M. Rooney
Secretary for Environmental Protection

Executive Office
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Pete Wilson
Governor

NOV 1 6 1998

Interested Parties

OFFICE OF ADMINISTRATIVE LAW APPROVAL

On November 9, 1998, the Office of Administrative Law (OAL) approved the regulatory provisions of the Water Quality Control Policy for Guidance on the Development of Regional Toxic Hot Spot Cleanup Plans (Resolution No. 98-090). While evaluating the administrative record, OAL found that the discussion of pesticide residues in the prevention section was not clear. The State Water Resources Control Board resolved this issue by moving the two sentences dealing with pesticide residues from the prevention section to the specific definition of a toxic hot spot section. This minor change does not materially alter the Policy or its regulatory provisions.

Sincerely,

Walt Pettit
Executive Director

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 98 - 090

ADOPTION OF THE
WATER QUALITY CONTROL POLICY
FOR GUIDANCE ON THE DEVELOPMENT
OF REGIONAL TOXIC HOT SPOT CLEANUP PLANS

WHEREAS:

1. The Bay Protection and Toxic Cleanup Program (BPTCP) was established by the State Water Resources Control Board (SWRCB) to implement the requirements of Section 13390 et seq. of the Water Code.

2. Water Code Section 13394 requires the SWRCB and the Regional Water Quality Control Boards (RWQCBs) to develop regional and consolidated statewide toxic hot spot cleanup plans.

3. To facilitate the consistent development of the regional toxic hot spot cleanup plans, a Water Quality Control Policy (Policy) has been developed pursuant to Water Code Section 13140 for guidance on the development of regional toxic hot spot cleanup plans.

4. The SWRCB prepared and circulated a draft Functional Equivalent Document supporting the proposed Policy in accordance with provisions of the California Environmental Quality Act and Title 14, California Code of Regulations Section 15251(g).

5. In compliance with Water Code Section 13147, the SWRCB held public hearings in Newport Beach, California, on May 5, 1998 and in Sacramento, California, on May 11, 1998 on the Water Quality Control Policy and has carefully considered all testimony and comments received.

6. The SWRCB determined that the adoption of the proposed Policy will not have a significant adverse effect on the environment.

7. The SWRCB staff has prepared a final Functional Equivalent Document which includes the proposed Water Quality Control Policy and responses to the comments received.

8. The SWRCB consulted with the Department of Fish and Game (DFG) on the potential impacts of the amendments on fish and wildlife resources, including threatened and endangered species. DFG found that adoption of the proposed Policy will not jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of habitat essential to the continued existence of the species. The adoption of the policy will not result in any taking of any endangered or threatened species incidental to the proposed Policy.

9. The SWRCB has consulted with DFG and the Office of Environmental Health Hazard Assessment on the development of criteria to rank toxic hot spots.

10. The SWRCB has completed a scientific peer review by University of California scientists of the draft Functional Equivalent Document as required by Section 57004 of the Health and Safety Code.

11. The regulatory provisions of the Water Quality Control Policy do not become effective until the regulatory provisions are approved by the Office of Administrative Law (OAL).

THEREFORE BE IT RESOLVED THAT:

The SWRCB:

1. Approves the final Functional Equivalent Document: Water Quality Control Policy for Guidance on the Development of Regional Toxic Hot Spot Cleanup Plans.

2. Adopts the Water Quality Control Policy for Guidance on Development of Regional Toxic Hot Spot Cleanup Plans (attached).

3. Will continue to consult with DFG on compliance with the California Endangered Species Act during the development of the Regional and Consolidated Toxic Hot Spot Cleanup Plans.

4. Intends that, with respect to registered pesticides, any actions of the SWRCB and the RWQCBs related to the development of cleanup plans shall be consistent with the Management Agency Agreement between the SWRCB and DPR.

5. Authorizes the Executive Director or his designee to submit the Water Quality Control Policy to OAL for their approval.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on September 2, 1998.

Maureen Marché
Administrative Assistant to the Board

TABLE OF CONTENTS

WATER QUALITY CONTROL POLICY
FOR GUIDANCE ON DEVELOPMENT OF
REGIONAL TOXIC HOT SPOT CLEANUP PLANS

INTRODUCTION

The State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) are mandated to identify toxic hot spots in the enclosed bays and estuaries of each of the seven coastal regions of the State (California Water Code Chapter 5.6, Section 13390 *et seq.*). The coastal RWQCBs are mandated to develop Regional Toxic Hot Spot Cleanup Plans specifying where and how each identified toxic hot spot will be remediated.

The Water Quality Control Policy for Guidance on Development of Regional Toxic Hot Spot Cleanup Plans is intended to provide guidance on the development of the Regional cleanup plans. The Policy contains a specific definition of a toxic hot spot, general ranking criteria, the mandatory contents of the cleanup plans, and issues to be considered by the SWRCB in the development of the consolidated toxic hot spot cleanup plan. The principles contained in this Policy apply to all enclosed bays, estuaries and coastal waters.

RWQCBs shall prepare their regional toxic hot spot cleanup plans in accordance with this Policy. Any site-specific variance from the Policy shall be approved by the SWRCB Executive Director.

CONTENTS OF REGIONAL TOXIC HOT SPOT CLEANUP PLANS

The Regional Toxic Hot Spot Cleanup Plans shall contain (at a minimum) the following information:

1. Introduction

   The Introduction shall contain an identification of the Region. In general terms, the Bay Protection and Toxic Cleanup Program (BPTCP) goals (Chapter 5.6 of the California Water Code), authority and requirements to develop cleanup plans (Water Code Section 13394) shall be presented.

2. Toxic Hot Spot Definition

   The Regional cleanup plans shall then present the specific definition of a Toxic Hot Spot (THS) presented in this Policy.

3. General Criteria For Ranking Toxic Hot Spots

   The Water Code requirements for ranking criteria and the ranking criteria in this Policy shall be presented.

4. Monitoring Approach

   The BPTCP has used effects-based measurements of impacts using the sediment quality triad (sediment toxicity, benthic community structure and measures of chemical concentrations in sediments) to identify toxic hot spots in California enclosed bays and estuaries. The BPTCP has used these measures in a two-step process. The first step is to screen sites using toxicity tests, benthic community structure, or measures of chemicals in sediments or tissues. In the second step, the highest priority sites with a response in any of the measures are retested to confirm the observed response.

   The description of the monitoring approach shall be presented in the cleanup plan. If there are Region-specific modifications of the approach the modifications shall be briefly described.

5. A priority ranking of all THS (including a description of each THS including a characterization of the pollutants present at the site).

   The RWQCBs shall use the definition of a candidate and known toxic hot spot listed in this Policy to identify toxic hot spots. The RWQCBs shall then rank sites using the Ranking Criteria in this Policy. The RWQCBs shall create one list of candidate toxic hot spots and rank the list using a matrix of the ranking criteria. For the Regional Toxic Hot Spot Cleanup Plans, areas of concern and other sites where information are unavailable shall not be ranked. RWQCBs may list sites that do not meet the definition of a toxic hot spot in a separate

section under "Areas of Concern." Areas of Concern are sites with insufficient information available to declare as a candidate or known toxic hot spots.

For each candidate toxic hot spot listed in the Regional Toxic Hot Spot Cleanup Plan the following information shall be presented for each toxic hot spot:

A. Water body name. The name shall conform to the water body name in the RWQCB Basin Plan.

B. Segment Name. The RWQCBs shall list a descriptive name in the water body segment where the toxic hot spot is located if the segment name is more descriptive than the water body name.

C. Site Identification. The RWQCBs shall list a station or site identifier that can be linked to a monitoring station location (*e.g.*, BPTCP monitoring station, State Mussel Watch station, discharger self monitoring station, or any other appropriate identifier).

D. Reason for Listing. The RWQCBs shall list the reason for the site or station to be listed. The value given shall be the appropriate trigger value(s) in the definition of a Toxic Hot Spot that is (are) the cause for the listing.

E. Pollutants present at the site. The RWQCBs shall also list which chemicals are present at sufficiently high levels to be of concern.

F. Report reference substantiating toxic hot spot listing. All references supporting the designation of the toxic hot spot shall be listed with the other information required for designation of a toxic hot spot. The references shall include, but not be limited to: author, year of publication, title of report, and other identifying information [*e.g.*, name of journal (including volume and pages), RWQCB file number, agency report, or other identifier that will allow the report to be independently located].

6. Each candidate toxic hot spot with a "High" priority ranking shall be listed separately and the following information compiled for the site by the RWQCBs:

   A. An assessment of the areal extent of the toxic hot spots.

      The RWQCB shall characterize the areal extent of the toxic hot spot. For the proposed cleanup plans, the RWQCB shall estimate the boundary, size and/or volume of the toxic hot spot. In determining the areal extent the RWQCB shall consider a temporal component (*i.e.,* the historic versus ongoing nature of the toxic hot spot) and the mix of chemicals present as well as any available information on toxicity and benthic community composition that would assist in characterizing the areal extent of the toxic hot spot. When considering sediments, the RWQCB shall consider the volumes to be addressed and depth of polluted sediments present at the site.

   B. An assessment of the most likely sources of pollutants (potential dischargers).

      RWQCBs shall list potential dischargers that are likely to have discharged or deposited the pollutants identified in the toxic hot spot lists.

      Potential discharger identification shall be dependent on factors such as, site location, pollutant type, mix of chemicals found to be present at the site, and identification and location of the potential discharger.

      In some cases, after a site is identified as a toxic hot spot, there may not be any identified potential discharger to assume the responsibility of cleanup. In such cases the identified toxic hot spot would remain reported as a toxic hot spot in the cleanup plan lists.

   C. A summary of actions that have been initiated by the RWQCBs to reduce the accumulation of pollutants at existing THSs and to prevent the creation of new THSs.

      The summary of actions shall contain descriptions of any issued waste discharge requirements, National Pollutant

Discharge Elimination System (NPDES) permits, general permits (*e.g.*, construction, industrial stormwater, *etc.*), cleanup and abatement orders, cease and desist orders, administrative civil liability orders, actions taken or initiated by other State or Federal agencies (*e.g.*, Department of Defense Base Closure, Damage Assessment activities of the National Oceanic and Atmospheric Administration, etc.), or any other actions.

D. Preliminary assessment of actions required to remedy or restore a THS including recommendations for remedial actions.

The RWQCBs shall evaluate the alternatives listed in the Remediation Methods section of this Policy. After evaluating the remediation alternatives the RWQCBs shall list their assessment of the actions that could be implemented.

In developing this preliminary list of actions the RWQCBs shall list, to the extent possible, potential environmental impacts of the proposed actions (either in the plan or in a separate report). These impacts could include, but are not limited to: impacts of sediment disposal, secondary impacts of dredging, disposal, pollutant releases from capped sites, pollutant releases from disposal facilities (both aquatic and upland), pollutant release during treatment or as a by-product of treatment (gaseous, solid and liquid), potential impacts of constructing new facilities to treat effluents, sludge disposal, possible air quality impacts, alterations in sewer systems, etc.

During implementation of the consolidated cleanup plan, the RWQCBs shall work with responsible parties to determine the appropriate and reasonable cleanup or remediation level.

E. An estimate of the total cost to implement the cleanup plan.

RWQCBs shall estimate costs of cleanup plan implementation using the estimates provided in this Policy or other referenced source. RWQCBs may deviate from the cost estimate in this Policy if justified in writing in the cleanup plan. If a potential discharger has been identified, the RWQCB shall require in the cleanup plan that the discharger prepare a proposal for site remedial actions. The proposal for site remediation shall include, but not be limited to, assessment of the areal extent of the toxic hot spot, cleanup actions and monitoring to assess effectiveness of any implemented cleanup actions. The RWQCB will also present a list of benefits (consistent with the guidance in this Policy) derived by implementing the cleanup plan.

F. An estimate of recoverable costs from potential dischargers.

The costs recoverable from potential dischargers shall be developed by the RWQCBs, if possible. The costs shall be justified in the cleanup plan.

G. A two-year expenditure schedule identifying funds to implement the plans that are not recoverable from potential dischargers.

The RWQCBs shall develop a brief workplan for the implementation of the cleanup plans for sites without potential dischargers identified. The workplan shall contain costs and estimated schedule for: finding polluted sediments or water (monitoring), assessment of areal extent of the toxic hot spot, implementation of remedial actions including, but not limited to, sediment removal and disposal, treatment of removed sediments, capping of polluted sediments, possible changes in WDRs, suggestions for improvements in wastewater discharge, or recommendations for implementing watershed management approaches. The expenditure plan shall also contain a funding proposal for assessing the effectiveness of remediation.

SPECIFIC DEFINITION OF A TOXIC HOT SPOT

The following specific definition provides a mechanism for identifying and distinguishing between "candidate" and "known" toxic hot spots. A candidate toxic hot spot is considered to have enough information to designate a site as a known toxic hot spot except that the candidate hot spot has not been approved by the RWQCB and the SWRCB. Once a candidate toxic hot spot has been adopted into the consolidated statewide toxic hot spot cleanup plan then the site shall be considered a known toxic hot spot and all the requirements of the Water Code shall apply to that site.

Candidate and known toxic hot spots are locations (sites in waters of the State) in enclosed bays, estuaries or the ocean. Dischargers (e.g., publicly owned treatment works, industrial facilities, power generating facilities, agricultural land, storm drains, etc.) are not toxic hot spots.

Pesticide residues should not be considered under the Bay Protection and Toxic Cleanup Program if they are detected in the water column in a pattern of infrequent pulses moving by the sampling location. Such detections will be addressed using cooperative approaches such as the Management Agency Agreement between the SWRCB and the Department of Pesticide Regulation, the NPS Management Plan, and existing authorities including the Porter-Cologne Water Quality Control Act and Clean Water Act.

Candidate Toxic Hot Spot

A site meeting any one or more of the following conditions is considered to be a "candidate" toxic hot spot.

1. The site exceeds water or sediment quality objectives for toxic pollutants that are contained in appropriate water quality control plans or exceeds water quality criteria promulgated by the U.S. Environmental Protection Agency (U.S. EPA).

   This finding requires chemical measurement of water or sediment, or measurement of toxicity using tests and objectives stipulated in water quality control plans. Determination of a toxic hot spot using this finding should rely on recurrent measures over time (at least two separate sampling dates).

Suitable time intervals between measurements must be determined.

2. The water or sediment exhibits toxicity associated with toxic pollutants that is significantly different from the toxicity observed at reference sites (*i.e.*, when compared to the lower confidence interval of the reference envelope or, in the absence of a reference envelope, is significantly toxic as compared to controls (using a t-test) and the response is less than 90 percent of the minimum significant difference for each specific test organism), based on toxicity tests acceptable to the SWRCB or the RWQCBs.

   To determine whether toxicity exists, recurrent measurements (at least two separate sampling dates) should demonstrate an effect. Appropriate reference and control measures must be included in the toxicity testing. The methods acceptable to and used by the BPTCP may include some toxicity test protocols not referenced in water quality control plans (*e.g.*, the BPTCP Quality Assurance Project Plan). Toxic pollutants should be present in the media at concentrations sufficient to cause or contribute to toxic responses in order to satisfy this condition.

3. The tissue toxic pollutant levels of organisms collected from the site exceed levels established by the United States Food and Drug Administration (FDA) for the protection of human health, or the National Academy of Sciences (NAS) for the protection of human health or wildlife. When a health advisory against the consumption of edible resident non-migratory organisms has been issued by Office of Environmental Health Hazard Assessment (OEHHA) or Department of Health Services (DHS), on a site or water body, the site or water body is automatically classified a "candidate" toxic hot spot if the chemical contaminant is associated with sediment or water at the site or water body.

   Acceptable tissue concentrations are measured either as muscle tissue (preferred) or whole body residues. Residues in liver tissue alone are not considered a suitable measure for candidate toxic hot spot designation. Animals can either be deployed (if a resident species) or collected from resident populations. Recurrent measurements in tissue are required. Residue levels

established for one species for the protection of human health can be applied to any other consumable species.

Shellfish: Except for existing information, each sampling episode should include a minimum of three replicates. The value of interest is the average value of the three replicates. Each replicate should be comprised of at least 15 individuals. For existing State Mussel Watch information related to organic pollutants, a single composite sample (20-100 individuals), may be used instead of the replicate measures. When recurrent measurements exceed one of the levels referred to above, the site is considered a candidate toxic hot spot.

Fin-fish: A minimum of three replicates is necessary. The number of individuals needed will depend on the size and availability of the animals collected; although a minimum of five animals per replicate is recommended. The value of interest is the average of the three replicates. Animals of similar age and reproductive stage should be used.

4. Impairment measured in the environment is associated with toxic pollutants found in resident individuals.

Impairment means reduction in growth, reduction in reproductive capacity, abnormal development, histopathological abnormalities. Each of these measures must be made in comparison to a reference condition where the endpoint is measured in the same species and tissue is collected from an unpolluted reference site. Each of the tests shall be acceptable to the SWRCB or the RWQCBs.

Growth Measures: Reductions in growth can be addressed using suitable bioassay acceptable to the SWRCB or RWQCBs or through measurements of field populations.

Reproductive Measures: Reproductive measures must clearly indicate reductions in viability of eggs or offspring, or reductions in fecundity. Suitable measures include: pollutant concentrations in tissue, sediment, or water which have been demonstrated in laboratory tests to cause reproductive impairment, or significant differences in viability or development of eggs between reference and test sites.

Abnormal Development: Abnormal development can be determined using measures of physical or behavioral disorders or aberrations. Evidence that the disorder can be caused by toxic pollutants, in whole or in part, must be available.

Histopathology: Abnormalities representing distinct adverse effects, such as carcinomas or tissue necrosis, must be evident. Evidence that toxic pollutants are capable of causing or contributing to the disease condition must also be available.

5. Significant degradation in biological populations and/or communities associated with the presence of elevated levels of toxic pollutants.

   This condition requires that the diminished numbers of species or individuals of a single species (when compared to a reference site) are associated with concentrations of toxic pollutants. The analysis should rely on measurements from multiple stations. Care should be taken to ensure that at least one site is not degraded so that a suitable comparison can be made.

Known Toxic Hot Spot

A site meeting any one or more of the conditions necessary for the designation of a "candidate" toxic hot spot that has gone through a full SWRCB and RWQCB hearing process, is considered to be a "known" toxic hot spot. A site will be considered a "candidate" toxic hot spot until approved by the SWRCB as a "known" toxic hot spot in the consolidated toxic hot spot cleanup plan.

