

Part VI

Permitting and Compliance Issues Task Force Report

PERMITTING ISSUES TASK FORCE

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ROSTER OF TASK FORCE PARTICIPANTS

Task Force Member	April 17	April 18	May 15	June 1	June 19	July 17	July 18	Aug 1	Aug 21	Aug 22	Sept 18	Sept 19
Phil Bobel	X	X	X	X		X	X	X	X	X	X	X
Bob Shanks	X	X	X	X	X	X			X		X	
Doug Harrison	X	X			X	X	X		X			
Don Frietas	X	X										
Sandra Mathews	X	X			Alternate	Alternate	Alternate		Alternate	Alternate	Alternate	Alternate
Fred Jacobsen	X	X	X		X	X		X	X	X	X	X
Kathy Mannion	X	X	X		X	X	X		X	X		
Justin Malan			X				X					
John Jones	X	X	X			X			X		X	X
David Zweig	X	X	X			X	X			X	X	X
Gary Stephany	X	X		X	X	X			X	X		
Terry Oda	X	X	X		X	X	X	X			X	X
Robyn Stuber	X	X	X			X	X		X	X	X	X
Pete Phillips	X	X			X	X			X		X	
Michael Lyons	X	X		X	X	X	X	X	X	X	X	X
Gary Stewart	X	X	X			X	X		X	X	X	X
Joanna Field	X	X	X	X	X	X	X	X	X	X	X	X
James Kassel			X		X	X	X		X	X	X	X

Notes:

Shaded areas indicate absence and crosses indicate presence.

The alternate for Sandra Mathews was Erich Brandstetter.

**PUBLIC PARTICIPATION PHASE IN THE PROCESS OF DEVELOPING
A NEW INLAND SURFACE WATERS PLAN AND ENCLOSED
BAYS AND ESTUARIES PLAN FOR CALIFORNIA**

**PERMITTING AND
COMPLIANCE ISSUES
TASK FORCE
REPORT**

September 1995

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A: ROSTER OF TASK FORCE PARTICIPANTS

I. INTRODUCTION

This report has been prepared by the members of the Permitting and Compliance Issues Task Force (Task Force) and submitted to the State Water Resources Control Board (State Board) for consideration during the development of a new Inland Surface Waters Plan and a new Enclosed Bays and Estuaries Plan (Statewide Plans) for California.

The Task Force was formed in December 1994 along with seven other public task forces to advise State Board staff on key issues relevant to the Statewide Plans. The Task Force met monthly in Sacramento from April through September 1995 and participated in three additional meetings involving all the advisory task forces. The roster of Task Force members and alternate members and the interests they represented, are listed in *Appendix A*.

The focus of the Task Force was to develop recommendations regarding various permitting-and compliance-related provisions to be considered in drafting the new Statewide Plans. The Task Force identified the following main issues to be addressed:

- 1) Development of Total Maximum Daily Loads, Wasteload Allocations, and Load Allocations;
- 2) Determination of reasonable potential;
- 3) Calculation of permit limits;
- 4) Mixing zones;
- 5) Compliance schedules;
- 6) Monitoring and reporting requirements;
- 7) Responsibility for funding and managing special studies;
- 8) Compliance determination; and
- 9) Procedures for exceptions to the plans.

Although some recommendations were not developed in detail due to time constraints, the Task Force was able to achieve consensus on most of the recommendations contained in this report. In some cases, where complete agreement could not be reached, the recommendations are listed as "Options" and a rationale for each option is presented.

The recommendations of the Task Force were developed with the overall goals that:

- 1) The new Statewide Plans provide guidance, policies, and methodologies for developing consistency in permits statewide, and provide for site-specific flexibility.
- 2) Option a: The new Statewide Plans support development of attainable, cost-effective permits that protect beneficial uses.
Option b: The new Statewide Plans provide policy and guidance to attain objectives in a cost-effective fashion.
- 3) Ensure that recommendations, to the extent practicable, continue to streamline the permitting process.

II. IDENTIFICATION OF IMPAIRED WATERS

The Statewide Plans shall include a detailed discussion of the criteria for determining a waterbody to be impaired and for listing (and delisting) it on the Section 303(d) list. Guidance for choosing the specific monitoring stations to be used for the determination of impairment will be included in the plan. Regional monitoring program data shall be used whenever available. The exceedance frequency and averaging periods used in the impairment determination will be consistent with the basis of each water quality objective. The form (speciation) of the constituent will be considered.

