

STATE WATER RESOURCES CONTROL BOARD  
RESOLUTION NO. 91-11

APPROVAL OF AN AMENDMENT TO THE COMPREHENSIVE  
WATER QUALITY CONTROL PLAN  
FOR THE SAN DIEGO REGION REVISING SURFACE AND  
GROUND WATER QUALITY OBJECTIVES FOR  
A PORTION OF THE SANTA MARGARITA HYDROLOGIC UNIT

WHEREAS:

1. The California Regional Water Quality Control Board, San Diego Region (San Diego Regional Board), adopted the Comprehensive Water Quality Control Plan for the San Diego Basin (Basin Plan) on March 17, 1975.
2. Section 13240 of the California Water Code specifies that basin plans be periodically reviewed and, if appropriate, revised.
3. On September 24, 1990, following a public hearing, the San Diego Regional Board adopted Resolution No. 90-53 (Attachment 1) which amended the Basin Plan by: (1) modifying the Implementation Plan to provide an alternate method of conformance with the existing narrative nutrient objectives for surface waters in a portion of the Santa Margarita Hydrologic Unit (2.00) (HU) and (2) revising surface and ground water quality objectives for total dissolved solids (TDS) in portions of the Wolf (2.52), Gavilan (2.22), and De Luz (2.21) Hydrologic Subareas (HSA) located within the Santa Margarita HU. That portion of the Santa Margarita HU to which the proposed amendment applies is presented in Attachment 2.
4. The alternative method of compliance referenced in Whereas 3 above involves the development and implementation of a comprehensive water course management plan, the details of which are to be stipulated in the National Pollutant Discharge Elimination System permit(s) issued to dischargers of reclaimed water to surface waters in that portion of the Santa Margarita HU to which the proposed amendment applies.
5. There is no current or planned use of surface waters of the Santa Margarita HU for domestic and municipal water supplies. The surface waters are designated MUN in the Basin Plan, and this designation may need to be revised in the event discharges of reclaimed wastewater occurs in the area.
6. The San Diego Regional Board staff prepared documents and followed procedures satisfying environmental documentation requirements in accordance with the California Environmental Quality Act.

7. The State Water Resources Control Board (State Board), after reviewing the proposed Basin Plan amendment and supporting documents provided by the San Diego Regional Board and other available information, finds that there is sufficient evidence to show that the proposed revisions to surface and ground water quality objectives comply with the requirements of State Board Resolution No. 68-16.
8. Section 13245 of the California Water Code specifies that a revision of a water quality control plan adopted by a Regional Water Quality Control Board does not become effective until approved by the State Board.

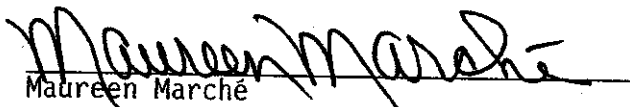
THEREFORE BE IT RESOLVED:

That the State Board:

1. Approve San Diego Regional Board Resolution No. 90-53 amending the Comprehensive Water Quality Control Plan.
2. Direct the San Diego Regional Board to reconsider the appropriateness of the municipal and domestic water supply (MUN) beneficial use designation for the Santa Margarita Hydrologic Area and to amend the designation as necessary prior to any discharge of reclaimed water in the area.
3. Direct staff to submit the surface water elements of the amendment to the U.S. Environmental Protection Agency 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 January 24, 1991.

  
Maureen Marché  
Administrative Assistant to the Board

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION

RESOLUTION NO. 90-53

A RESOLUTION ADOPTING AMENDMENTS  
TO THE COMPREHENSIVE WATER QUALITY CONTROL PLAN  
FOR PORTIONS OF THE  
SANTA MARGARITA HYDROLOGIC UNIT (2.00)  
SAN DIEGO REGION

WHEREAS, in accordance with Section 13240 et seq. of the California Water Code, the California Regional Water Quality Control Board, San Diego Region (Regional Board) caused to be developed a Comprehensive Water Quality Control Plan for the San Diego Region; and