RANKING CRITERIA

A value for each criterion described below shall be developed provided appropriate information exists or estimates can be made. Any criterion for which no information exists shall be assigned a value of "No Action". The RWQCB shall create a matrix of the scores of the ranking criteria. The RWQCBs shall determine which sites are "High" priority based on the- five general criteria (below) keeping in mind the value of the water body. The RWQCBs shall provide the justification or reason a rank was assigned if the value is an estimate based on best professional judgment.

Human Health Impacts

Human Health Advisory issued for consumption of non-migratory aquatic life from the site (assign a "High"); Tissue residues in aquatic organisms exceed FDA/DHS action level or U.S. EPA screening levels ("Moderate").

Aquatic Life Impacts

For aquatic life, site ranking shall be based on an analysis of the substantial information available. The measures that shall be considered are: sediment chemistry, sediment toxicity, biological field assessments (including benthic community analysis), water toxicity, toxicity identification evaluations (TIEs), and bioaccumulation.

Stations with hits in any two of the biological measures if associated with high chemistry, assign a "High" priority. A hit in one of the measures associated with high chemistry is assigned "moderate", and high sediment or water chemistry only shall be assigned "low". In analyzing the substantial information available, RWQCBs should take into consideration that impacts related to biological field assessments (including benthic community structure) are of more importance than other measures of impact.

Water Quality Objectives[1]

Any chemistry data used for ranking under this section shall be no more than 10 years old, and shall have been analyzed with appropriate analytical methods and quality assurance.

Water quality objective or water quality criterion: Exceeded regularly (assign a "High" priority), occasionally exceeded ("Moderate"), infrequently exceeded ("Low").

Areal Extent of Toxic Hot Spot

Select one of the following values: More than 10 acres, 1 to 10 acres, less than 1 acre.

[1] Water quality objectives to be used are found in Regional Water Quality Control Board Basin Plans or the California Ocean Plan (depending on which plan applies to the water body being addressed). Where a Basin Plan contains a more stringent value than the statewide plan, the regional water quality objective will be used.

Natural Remediation Potential

Select one of the following values: Site is unlikely to improve without intervention ("High"), site may or may not improve without intervention ("Moderate"), site is likely to improve without intervention ("Low").

Overall Ranking

The RWQCB shall list the overall ranking for the candidate toxic hot spot. Based on the interpretation and analysis of the five previous ranking criteria, ranks shall be established by the RWQCBs as "high", "moderate" or "low."

TABLE 1: NAS, FDA, AND U.S. EPA LIMITS RELEVANT TO THE BPTCP (NG/G WET WEIGHT)

Chemical	NAS Recommended Guideline[2] (whole fish)	FDA Action Level or Tolerance[3] (edible portion)	USEPA Screening Values[4] (edible portion)
Total PCB	500	2000**	10
Total DDT	50	5000	300
aldrin	*	300**,***	-
dieldrin	*	300**,***	7
endrin	*	300**,***	3000
heptachlor	*	300**,***	-
heptachlor epoxide	*	300**,***	10
lindane	50	-	80
chlordane	50	300	80
endosulfan	50	-	20,000
methoxychlor	50	-	-
mirex	50	-	2000
toxaphene	50	5000	100
hexachlorobenzene	50	-	70
any other chlorinated hydrocarbon pesticide	50	-	
dicofol	-	-	10,000
oxyfluorfen	-	-	800
dioxins/dibenzofurans	-	-	$7x10^{-4}$
terbufos	-	-	1000
ethion	-	-	5000
disulfoton	-	-	500
diazinon	-	-	900
chlorpyrifos	-	-	30,000
carbophenothion	-	-	1000
cadmium	-	-	10,000
selenium	-	-	50,000
mercury	-	1000**(as methyl mercury)	600

*Limit is 5 ng/g wet weight. Singly or in combination with other substances noted by an asterisk.
**Fish and shellfish.
***Singly or in combination for shellfish

[2] National Academy of Sciences. 1973. Water Quality Criteria, 1972 (Blue Book). The recommendation applies to any sample consisting of a homogeneity of 25 or more fish of any species that is consumed by fish-eating birds and mammals, within the same size range as the fish consumed by any bird or mammal. No NAS recommended guidelines exist for marine shellfish.

[3] U.S. Food and Drug Administration. 1984. Shellfish Sanitation Interpretation: Action Levels for Chemical and Poisonous Substances. A tolerance, rather than an action level, has been established for PCB.

[4] U.S. Environmental Protection Agency. 1993. Guidance for assessing chemical contaminant data for use in fish advisories. Volume 1. EPA 823-R-93-002. Office of Water. Washington, D.C.

TOXIC HOT SPOT REMEDIATION METHODS

Each candidate toxic hot spot shall be evaluated to determine which technique or techniques would best remediate the toxic hot spot. In determining the remedial action(s), each RWQCB shall identify remediation techniques that are technically feasible and reasonably cost-effective. Selection of the alternatives involves choosing the remediation option that is appropriate for the site (*i.e.*, protective of its beneficial uses). This section contains approaches for addressing both sediment and water remediation activities.

Sediment Remediation Methods

The use of remediation technologies and controls is still emerging. Generally, the field has been dominated by tools developed for navigation dredging, and few full scale treatment systems have been implemented.[5] No one option shall be selected in the cleanup plans especially if a discharger is identified as being responsible for the site (in order to comply with Water Code Section 13360).

Tables 2 through 12 list many of the types of remediation that shall be considered by the RWQCBs in developing the regional toxic hot spot cleanup plans for remediation of sediments in enclosed bays, estuaries and the ocean. For each type of remediation technology, the Tables present: (1) the state of the practice, (2) advantages and effectiveness, (3) limitations of the methods, and (4) any identified research needs.

Each RWQCB shall provide an analysis of a range of treatment technologies or alternatives for comparison of the cost effectiveness. The RWQCBs may elect to not consider one or more of the alternatives (below) if the alternative is not feasible for the site.

1. Treatment of the site sediments only.

   Site treatment involves the physical or chemical alteration of material. The treatment must reduce or eliminate the toxicity, mobility, or volume of polluted material. Treatment may be

[5] National Research Council. 1997. Contaminated sediments in ports and waterways: Cleanup strategies and technologies. Committee on Contaminated Marine Sediments, Marine Board, Commission on Engineering and Technical Systems, National Research Council. National Academy Press, Washington, D.C. 295 pp.

either (a) *in situ*, or (b) *ex situ*. In situ treatment requires uniform treatment and confirmation of effectiveness; however, *in situ* methods generally have not been considered effective in marine sediments.

Ex situ treatment requires a treatment area, or a dedicated site to assure effectiveness.

Types of treatment include:

- *in situ* bioremediation (Table 2),
- soil washing and physical separation (Table 3),
- chemical separation and thermal desorption (Table 4),
- immobilization (Table 5),
- thermal and chemical destruction (Table 6), and
- *ex situ* bioremediation (Table 7).

The treatment choice shall be pollutant specific. The choice depends upon the chemical characteristics of the pollutants, as well as physical and chemical characteristics of the sediments; for example, clay content, organic carbon content, salinity, and water content. Some treatment options produce by-products which require further handling. If the safety and effectiveness of treatment options are not well known, bench tests and pilot projects shall be performed prior to authorization of the use of such treatment methods.

2. Dredging: Sediment Removal and Disposal or Reuse

Dredging may be combined with containment or off-site disposal (Table 8). Selection of the method depends upon the concentration of pollutants and the amount of resuspension of sediments caused by the dredge at the removal site and at the disposal site. To reduce the transport of polluted sediment to other areas, silt curtains constructed of geotextile fabrics may be utilized to minimize migration of the resuspended sediments beyond the area of removal. Consideration must also be given

Table 2: In-Situ Bioremediation

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
(a) None documented for marine sediments; (b) examples from freshwater sediment are limited to special cases on pilot scale, e.g., chemical stimulation of dehalogenation (but no degradation) of PCBs in the Houseatonic River, Connecticut; (c) stimulation of degradation with addition of active microbes in Hudson River, New York.	(a) Pollutant is biologically available; (b) concentration of pollutant appropriate for bioactivity, e.g., sufficiently high to serve as substrate or not high enough to be toxic; (c) limited number or classes of pollutants that are biodegradable; less known for complex mixtures; (d) site is reasonably accessible for management and monitoring; (e) rapid solution is not required.	Based on experience from soil systems, it offers the potential for (a) complete degradation and elimination of organic pollutants; (b) reduced toxicity of sediment from partial biotransformation; (c) less materials handling, which can result in substantially lower costs; (d) no need for placement sites; (e) favorable public response and acceptability.	(a) Not a proven technology for sediments (freshwater or marine); (b) likely to require manipulation and disturbance of sediment; (c) can require containment which limits volume that is treatable; (d) can require long time periods, especially in temperate waters; (e) ineffective for low level pollution; (f) not applicable to areas of high turbulence or sheer; (g) not applicable for high molecular weight polyaromatic hydrocarbons.	(a) Fundamental understanding of biodegradation principles in marine environments; (b) bioavailability of sorbed pollutants and the effect of aging; (c) exploration of anaerobic degradation processes for the largely impacted near-shore anoxic sediments; (d) laboratory, pilot, and field demonstration of effectiveness for marine sediments; (e) interaction of physical, chemical, and microbiological processes on biodegradation, e.g., sediment composition, hydrodynamics; (f) analysis of cost-effectiveness; (g) exploration of combining in-situ bioremediation with capping.

Table 3: Soil Washing and Physical Separation

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
Well developed by mining industry and frequently used for sediments.	Where pollutant is predominantly associated with fine-grained material that is a small fraction of the total solids.	(a) Mature technology that can reduce volumes of polluted material requiring subsequent treatment; (b) soil washing can be used to recover Confined Disposal Facility space for later reuse.	Original sediments must have a significant proportion of sand for the process to be cost effective.	None identified.

Table 4: Chemical Separation and Thermal Desorption

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
(a) Pilot plant studies conducted on metal desorption by acid-leaching solutions and at least one full-scale implementation; (b) pilot and full-scale application of organics separation by liquid solvents and supercritical fluids; (c) organic chemical thermal desorption also has had full-scale demonstration; (d) thermal desorption used at Waukegan Harbor.	Suitable for weakly bound organics and metals.	Pollutant is removed and concentrated.	(a) Batch extraction during separation requires multiple cycles to achieve high removal; (b) fluid-solid separation is difficult for fine-grained materials; (c) a separate reactor is needed to remove the pollutant from the extracting fluid so that the extracting fluid can be reused; (d) thermal desorption requires temperatures that will vaporize water, and sediment particles must be eliminated from gaseous discharge; (e) pollutant removal from the gas phase following thermal desorption is another treatment process that is required.	Systems integration for complete pollutant isolation or destruction.

Table 5: Immobilization

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
Extensive knowledge based on inorganic immobilization within solid wastes and dry soils.	Chemical fixation and immobilization of trace metals.	(a) Chemical isolation from biologically accessible environment; (b) process is simple and there is a history of use for sludge.	(a) Sediment should have moisture content of less than 50 percent, and solidified volumes can be 30 percent greater than starting material; (b) limited applicability to organic pollutants; (c) high organic pollutant levels may interfere with treatment for metals immobilization; (d) need for placement of solidified sediments.	(a) Studies of long-term effectiveness for pollutant isolation; (b) develop sediment placement options, especially for beneficial uses.

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Table 6: Thermal and Chemical Destruction

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
Thermal oxidation in flame and thermal reduction in nonflame reactors have been extensively tested and demonstrated.	Process destroys organic pollutants in sediment samples at efficiencies of greater than 99.99 percent but at very high costs.	Very effective.	(a) Very expensive; (b) metals mobilized into the gas phase require gas phase scrubbing; (c) water content of sediment increases energy costs.	(a) process control to prevent upsets and effluent gas treatment for metals containment; (b) facility design to control the destruction process.

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Table 7: Ex Situ Bioremediation

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
(a) Limited experience; (b) transfer of soil-based technologies to marine sediments is not proved and may not be directly applicable because of the different biogeochemistry of marine sediments; (c) but general trends should translate; (d) examples from freshwater sediment have been carried out at the pilot scale in the assessment and remediation of polluted sediments program, as well as in Europe; (e) PCBs were treated ex situ at a Sheboygan River site.	(a) Pollutant is biologically available; (b) concentration of pollutant appropriate for bioactivity (e.g., sufficiently high to serve as substrate, not high enough to be toxic); (c) limited number or classes of pollutants are biodegradable; less known for complex mixtures; (d) site is reasonable accessible for management and monitoring; (e) rapid solution is not required.	Based on experience from freshwater systems, it offers the potential for (a) degradation (as opposed to mass transfer) of some organic pollutants; (b) possible reduction of toxicity from biotransformation in those cases in which complete mineralization does not occur; (c) containment of polluted material allowing for an engineered system and enhanced rates, when compared to in situ biotransformations; (d) public acceptability.	(a) Far from a proven technology--all work with marine sediments is at the bench-scale; (b) requires handling of polluted sediment; (c) slow compared to chemical treatment; (d) ineffective for low levels of pollution, and does not remove 100 percent of pollutants; (e) not applicable for very complex organics, such as high-molecular-weight compounds; (f) susceptible to matrix effects on bioavailability.	(a) Fundamental understanding of biodegradation principles in engineered systems; (b) exploration of aerobic/anaerobic combinations or comparisons; (c) laboratory, pilot, and field demonstrations; (d) analysis of cost effectiveness; (e) exploration of bioremediation as part of more extensive treatment trains.

Table 8: Confined Disposal Facility

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
(a) The most commonly used placement alternative for polluted sediments; (b) hundreds of sites nationwide for navigation dredging projects; (c) often used for pretreatment prior to final placement or as final sediment placement site for remediation projects.	Applicable to a wide variety of sediment types and project conditions.	(a) Low cost compared to ex situ treatment; (b) compatible with a variety of dredging techniques, especially direct placement by hydraulic pipeline; (c) proper design results in high retention of suspended sediments and associated pollutants; (d) engineering for basic containment normally involves conventional technology; (e) controls for pollutant pathways usually can be incorporated into site design and management; (f) conventional monitoring approaches can be used; (g) site can be used for beneficial purposes following closure, with proper safeguards.	(a) Does not destroy or detoxify pollutants unless combined with treatment; (b) control of some pollutant loss pathways may be expensive.	(a) Design approaches, such as covers and liners, needed for low cost pollutant controls; (b) design criteria for treatment of releases or control strategies for high profile contaminates; (c) methods for site management to allow restoration of site capacity and potential use of treated materials.

to temporary loss of benthic organisms at the removal site and at the disposal site.

Selection of the dredging method shall take into account the physical characteristics of the sediments, the sediment containment capability of the methods employed, the volume and thickness of sediments to be removed, the water depth, access to the site, currents, and waves. Consideration shall also be given to placement site of the material once it is removed.

Typical dredging methods include mechanical or hydraulic dredging. Mechanical dredging often employs clamshell buckets and dislodges sediments by direct force. Sediments can be resuspended by the impact of the bucket, by the removal of the bucket, and by leakage of the bucket. Mechanical dredging generally produces sediments low in water content.

Hydraulic dredging uses centrifugal pumps to remove sediments in the form of a slurry. Although less sediment may be resuspended at the removal site, sediment slurries contain a very high percentage of water at the end of the pipe.

Removal and consolidation often involves a diked structure which retains the dredged material (Tables 9 and 10). Considerations include:

A. construction of the dike or containment structure to assure that pollutants do not migrate,

B. the period of time for consolidation of the sediments,

C. disturbance or burying of benthic organisms,

D. disposal to an off-site location, either upland (landfill), in-bay, or ocean. Considerations once the material has been dredged shall be (1) staging or holding structures or settling ponds, (2) de-watering issues, including treatment and discharge of wastewater, (3) transportation of dredged material, (*i.e.*, pipeline, barge, rail, truck), or (4) regulatory constraints.

Table 9: Contained Aquatic Disposal

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
Limited application. Reviews exist concerning (a) necessary data, equipment, and procedures; (b) engineering considerations; (c) guidelines for cap armoring design; (d) predicting chemical containment effectiveness.	(a) Costs and environmental effects of relocation are factors; (b) suitable types and quantities of cap material are available; (c) hydrologic conditions will not compromise the cap; (d) cap can be supported by original bed; (e) appropriate for sites where excavation is problematic or removal efficiency is low; (f) cap material is compatible with existing aquatic environment.	(a) Eliminates need to remove polluted sediments; (b) cost effective for sites with large surface areas; (c) effective in containing pollutants by reducing bioaccessibility; (d) promotes in situ chemical or biological degradation; (e) maintains stable geochemical and geohydraulic conditions, minimizing pollutant release to surface water, groundwater, and air.	(a) Laboratory and field validation of capping procedures and tools; (b) analysis of data from existing and ongoing field demonstrations to support capping effectiveness; (c) test for chemical release during bed placement and consolidation; (d) tests to evaluate and simulate the effects of cap penetration by deep burrowing organisms; (e) simulate and evaluate consequences of mixing; (f) potential loss of pollutants to the water column may require controls during placement.	(a) Design criteria for treatment of releases or control strategies for high-profile pollutants; (b) improved methods for evaluation of potential pollutant release pathways; (c) develop reliable cost estimates.

Table 10: Landfills

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
Used for several dredged material and Superfund projects involving polluted sediments.	(a) Small volumes; (b) where no other alternatives or sites are available.	(a) Does not require acquisition of permanent placement site; (b) may be most cost effective for small volumes; (c) effectiveness is inherent in the site license.	(a) Lack of landfill capacity in most regions of the country; (b) requires handling and transport to the landfill; (c) restriction on free liquids requires dewatering as a pretreatment step.	Improved methods for rehandling, dewatering, and transporting dredged sediments.

3. Containment of Polluted Sediments

Containment can prevent human or ecological exposure, or prevent migration of pollutants. Containment can be either in-place capping, or removal and consolidation at a disposal structure (Tables 9 and 11). Containment options such as capping clearly reduce the short-term exposure, but require long-term monitoring to track their effectiveness.

The considerations for stabilization of sites using sub-aqueous capping to contain toxic waste at a site includes:

A. Capping provides adequate coverage of polluted sediments and capping materials can be easily placed.

B. The integrity of the cap should be assured to prevent burrowing organisms from mixing of polluted sediments (bioturbation).

C. The ability of the polluted sediment to support the cap, *i.e.*, causing settlement or loading.

D. The bottom topography causing sloping or slumping of the capped material during seismic events.

E. Cap erosion or disruption by currents, waves, bioturbation, propeller wash, or ship hulls.

F. Future use of capped area, *i.e.*, use as shipping channel.

4. No Remediation

This alternative consists of two elements: (a) institutional or interim controls and (b) the natural remediation or no-action alternative. The first element, institutional controls, could include, but is not limited to, posting of warning signs, or monitoring of water, sediments, or organisms. This element would be protective of human health by providing warning signs for fishing, *etc.*, but not protective of aquatic life.