III. DEVELOPMENT OF TOTAL MAXIMUM DAILY LOADS, WASTELOAD ALLOCATIONS, AND LOAD ALLOCATIONS

A. RECOMMENDATION

The Task Force recommends that the Total Maximum Daily Loads (TMDL) process be set forth in the statewide water quality plans. Through the Statewide Plans, the State Board should direct the Regional Water Quality Control Boards (Regional Boards) to develop TMDLs and corresponding Waste Load Allocations (WLAs) and Load Allocations (LAs). The TMDL process should be carefully linked to the watershed management planning process as shown on the attached *Figure 1*. The Task Force recognized that not all the needed TMDLs can be completed at once and that prioritization will be essential. *Figure 1* therefore contains alternatives for cases where the full TMDL cannot be completed prior to permit issuance. Watershed planning should be conducted on a collaborative basis and the TMDL would hopefully be mutually agreed upon by all of the watershed stakeholders. However if the collaborative process does not result in the timely development of TMDLs, Approaches 2, 3, or 5 on *Figure 1* could be used by the regulatory agency to establish permit provisions absent any agreed upon TMDL.

Some members of the Task Force believe that the present U.S. Environmental Protection Agency (USEPA) process for development and implementation of TMDLs is overly cumbersome and time-consuming; and that scarce resources should be focused more directly on water quality improvements. "TMDL" has therefore been given a broader definition than originally envisioned by USEPA (see *Section III (C) "Definitions"*) to partially address this concern.

B. DETAILED SUGGESTIONS

The development of the TMDL is required by the Federal Clean Water Act when the receiving water quality objective is exceeded for a particular pollutant and when technology based effluent limits are insufficient to insure compliance. The key elements which are needed in the Statewide Plans are as follows:

1. The Statewide Plans should include a detailed discussion of the criteria for determining a water body to be impaired and for listing (and delisting) it on the

- Section 303(d) list. Guidance for choosing the specific monitoring stations to be used for the determination of impairment will be included in the plan. Regional Monitoring Program Data shall be used whenever available. The exceedance frequency and averaging periods used in the impairment determination will be consistent with the basis of each water quality objective. The form (speciation) of the constituent should be considered.
2. The Statewide Plans shall include the process and factors used to assess and prioritize the water bodies found to be impaired. A collaborative, watershed process will be used, emphasizing the inclusion of all affected parties in watershed oriented planning sessions.
 3. Statewide guidance on TMDL development should be incorporated in the Statewide Plans which reflect the USEPA's Water Quality Standards Handbook, TMDL Guidance, and Technical Support Document of Water Quality-Based Toxics Control (USEPA, EPA/505/2-90-001, March 1991)(TSD). Sound science shall form the basis of the TMDL. Dischargers believe that stacking conservative assumptions on top of one another to make up for missing data should be avoided. Regulators believe that conservative assumptions will be appropriate in many instances where data is insufficient. The goal of the watershed planning process shall be to accomplish a Net Environmental Benefit (NEB) and to adjust individual pollutant TMDLs as appropriate.
 4. Process guidance should be included which defines the procedural steps and the roles of the participants.
 5. TMDLs shall be prepared on a watershed basis and shall include point and nonpoint discharges.
 6. Guidance shall also be developed for determining WLAs and LAs using USEPA and State guidance documents.
 7. Achievement of a NEB is more important than meeting a particular water quality objective. If a TMDL is developed which achieves a NEB but does not eliminate the potential for exceedances of a particular water quality objective, two approaches are available:
 - a. Modify the water quality objective; or
 - b. Leave the water quality objective unchanged, but establish a variance conditioned upon achievement of the NEB.

C. DEFINITIONS

TMDL The Total Maximum Daily Load (TMDL) is the sum of the individual wasteload allocations for point sources, load allocations for nonpoint sources and natural background pollutants, and an appropriate margin of safety. The TMDL is the calculated value which is estimated to provide for attainment of a water quality objective in the receiving water. A TMDL can be expressed as a mass loading (pounds per day); however, it can be expressed in other terms as well. A "Quantifiable Target" is a type of TMDL which can be expressed as a mass loading, a concentration, a percent reduction, an ecosystem improvement (e.g. a 50 percent increase in salmon population), or a degree of implementation of a control measure (e.g., 80 percent implementation of a Best Management Practice). The purpose of the Quantifiable Target must be to improve, restore or protect the beneficial use identified as adversely affected. Measurable changes in the beneficial use may take years to accomplish after all of the measures are implemented.