WHEREAS, the Regional Board, acting in accord with Section 13240 of the California Water Code, on March 1975, adopted the Comprehensive Water Quality Control Plan for the San Diego Region as set forth in Chapter 1 through 7 of the Comprehensive Water Quality Control Plan Report, San Diego Region (9); (Basin Plan); and

WHEREAS, the Regional Board has adopted amendments to the Basin Plan for the San Diego Region from time to time since March 17, 1975, all of which modified beneficial uses protected and/or water quality objectives; and

WHEREAS, the Regional Board, recognizing the need to make reclamation economically feasible in the San Diego Region, proposes modifications to surface and ground water objectives and to the Implementation Plan of the Basin Plan for reclamation and inland stream discharge projects; and

WHEREAS, the Regional Board proposes the following three amendments:

1. MODIFICATION OF SURFACE WATER (SW) OBJECTIVES FOR TOTAL DISSOLVED SOLIDS

A modification of the TDS objective for specific surface water bodies (Table 1) located in portions of the Wolf (2.52), Gavilan (2.22), and DeLuz (2.21) Hydrologic Subareas (HSA), as shown on Attachments 1, 2 & 3. The surface waters affected by the changes include the lower portion of Murrieta Creek located in the Wolf (2.52) HSA and the Santa Margarita River from the confluence of Murrieta and Temecula Creeks, through the Gavilan and DeLuz HSAs, to the northerly boundary of the Upper Ysidora (2.13) HSA. The proposed change does not affect DeLuz, Sandia, and Rainbow Creeks, or other unnamed creeks, which are tributaries to the Santa Margarita River. Table 4-6, "Water Quality Objectives for Inland Surface Waters", appearing in Chapter 4, Water Quality Objectives, is revised to reflect the following modification to the surface water quality objectives in the portion of the HSAs described above:

TABLE 1

HYDROLOGIC SUBAREA	EXISTING BASIN PLAN SW TDS OBJECTIVE mg/l	PROPOSED BASIN PLAN SW TDS OBJECTIVE mg/l
Portions of DeLuz (2.21)	500	750
Portions of Gavilan (2.22)	500	750
Portions of Wolf (2.52)	500	750

2. MODIFICATION OF GROUND WATER (GW) OBJECTIVES FOR TOTAL DISSOLVED SOLIDS

A modification of the TDS objective for ground water in the upper aquifer underlying the surface water bodies described in No. 1 above. (Table 2) The upper aquifer is defined as the alluvial ground water underlying the specific surface water bodies to a depth of 100 feet and a lateral distance equal to that covered by the 10-year flood plain. Table 4-7, "Water Quality Objectives for Groundwater", appearing in Chapter 4, Water Quality Objectives, is revised to reflect the following modifications to the ground water quality objectives in that portion of the HSAs described above, for the alluvial aquifer only:

TABLE 2

HYDROLOGIC SUBAREA	EXISTING BASIN PLAN GW TDS OBJECTIVE mg/l	PROPOSED BASIN PLAN GW TDS OBJECTIVE mg/l
Portions of DeLuz (2.21)	500	750
Portions of Gavilan (2.22)	500	750
Portions of Wolf (2.52)	500	750

The remaining portions of the HSAs, including the deeper aquifer underlying the alluvial aquifer identified above, shall continue to have the existing water quality standards previously designated in the Basin Plan.

3. MODIFICATION OF IMPLEMENTATION PLAN PROVIDING ALTERNATE METHOD OF CONFORMANCE WITH THE NUTRIENT OBJECTIVES FOR SURFACE WATERS

As specified in the Basin Plan the current narrative and numerical surface water quality objectives for both nitrogen and phosphorus read as follows:

"Water shall not contain biostimulatory substances in concentrations that promote aquatic growth to the extent that such growths cause nuisances or adversely affect beneficial uses....

Concentrations of nitrogen and phosphorus, by themselves or in combination with other nutrients, shall be maintained at levels below those which stimulate emergent plant growth. Threshold total Phosphorus (P) concentrations shall not exceed 0.05 mg/l in any stream at the point where it enters any reservoir or lake, nor 0.025 mg/l in any reservoir or lake. A desired goal in order to prevent plant nuisances in stream and other flowing waters appears to be 0.1 mg/l total P. These values are not to be exceeded more than 10% of the time unless studies or the specific water body in question clearly show that water quality objective changes are permissible and changes are approved by the Regional Board. Analogous threshold values have not been set for nitrogen compounds; however, natural ratios of nitrogen to phosphorus are to be determined by surveillance and monitoring and upheld. If data are lacking, a ratio of N:P = 10:1 shall be used."