Table 11: In-Place Capping

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
Less than 10 major in situ capping projects in North America have been completed (more than 20 worldwide). Reviews exist concerning (a) necessary data, equipment, and procedures; (b) engineering considerations; (c) guidelines for design of cap armor; and (d) predicting effectiveness of chemical containment.	(a) Pollutant sources have been substantially abated; (b) natural recovery is too slow; (c) costs and environmental effectiveness of relocation are too high; (d) suitable types and quantities of cap material are available; (e) hydrologic conditions will not compromise the cap; (f) cap can be supported by original bed; (g) appropriate for sites where excavation is problematic or removal efficiency is low.	(a) Eliminates need to remove polluted sediments; (b) effective in containing pollutants by reducing bioaccessibility; (c) promotes in situ chemical or biological degradation; (d) maintains stable geochemical and geohydraulic conditions, minimizing pollutant release to surface water, groundwater, and air; (e) relatively easy to implement; (f) eliminates bioturbation and resuspension; (g) reduces pollutant release to water column; (h) easily replaced or repaired; (i) in shallow water, creates wetlands, dry lands, or reduces water column depth.	(a) Cap incompatible with bottom material can alter benthic community; (b) subject to erosion by strong currents and wave action; (c) subject to penetration/destruction by deep burrowing organisms; (d) destroys/changes benthic communities/ecological niches; (e) requires ongoing monitoring for cap integrity; (f) dilutes pollutants in original bed if subsequent removal/remediation is required.	(a) Analysis of data from existing and ongoing field demonstrations to support capping effectiveness; (b) controls for chemical release during bed placement and consolidation; (c) test to simulate and evaluate consequences of episodic mixing, such as anchor penetration, propeller wash, and/or mechanical penetration.

The second element is the natural remediation or no-action alternative. If by no action, the toxic hot spot is to be left in place, because to move it, or to disturb it in any way would be detrimental, then "no action" shall be considered as the last alternative. The natural remediation/no-action alternative shall be considered only after all other alternatives have been studied.

If the natural remediation/no-action alternative is to be implemented, the RWQCB shall consider all the factors specified in Table 12 plus determine the following: (a) point source discharges have been controlled, (b) the costs and environmental effects of moving and treating polluted sediment are too great, (c) hydrologic conditions will not disturb the site, (d) the sediment will not be remobilized by human or natural activities, such as by shipping activity or bioturbation, (e) notices to abandon the site have been issued to appropriate federal, state, and local agencies and to the public, (f) the exact location of the site and a list of chemicals causing the toxic hot spot and their quantities are noted on deeds, maps, and navigational charts, and (g) a monitoring program is established to measure changes in discharge rates from the site.

If a natural remediation alternative is considered, RWQCBs shall provide an assessment of the geographic extent of the pollution, the depth of the pollution in the sediment, compelling evidence that no treatment technologies shall be applied and that only the natural remediation alternative is feasible at the site, and a cleanup cost comparison of all other treatment technologies versus the no-remediation alternative.

If a natural remediation alternative is considered, the following information shall be provided in the Regional cleanup plan:

A. Sources of pollution which caused the toxic hot spot to exist.

B. A monitoring program description, specifying the duration of the monitoring, and all organizations which will carry it out.

C. Monitoring program which will show whether rates of pollutant release and the area of influence of the pollutants are not accelerating.

D. Detailed assessment containing proof that all of the following statements are true:

(1) Pollutant discharge has been controlled.

(2) Burial or dilution processes are rapid.

(3) Sediment will not be remobilized by human or natural activities.

(4) Environmental effects of cleanup are equal to or more damaging than leaving the sediment in place.

(5) Unpolluted sediments from the drainage basin will integrate with polluted sediments through a combination of dispersion, mixing, burial, and/or biological degradation.

(6) Polluted sediments at the site will not spread.

(7) The site will be noted on appropriate maps, charts, and deeds to document the exact location of the site.

For no-remediation alternatives, a map of the area shall be required to be provided by potential discharger(s) to the U.S. Army Corps of Engineers, U.S. Coast Guard, National Oceanic and Atmospheric Administration, Coastal Commission, State Lands Commission, and harbor authorities to be included on official navigational charts and other maps to document the exact location of the site and the depth of the site and the pollutants encountered.

Table 12: Natural Recovery

State of Practice (system maturity, known pilot studies, etc.)	Applicability	Advantages/Effectiveness	Limitations	Research Needs
Selected for James River, New York Kepone pollution and considered at Port of Tacoma, Washington site.	(a) Bed is stable or depositional; (b) chemical release rates are low; (c) interim controls can maintain safety to health and environment; (d) pollution level at active surface is low, but areal extent is large; (e) most of the pollution is below the bioturbed zone; (f) pollutants are underlain by low permeability strata; (g) site is not subject to dredging or other disturbance; (h) source of pollution has been abated.	(a) There may be less environmental risk to await natural capping than to attempt sediment removal; (b) removal may cause physical harm to bottom communities as well as suspend and disperse pollutants; (c) cleanup cost may be prohibitive because of large area and low level of pollution; (d) low cost.	(a) Effectiveness of in-bed processes that govern chemical containment and/or destruction is poorly known; (b) bed remains subject to resuspension by storms or anthropogenic processes; (c) should only rarely be used in beds of flowing streams; (d) not appropriate if dredging is required or bulk quantities of chemicals, such as non-aqueous liquids or solids, are present.	(a) Develop scientific principles to describe the process of natural recovery; (b) based on a literature survey, document the success, failure, effectiveness, *etc.*, of sites that have undergone natural recovery either by design or default; (c) develop accepted measuring protocols to determine in situ chemical flux from bed sediment to the overlying water column; (d) develop protocols for assessing the relative contribution of the five or more mechanisms for chemical release or movement from bed sediments.

Remediation Methods for Water-related Toxic Hot Spots

The three basic approaches which may be practiced independently or concurrently are pollution prevention, pretreatment and recycle and reuse. The RWQCBs shall develop prevention activities tailored to local conditions and the tools available. The RWQCBs shall also provide enough flexibility to dischargers so they can select the most cost-effective approaches for addressing wastewater-related problems. If the RWQCBs have more recent or site-specific information on treatment technology, the RWQCB may use an alternative approach. If the RWQCB cannot determine which prevention tools will be most effective, the selection of methods to address water-related toxic hot spots should be made during the implementation of watershed management approaches that contrast alternate ways to solve the identified problems.

A large number of technically feasible wastewater treatment methods are available. In developing the cleanup plans the RWQCBs shall base their assessments of possible treatment technologies on the effectiveness of removing the pollutant(s) of concern. No one option shall be selected in the cleanup plans especially if discharger(s) are identified as being responsible for the toxic hot spot (in order to comply with Water Code Section 13360). Methods for addressing stormwater and nonpoint sources are emerging and RWQCBs should use their best judgment in suggesting approaches (and their costs).

REMEDIATION COSTS

Sediment Cleanup Costs

Total costs for various remedial technologies is dependent upon many factors, some of the most important being pollutant concentration, cleanup level, physical characteristics of the sediment, and the volume of material to be remediated. In addition, overall costs of remediation should also include monitoring to evaluate the effectiveness of cleanup. Due to the large number of variables associated with remedial actions and availability of disposal sites, the costs for any cleanup will necessarily be project specific.

Tables 13 and 14 provide a qualitative assessment of the various categories of technology. RWQCBs shall use either the estimates in Table 13 and Table 14 or use project-specific estimates of

cleanup costs. Obtaining new estimates will allow a more realistic comparison of the cost-effectiveness and benefits of the selected alternatives.

Wastewater Treatment System, Stormwater, or Nonpoint Source Costs

The costs for implementing the waste water treatment technologies and best management practices are discharge- and site-specific. In developing estimates the RWQCBs shall use the EPA Treatability Manual, applicable National Research Council reports, site-specific estimates, or delay the development of cost estimates if the toxic hot spot will be addressed as part of a watershed management effort. If cost estimates are delayed the RWQCBs shall develop cost estimates for developing and coordinating the watershed planning effort.

BENEFITS OF REMEDIATION

In developing the regional toxic hot spot cleanup plans the RWQCBs will list the benefits that will be derived by remediating candidate toxic hot spots. It is acknowledged that the benefits to be developed by the RWQCBs are qualitative estimates. The list of possible benefits of remediation are presented in Table 15.

Table 13: Qualitative Comparison of the State of the Art in Remediation Technologies

Feature technology	State of Design Guidance	Number of Times Used	Scale of Application	Cost (per cubic yard)	Limitations
Natural recovery	Nonexistent	2	Full scale.	Low.	Source control Sedimentation Storms.
In place containment	Developing rapidly	<10	Full scale.	<$20.	Limited technical guidance. Legal/regulation uncertainty.
In place treatment	Nonexistent	~2	Pilot scale.	Unknown.	Technical problems. Few proponents. Need to treat entire volume.
Excavation and containment.	Substantial and well developed	Several hundred	Full scale.	$20 to $100.	Site availability Public assistance.
Excavation and treatment	Limited and extrapolated from soil	<10	Full scale.	$50 to $1,000.	High cost. Inefficient for low concentration. Residue toxic. Need for treatment train.

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Table 14: Comparative Analysis of Sediment Technology Categories

Approach	Feasibility	Effective	Practicality	Cost
INTERIM CONTROL				
Administrative	0	4	2	4
Technological	1	3	1	3
LONG-TERM CONTROL				
In Situ				
Natural recovery	0	4	1	4
Capping	2	3	3	3
Treatment	1	1	2	2
Sediment Removal and Transport	2	4	3	2
Ex Situ Treatment				
Physical	1	4	4	1
Chemical	1	2	4	1
Thermal	4	4	3	0
Biological	0	1	4	1
Ex Situ Containment	2	4	2	2

SCORING	Feasibility	Effective	Practicality	Cost
0	<90%	Concept	Not acceptable, very uncertain	$1,000/yd
1	90%	Bench		$100/yd
2	99%	Pilot		$10/yd
3	99.9%	Field		$1/yd
4	99.99%	Commercial	Acceptable, certain	<$1/yd

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Table 15. Beneficial Effects of Remediation

Beneficial effect	Values quantifying these beneficial effects	Beneficial use affected
Lower toxicity in planktonic and benthic organisms	Greater survival of organisms in toxicity tests.	MAR, EST
Undegraded benthic community	Species diversity and abundance characteristic of undegraded conditions.	MAR, EST
Lower concentrations of pollutants in water	Water column chemical concentration that will not contribute to possible human health impacts.	MIGR, SPWN, EST, MAR, REC 1, REC 2
Lower concentrations of pollutants in fish and shellfish tissue	Lower tissue concentrations of chemicals that could contribute to possible human health and ecological impacts.	MAR, EST, REC 1, COMM
Area can be used for sport and commercial fishing.	Anglers catch more fish. Impact on catches and net revenues of fishing operations increase.	REC 1, COMM
Area can be used for shellfish harvesting or aquaculture	Jobs and production generated by these activities increase. Net revenues from these activities are enhanced.	SHELL, AQUA
Improved conditions for seabirds and other predators	Increase in populations. Value to public of more abundant wildlife.	WILD, MIGR, RARE
More abundant fish populations	Increase in populations. Value to public of more abundant wildlife.	MAR, EST
Commercial catches increase	Impact on catches and net revenues of fishing operations.	COMM
Recreational catches increase, more opportunities for angling	Increased catches and recreational visitor-days.	REC 1
Improved ecosystem conditions	Species diversity and abundance characteristic of undegraded conditions.	EST, MAR
Improved aesthetics	Value to public of improved aesthetics. In some cases, estimates of the value to the public of improved conditions may be available from surveys.	REC 2
More abundant wildlife, more opportunities for wildlife viewing	Impact on wildlife populations. Impact on recreational visitor-days.	MAR, WILD, RARE, REC 2

PREVENTION OF TOXIC HOT SPOTS

In the process of developing strategies to remediate toxic hot spots related to both sediment and water, the RWQCBs shall focus on approaches that rely on existing State and Federal programs to address identified toxic hot spots. In addressing prevention activities for point and nonpoint sources of pollution, the RWQCBs shall:

1. Consider use of any established prevention tools such as (a) voluntary programs, (b) interactive cooperative programs, and (c) regulatory programs, individually or in any combination that will result in an effective toxic hot spot prevention strategy. The RWQCBs shall consider site-specific and pollutant-specific strategies to address the toxic hot spot including, but not limited to: pollution prevention audits, studies to specifically identify sources of pollutants, total maximum daily load development, watershed management approaches, pretreatment, recycle and reuse, revised effluent limitations, prohibitions, implementation of best management practices, etc.

2. Promote a watershed management protection approach focused on hydrologically defined areas (watersheds) rather than areas defined by political boundaries (counties, districts, municipalities), that take into account all waters, surface, ground, inland, and coastal and address point and nonpoint sources of pollution that may have influence or has been identified to have influenced the identified toxic hot spots. Link the cleanup plan to implementation of the Watershed Management Initiative and the SWRCB Strategic Plan.

3. Encourage the participation and input of, interdisciplinary groups of interested parties (including all potential dischargers) that are able to cross over geographical and political boundaries to develop effective solutions for preventing toxic hot spots.

4. Use prevention strategies that provide enough flexibility to be used as watershed protection plans where there are none established or have the ability to join with a watershed

protection plan that is already being implemented to address the toxic hot spot. Solutions developed shall also be developed for, and applied at sites where it will do the most prevention and where it will be the most cost-effective at mitigating and preventing toxic hot spots at a watershed level.

SITE-SPECIFIC VARIANCES

A site-specific variance to this Policy may be granted if an alternate approach for developing a cleanup plan for one or more sites within the jurisdiction of a RWQCB is needed. In all cases, when a RWQCB takes an alternate approach, the RWQCB shall provide the following information to the SWRCB prior to incorporation into the regional toxic hot spot cleanup plan:

1. A description of the provision not followed.

2. A description of the new approach used. The proposed alternative program, method, or process shall be clearly identified.

3. Any specific circumstances on which the RWQCB relied to justify the finding necessary for the variance.

4. Clear evidence that the alternative approach will better protect beneficial uses.

No variance from this Policy shall be effective unless approved by the SWRCB Executive Director.

ISSUES TO BE CONSIDERED IN THE DEVELOPMENT OF THE CONSOLIDATED TOXIC HOT SPOT CLEANUP PLAN

The SWRCB is required to develop a consolidated toxic hot spot cleanup plan. The regional toxic hot spot cleanup plans that are developed with this Policy will not become effective until the consolidated plan is completed. In developing the consolidated plan the SWRCB will consider several issues including, but not limited to:

1. Approaches for consolidating and compiling regional toxic hot spot cleanup plans.

2. Removing locations from and reevaluating the list of known toxic hot spots.

3. Guidance to the RWQCBs on considerations when reevaluating waste discharger requirements in compliance with Water Code Section 13395.

4. Findings concerning implementation of the plan and the need for establishment of a toxic hot spot cleanup program to fund remediation activities (consistent with Water Code Section 13394(i)).

TEMPLATE FOR PROPOSED REGIONAL TOXIC HOT SPOT CLEANUP PLANS

The regional toxic hot spot cleanup plan shall be formatted as presented below.

REGIONAL TOXIC HOT SPOT CLEANUP PLAN

REGIONAL WATER QUALITY CONTROL BOARD
< > REGION

Part I

I. Introduction

Region Description

Legislative Authority

Limitations

II. Toxic Hot Spot Definition

Codified Definition of A Toxic Hot Spot

Specific Definition of A Toxic Hot Spot

III. Monitoring Approach

IV. Criteria For Ranking Toxic Hot Spots

Human Health

Aquatic Life

Water Quality Objectives

Other Factors

V. Future Needs

Part II

IV. Candidate Toxic Hot Spot List

Water body name	Segment Name	Site Identification	Reason for Listing	Pollutants present at the site.	Report reference

Reference list

V. Ranking Matrix

Water body Name	Site Identification	Human Health Impacts	Aquatic Life Impacts	Water Quality Objectives	Areal Extent	Remediation Potential	Overall Ranking

Part III

V. High Priority Candidate Toxic Hot Spot Characterization

For each high priority Candidate Toxic Hot Spot, the following information shall be presented:

A. An assessment of the areal extent of the THS.

B. An assessment of the most likely sources of pollutants (potential discharger).

C. A summary of actions that have been initiated by the RWQCBs to reduce the accumulation of pollutants at existing THSs and to prevent the creation of new THSs.

D. Preliminary Assessment of Actions required to remedy or restore a THS including recommendations for remedial actions.

E. An estimate of the total cost and benefits of implementing the cleanup plan.

F. An estimate of recoverable costs from potential dischargers.

G. A two-year expenditure schedule identifying funds to implement the plans that are not recoverable from potential dischargers.

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Water Quality Information: (916) 657-0687

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STATE OF CALIFORNIA
Pete Wilson, *Governor*

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
Peter M. Rooney, *Secretary*

STATE WATER RESOURCES CONTROL BOARD
John Caffrey, *Chairman*

10/96

ATTACHMENT 2

MEMORANDUM

Pete Wilson
Governor

C EPA

State Water
Resources
Control Board

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TO: Walt Pettit
SWRCB Members

FROM: for Craig M. Wilson
William R. Attwater
Chief Counsel
OFFICE OF CHIEF COUNSEL

DATE: SEP - 4 1997

SUBJECT: NUNC PRO TUNC AMENDMENT--NEW YORK SLOUGH

ISSUE

A nunc pro tunc order retroactively corrects a clerical error in a prior order. In 1997 the California Regional Water Quality Control Board, San Francisco Bay Region, (Regional Water Board) adopted a nunc pro tunc amendment to its 1995 water quality control plan (basin plan). The amendment added the beneficial uses of the Delta and depicted its western boundary on a map. The Dow Chemical Company (Dow) said that the action was illegal because the correction was substantive, rather than clerical. Was a nunc pro tunc action appropriate?

CONCLUSION

Yes. The record clearly reflects that the Regional Water Board inadvertently omitted the Delta's beneficial uses and western boundary in the 1995 basin plan. Further, the Regional Water Board could not legally change either the Delta's beneficial uses or boundaries, which are established in the State Water Resources Control Board's (State Water Board) "Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary" (Delta Plan).[1]

DISCUSSION

A. Background

In 1995 the Regional Water Board adopted the first major revisions to its basin plan since 1986. The 1995 amendments

[1] WR 95-1, May 1995.

WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 98-014

APPROVAL OF A NUNC PRO TUNC AMENDMENT
TO THE WATER QUALITY CONTROL PLAN
FOR THE SAN FRANCISCO BAY BASIN (BASIN PLAN)

WHEREAS:

1. The California Regional Water Quality Control Board, San Francisco Bay Region (SFBRWQCB), adopted a revised Water Quality Control Plan (Basin Plan) in June 1995, which was approved by the State Water Resources Control Board (SWRCB) in July 1995 and the Office of Administrative Law (OAL) in November 1995.

2. On April 16, 1997, the SFBRWQCB adopted Resolution No. 97-058 (Attachment 1) as a Nunc Pro Tunc amendment correcting unintentional drafting errors found in the Basin Plan.

3. The SFBRWQCB is not required to file documentation in accordance with the California Environmental Quality Act (CEQA), since Nunc Pro Tunc amendments do not qualify as a project under CEQA (Public Resources Code, Section 21065).

4. The SFBRWQCB Resolution No. 97-058 was adopted in accordance with State laws and regulations.

5. Basin Plan amendments do not become effective until approved by the SWRCB and until regulatory provisions are approved by OAL.

THEREFORE BE IT RESOLVED THAT:

The SWRCB:

1. Approves the Nunc Pro Tunc Basin Plan amendment adopted by the SFBRWQCB under Resolution No. 97-058.

2. Directs the SWRCB staff to transmit the approved Nunc Pro Tunc Basin Plan amendment to the OAL and the U.S. Environmental Protection Agency.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on February 19, 1998.

Maureen Marché
Administrative Assistant to the Board

ATTACHMENT 1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

RESOLUTION NO. 97-058

APPROVAL OF NUNC PRO TUNC AMENDMENTS TO THE WATER QUALITY CONTROL PLAN FOR THE SAN FRANCISCO BAY BASIN (BASIN PLAN)

WHEREAS:

1. The California Regional Water Quality Control Board, San Francisco Bay Region (Regional Board), adopted Resolution No. 95-076 on June 21, 1995, which approved amendments to the Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) in accordance with Section 13240 et seq. of the California Water Code.

2. The June 21, 1995 amendments contain the following drafting errors that were clearly not intended to be included in the Basin Plan:

   (a) The manual used for identifying and delineating jurisdictional wetlands was incorrectly cited. (P. 2-6, second column, second from last paragraph.)
   (b) The Delta's beneficial uses were inadvertently excluded from the beneficial uses table. (Table 2-7) A map did not reflect the dividing line between Suisun Bay and the Delta, as shown in the 1986 Basin Plan. (Figure 2-9)
   (c) The U. S. EPA's water quality criteria for zinc were incorrectly cited. (Table 3-4, footnote m.)
   (d) The equation for "adjusted sodium adsorption ratio (SAR)" was incorrectly cited. (Table 3-6, footnote d.)

3. As substantiated in the record regarding the June 21, 1995 amendments to the Basin Plan, the Regional Board never intended to include, or considered the ramifications of including, the drafting errors mentioned above.

4. It is desirable to correct such drafting errors and to give the corrections retroactive effect in order to improve the functionality of the Basin Plan and to accurately reflect the intention of the Regional Board when the June 21, 1995 amendments were adopted.

5. Adoption of nunc pro tunc amendments to the Basin Plan does not constitute a project for purposes of complying with the California Environmental Quality Act (CEQA) and is, therefore, exempted from CEQA requirements.

6. The Regional Board has publicly noticed its proposed adoption of this Resolution and has considered all relevant comments.

THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board hereby amends the June 21, 1995 Basin Plan as follows:

(a) P. 2-6, second column, second from last paragraph, 3rd sentence: Amend the sentence to read as: (Revised language is shown in italics.)

... The Regional Board will, in general, rely on the federal manual for wetlands delineation in this region for Section 404 permits (~~Federal Manual for Identifying and Delineating Jurisdictional Wetlands, 1989, U.S. Army Corps of Engineers, U.S. EPA, U.S. Fish and Wildlife Service, and U.S. Soil Conservation Service, Washington, D.C., Cooperative Technical Publication~~ *U.S. Army Corps of Engineers Wetlands Delineation Manual, 1987*). ...

(b.1) Amends Table 2-7 to properly reflect the Delta's existing beneficial uses as: Agricultural Supply (AGR), Ocean, Commercial, and Sport Fishing (COMM), Estuarine Habitat (EST), Groundwater Recharge (GWR), Industrial Service Supply (IND), Fish Migration (MIGR), Municipal and Domestic Supply (MUN), Navigation (NAV), Industrial Process Supply (PROC), Preservation of Rare and Endangered Species (RARE), Water Contact Recreation (REC-1), Noncontact Water Recreation (REC-2), Fish Spawning (SPWN), and Wildlife Habitat (WILD).

(b.2) Revise Figure 2-9 to properly reflect the dividing line between Suisun Bay and the Delta, as shown in the 1986 Basin Plan.

(c) Amend footnote m of Table 3-4 to read as follows: (Revised language is shown in italics.)

m. The U.S. EPA criteria for zinc are hardness-dependent: the 4-day average criterion is ~~$e^{(0.8473H-0.7614)}$~~ $e^{(0.8473H+0.7614)}$, which is ~~23~~ *106* µg/l at a hardness of 100 mg/l as $CaCO_3$. The 1-hour average is ~~$e^{(0.8473H-0.8604)}$~~ $e^{(0.8473H+0.8604)}$, which is ~~21~~ *117* µg/l at a hardness of 100 mg/l as $CaCO_3$.

(d) Amend footnote d of Table 3-6 to read as follows:

d. ~~Adjusted SAR = [Na/(Ca+Mg) 1/2][1+(8.4-pHc)] where pHc is a calculated value based on total cations, 2 Ca + Mg+ CO3 + HCO3, in me/l.~~ *Adjusted SAR = $[Na/[(Ca+Mg)+2]^{0.5}]$-[1+(8.4-pHc)] where pHc is a calculated value based on total cations, Ca+Mg, and CO_3+HCO_3, in me/l.* Exact calculations of pHc can be found in "Guidelines for Interpretation of Water Quality for Agriculture" prepared by the Univ. of California Cooperative Extension.

2. This Resolution approving the Nunc Pro Tunc Amendments to the Basin Plan shall be attached to Resolution No. 95-076 adopted by the Regional Board on June 21, 1995, and shall be considered a part of that Resolution.

3. The State Water Resources Control Board (State Board) is requested to promptly approve these Nunc Pro Tunc Amendments in accordance with Sections 13245 and 13246 of the California Water Code.

4. Upon approval, the State Board is requested to transmit these Nunc Pro Tunc Amendments to the Basin Plan to the State Office of Administrative Law and the U.S. Environmental Protection Agency for approval.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 16, 1997.

Loretta K. Barsamian

LORETTA K. BARSAMIAN
EXECUTIVE OFFICER

reorganized the 1986 document to make it more logical, readable, and accurate.

One of the 1995 revisions to the 1986 basin plan consisted of dividing a table listing surface waters and their designated beneficial uses (Table II-1) into seven smaller tables, reflecting the seven hydrologic planning areas within the region. The 1995 plan also included maps for each of these planning areas.

Table II-1 of the 1986 basin plan identified the Delta as one of the surface waters within the region and listed its beneficial uses. Table II-1 was keyed to Figure II-1. Figure II-1 was a map of the region, referencing over 140 major surface waterbodies. The map did not show the boundaries of these waterbodies but rather their general location within the region. While Figure II-1 did not show the Delta's boundaries, several other maps in the 1986 plan depicted its western boundary.[2]

After the 1995 basin plan amendments were adopted, Regional Water Board staff, while conducting in-house training on the basin plan, discovered that the plan failed to list the Delta's beneficial uses. In 1997 the Regional Water Board adopted nunc pro tunc amendments to the 1995 basin plan to correct this, and other, errors in the plan. The 1997 action added the Delta and its designated uses to the list of surface waterbodies in Table 2-7, covering the Suisun Basin. The Delta's western boundary was added to the accompanying map, Figure 2-9.

The revised Table 2-7 lists municipal and domestic supply as one of the Delta's designated beneficial uses. As shown on the revised Figure 2-9, New York Slough is east of the western boundary of the Delta. New York Slough is, thus, included in the Delta and designated as a source of municipal supply.

[2] See Figure II-3 (Location of Marshes), Figure IV-1 (Delineation of Receiving Water Segments), and Figure IV-5 (Location of Industrial Discharges).

Under the uncorrected version of the 1995 basin plan, New York Slough would be considered part of Suisun Bay. Suisun Bay is not designated for domestic and municipal supply. Dow owns and operates a facility that discharges to New York Slough. Shortly before the Regional Water Board adopted the nunc pro tunc amendments, Dow was notified of a threatened citizen's suit[3] by an environmental group for discharging certain listed chemicals into a source of drinking water in violation of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).[4]

Dow objected to the proposed amendments before the Regional Water Board, and currently before the State Water Resources Control Board, contending that the Regional Water Board could not take a nunc pro tunc action to correct an error that was substantive, rather than merely clerical. Dow makes two basic arguments. First, Dow maintains that the 1986 basin plan did not actually depict the Delta's western boundary. Therefore, the 1997 correction went beyond the 1986 plan. Second, Dow argues that, in 1995, the Regional Water Board determined that New York Slough was a part of Suisun Bay, rather than the Delta. Consequently, the Regional Water Board could not purport to correct this determination through a nunc pro tunc action.

B. Analysis

The courts have the inherent power to correct clerical errors, either of commission or omission, in their judgments through nunc pro tunc orders.[5] Mistakes that are judicial,

[3] About one month after adoption of the nunc pro tunc amendments, the environmental group filed a lawsuit.

[4] Health and Safety Code section 25249.5 prohibits any person from knowingly discharging or releasing any chemicals known to the state to cause cancer or reproductive toxicity into any source of drinking water.

[5] *See, e.g., Pettigrew v. Grand Rent-A-Car* (1984) 154 Cal.App.3d 204 [201 Cal.Rptr. 125] (court allowed to correct judgment to conform to statutory limits on liability where excessive amount of original award was due to inadvertence on the part of the judge and clerk); *Meyer v. Porath* (1952) 113 Cal.App.2d 808, 248 P.2d 984 (court allowed to correct

(Continued next page)

on the other hand, cannot be corrected through nunc pro tunc orders.[6] Mistakes in the latter category are those that result from judicial reasoning and deliberation.

The Regional Water Board's error in this case clearly falls into the former category. First, the administrative record for the 1995 basin plan amendments supports the conclusion that the omission of the Delta's beneficial uses was inadvertent. The record documents that the Regional Water Board did not intend to change or update beneficial use designations.[7] The Regional Water Board cited time and staff constraints for its decision to not evaluate beneficial uses at that time. In addition to its stated intent, the Regional Water Board did not, in fact, engage in the type of evaluation that would be legally required under the federal water quality standards regulations in order to dedesignate existing beneficial uses.[8] In particular, there is no evidence in the record that the Regional Water Board gave any specific thought to the beneficial uses of New York Slough or its location with respect to the Delta.

Second, the Regional Water Board was legally constrained from changing either the Delta's beneficial uses or its boundaries. The State Water Board is authorized to adopt water quality control plans for surface waters.[9] These plans, when adopted, supersede any regional water quality control plans to the extent of any conflict.[10] Since 1978,

(Continued)
erroneous description of roadway easement in prior judgment). Cf. *Russ v. Smith* (1968) 264 Cal.App.2d 385 [70 Cal.Rptr. 813] (real estate commissioner allowed to adopt nunc pro tunc order to correct omission of broker's license held under his own name in order revoking license held under a fictitious name).

[6] E.g., Estate of Doane (1964) 62 Cal.2d 68 [41 Cal.Rptr. 165] 396 P.2d 581.

[7] See January 17, 1995 Staff Report, p. 18.

[8] *See*, e.g., 40 C.F.R. § 131.10.

[9] See Water Code § 13170.

[10] *Id.*

water quality control plans adopted by the State Water Board have been in effect for the Delta. The current Delta Plan, adopted in May 1995, sets forth the Delta's beneficial uses. They include municipal and domestic supply.[11] This plan, like the two previous plans, defines the Delta as the area defined in Water Code section 12220.[12] It comprises a 738,000-acre area generally bordered by the cities of Sacramento, Stockton, Tracy, and Pittsburgh. New York Slough is included within its boundaries.

Dow contends that the Regional Water Board could not add a western Delta boundary to the 1995 basin plan, through a nunc pro tunc action, because Table II-1 of the 1986 basin plan referenced Figure II-1, which did not contain this boundary. This contention must be rejected for several reasons. First, the map in Figure II-1 did not have boundaries for any of the over 140 waterbodies referenced in the map, so the lack of Delta boundaries was not significant. Second, the State Water Board had already established the legal Delta boundaries, in accordance with Water Code section 12220. Consequently, the Regional Water Board could reasonably refer to the other maps in the 1986 plan depicting the western boundary of the Delta because these maps were consistent with the State Water Board's Delta maps.

For these reasons, Dow could not reasonably have interpreted the Regional Water Board's 1995 basin plan amendment as changing either the beneficial uses or western boundary of the Delta. The Regional Water Board acted properly in 1997 in correcting the inadvertent omission of the Delta's beneficial uses and western boundary from the 1995 plan. This correction ensured that the 1995 plan was consistent with both the 1986 plan and the Delta Plan.

cc: See next page

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[11] Delta Plan, p. 12.

[12] Id., App.i, p. IV-33; Water Quality Control Plan for Salinity, San Francisco Bay/Sacramento-San Joaquin Delta Estuary (91-15WR, May 1991), App. C; Water Quality Control Plan, Sacramento San-Joaquin Delta and Suisun Marsh (August 1978), I-3.

SEP - 4 1997

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STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 97 - 094

CONSIDERATION OF APPROVAL OF AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION REVISING SURFACE WATER QUALITY OBJECTIVES FOR CHLORIDES AND INCORPORATING A REVISED POLICY FOR ADDRESSING LEVELS OF CHLORIDE IN DISCHARGES OF WASTEWATER

WHEREAS:

1. The Los Angeles Regional Water Quality Control Board (LARWQCB) adopted a revised Water Quality Control Plan for the Los Angeles Basin (Basin Plan) on September 8, 1994.

2. On January 27, 1997, following a public hearing, the LARWQCB adopted Resolution No. 97-02 (Attachment 1) which amended the Basin Plan by: (1) revising chloride objectives for certain water body segments in the Los Angeles River and San Gabriel River watersheds, (2) establishing a variance procedure and interim chloride limits for specified existing dischargers in the Santa Clara River and Calleguas Creek watersheds, and (3) establishing a procedure to assess chloride loading and effect protection of the agricultural beneficial use in the Santa Clara River and Calleguas Creek watersheds.

3. Attachment A to LARWQCB Resolution 97-02 lists nine publicly-owned treatment works (POTW) granted a variance under this resolution, and includes on this list the Santa Paula Wastewater Reclamation Facility, which discharges to the Santa Clara River.

4. Retention of the Santa Paula Wastewater Reclamation Facility on the list of POTWs subject to the interim chloride limits (Attachment A to Resolution No. 97-02) is not appropriate because the facility does not discharge into those water body segments of the Santa Clara River subject to the interim chloride limits.

5. The State Water Resources Control Board (SWRCB) finds that the proposed Basin Plan amendment complies with requirements of SWRCB Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California).

6. The LARWQCB staff prepared documents and followed procedures satisfying environmental documentation requirements in accordance with the California Environmental Quality Act and other State laws and regulations.

7. Basin Plan revisions and amendments do not become effective until approved by the SWRCB and the U.S. Environmental Protection Agency (U.S. EPA) and until regulatory provisions are approved by the Office of Administrative Law (OAL).

THEREFORE BE IT RESOLVED THAT:

The SWRCB:

1. Approves, subject to the modification in paragraph 2. below, LARWQCB Resolution No. 97-02 amending the Basin Plan by: (1) revising chloride objectives for certain water body segments in the Los Angeles River and San Gabriel River watersheds, (2) establishing a variance procedure and interim chloride limits for specified POTWs discharging into the Santa Clara River and Calleguas Creek, and (3) establishing a procedure to assess chloride loading and effect protection of the agricultural beneficial use in the Santa Clara River and Calleguas Creek watersheds.

2. Removes the Santa Paula Wastewater Facility from the list of POTWs subject to the proposed variance on chloride limits (Attachment A to LARWQCB Resolution No. 97-02) and any reference thereto in the proposed text of the Basin Plan.

3. Authorizes SWRCB staff to submit the approved Basin Plan amendment to the U.S. EPA and regulatory provisions to OAL for approval.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 23, 1997.

Maureen Marché
Administrative Assistant to the Board

Attachment 1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
January 27, 1997
Resolution No. 97-02

Amendment to the Water Quality Control Plan to incorporate a Policy for Addressing Levels of Chloride in Discharges of Wastewaters

WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region finds that:

1. In 1975, the Regional Board established water quality objectives for chloride in most of the Region's waterbodies based on background concentrations of chloride, in accordance with the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16, commonly known as the State *Antidegradation Policy*) and the federal *Antidegradation Policy* (as set forth in 40 CFR 131.12). Water quality objectives are the basis for limits in Waste Discharge Requirements that are prescribed by the Regional Board.

2. When water quality objectives for chloride were set in accordance with the State *Antidegradation Policy* and the federal *Antidegradation Policy*, the Regional Board assumed that chloride concentrations in imported waters would remain relatively low. Since 1975, however, chloride concentrations in supply waters imported into the Region have been increasing. During the late 1980s, drought in watersheds that are sources of imported supply waters made it difficult for many dischargers in the Los Angeles Region to comply with water quality limits for chloride.

3. In addition to relatively high chloride levels in supply waters, chloride levels in wastewaters in the Region can be affected by salt loading that occurs during beneficial use and treatment of supply waters and wastewaters. In some areas of the Region, a significant amount of loading may occur from the use of water softeners.

4. In 1990, the Regional Board adopted Resolution No. 90-04: *Effects of Drought-Induced Water Supply Changes and Water Conservation Measures on Compliance with Waste Discharge Requirements within the Los Angeles Region.* This resolution, commonly referred to as the *Drought Policy*, was intended to provide short-term and temporary relief to dischargers who were unable to comply with limits for chloride due to the effects of drought on chloride levels in supply waters imported into the Region.

   For those dischargers who applied for relief under the Drought Policy, the Regional Board temporarily reset limits on concentrations of chloride at the lesser of: (i) 250 mg/L, or (ii) the chloride concentrations in supply waters plus 85 mg/L. An important condition of this relief was that dischargers demonstrate that high chloride concentrations in their discharges of wastewaters are due to increased salinity levels in supply waters imported into their service areas. Several dischargers provided data that confirm that supply waters imported into the Region are the cause of exceedances of chloride limits in discharges of wastewaters. However, many other dischargers have not yet adequately assessed the source(s) of relatively high levels of chloride in wastewaters and the extent to which exceedances are due to factors such as chloride in supply waters and/or significant chloride loading during beneficial use and treatment of supply waters and wastewaters.