WLA Waste Load Allocations (WLAs) are the allocated portions of the TMDL which apply to each of the point source dischargers.

LA The Load Allocations (LAs) are the portions of the TMDL which apply to the nonpoint sources and the natural background.

Partnerships Partnerships are agreements between upstream and downstream dischargers and effected parties to conduct studies, implement control strategies, and pool resources.

Trading Trading is a specific type of partnership in which one discharger fulfills an obligation to reduce pollutant discharges by providing resources to secure reductions from other dischargers.

IV. ESTABLISHMENT OF WASTE DISCHARGE REQUIREMENTS AND PERMIT LIMITS

A. DETERMINATION OF REASONABLE POTENTIAL

1. Concern

Permits are being issued with water quality-based effluent limitations and monitoring requirements for many chemical compounds and toxicity regardless of whether a pollutant has the potential to cause an exceedance of the applicable water quality objective. This results in monitoring for pollutants which are not of environmental concern and, thus, creating a monitoring burden for the permittee and a management workload for the agencies without a corresponding benefit. Further, lacking statewide guidance, there has been no consistency in the procedures used across the state in selecting pollutants to be limited in a permit.

2. Recommendation

- Establish a policy that allow permits to contain effluent limitations only for those pollutants that may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State numeric or narrative water quality objective.
- Develop permitting procedures for identifying pollutants that cause or have reasonable potential to cause, or contribute to an exceedance of a water quality objective. Once the pollutants have been selected effluent limitations and monitoring requirements are to be developed in accordance with procedures recommended elsewhere in this report.

3. Detailed Suggestions

The recommended solution, i.e., establishing effluent limitations for only those pollutants that cause or has reasonable potential to cause or contribute to an exceedance of a water quality objective, is consistent with the State's and USEPA's National Pollution Discharge Elimination System (NPDES) regulation. [See 40 CFR Section 122.44(d)(1)] Some of the Regional Boards, as well as other states, are currently using this method for selecting the pollutants for which effluent limitations are developed.

Procedures for performing reasonable potential analysis are set forth in the TSD, Section 3, pp.47-66. This does not preclude periodic monitoring for those pollutants that available data indicate have no current reasonable potential and for which no effluent limitations have been established to assess changes in the discharge. Periodic monitoring may be once per year or once during the life of the permit at the time of reapplication, or more frequently depending on the specific situation.

The first step in the process of drafting a permit is to identify the pollutants for which effluent limitations need to be established. This is done for attainment and nonattainment water bodies through reasonable potential analysis for which there are three possible outcomes:

- A pollutant is found to have reasonable potential to cause or contribute to an exceedance of a water quality objective. Water quality-based effluent limitations will have to be developed for these pollutant in accordance with the procedures for developing effluent limitations recommended elsewhere in this chapter;
- Reasonable potential for a pollutant can not be determined due to lack of sufficient data; the water quality objective and available data are below minimum detection level; or for other justifiable reasons. In any of these instances, permit issuance may be delayed until the data are obtained; or the permit may be issued with a monitoring program to obtain the necessary data along with a reopener provision to subsequently include water quality-based effluent limitations if the new data indicate reasonable potential; or
- A pollutant is found not to have reasonable potential. No effluent limitations will be specified in the permit. However, periodic monitoring may be included in the permit.

The procedures for determining whether a pollutant may cause, or has reasonable potential to cause or contribute to an exceedance of a water quality objective should include the following elements:

- a. Procedures for assessing reasonable potential to identify the pollutants for which effluent limitations are to be developed, including:
 - (i) Quantitative procedures (deterministic, e.g., mass balance; or statistical stochastic analysis) using effluent and ambient monitoring data for predicting whether the discharge of a pollutant may cause the applicable

water quality objective to be exceeded. The procedures should recommend at a minimum:

- Methodologies for performing the calculations and criteria for selecting a methodology;
 - Design flow basis for the discharge and the stream (e.g., 7Q10 (7-day, 10-year low-flow conditions); 4Q3 for 4 day average criteria with a recurrence interval of 3 years; harmonic mean for long term public health criteria; etc.);
 - Design effluent and ambient concentrations (e.g., maximum observed, average, etc.); and
 - Statistical methods to account for effluent variability and reduce uncertainty, where actual data do not lead to a clear conclusion with regard to reasonable potential.
- (ii) A procedure for exercising best professional judgement on the basis of available information for selecting pollutants for which effluent limitations are to be established, in the absence of adequate effluent and ambient monitoring data, e.g., discharges from known industrial sources.
- (iii) A procedure for dischargers to certify the absence of a pollutant, in lieu of numeric data for reasonable potential analysis.
- (iv) A policy statement to address monitoring data that are less than the method detection limit (MDL), e.g.:
- Less than MDL is considered to be not present (i.e., set equal to zero), set at the MDL value, or a value in between; and
 - Considering reasonable potential to be indeterminate, where the water quality objective and all monitoring data are less than MDL. Under this situation no permit limitations would be established, but monitoring will be required at a frequency determined by the situation. Also the discharger could be required to conduct an assessment of the facility or system and implement a pollution prevention program to minimize the discharge of pollutants known to be present and potentially problematic.

[Method detection limit is the minimum concentration of analyte that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero as determined by a specific laboratory method.]

- (v) A process for establishing monitoring frequencies for the various levels of reasonable potential determinations, e.g.:
- Where reasonable potential has been determined, monitoring should be conducted at a frequency to assess compliance;
 - Where reasonable potential is indeterminate due to insufficient data, monitoring should be conducted at a frequency to obtain the data to assess reasonable potential in a reasonable period of time;
 - Where reasonable potential is indeterminate due solely to detection limit, monitoring may be conducted if the detection limit is improved or at a frequency determined by the nature of the discharge and historical monitoring results; and
 - Where there is no reasonable potential, monitoring should be conducted at a frequency to periodically reassess reasonable potential. The frequency should be determined by the nature of the discharge and historical monitoring results.
- b. A policy statement that water quality-based effluent limitations be established for those pollutants which have been shown to have reasonable potential and that effluent limitations should not be required where the contrary has been shown. Notwithstanding this statement, water quality-based effluent limitations may be established on the basis of the State antidegradation policy even where no reasonable potential has been demonstrated.
- c. Provisions for establishing a monitoring program in lieu of final water quality-based effluent limitations where available data are not adequate for making a reasonable potential determination, including:
- (i) Requiring the submission of additional data so that reasonable potential is determined before a permit is issued.
 - (ii) Acquiring the additional data through a monitoring program established in the permit. In this situation, a provision for reopening and modifying the permit in the event reasonable potential is subsequently indicated should be included in the issued permit.
 - (iii) Require the collection of data be completed in a fixed time period.
 - (iv) Interim permit requirements covering the period that the data are being collected are to be established in accordance with procedures recommended in *Section IV (B)(4)*.

d. Methods for making a reasonable potential determination when the water quality objective is exceeded upstream from the discharge and policy statements to address the following issues:

(i) Pollutants in the intake water.

(ii) Deminimus discharges.

e. A method for taking into consideration seasonal variations in effluent loads, as well as stream flows, e.g.:

(i) Critical design flow considerations as discussed above; and

(ii) Procedures for establishing seasonal effluent limitations that may vary depending on flow or assimilative capacity variations.

f. Reasonable potential determinations for dissolved water quality objectives, e.g.:

For dissolved metals objectives, are the reasonable potential determinations to be conducted on the basis of total recoverable or dissolved fractions?

g. A statement that the obligation to provide the necessary information for making a reasonable potential determination rests with the discharger.

(i) The data may be acquired through a monitoring program established in the permit, as discussed previously.

(ii) Appropriate enforcement actions should be taken for violations of the permit or to acquire the necessary information.

B. CALCULATION OF WATER QUALITY-BASED EFFLUENT LIMITATIONS

This section applies to the calculation of effluent limitations for traditional point sources. It does not address storm water permits. Storm water permit requirements are to be based on control measures designed to reduce the discharge of pollutants to the

maximum extent practicable and to make reasonable further progress toward achievement of water quality objectives.

1. Effluent Limitations Based on Numerical Water Quality Objectives

An effluent limitation based on a numerical water quality objective must be derived so as to be consistent with the allowable exceedance frequency and averaging period for the objective. [The Task Force recommends that water quality objectives be expressed as either 1-day maximums or 30-day averages to simplify the process of deriving effluent limits.]