The proposed change in the Basin Plan Implementation Plan, regarding compliance with the Basin Plan surface water quality objectives for nutrients (Nitrogen, Phosphorus, and other biostimulatory substances), includes measures that the Regional Board will require to be implemented as a condition of approval of a discharge to Murrieta Creek and the Santa Margarita River. The proposed change to the Implementation Plan provides an alternative for demonstrating compliance with the nutrient objectives based upon ambient concentrations of dissolved oxygen and nutrients, the use of Best Available Technology (BAT), economically achievable, for the removal of nutrients from discharges, and the development and implementation of a river management plan as further mitigation for potential adverse impacts of a discharge of additional nutrients to the River.

The following modification to Chapter 5 of the Basin Plan, "Implementation Plan", is applicable only to that part of the Murrieta Creek located in the Wolf HSA (2.52) and the Santa Margarita River from the confluence of Murrieta and Temecula Creeks to Pacific Ocean. The Regional Board proposes the following wording for addition:

"Table 4-6, Chapter 4, of the Basin Plan contains a footnote addressing concentrations of nitrogen and phosphorus in surface waters. The footnote includes a narrative objective, requiring that concentrations of nitrogen and phosphorus be maintained at levels below those which stimulate emergent plant growth. In addition, the footnote includes numerical objectives for phosphorus which are applicable in two locations: (1) at the point where a stream enters any reservoir or lake; and (2) in any reservoir or lake. The footnote also contains a desired goal for phosphorus concentrations in streams and other flowing waters. In general, permissible ratios of nitrogen to phosphorus are to be determined on the basis of site-specific data. In the absence of such data, a ratio of nitrogen to phosphorus of 10 to 1 must be used.

The Regional Board will ensure compliance with the objectives for nitrogen and phosphorus contained in the footnote to Table 4-6 in the following manner:

- (1) The Regional Board will establish appropriate effluent limitations for nitrogen and phosphorus in waste discharge requirements for discharges to surface waters for those cases in which the numerical objectives contained in the footnote to Table 4-6 are applicable.
- (2) For those cases in which the numerical objectives are inapplicable, the Regional Board will adopt waste discharge requirements which require compliance with the narrative objective contained in the footnote to Table 4-6. The Regional Board will enforce the narrative objective in two ways:
  - (a) In appropriate cases, the Regional Board may use the goal for phosphorus concentration in flowing water contained in the footnote as guidance in establishing appropriate effluent limitations. The Regional Board may also use any other appropriate concentration.

- (b) Alternatively, the Regional Board will determine compliance with the narrative objective based upon the following four factors: (A) measurement of ambient concentrations of nitrogen and phosphorus; (B) the dissolved oxygen requirements of downstream beneficial uses; (C) use of best available technology (BAT), economically feasible, for the removal of nutrients, and (D) the development and implementation of a watercourse monitoring and management plan.

The Regional Board will require as part of the watercourse monitoring and management plan, and establish as part of waste discharge requirements in a more detailed form, the following:

- A. The Best Available Technology for the removal of nutrients. Initially, the Regional Board considers tertiary treatment of wastewater that includes the biological and chemical removal of nutrients to be BAT. The extent to which the Regional Board may require additional removal of nutrients through chemical addition processes will be based upon an evaluation of the economic feasibility of this additional treatment as part of the evaluation of the effectiveness of the river management plan in achieving compliance with the Basin Plan narrative objective for nutrients.
- B. A comprehensive program for chemical monitoring in receiving waters and effluent that will generate adequate data on ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, organic nitrogen, total phosphate, ortho phosphate, dissolved oxygen (including vertical and diurnal dissolved oxygen profiles), pH, turbidity, biochemical oxygen demand (BOD) and other appropriate constituents and properties which may contribute to, or result from, nutrient related problems and impact beneficial uses.