5. The drought ended before the *Drought Policy* was due to expire in 1993. However, because water supply reservoirs still had high chloride concentrations in 1993 and because water suppliers estimated that it would take 12 to 18 months for complete replenishment of imported waters in reservoirs, the Regional Board renewed the *Drought Policy* in June 1993 and again in February 1995. The *Drought Policy* currently is due to expire on the earlier of February 27, 1997 or at that point in time when it has been determined that chloride levels in water supplies imported into the Region have returned to pre-drought conditions.

6. Chloride levels in supply waters imported into the Region and in reservoirs are no longer impacted by drought. However, chloride levels in supply waters imported into the Region are generally higher than they were before drought conditions in the late 1980. The higher levels of chloride in imported waters appear to be the result of intensifying demands for and utilization of water resources in watersheds that are the sources of supply waters. In addition, future droughts may affect levels of chloride in supply waters imported into the Region.

7. The Regional Board recognizes the shortage of water in the Region and the need to conserve supplies of fresh water for protection of beneficial uses. Accordingly, the Regional Board supports water reclamation, as described in State Board Resolution No 77-01: *Policy with Respect to Water Reclamation in California*. However, achievements in water conservation and reclamation can increase levels of chloride and other ionic constituents in reclaimed waters and wastewaters that are ultimately discharged to waterbodies in the Region.

8. In order to develop a long-term solution to the chloride compliance problems stemming from elevated levels of chloride in supply waters imported into the Region, the Regional Board has been working with a group of technical advisors, formerly know as the Chloride Subcommittee of the Surface Water Technical Review Committee. This group of technical advisors represents a variety of interests, including: water supply, reclamation, and wastewater management; environmental protection; and water softener industry interests. The group concurs with:

   (a) an approach to permanently reset water quality objectives for chloride in certain surface waters, using levels of chloride in water supply plus a chloride loading factor.

   (b) a need to assess long-term loading trends for chloride and other saline constituents.

   Furthermore, due to concerns expressed about the potential for future adverse impacts to agricultural resources in Ventura County, the Regional Board proposes to work with a local group of agencies, municipalities, representatives of the agricultural community, and other interested parties in order to clarify chloride objectives needed to protect waters used for irrigation in the Santa Clara River and Calleguas Creek watersheds. In addition, this local group concurs with the need to undertake assessments of significant sources of chloride loading and–contingent upon results–identify methods that could control chloride loading and the costs and effectiveness of the various loading control methods.

9. The Secretary of Resources has certified the basin planning process exempt from certain requirements under the California Environmental Quality Act (CEQA), including preparation an initial study, a negative declaration and environmental impact report (Title 14, California Code of Regulations, Section 15251). As per this certification, an amendment to the *Basin Plan* is considered 'functionally equivalent' to an initial study, negative declaration, and environmental impact report.

   Any regulatory program of the Regional Board certified as functionally equivalent, however, must satisfy the documentation requirements of Title 23, California Code of Regulations, Section 377(a), which requires an environmental checklist with a description of the proposed activity, and a determination with respect to significant environmental impacts. On November 15, 1996, the Regional Board distributed information regarding a proposed amendment to the *Basin Plan* to incorporate a *Policy for Addressing Levels of Chloride in Discharges of Wastewaters* (*Chloride Policy*). This information included an environmental checklist, a description of the proposed amendment to the *Basin Plan*, and a determination that the proposed amendment could not have a significant effect on the environment.

10. The public has had reasonable opportunity to participate in review of the amendment to the *Basin Plan*. Efforts to solicit public review and comment include: public notification, more than 45 days preceding Board action; public workshops, held on December 2, 1996, December 3, 1996, and January 6, 1997; responses from the Regional Board to oral and written comments received from the public, and a public hearing held on January 27, 1997.

11. In amending the *Basin Plan*, the Regional Board considered factors set forth in section 13241 of the Porter-Cologne Water Quality Control Act (California Water Code, Division 1, Chapter 2, Article 3, et seq., plus others).

12. The amendment is consistent with the State *Antidegradation Policy* (State Board Resolution No. 68-16), in that the changes to water quality objectives (i) consider maximum benefits to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies. Likewise, the amendment is consistent with the federal *Antidegradation Policy* (40 CFR 131.12).

13. Revision of water quality objectives for chloride is subject to approval by the State Water Resources Control Board, the State Office of Administrative Law, and the US Environmental Protection Agency.

THEREFORE, BE IT RESOLVED THAT:

1. Water quality objectives for chloride for certain surface waters will be revised as specified below.

Waterbody	New Objective
Los Angeles River–between Sepulveda Flood Control Basin and Figueroa Street (including Burbank Western Channel only)	190 mg/L
Los Angeles River–between Figueroa Street and estuary (including Rio Hondo below Santa Ana Freeway only)	190 mg/L
Rio Hondo–between Whittier Narrows Flood Control Basin and Santa Ana Frwy	180 mg/L
San Gabriel River–between Valley Blvd. and Firestone Blvd. (including Whittier Narrows Flood Control Basin, and San Jose Creek downstream of 71 Frwy only)	180 mg/L

These new objectives are set at the lower of (i) levels needed to protect beneficial uses, or (ii) chloride levels in supply waters imported into the Region plus a chloride loading factor of 85 mg/L. The levels at which the new water quality objectives have been set are expected to accommodate fluctuations in chloride concentrations that may be due to future drought. Although the new water quality objectives do not match background levels of chloride, they nevertheless are expected to be fully protective of drinking water and freshwater aquatic life.

2. Due to concerns expressed about the potential for future adverse impacts to agricultural resources in Ventura County, water quality objectives for chloride in the Santa Clara River and Calleguas Creek watersheds will not be revised at this time. To address compliance problems with chloride limits based on existing water quality objectives, the Regional Board hereby grants variances (interim relief) to existing dischargers identified on Attachment A. The Executive Officer is directed to notify these dischargers that they are subject to surface water interim limits specified below.

Waterbody Segments for which Existing Dischargers Are Subject to Interim Chloride Limits	Interim Chloride Limit
Santa Clara River–between Bouquet Canyon Road Bridge and West Pier Highway 99	190 mg/L
Santa Clara River–between West Pier Highway 99 and Blue Cut gaging station	190 mg/L
Santa Clara River–between Blue Cut gaging station and A Street (Fillmore)	190 mg/L
Arroyo Simi and tributaries–upstream Madera Road	160 mg/L
Arroyo Simi–downstream Madera Road, Arroyo Las Posas, and tributaries	190 mg/L
Calleguas Creek and tributaries–between Potrero Road and Arroyo Las Posas (including Conejo Creek, Arroyo Conejo, and Arroyo Santa Rosa)	190 mg/L

The variance period for interim relief will extend for three years following final approval of the amendment. During this period, the Regional Board expects that the local group of agencies, municipalities, representatives of the agricultural community, and other interested parties which have commented upon this policy will work together to: (i) clarify water quality objectives needed to protect waters used for irrigation in the Santa Clara River and Calleguas Creek

watersheds, (ii) assess significant sources of chloride loading, and (iii) contingent upon results of the chloride loading assessment, identify cost-effective ways that could protect beneficial uses of waters in the Santa Clara and Calleguas Creek watersheds. Should these issues not be resolved within the three-year variance period, the Regional Board intends to renew the variance.

At the end of the variance period, the Regional Board may reconsider revisions to water quality objectives for chloride in the Santa Clara River and Calleguas Creek watersheds. Future revisions of water quality objectives will consider chloride levels in supply waters (including fluctuations that may be due to future drought conditions), reasonable loading factors during beneficial use and treatment of supply waters and wastewaters, methods that could control chloride loading, and the associated costs and effectiveness of the various loading control methods.

3. To address the need to continue and, as appropriate, improve tracking and assessment of salinity loading throughout the Region, publicly-owned treatment works (POTWs) shall be required, as part of their NPDES permits, to monitor and assess salinity concentrations derived from: (i) source waters, (ii) loading that occurs during beneficial use of supply waters, and (iii) loading that occurs during treatment and disinfection of supply waters and wastewaters. Furthermore, those POTWs not already monitoring and assessing chloride loading from industrial sources shall expand their pre-treatment programs to include such assessments.

   Monitoring data and assessments shall be reported by the POTWs to the Regional Board on an annual basis; the content and format of these reports shall be subject to approval by the Executive Officer of the Regional Board.

4. To address water quality problems from water softening processes throughout the Region, the Regional Board recommends that water suppliers, POTWs, and representatives of the water softener industry undertake educational campaigns, targeting residential, commercial, and industrial water consumers, on issues relating to water hardness, water quality problems associated with water softeners, and types of water softeners (encouraging the use of those types of softeners that pose less of a threat to water quality).

5. To address chloride loading that occurs during treatment and disinfection of supply waters and wastewaters, the Regional Board encourages shifts to less chlorine-intensive processes to achieve treatment and disinfection of supply waters and wastewaters, to the extent that such shifts are cost-effective and consistent with water quality and reclamation objectives.

6. Contingent upon the success of the salinity loading measures set forth in paragraphs (2) through (5) immediately above, the Regional Board may consider other salinity control measures at a later date. Such measures may include--but are not limited to--salt loading fees, bans or restrictions on inefficient water and/or "self-regenerating" types of softeners, regulatory controls of agricultural discharges, and expansion of POTW pretreatment programs to include salinity loading controls from commercial discharges.

7. Water quality objectives for chloride will not be changed for the headwaters of the Region's major stream systems. Furthermore, due to concerns over degradation of ground waters stored in the Region's basins, water quality objectives for chloride in ground waters will not be changed. In accordance with the State *Antidegradation Policy*, water quality objectives currently in effect will continue to protect the naturally-high quality of such surface and ground waters.

8. Resolution No. 90-04: *Effects of Drought-Induced Water Supply Changes and Water Conservation Measures on Compliance with Waste Discharge Requirements within the Los Angeles Region (Drought Policy)*, which was intended to provide short-term and temporary relief to dischargers who were unable to comply with limits for chloride due to the effects of drought on chloride levels in supply waters, is hereby rescinded with the adoption of this resolution.

   While this resolution and amendment to the *Basin Plan* are under review by the State Water Resources Control Board, Office of Administrative Law, and the US Environmental Protection Agency, the Regional Board will evaluate compliance consistent with provisions set forth in this resolution.

I, John Norton, Acting Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on January 27, 1997.

John Norton
Acting Executive Officer

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Amendment to the Water Quality Control Plan to Incorporate a Policy for Addressing Levels of Chloride in Discharges of Wastewaters

Attachment A

Publicly-owned Treatment Plants Subject to a Variance from Chloride Limits Based on Existing Water Quality Objectives

Publicly-owned Treatment Plant	Operator
Saugus Water Reclamation Plant 26200 Springbrook Road, Saugus	County Sanitation Districts of Los Angeles County
Valencia Water Reclamation Plant 28185 The Old Road, Valencia	County Sanitation Districts of Los Angeles County
Santa Paula Wastewater Reclamation Facility 905 Corporate Street, Santa Paula	City of Santa Paula & Ventura Regional Sanitation District
City of Simi Valley Water Quality Control Facility 600 West Los Angeles Avenue, Simi Valley	City of Simi Valley
Moorpark Wastewater Treatment Plant 9550 Los Angeles Avenue, Moorpark	Ventura County Waterworks, District No. 1
Camrosa Wastewater Treatment Plant Lewis Road & Potrero Road, Camarillo	Ventura County Regional Sanitation District & Camrosa County Water District
Hill Canyon Wastewater Treatment Plant 9600 Santa Rosa Road, Camarillo	City of Thousand Oaks
Olsen Road Water Reclamation Plant 2025 Olsen Road, Thousand Oaks	City of Thousand Oaks
Camarillo Sanitary District Water Reclamation Plant 150 East Howard Road, Camarillo	Camarillo Sanitary District

Changes to Chapter One, Page 1-23

Imported Water Supply, Drought, and Salinity Loading Issues

Chloride concentrations in supply waters imported into the Region are periodically affected by drought. Moreover, baseline concentrations of chloride in supply waters imported into the Region are higher than they were in 1975, when the Regional Board set water quality objectives for chloride based upon background concentrations of chloride in the Region's waterbodies. The higher chloride concentrations in imported waters appear to be the result of impairments and/or intensifying demands for and utilization of water resources in watersheds from which the supply waters are imported.

During the most recent period of drought *starting in the late 1980s*, water supplies *imported into the Los Angeles Region* ~~from northern California~~ often had higher than normal concentrations of chlorides which, in turn, often resulted in waste discharges that exceeded chloride limitations. To provide a measure of relief to dischargers who were unable to meet chloride limitations *primarily* due to *supply waters*, the drought and/or water conservation measures, the Regional Board adopted Resolution No. 90-04, entitled *Effects of Drought Induced Water Supply Changes and Water Conservation Measures on Compliance with Waste Discharge Requirements within the Los Angeles Region (Drought Policy)*. This policy, which was adopted on March 26, 1990, temporarily raised chloride limitations to in response to chloride increases in the water supply for a period of three years. Under this policy, chloride limitations were temporarily set at the lesser of (i) 250 mg/L or (ii) the supply concentration plus 85 mg/L. *As chloride concentrations did not return to pre-drought levels, the Regional Board extended the Drought Policy for an 18-month period starting in June 1993, and extended the policy again for a 24-month period starting in February 1995.*

~~Although the drought ended in 1993, water supplies in storage still contained higher than normal levels of chlorides. Accordingly, on June 14, 1993 the Regional Board extended these temporary chloride limitations for 18 months. The Regional Board realizes that there may be a need for a longer term solution to these water supply issues, and will address these issues as part of the next Triennial Review.~~

In order to develop a long-term solution to chloride compliance problems while still protecting beneficial uses, the Regional Board worked with a group of technical experts representing a variety of interests, including: water supply, reclamation, and wastewater management; environmental protection; and water softener industry interests. This group, together with the Regional Board, developed a Policy for Addressing Levels of Chloride in Discharges of Wastewaters (Chloride Policy) to replace the short-term Drought Policy. The Chloride Policy, which the Regional Board adopted on January 27, 1997, permanently reset chloride limits for certain surface waters and also acknowledged the need to assess and manage salinity loading over the long term. The water quality objectives for chloride were reset at the lesser of (i) levels necessary to fully protect beneficial uses, or (ii) baseline levels of chloride in water supply plus a chloride loading factor. To address salinity loading issues, the Chloride Policy (i) includes requirements for monitoring and assessment of sources of salinity, (ii) encourages consumer education on water hardness issues and water quality problems associated with water softening processes, and (iii) encourages water

supply and wastewater treatment agencies to shift to less chlorine-intensive processes to achieve treatment and disinfection of supply waters and wastewaters, to the extent that such shifts are cost-effective and consistent with water quality and reclamation objectives.

Due to concerns expressed about the potential for future adverse impacts to agricultural resources in Ventura County, water quality objectives for chloride in the Santa Clara River and Calleguas Creek watersheds were not revised under the Chloride Policy. However, in the Santa Clara River watershed, water quality objectives for chloride will be reconsidered for revision within three years following final approval by the US EPA of the Chloride Policy. This will occur prior to renewal of National Pollutant Discharge Elimination System (NPDES) permits, scheduled for the year 2001 in the Santa Clara River watershed and 2003 in the Calleguas Creek watershed. In any future revisions to water quality objectives for chloride in the Santa Clara River and Calleguas Creek watersheds, the Regional Board will consider chloride levels in supply waters (including fluctuations that may be due to drought conditions), reasonable loading factors during beneficial use and disinfection of supply waters and wastewaters, methods to control chloride loading, and the associated costs and effectiveness of the various loading control methods.

Water quality objectives for chloride were not changed for the headwaters of the Region's major stream systems. Likewise, water quality objectives for chloride in ground waters were not changed, due to concerns over degradation of ground waters stored in the Region's basins. In accordance with the State Board's Antidegradation Policy, water quality objectives currently in effect will continue to protect the naturally-high quality of such surface and ground waters.

The new water quality objectives were incorporated into Table 3-8 Water Quality Objectives for Selected Constituents in Inland Surface Waters. Regional Board Resolution No. 97-0X: Policy for Addressing Levels of Chloride in Discharges of Wastewater, is included in Chapter 5 (page xx).

Changes to Chapter 2

See replacement figures on pages 3, 4, 5, and 6 of this document.

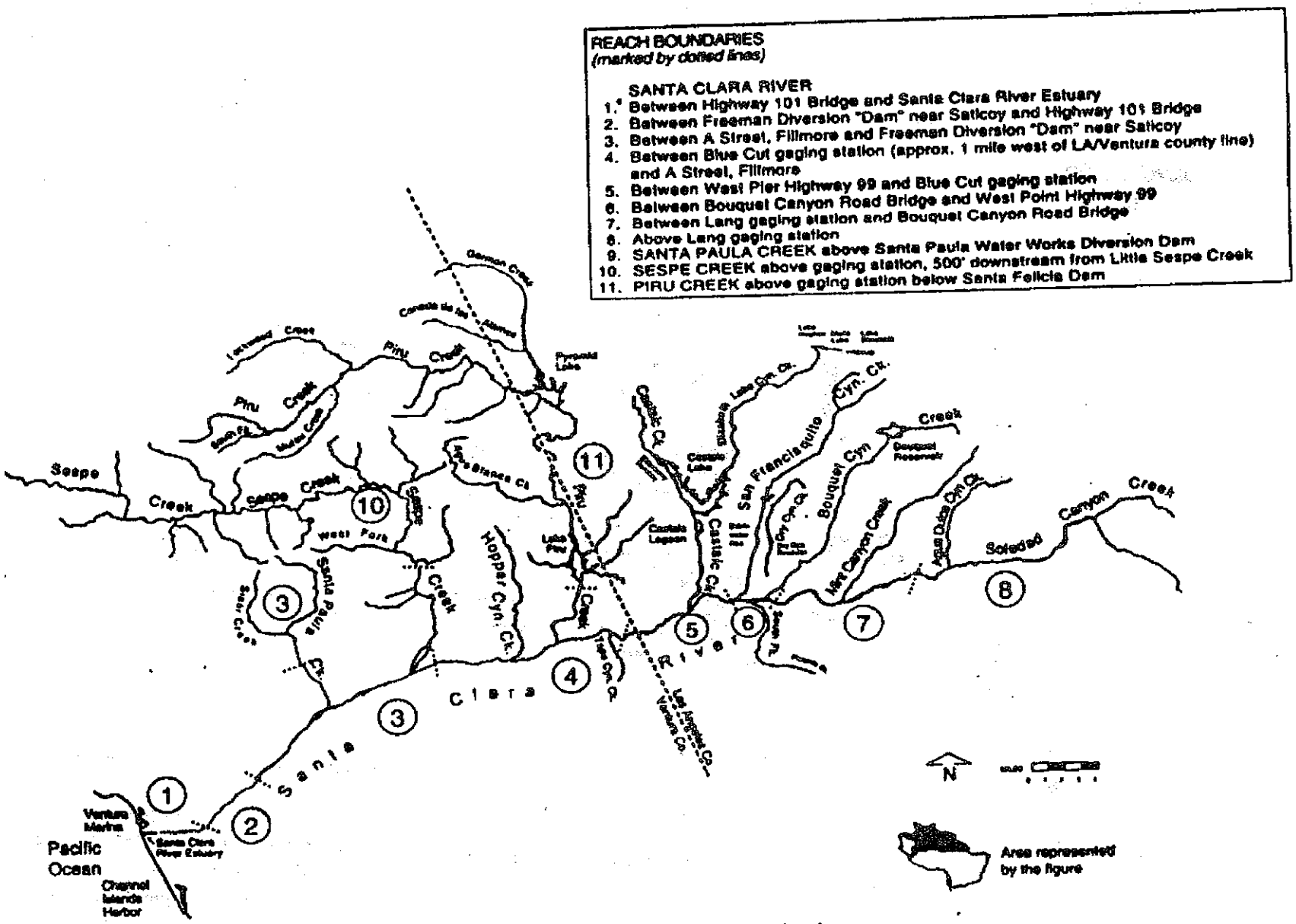

Fig 2-3. Major surface waters of the Santa Clara River watershed.