The methodology used to derive effluent limitations based on numerical water quality objectives (i.e., water quality-based effluent limitations) shall be as follows:

a. General methodology for deriving water quality-based effluent limitations

Water quality-based effluent limitations shall generally be calculated in accordance with the procedure outlined below. The exact procedure utilized, however, will depend upon whether the waters in question are nonattainment or attainment waters, whether there are single or multiple dischargers, whether special considerations apply, and whether a reasonable potential exists.

- (i) When a permit is renewed, the Regional Board is to determine if the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality objective contained in this plan. If reasonable potential exists, the Regional Board is to place numeric effluent limitations based on the objective into the permit unless the Regional Board determines, pursuant to *Section IV (B)(4)*, that interim permit requirements are appropriate.
- (ii) In calculating numerical effluent limitations, the Regional Board should generally utilize a steady-state model. However, if a discharger has developed sufficient data and has calculated effluent limits based on an acceptable dynamic model, the Regional Board should base effluent limitations on the dynamic model.
- (iii) If a steady-state model is to be utilized and the ambient background concentration in the receiving water is less than the water quality objective, the following model should be utilized:

$$C_e = C_o + D(C_o - C_b)$$

Where:

C_e = the effluent limitation based on the objective averaging period (e.g., 1-day or 30-days),

C_o = the water quality objective,

C_b = the ambient background concentration in the receiving water, and

D = the allowable dilution based on the mixing zone provisions in the plan.

The values used for ambient background concentration and dilution should reflect the allowable frequency of exceedance and the averaging period of the objective.

Acceptable statistical techniques shall be utilized to estimate ambient background levels when a portion of the measured levels are below the practical quantitation level (PQL).

Whenever the ambient background concentration in the receiving water is equal to or greater than the objective, the following steady-state model is to be utilized:

$$C_e = C_o$$

Where C_e and C_o have the same meaning as above.

- (iv) If adequate receiving water flow and effluent concentration data are available to estimate frequency distributions, one of the dynamic modeling techniques described in USEPA's TSD should be used. These include Continuous Simulation Models, Monte Carlo Models, and Lognormal Probabilistic Models. Dynamic models use estimates of effluent variability and the variability of receiving water assimilation factors to develop effluent requirements in terms of concentration and variability. The outputs from dynamic models can be used to base effluent limits on probability estimates of receiving water concentrations rather than on single-value assumptions. Effluent limits derived from dynamic models will more exactly maintain water quality standards.

- (v) In cases where dynamic modeling appears to be feasible, except for the lack of data, the discharger shall be allowed the opportunity to collect the needed data. Generally, effluent and receiving water flow and quality data reflective of the various seasons and collected over a minimum of one year are necessary to utilize dynamic models. While the data is being collected, the Regional Board may (or shall if required by *Section IV(B)(4)*) impose interim permit requirements consistent with *Section IV(B)(4)*. Acceptable statistical techniques should be utilized to estimate the variability of concentration data which is partially above and partially below the practical quantitation level (PQL).
- (vi) When there is a reasonable potential for a discharge to violate more than one objective for a given constituent (i.e., an acute aquatic life objective, a chronic aquatic life objective, and a human health objective), effluent limitations are to be calculated for each objective.
- (vii) Pursuant to USEPA regulations, it is necessary to state effluent limitations as maximum daily limits and average monthly limits. The Regional Boards are to calculate effluent limitations based on the procedures recommended in Chapter 5 of the TSD. Either a steady-state or dynamic model may be used for this purpose.

USEPA methodology uses the steady-state equation in *Section IV(B)(1)(a)(iii)* above to calculate an estimated WLA for the acute, chronic and human health objective for each constituent showing reasonable potential. These WLAs are then adjusted for effluent variability using a coefficient of variation-based multiplier to determine a long-term average WLA for each objective. The most limiting long-term average WLA (i.e., for acute, chronic, or human health) is then used, in conjunction with a coefficient of variation-based multiplier, to calculate the maximum daily limit and the average monthly limit. [If, as the Task Force has recommended, the objective averaging periods are either 1-day maximums or 30-day averages, the effluent limits calculated from the steady-state formula can be used directly as maximum daily limits and average monthly limits.]