- C. A comprehensive program for physical and biological monitoring in the receiving waters that will generate adequate data on chlorophyll 'a', corrected chlorophyll 'a', pheophyton 'a', temperature (including diurnal and vertical temperature profiles), acute and chronic toxicity; the diversity and numbers of microinvertebrates, macroinvertebrates, and fish; the dynamics of the aquatic flora (macroalgae, phytoplankton, and emergent vegetation) and the related dissolved oxygen regime, substrate composition and frequency of nuisance conditions; flow rate, and other appropriate constituents and properties which may contribute to nutrient related problems and impact beneficial uses.
- D. A comprehensive program for physical and biological monitoring of the effluent that will generate adequate data on flow, temperature, chronic and acute toxicity, and other appropriate constituents which may contribute to nutrient related problems and impact beneficial uses.
- E. A procedure for evaluating the data collected under B, C, and D above and determining the potential for nutrient related problems that may impact beneficial uses.
- F. Development and implementation of preventative and corrective actions that will ensure that a discharge containing nutrients will not adversely impact beneficial uses. These preventative and corrective actions may include, but are not limited to, the following:
- 1) Achievement of more stringent effluent limits for nutrient constituents discharged to the watercourse, through additional chemical treatment methods at the treatment facility, to further reduce nutrient loading to the river,
  - 2) Maintenance of minimum wastewater flows discharged to the watercourse to prevent stagnant areas subject to nutrient related problems and to maintain the aquatic and riparian habitat beneficial uses that have been enhanced and/or created by such a discharge,



- 3) Effective measures for the instream chemical treatment of surface waters to prevent nutrient and stagnant water related nuisance problems that can, or potentially can, adversely impact aquatic habitat beneficial uses, where this instream treatment will not adversely impact beneficial uses,
- 4) Effective measures for the physical management of the watercourse channel and vegetation, and
- 5) Effective source control measures to reduce the amount of nutrient constituents in the wastewater.
- 6) Other measures deemed appropriate and necessary by the Regional Board to ensure compliance with the Basin Plan narrative objective for nutrients and for the protection of beneficial uses."

Use of this alternate method of showing compliance with the Basin Plan standards for nutrients should allow the discharge of reclaimed water into the surface waters to occur without degradation of the ambient water quality or adverse impacts to beneficial uses.

WHEREAS, the Regional Board's intent in these three proposed amendments is to enhance wastewater reclamation and reclaimed water discharges to inland streams, and also to protect, and in some areas enhance, existing beneficial uses through the greater use of reclaimed water; and

WHEREAS, a report describing the proposed amendments and containing environmental documentation functionally equivalent to the requirements of the California Environmental Quality Act requirements was transmitted to interested individuals and public agencies for review and comment; and

WHEREAS, the Regional Board held public hearings on August 27, 1990 and September 24, 1990 for the purpose of receiving testimony on the proposed Basin Plan amendments; and

WHEREAS, the Regional Board has reviewed and carefully considered all comments and testimony received relative to the proposed amendments; and

WHEREAS, the Regional Board has determined that the proposed amendments comply with the Federal anti-degradation policy as outlined in 40 CFR 131.12 and State Water Sources Control Board Resolution No. 68-16; and

WHEREAS, the Regional Board has determined that the proposed amend-ments will not have a significant adverse effect on the environment as long as proposed mitigation measures are adopted; now

THEREFORE BE IT RESOLVED, that the Regional Board shall amend the Comprehensive Water Quality Control Plan Report, San Diego Region (9) (Basin Plan) as follows:

1. MODIFICATION OF SURFACE WATER (SW) OBJECTIVES FOR TOTAL DISSOLVED SOLIDS

The TDS objective for specific surface water bodies located in portions of the Wolf (2.52), Gavilan (2.22), and DeLuz (2.21) Hydrologic Subareas (HSA), as shown on Attachments 1, 2 & 3, are amended as shown in Table 1. The surface waters affected by the changes include the lower portion of Murrieta Creek located in the Wolf (2.52) HSA and the Santa Margarita River from the confluence of Murrieta and Temecula Creeks, through the Gavilan and DeLuz HSAs, to the northerly boundary of the Upper Ysidora (2.13) HSA. The proposed change does not affect DeLuz, Sandia, and Rainbow Creeks, or other unnamed creeks, which are tributaries to the Santa Margarita River. Table 4-6, "Water Quality Objectives for Inland Surface Waters", appearing in Chapter 4, Water Quality Objectives, is revised to reflect the following modification to the surface water quality objectives in the portion of the HSAs described above:

TABLE 1

HYDROLOGIC SUBAREA	BASIN PLAN SW TDS OBJECTIVE mg/l
Portions of DeLuz (2.21)	750
Portions of Gavilan (2.22)	750
Portions of Wolf (2.52)	750

2. MODIFICATION OF GROUND WATER (GW) OBJECTIVES FOR TOTAL DISSOLVED SOLIDS

The TDS objective for ground water in the upper aquifer underlying the surface water bodies described in No. 1 above are amended as shown in Table 2. The upper aquifer is defined as the alluvial ground water underlying the specific surface water bodies to a depth of 100 feet and a lateral distance equal to that covered by the 10-year flood plain. Table 4-7, "Water Quality Objectives for Groundwater", appearing in Chapter 4, Water Quality Objectives, is revised to reflect the following modifications to the ground water quality objectives in that portion of the HSAs described above, for the alluvial aquifer only:

TABLE 2

HYDROLOGIC SUBAREA	BASIN PLAN GW TDS OBJECTIVE mg/l
Portions of DeLuz (2.21)	750
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Portions of Wolf (2.52)	750

The remaining portions of the HSAs, including the deeper aquifer underlying the alluvial aquifer identified above, shall continue to have the existing water quality standards previously designated in the Basin Plan.

3. MODIFICATION OF IMPLEMENTATION PLAN PROVIDING ALTERNATE METHOD OF CONFORMANCE WITH THE NUTRIENT OBJECTIVES FOR SURFACE WATERS

The following modification to Chapter 5 of the Basin Plan, "Implementation Plan", is applicable only to Murrieta Creek and the Santa Margarita River from the confluence of Murrieta and Temecula Creeks to the Pacific Ocean. The Regional Board adds the following wording:

"Table 4-6, Chapter 4, of the Basin Plan contains a footnote addressing concentrations of nitrogen and phosphorus in surface waters. The footnote includes a narrative objective, requiring that concentrations of nitrogen and phosphorus be maintained at levels below those which stimulate emergent plant growth. In addition, the footnote includes numerical objectives for phosphorus which are applicable in two locations: (1) at the point where a stream enters any reservoir or lake; and (2) in any reservoir or lake. The footnote also contains a desired goal for phosphorus concentrations in streams and other flowing waters. In general, permissible ratios of nitrogen to phosphorus are to be determined on the basis of site-specific data. In the absence of such data, a ratio of nitrogen to phosphorus of 10 to 1 must be used.

The Regional Board will ensure compliance with the objectives for nitrogen and phosphorus contained in the footnote to Table 4-6 in the following manner:

- (1) The Regional Board will establish appropriate effluent limitations for nitrogen and phosphorus in waste discharge requirements for discharges to surface waters for those cases in which the numerical objectives contained in the footnote to Table 4-6 are applicable.

- (2) For those cases in which the numerical objectives are inapplicable, the Regional Board will adopt waste discharge requirements which require compliance with the narrative objective contained in the footnote to Table 4-6. The Regional Board will enforce the narrative objective in two ways:
- (a) In appropriate cases, the Regional Board may use the goal for phosphorus concentration in flowing water contained in the footnote as guidance in establishing appropriate effluent limitations. The Regional Board may also use any other appropriate concentration.
  - (b) Alternatively, the Regional Board will determine compliance with the narrative objective based upon the following four factors: (A) measurement of ambient concentrations of nitrogen and phosphorus; (B) the dissolved oxygen requirements of downstream beneficial uses; (C) use of best available technology (BAT), economically feasible, for the removal of nutrients, and (D) the development and implementation of a watercourse monitoring and management plan.