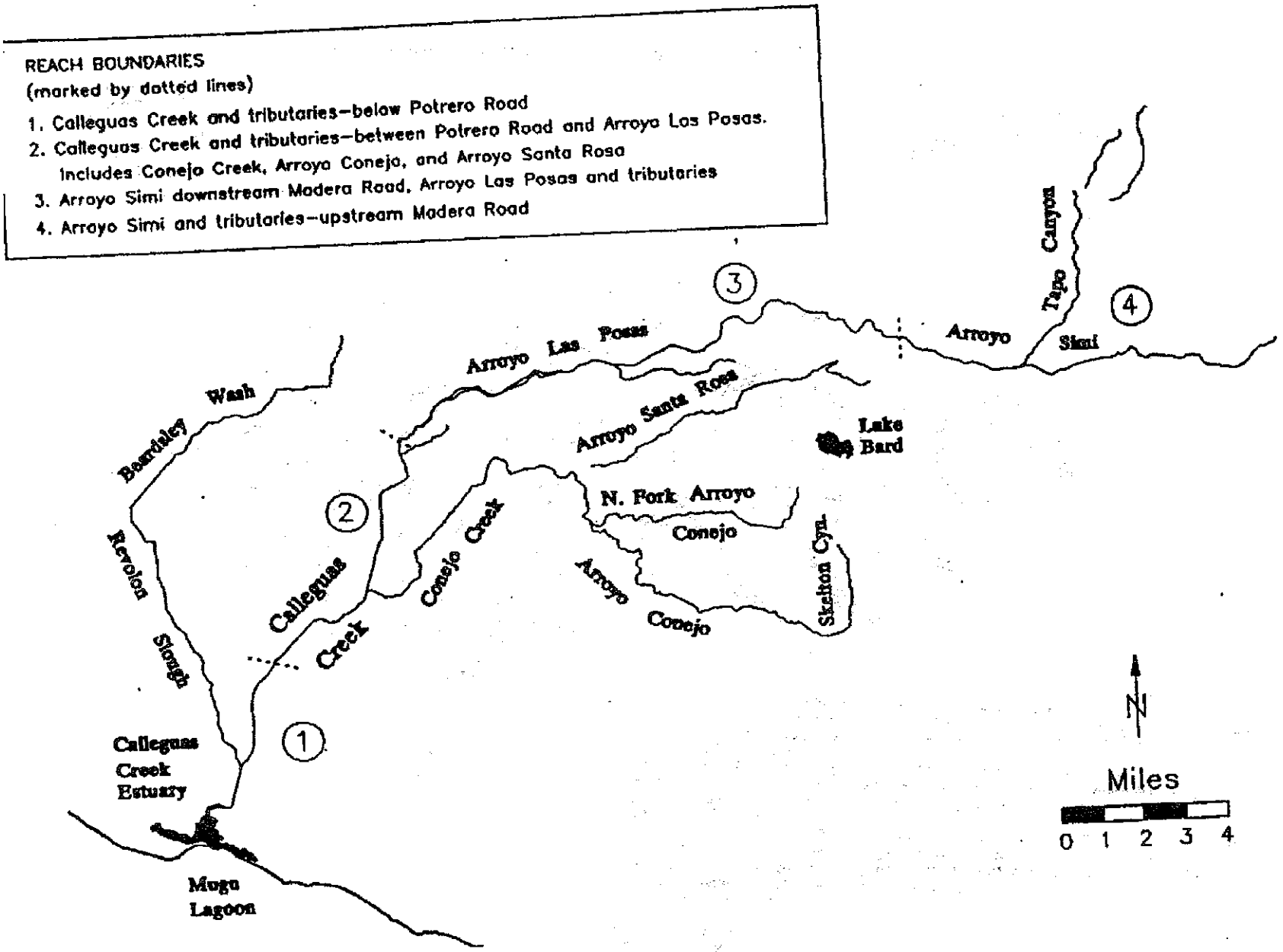

Figure 2–4. Major surface waters of the Calleguas–Conejo Creek watershed.

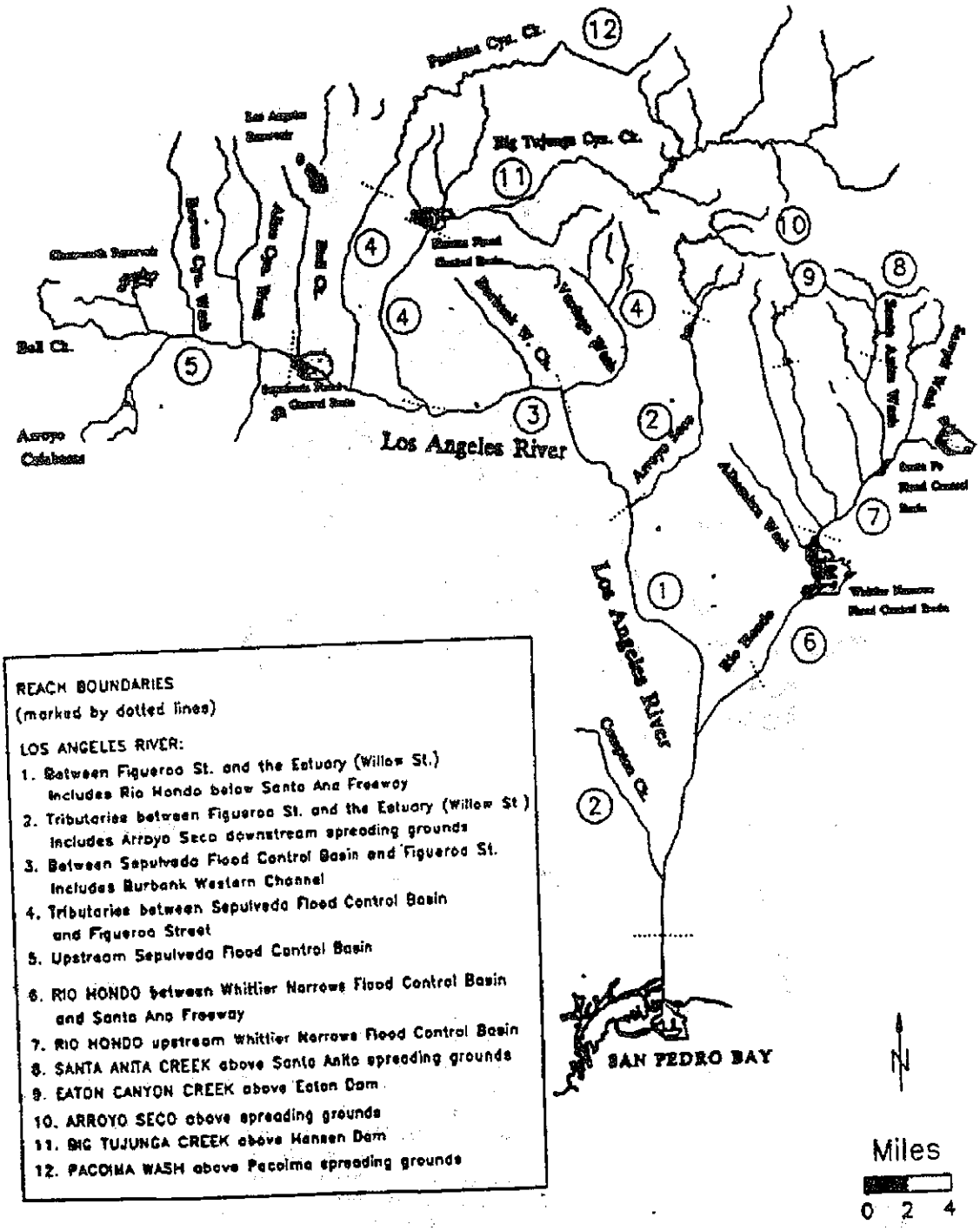

Figure 2–8. Major surface waters of the Los Angeles River watershed.

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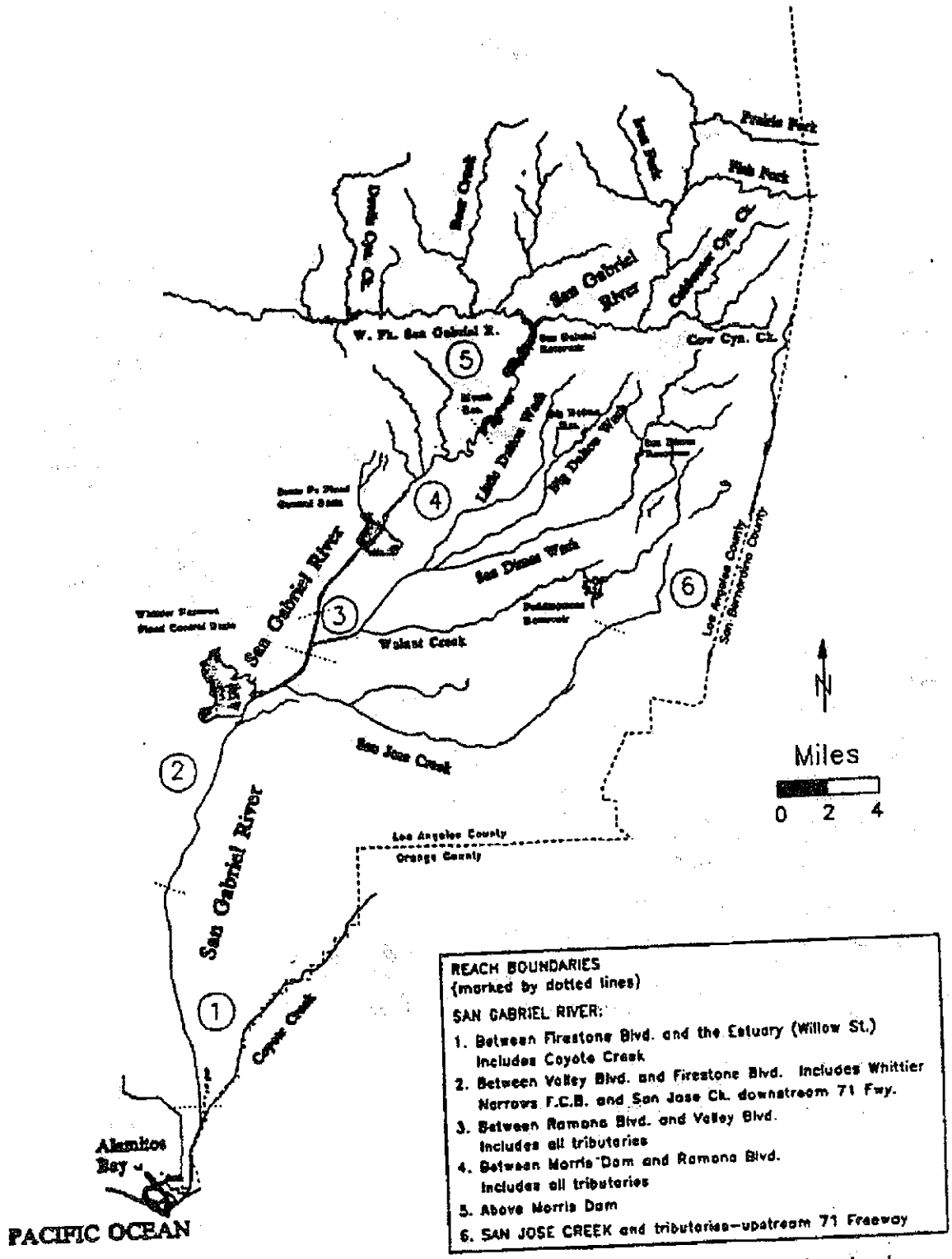

Figure 2-9. Major surface waters of the San Gabriel River watershed.

Changes to Chapter 3

See below for addition to page 3-11, ***Mineral Quality***.

As explained in Chapter 2 (page xx), many dischargers started to experience compliance problems with chloride limits in the late 1980s, largely due to chloride levels in supply waters imported into the Region. In order to provide a long-term solution to chloride compliance problems while continuing to protect beneficial uses, the Regional Board adopted Resolution No. 97-0X: Policy for Addressing Levels of Chloride in Discharges of Wastewater (Chapter 5, page xx). This Chloride Policy revised water quality objectives in selected surface waters based upon chloride levels in supply waters imported into the Region plus a loading factor. The policy also set forth measures to address salinity loading throughout the Region.

Due to concerns expressed about the potential for future adverse impacts to agricultural resources in Ventura County, water quality objectives for chloride in the Santa Clara River and Calleguas Creek watersheds were not revised under the Chloride Policy in 1997. However, the Regional Board has granted variances (interim relief) from surface water chloride limits in NPDES permits that are based on existing water quality objectives in the Santa Clara River and Calleguas Creek watersheds. Variances were granted to the following Publicly-owned Treatment Plants: Saugus Water Reclamation Plant; Valencia Water Reclamation Plant; Santa Paula Wastewater Reclamation Facility; City of Simi Valley Water Quality Control Facility; Moorpark Wastewater Treatment Plant; Camrosa Wastewater Treatment Plant; Olsen Road Water Reclamation Plant; Hill Canyon Wastewater Treatment Plant; and Camarillo Sanitary District Water Reclamation Plant. Under the variances, these existing dischargers will be subject to interim limits specified below.

Waterbody Segments for which Existing Dischargers Are Subject to Interim Chloride Limits	*Interim Limit*
Santa Clara River--between Bouquet Canyon Road Bridge and West Pier Highway 99	*190 mg/L*
Santa Clara River--between West Pier Highway 99 and Blue Cut gaging station	*190 mg/L*
Santa Clara River--between Blue Cut gaging station and A Street (Fillmore)	*190 mg/L*
Arroyo Simi and tributaries--upstream Madera Road	*160 mg/L*
Arroyo Simi--downstream Madera Road, Arroyo Las Posas, and tributaries	*190 mg/L*
Calleguas Creek and tributaries--between Potrero Road and Arroyo Las Posas (including Conejo Creek, Arroyo Conejo, and Arroyo Santa Rosa)	*190 mg/L*

~~*The Regional Board does not anticipate that the variance period for interim relief will need to extend for more than three years following final approval of the Chloride Policy and associated amendment to the Basin Plan.*~~ *The variance period for interim relief will extend to [three years following final approval of the Chloride Policy and associated amendment to the Basin Plan--actual date to be filled in]. During this period, the Regional Board expects that the group of local agencies, municipalities, representatives of the agricultural community, and other interested parties which have commented upon this policy will work together to (i) clarify water quality objectives needed to protect waters used for irrigation in the Santa Clara River and Calleguas Creek watersheds, (ii) assess significant sources of chloride loading, and (iii) contingent upon results of the chloride loading assessment, identify cost-effective ways to protect beneficial uses of waters in the Santa Clara and Calleguas Creek watersheds.*

At the end of the variance period, the Regional Board may reconsider revisions to water quality objectives for chloride in the Santa Clara River and Calleguas Creek watersheds. Future revisions of water quality objectives will consider chloride levels in supply waters (including fluctuations that may be due to future drought conditions), reasonable loading factors during beneficial use and treatment of supply waters and wastewaters, methods to control chloride loading, and the associated costs and effectiveness of the various loading control methods. A preliminary schedule and set of major tasks for accomplishing these goals is set forth in Table 3-X. Should these issues not be resolved within the three-year variance period, the Regional Board intends to renew the variance.

Table 3-X. Schedule for Chloride Loading Analyses–Santa Clara River and Calleguas Creek Watersheds[1]

Major Tasks and Questions to be Answered	*Participants*	*Targeted Completion*[2]
Irrigation Standards Research: What are the appropriate chloride standards for agriculture in the Santa Clara and Calleguas Creek watersheds?	*Regional Board, agricultural representatives, water suppliers, and other concerned parties*	*July 1997*
Source Identification: What are the sources of chloride? How can mass loadings from the identified sources be quantified?	*Regional Board, water suppliers, POTWs, and other concerned parties*	*October 1997*
Quantification: What is the mass loading of chloride from each identified source, and levels of confidence in data? What are the chloride loading trends?	*Regional Board, water suppliers, POTWs, and other concerned parties*	*October 1998*
Conclusions: What are appropriate water quality objectives for chloride? What are the significant sources of chloride? What are the impacts of chloride levels in upstream discharges on downstream beneficial uses?	*Regional Board, agricultural representatives, water suppliers, POTWs, and other concerned parties*	*Jan 1999*
Development of chloride control measures: What reasonable measures can be expected to achieve water quality objectives?	*Regional Board, agricultural representatives, water suppliers, POTWs, and other concerned parties*	*March 1999*
Consensus on management/control measures: Will concerned parties agree to implement appropriate measures that will achieve water quality objectives for chloride?	*Regional Board, agricultural representatives, water suppliers, POTWs, and other concerned parties*	*August 1999*
Consideration of revisions to water quality objectives for chloride	*Regional Board, with public review*	*October 1999*

[1] *The scope of the analyses may be broadened to address loading concerns for other saline constituents, such as sodium and total dissolved solids. However, such efforts will not delay analyses concerning chloride objectives and impacts.*

[2] *Targeted dates are estimates. If practical, tasks will be completed sooner than indicated on this schedule.*

Table 3-8. Water Quality Objectives for Selected Constituents in Inland Surface Waters[a].

Reaches are in upstream to downstream order.

WATERSHED/STREAM REACH[b]	TDS (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Boron[c] (mg/L)	Nitrogen[d] (mg/L)	SAR[e] (mg/L)
Miscellaneous Ventura Coastal Streams	no waterbody specific objectives [f]					
Ventura River Watershed:						
Above Camino Cielo Road	700	300	50	1.0	5	5
Between Camino Cielo Road and Casitas Vista Road	800	300	60	1.0	5	5
Between Casitas Vista Road and confluence with Weldon Canyon	1000	300	60	1.0	5	5
Between confluence with Weldon Canyon and Main Street	1500	500	300	1.5	10	5
Between Main St. and Ventura River Estuary	*no waterbody specific objectives [f]*					
Santa Clara River Watershed:						
Above Lang gaging station	500	100	50	0.5	5	5
Between Lang gaging station and Bouquet Canyon Road Bridge	800	150	100	1.0	5	5
Between Bouquet Canyon Road Bridge and West Pier Highway 99	1000	300	100	1.5	10	5
Between West Pier Highway 99 and Blue Cut gaging station	1000	400	100	1.5	5	10
Between Blue Cut gaging station and A Street, Fillmore	1300	600	100	1.5	5	5
Between A Street, Fillmore and Freeman Diversion "Dam" near Saticoy	1300	650	80	1.5	5	5
Between Freeman Diversion "Dam" near Saticoy and Highway 101 Bridge	1200	600	150	1.5	-	-
Between Highway 101 Bridge and Santa Clara River Estuary	*no waterbody specific objectives [f]*					
Santa Paula Creek above Santa Paula Water Works Diversion Dam	600	250	45	1.0	5	5
Sespe Creek above gaging station, 500' downstream from Little Sespe Creek	800	320	60	1.5	5	5
Piru Creek above gaging station below Santa Felicia Dam	800	400	60	1.0	5	5

Table 3-8. Water Quality Objectives for Selected Constituents in Inland Surface Waters[a] (cont.)
Reaches are in upstream to downstream order.

WATERSHED/STREAM REACH[b]	TDS (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Boron[c] (mg/L)	Nitrogen[d] (mg/L)	SAR[e] (mg/L)
Calleguas Creek Watershed:						
Arroyo Simi and tributaries–upstream Madera Road	850	250	150	1.0	10	f
Arroyo Simi–downstream Madera Road, Arroyo Las Posas, and tributaries	850	250	150	1.0	10	f
Calleguas Creek and tributaries–between Potrero Road and Arroyo Las Posas; includes Conejo Creek, Arroyo Conejo, and Arroyo Santa Rosa.	850	250	150	1.0	10	f
Below Potrero Road	*no waterbody specific objectives* [f]					
Miscellaneous Los Angeles County Coastal Streams	*no waterbody specific objectives* [f]					
Malibu Creek Watershed	*2000*	*500*	*500*	*2.0*	*10*	-
Ballona Creek Watershed	*no waterbody specific objectives* [f]					
Dominguez Channel Watershed	*no waterbody specific objectives* [f]					
Los Angeles River Watershed:						
Los Angeles River and tributaries–upstream Sepulveda Flood Control Basin	950	300	150	g	8	g
Los Angeles River–between Sepulveda Flood Control Basin and Figueroa Street. Includes Burbank Western Channel only.	950	300	~~150~~ *190*	g	8	g
Other tributaries to Los Angeles River–between Sepulveda Flood Control Basin and Figueroa Street	950	300	150	g	8	g
Los Angeles River–between Figueroa Street and Los Angeles River Estuary (Willow Street). Includes Rio Hondo below Santa Ana Freeway only.	1500	350	~~150~~ *190*	g	8	g
Other tributaries to Los Angeles River–between Figueroa Street and Los Angeles river Estuary. Includes Arroyo Seco downstream spreading grounds.	1500	350	150	g	8	g
Rio Hondo–between Whittier Narrows Flood Control Basin and Santa Ana Freeway.[h]	750	300	~~150~~ *190*	g	8	g
Rio Hondo–upstream Whittier Narrows Flood Control Basin	750	300	150	g	8	g
Santa Anita Creek above Santa Anita spreading grounds	250	30	10	g	f	g

Table 3-8. Water Quality Objectives for Selected Constituents in Inland Surface Waters[a] (cont.)

Reaches are in upstream to downstream order.

WATERSHED/STREAM REACH[b]	TDS (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Boron[c] (mg/L)	Nitrogen[d] (mg/L)	SAR[e] (mg/L)
Los Angeles River Watershed (cont.):						
Eaton Canyon Creek above Eaton Dam	250	30	10	g	f	g
Arroyo Seco above spreading grounds	300	40	15	g	f	g
Big Tujunga Creek above Hansen Dam	350	50	20	g	f	g
Pacoima Wash above Pacoima spreading grounds	250	30	10	g	f	g
San Gabriel River Watershed:						
San Gabriel River–above Morris Dam	250	30	10	0.6	2	2
San Gabriel River–between Morris Dam and Ramona Blvd.	450	100	100	0.5	8	g
San Gabriel River and tributaries–between Ramona Blvd. and Valley Blvd.	750	300	150	1.0	8	g
San Gabriel River–between Valley Blvd. and Firestone Blvd. Includes Whittier Narrows Flood Control Basin, and San Jose Creek–downstream 71 Freeway only.	750	300	~~150~~ 180	1.0	8	g
San Jose Creek and tributaries–upstream 71 Freeway	750	300	150	1.0	8	g
San Gabriel River–between Firestone Blvd. and San Gabriel River Estuary (downstream from Willow Street). Includes Coyote Creek.	*no waterbody specific objectives* [f]					
All other minor San Gabriel Mountain streams tributary to San Gabriel Valley [f]	300	40	15	g	f	g
Island Watercourses:						
Anacapa Island	*no waterbody specific objectives* [f]					
San Nicolas Island	*no waterbody specific objectives* [f]					
Santa Barbara Island	*no waterbody specific objectives* [f]					
Santa Catalina Island	*no waterbody specific objectives* [f]					
San Clemente Island	*no waterbody specific objectives* [f]					

Table 3-8. Water Quality Objectives for Selected Constituents in Inland Surface Waters[a] (cont.)

Reaches are in upstream to downstream order.

WATERSHED/STREAM REACH[b]	TDS (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Boron[c] (mg/L)	Nitrogen[d] (mg/L)	SAR[e] (mg/L)
Other Watercourses:						
San Antonio Creek[j]	225	25	6	--	--	--
Chino Creek[j]	--	--	--	--	--	--

a. As part of the State's continuing planning process, data will continue to be collected to support the development of numerical water quality objectives for waterbodies and constituents where sufficient information is presently unavailable. Any new recommendations for water quality objectives will be brought before the Regional Board in the future.

b. All references to watersheds, streams and reaches include all tributaries. Water quality objectives are applied to all waters tributary to those specifically listed in the table. See Figures 2-1 to 2-10 for locations.

c. Where naturally occurring boron results in concentrations higher than the stated objective, a site-specific objective may be determined on a case-by-case basis.

d. Nitrate-nitrogen plus nitrite-nitrogen (NO3-N + NO2-N). The lack of adequate nitrogen data for all streams precluded the establishment of numerical objectives for all streams.

e. Sodium adsorption ratio (SAR) predicts the degree to which irrigation water tends to enter into cation-exchange reactions in soil.

$$SAR = Na+/\{(Ca++ + Mg++)/2\}1/2$$

f. Site-specific objectives have not been determined for these reaches at this time. These areas are often impaired (by high levels of minerals) and there is not sufficient historic data to designate objectives based on natural background conditions. The following table illustrates the mineral or nutrient quality necessary to protect different categories of beneficial uses and will be used as a guideline for establishing effluent limits in these cases. Protection of the most sensitive beneficial use(s) would be the determining criteria for the selection of effluent limits.

Recommended objective (mg/L)	Beneficial Use Categories				
	MUN (Drinking Water Standards) [1]	PROC	AGR	AQ LIFE*(Frshwtr)	GWR
TDS	500 (USEPA secondary MCL)	50-1500 [2,7,8]	450-2000 [2,3,8]		Limits based on appropriate groundwater basin objectives and/or beneficial uses
Chloride	250 (USEPA secondary MCL)	20-1000 [2,8]	100-355 [2,3,8]	230 (4 day ave. continuous conc) [4]	
Sulfate	400-500 (USEPA proposed MCL)	20-300 [2,8]	350-600 [2,8]		
Boron			0.5-4.0 [2,6,8]		
Nitrogen	10 (USEPA MCL)				

References: 1) USEPA CFR § 141 et seq., 2) McKee and Wolf, 1963, 3) Ayers and Westcot, 1985, 4) USEPA, 1988, 5) Water Pollution Control Federation, 1989, 6) USEPA, 1973, 7) USEPA 1980, 8) Ayers, 1977.
* Aquatic life includes a variety of Beneficial Uses including WARM, COLD, SPWN, MIGR and RARE.

g. Agricultural supply is not a beneficial use of the surface water in the specified reach.

h. Rio Hondo spreading grounds are located above the Santa Ana Freeway.

i. The stated objectives apply to all other surface streams originating within the San Gabriel Mountains and extend from their headwaters to the canyon mouth.

j. These watercourses are primarily located in the Santa Ana Region. The water quality objectives for these streams have been established by Santa Ana Region. Dashed lines indicate that numerical objectives have not been established, however, narrative objectives shall apply. Refer to the Santa Ana Region Basin Plan for more details.

Changes to Chapter Five, Page 5-8

Regional Board Resolutions

The Los Angeles Regional Board has adopted many resolutions over the years. The following are summaries of the resolutions that are most important to the Regional Board's implementation of the Basin Plan and are herein incorporated by reference:

~~Resolution No. 90-04, Adopted March 26, 1990,~~

~~"Effects of of Drought Induced Water Supply Changes and Water Conservation Measures on Compliance with Waste Discharge Requirements within the Los Angeles Region." This policy temporarily raised chloride limitations in Waste Discharge Requirements to match chloride increases in the water supply for a period of 3 years. Specifically, chloride limitations were temporarily set at the lesser of (i) 250 mg/L or (ii) the supply concentation plus 85 mg/L.~~

Resolution No. 97-xx, Adopted January 27, 1997,

"Policy for Addressing Levels of Chloride in Discharges of Wastewaters" (see page 5-x)

New water quality objectives for chloride, based upon baseline levels of chloride in supply waters imported into the Los Angeles Region plus a loading factor, were established for several reaches of surface waterbodies. Additionally, the policy sets forth long-term measures to address salinity loading issues. This policy replaced Resolution No. 90-04, "Effects of Drought Induced Water Supply Changes and Water Conservation Measures on Compliance with Waste Discharge Requirements within the Los Angeles Region" (Drought Policy).

Table 1 - Summary of Water Quality Information and Water Quality Objectives for Chlorides[1] in Waterbody Segments Subject to Los Angeles Regional Board Resolution No. 97-02

Waterbody Segment	Background Level (mg/l)	Supply Water Baseline (mg/l)	Loading Factor (mg/l)	New Objective (mg/l)	*Existing Objective (mg/l)*
Santa Clara River - between Bouquet Canyon Road Bridge and West Pier of Hwy. 99	105	105	85	Note 2	*100*
Santa Clara River - between West Pier Hwy. 99 and Blue Cut gaging station	105	105	85	Note 2	*100*
Santa Clara River - between Blue Cut gaging station and A Street (Fillmore)	91	105	85	Note 2	*100*
Arroyo Simi and tributaries - upstream of Madera Road	159	--	--	Note 3	*150*
Arroyo Simi - downstream Madera Road, Arroyo Las Posas, and tributaries	166	105	85	Note 2	*150*
Calleguas Creek and tributaries - between Portrero Road and Arroyo Las Posas (including Conejo Creek, Arroyo Conejo, and Arroyo Santa Rosa)	188	105	85	Note 2	*150*
Los Angeles River and tributaries - upstream Sepulveda Flood Control Basin	128	--	--	Note 4	*150*
Los Angeles River - between Sepulveda Flood Control Basin and Figueroa Street (including Burbank Western Channel only)	128	105	85	190	*150*
Other tributaries to the Los Angeles River - between Sepulveda Flood Control Basin and Figueroa Street	108	--	--	Note 4	*150*
Los Angeles River - between Figueroa Street and estuary (including Rio Hondo below Santa Ana Freeway only)	140	105	85	190	*150*
Other tributaries to the Los Angeles River - between Figueroa Street and estuary (including Arroyo Seco downstream spreading grounds)	90	--	--	Note 4	*150*
Rio Hondo - between Whittier Narrows Flood Control Basin and Santa Ana Freeway	78	95	85	180	*150*
Rio Hondo - upstream Whittier Narrows Flood Control Basin	84	--	--	Note 4	*150*
San Gabriel River and tributaries - between Ramona Blvd. and Valley Blvd.	95	--	--	Note 4	*150*
San Gabriel River - between Valley Blvd. and Firestone Blvd. (including Whittier Narrows Flood Control Basin and San Jose Creek downstream of 71 Freeway only)	102	95	85	180	*150*
San Jose Creek and tributaries - upstream of 71 Freeway	--	--	--	Note 4	*150*

Notes

1. All chloride concentrations presented in milligrams per liter (mg/l).
2. No new chloride objective. Existing publicly owned treatment works (POTWs) currently discharging into this waterbody segment are eligible for interim limits of up to 190 mg/l.
3. No new chloride objective. Existing publicly owned treatment works (POTWs) currently discharging into this waterbody segment are eligible for interim limits of up to 160 mg/l.
4. No new chloride objective.

Attachment 2

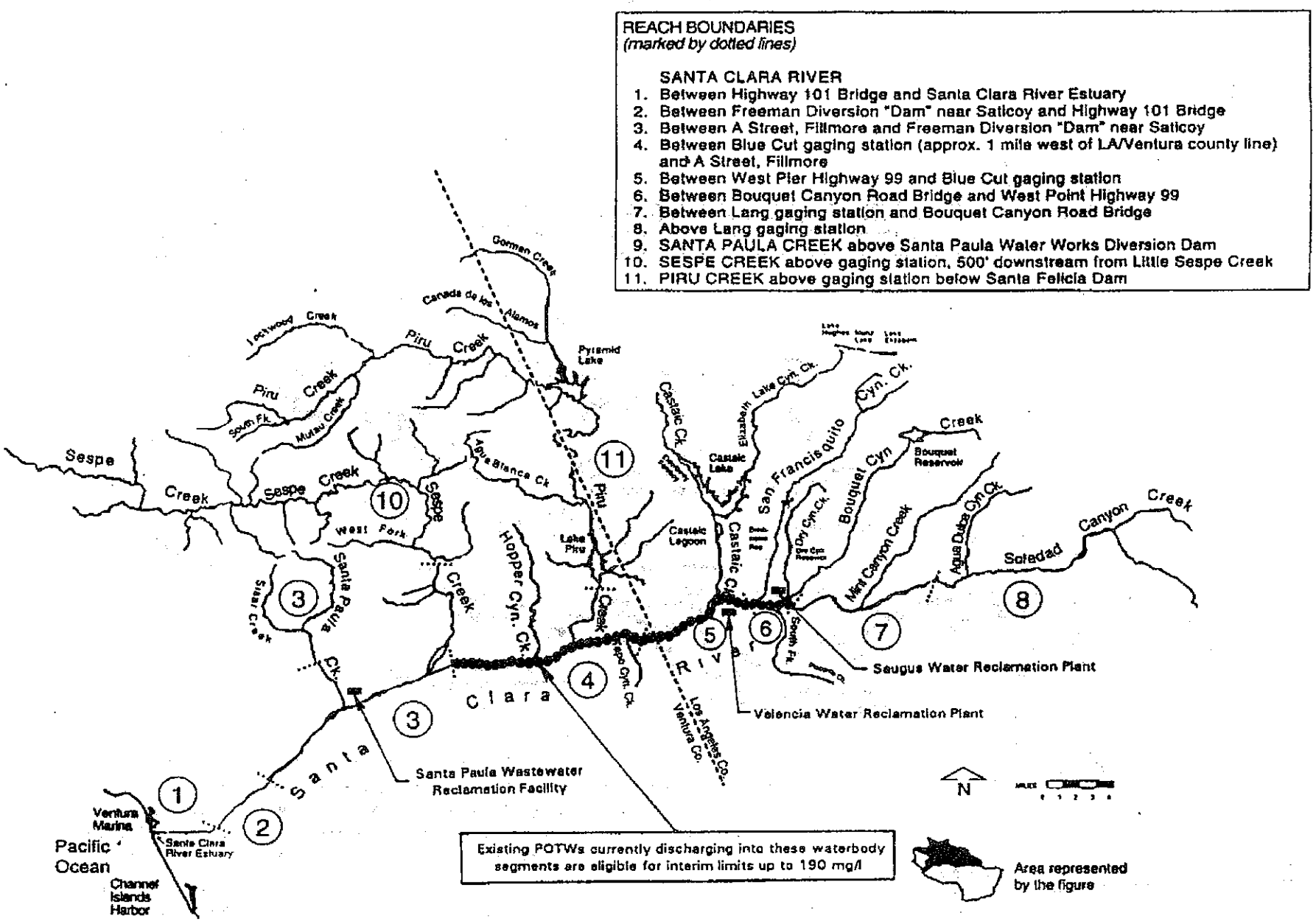

Figure 1- Major Surface Waters of the Santa Clara River Watershed and Location of POTWs Subject to Interim Chloride Limits