The Regional Board will require as part of the watercourse monitoring and management plan, and establish as part of waste discharge requirements in a more detailed form, the following:

- A. The Best Available Technology for the removal of nutrients. Initially, the Regional Board considers tertiary treatment of wastewater that includes the biological and chemical removal of nutrients to be BAT. The extent to which the Regional Board may require additional removal of nutrients through chemical addition processes will be based upon an evaluation of the economic feasibility of this additional treatment as part of the evaluation of the effectiveness of the river management plan in achieving compliance with the Basin Plan narrative objective for nutrients.

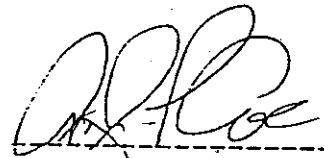
- B. A comprehensive program for chemical monitoring in receiving waters and effluent that will generate adequate data on ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, organic nitrogen, total phosphate, ortho phosphate, dissolved oxygen (including vertical and diurnal dissolved oxygen profiles), pH, turbidity, biochemical oxygen demand (BOD) and other appropriate constituents and properties which may contribute to, or result from, nutrient related problems and impact beneficial uses.
- C. A comprehensive program for physical and biological monitoring in the receiving waters that will generate adequate data on chlorophyll 'a', corrected chlorophyll 'a', pheophyton 'a', temperature (including diurnal and vertical temperature profiles), acute and chronic toxicity; the diversity and numbers of microinvertebrates, macroinvertebrates, and fish; the dynamics of the aquatic flora (macroalgae, phytoplankton, and emergent vegetation) and the related dissolved oxygen regime, substrate composition and frequency of nuisance conditions; flow rate, and other appropriate constituents and properties which may contribute to nutrient related problems and impact beneficial uses.
- D. A comprehensive program for physical and biological monitoring of the effluent that will generate adequate data on flow, temperature, chronic and acute toxicity, and other appropriate constituents which may contribute to nutrient related problems and impact beneficial uses.
- E. A procedure for evaluating the data collected under B, C, and D above and determining the potential for nutrient related problems that may impact beneficial uses.
- F. Development and implementation of preventative and corrective actions that will ensure that a discharge containing nutrients will not adversely impact beneficial uses. These preventative and corrective actions may include, but are not limited to, the following:
- 1) Achievement of more stringent effluent limits for nutrient constituents discharged to the watercourse, through additional chemical treatment methods at the treatment facility, to further reduce nutrient loading to the river,

- 2) Maintenance of minimum wastewater flows discharged to the watercourse to prevent stagnant areas subject to nutrient related problems and to maintain the aquatic and riparian habitat beneficial uses that have been enhanced and/or created by such a discharge,
- 3) Effective measures for the instream chemical treatment of surface waters to prevent nutrient and stagnant water related nuisance problems that can, or potentially can, adversely impact aquatic habitat beneficial uses, where this instream treatment will not adversely impact beneficial uses.

The implementation of the watercourse management plan, that will be required in waste discharge requirements for any discharge to Murrieta Creek and the Santa Margarita River, will involve close coordination between many different public and private entities. The Regional Board recognizes the Santa Margarita-San Luis Rey Watershed Planning Agency as the agency intending to implement the watercourse management plan that would be made part of the provisions of appropriate waste discharge requirements adopted by the Regional Board.

The watercourse monitoring and management plan, and all the associated requirements, apply to the Estuary of the Santa Margarita River as well as the portions of the river downstream of all point source discharges. The Regional Board will require, in waste discharge requirements, the monitoring and management of the Estuary, in a manner similar to the watercourse monitoring and management plan, in order to maintain the existing beneficial uses of the Estuary and the water quality necessary to maintain these beneficial uses. The Regional Board will regulate the volume of treated wastewater discharged into the Santa Margarita River Estuary in waste discharge requirements to ensure adequate salinity in the estuary water and soils necessary to maintain the existing aquatic and wildlife habitat beneficial uses. This regulation of flows will include a prohibition of fresh water flows that could result in a conversion of the estuary from a saline environment to a fresh water environment."

I, Arthur L. Coe, Acting Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the Regional Water Quality Control Board, San Diego Region, on September 24, 1990.



ARTHUR L. COE  
Executive Officer