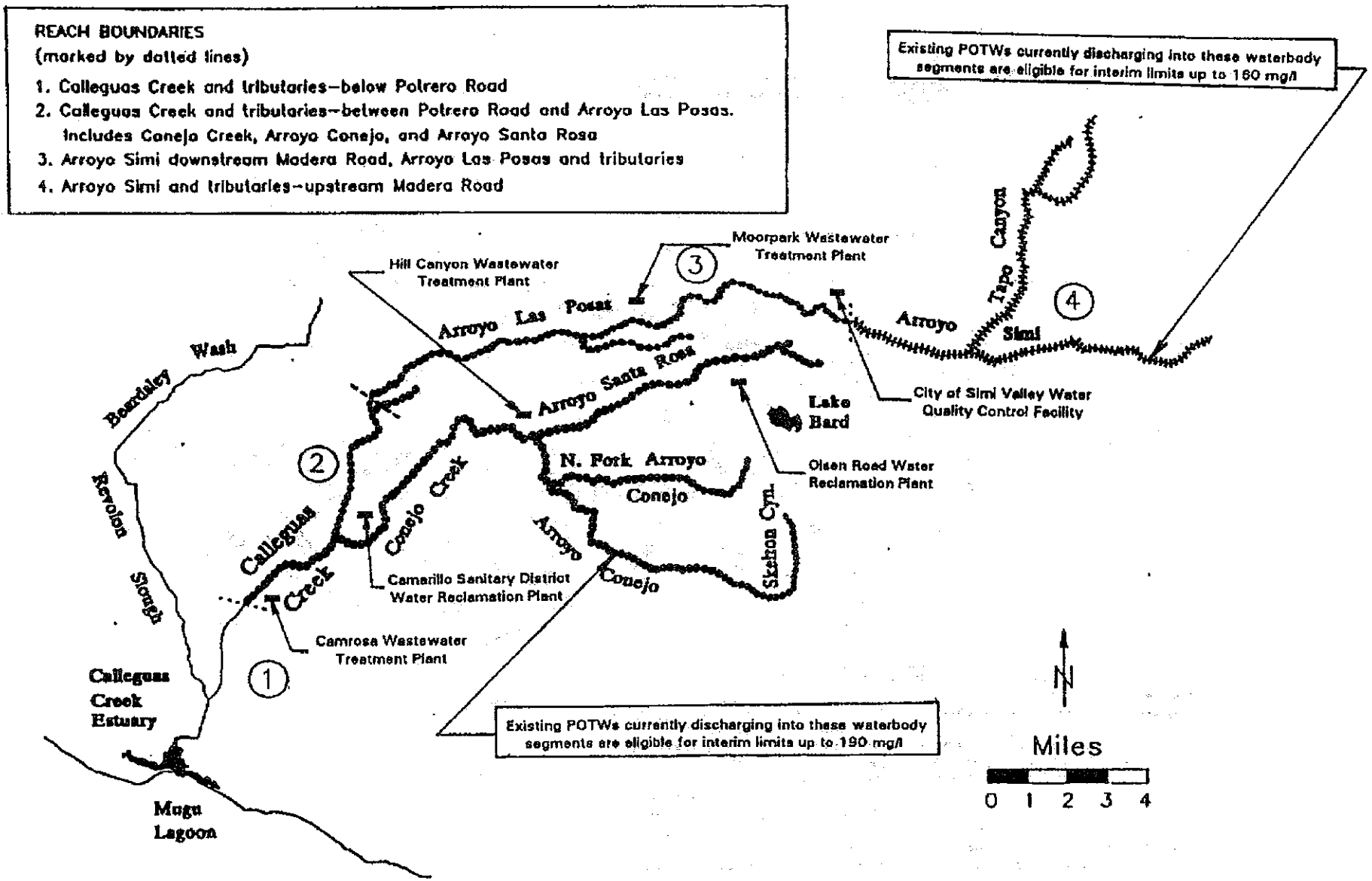

Figure 2- Major Surface Waters of the Calleguas-Conejo Creek Watershed and Location of POTWs Subject to Interim Chloride Limits

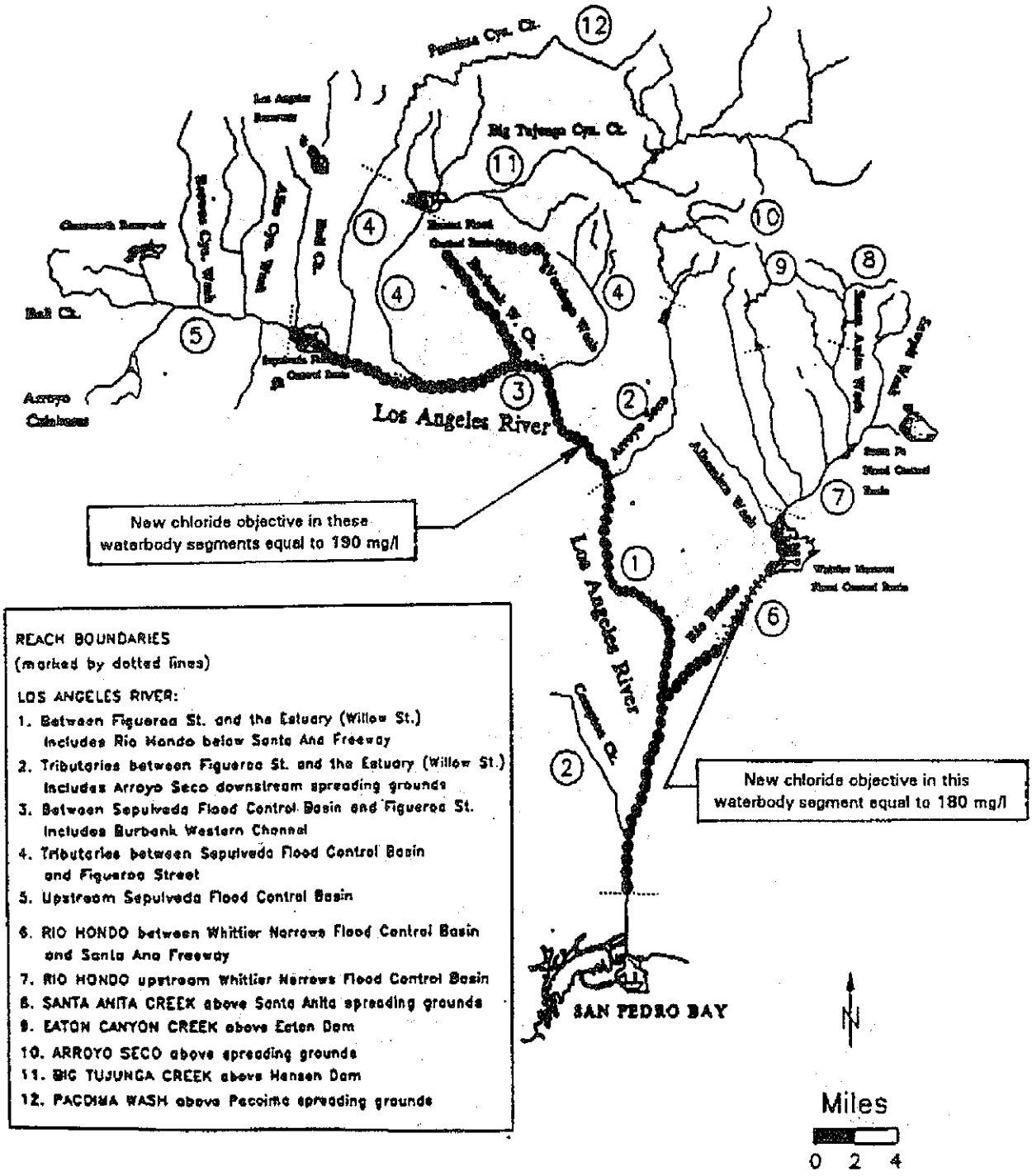

Figure 3 - Major Surface Waters of the Los Angeles River Watershed

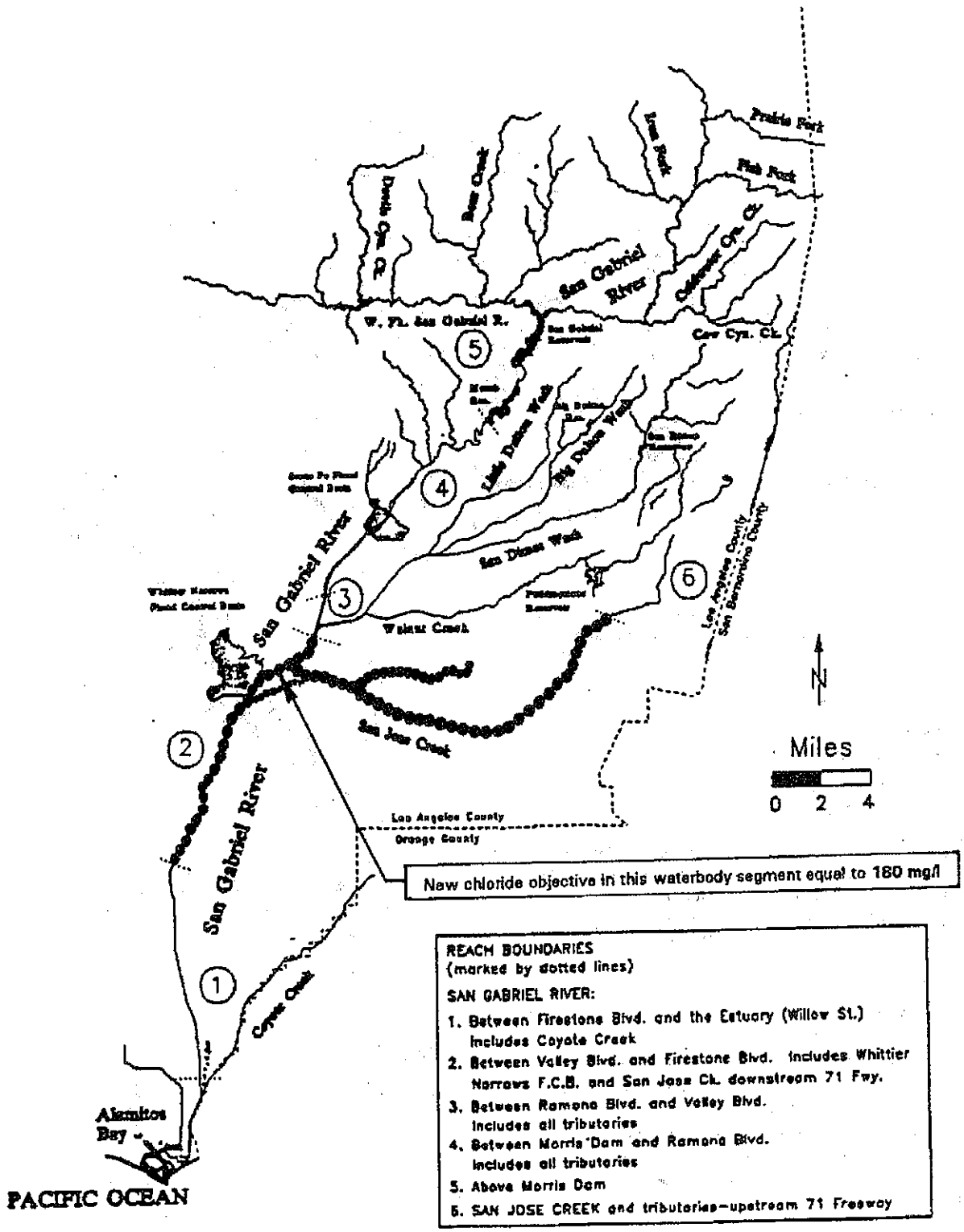

Figure 4 - Major Surface Waters of the San Gabriel River Watershed

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 97-66

APPROVAL OF AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE SANTA ANA RIVER BASIN REVISING BACTERIAL WATER QUALITY OBJECTIVES FOR OCEAN WATERS

WHEREAS:

1. The California Regional Water Quality Control Board, Santa Ana Region (SARWQCB), adopted a revised Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) on March 11, 1994.

2. On April 18, 1997, following a public hearing, the SARWQCB adopted Resolution No. 97-20 (Attachment 1) which amended the Basin Plan by deleting bacterial objectives for ocean waters and relying on the objectives contained in the Water Quality Control Plan for Ocean Waters of California (Ocean Plan), adopted by the State Water Resources Control Board (SWRCB) in 1990.

3. The SWRCB finds that the proposed amendment complies with requirements of SWRCB Resolution No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California).

4. Section 13240 of the Water Code specifies that basin plans be periodically reviewed and, if appropriate, revised.

5. The SARWQCB staff prepared documents and followed procedures satisfying environmental documentation requirements in accordance with the California Environmental Quality Act and other State laws and regulations.

6. This Basin Plan amendment does not become effective until approved by the SWRCB and the U.S. Environmental Protection Agency (U.S. EPA) and until the regulatory provisions are approved by the Office of Administrative Law (OAL).

THEREFORE BE IT RESOLVED THAT:

The SWRCB:

1. Approves SARWQCB Resolution No. 97-20 amending the Water Quality Control Plan for the Santa Ana River Basin.

2. Authorizes staff to forward regulatory provisions to OAL and the entire amendment to U.S. EPA for approval.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on July 17, 1997.

Maureen Marché
Administrative Assistant to the Board

California Regional Water Quality Control Board
Santa Ana Region

RESOLUTION NO. 97- 20

Resolution Amending the Water Quality Control Plan
for the Santa Ana River Basin

WHEREAS, the California Regional Water Quality Control Board, Santa Ana Region (hereinafter Regional Board), finds that:

1. An updated Water Quality Control Plan for the Santa Ana River Basin (Basin Plan) was adopted by the Regional Board on March 11, 1994, approved by the State Water Resources Control Board (SWRCB) on July 21, 1994 and approved by the Office of Administrative Law on January 24, 1995.

2. For the protection of the ocean waters of the Santa Ana Region, the Basin Plan incorporates the SWRCB's California Ocean Plan by reference. The Ocean Plan establishes water quality objectives for California's coastal ocean waters and provides the basis for regulation of waste discharges to those waters. The Ocean Plan includes numeric bacterial quality objectives to protect water contact recreation and shellfish harvesting beneficial uses of ocean waters.

3. The Basin Plan also includes numeric bacterial objectives for the protection of water contact recreation and shellfish harvesting beneficial uses of ocean waters. The Basin Plan bacterial objectives are not consistent with those contained in the Ocean Plan.

4. Waste discharge requirements must implement relevant water quality control plans and policies. In the case of waste discharges to the ocean waters of the Santa Ana Region, these plans include the California Ocean Plan and the Basin Plan. The inconsistencies between the bacterial objectives specified in the two Plans confound the development of appropriate bacterial limitations in waste discharge requirements.

5. The bacterial objectives for ocean waters in the Basin Plan were adopted in the 1983 Basin Plan and carried over unchanged in the current 1995 Basin Plan. These objectives were based on the bacterial quality objectives in the 1978 Ocean Plan, which was in effect at the time the 1983 Basin Plan was adopted.

6. In adopting the bacterial objectives in 1983, the Regional Board did not intend to specify objectives more stringent than those in the Ocean Plan.

7. The specification of bacterial objectives for ocean waters in the Basin Plan impedes the application of new scientific information regarding appropriate

objectives which is considered by the SWRCB during the SWRCB's periodic review of the Ocean Plan.

8. It is appropriate to delete the numeric bacterial objectives for ocean waters from the Basin Plan and to rely on the objectives contained in the Ocean Plan. The deletion of the Basin Plan objectives and reliance on the Ocean Plan would: (1) eliminate the current inconsistencies between the two sets of objectives; (2) assure the protection of public health, water quality and beneficial uses; (3) assure statewide consistency; (4) assure the ongoing use of the best available scientific information; and, (5) provide for the prudent use of staff resources.

9 The Regional Board discussed this matter at a workshop conducted on January 24, 1997 after notice was given to all interested persons in accordance with Section 13244 of the California Water Code. Based on that discussion and the testimony received, the Board directed staff to prepare the appropriate Basin Plan amendment and related documentation to delete the Basin Plan bacterial objectives for ocean waters.

10. The Regional Board prepared and distributed written reports (staff reports) regarding adoption of the Basin Plan amendment in compliance with applicable state and federal environmental regulations (California Code of Regulations, Section 3775, Title 23, and 40 CFR Parts 25 and 131).

11. The process of basin planning has been certified by the Secretary for Resources as exempt from the requirement of the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) to prepare an Environmental Impact Report or Negative Declaration. The Basin Plan amendment package includes an Environmental Checklist, an assessment of the environmental impacts of the Basin Plan amendment, and a discussion of alternatives. The amended Basin Plan, Environmental Checklist, staff reports, and supporting documentation are functionally equivalent to an Environmental Impact Report or Negative Declaration.

12. The Regional Board has considered federal and state antidegradation policies and other relevant water quality control policies and finds the Basin Plan amendment consistent with those policies.

13. On April 18, 1997, the Regional Board held a Public Hearing to consider the Basin Plan amendment. Notice of the Public Hearing was given to all interested persons and published in accordance with Water Code Section 13244.

14. The Basin Plan amendment must be submitted for review and approval by the SWRCB, the Office of Administrative Law (OAL), and the U.S. Environmental Protection Agency. Once approved by the SWRCB, the amendment is submitted to OAL. The Basin Plan amendment will become effective upon approval by the SWRCB and OAL. A Notice of Decision will be filed after the SWRCB and OAL have acted on this matter. The SWRCB will forward the approved amendment to the U.S. Environmental Protection Agency for review and approval.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Regional Board adopts the amendment to the Water Quality Control Plan for the Santa Ana River Basin (Region 8) as set forth in the attachment.

2. The Executive Officer is directed to forward copies of the Basin Plan amendment to the SWRCB in accordance with the requirement of Section 13245 of the California Water Code.

3. The Regional Board requests that the SWRCB approve the Basin Plan amendment in accordance with the requirements of Sections 13245 and 13246 of the California Water Code and forward it to the Office of Administrative Law for approval.

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Santa Ana Region, on April 18, 1997.

Gerard J. Thibeault
Executive Officer

Attachment to Resolution No. 97-20

Amendment to the Santa Ana Region Basin Plan

CHAPTER 4 - WATER QUALITY OBJECTIVES, Page 4-1, second column, last paragraph, et seq.

(Language deleted is struck out)

OCEAN WATERS

Water quality objectives specified in the "Water Quality Control Plan for Ocean Waters of California" (Ocean Plan) and the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" (Thermal Plan) are incorporated into this Basin Plan by reference. The provisions of the Ocean Plan and Thermal Plan apply to the ocean waters within this Region. ~~Refer to the Ocean Plan for constituents not specifically noted here.~~

~~**Bacteria, Coliform**~~

~~Fecal bacteria are part of the intestinal flora of warm blooded animals. Their presence in surface waters is an indicator of pollution. Total coliform is measured in terms of the number of coliform organisms per unit volume. Total coliform numbers can include non-fecal bacteria, so additional testing is often done to confirm the presence and numbers of fecal coliform bacteria. Water quality objectives for numbers of total and fecal coliform vary with the uses of the water, as shown below.~~

~~*The following objectives apply to the ocean waters of the Region:*~~

~~*REC-1 — Fecal coliform: log mean less than 200 organisms/100 mL based on five or more samples/30 day period, and not more than 10% of the samples exceed 400 organisms/100 mL for any 30 day period*~~

~~*SHEL — Fecal coliform: median concentration not more than 14 MPN (most probable number)/100 mL and not more than 10% of samples exceed 43 MPN/100 mL*~~

~~*Additional details concerning these objectives are provided in the Ocean Plan (Chapter II, Sections A and B).*~~