If a dynamic model is used to calculate the WLA, the long-term average concentration and coefficient of variation of daily effluent values are calculated directly from the WLA (which constitutes the required effluent performance). The maximum daily limit and the average monthly limit are then calculated from the respective formulas presented in the TSD. The formulas base the calculation on the long-term average concentration, the coefficient of variation, and the number of samples collected per month.

- (viii) Pursuant to USEPA regulations at 40 CFR 122.45(f), a mass limitation shall be placed in the permit corresponding to each numerical effluent limitation. The daily mass limitation shall be the product of the maximum daily limit and the maximum daily flow expected at the end of the permit term, and the monthly mass limitation shall be the product of the average monthly limit and the maximum monthly flow expected at the end of the permit term.

b. Approach in nonattainment waters

(i) Single point source discharge:

In cases where a water body has been found to exceed numerical water quality objectives contained in this plan solely as a result of a single point source discharge (i.e., reasonable potential has been established), numerical effluent limits shall be calculated in accordance with the general methodology outlined in *Section IV(B)(1)(a)*.

(ii) Multiple discharges:

In cases where a water body has been found to exceed numerical water quality objectives contained in this plan and the nonattainment is determined to be the result of multiple point and/or nonpoint source discharges, numerical effluent limitations in NPDES permits shall be derived as follows:

- As a first step, the Regional Board shall initiate a collaborative process, involving the point and nonpoint source dischargers considered to be significant contributors to the exceedance. The purpose of the collaborative process is to determine if a plan to achieve compliance with the objectives can be formulated without going through the long arduous process of developing a TMDL, WLAs, and LAs (see *Section III*). If a plan can be formulated and agreed to by the parties, then the plan should be implemented in lieu of developing a TMDL. To the extent the plan which results from the collaborative process necessitates modification of NPDES permit requirements, the permits should be amended to be consistent with the plan.
- If the collaborative process is unsuccessful in producing an agreed upon compliance plan, the Regional Board shall initiate the process of developing TMDLs, WLAs and LAs, in accordance with the plan section describing that process. Once that process is completed, final water quality-based effluent limitations shall be calculated based on the WLAs.
- Under the circumstances described in either of the above

paragraphs, a Regional Board may (or shall if required by *Section IV(B)(4)*) impose interim permit requirements consistent with *Section IV(B)(4)*.

c. Approach in attainment waters

(i) Where reasonable potential exists:

In cases where a water body has been found to be in compliance with numerical water quality objectives contained in this plan, but a determination has been made that a discharge has a reasonable potential for causing or contributing to a violation of an objective, numerical effluent limitations shall be calculated in accordance with *Section IV(B)(1)(a)*.

ii. Where reasonable potential does not exist:

In cases where a water body has been found to be in compliance with numerical water quality objectives contained in this plan, and there is no reasonable potential for a discharge to cause or contribute to a violation of a numerical objective, a Regional Board may impose numeric effluent limitations consistent with the State Board's Policy With Respect to Maintaining High Quality of Waters in California (Resolution 68-16) and the antidegradation provisions of *Section IV(B)(3)(d)*. In addition, a Regional Board may also impose numeric effluent limitations where a narrative objective is exceeded, provided the effluent limitations are derived in accordance with the procedures outlined in *Section IV(B)(2)* below.

2. Effluent Limitations Based on Narrative Water Quality Objectives

In general, numerical effluent limitations for toxic constituents are to be derived from the numerical water quality objectives contained in this plan. In certain circumstances, however, numerical effluent limitations may be derived on the basis of narrative water quality objectives.

a. Circumstances in which effluent limitations may be based on narrative objectives:

Numerical effluent limitations may be based on narrative water quality objectives under any of the following conditions:

- There is tangible evidence, based on in-stream biological studies, that the

narrative objective is not being attained;

- There is evidence that federal or State-recommended criteria for protection of designated beneficial uses is being exceeded; or
- The receiving water consistently exhibits toxicity based on the results of Whole Effluent Toxicity tests conducted in ambient waters.

If any of the circumstances described above is likely to be encountered in a number of other water bodies, the Regional Board should adopt appropriate numerical water quality objectives to address the problem.

b. Information to be considered prior to adopting effluent limitations based on narrative objectives:

Prior to adopting numerical effluent limitations based on a narrative water quality objective, a Regional Board shall consider and adopt findings relative to the factors enumerated in Section 13241 of the Water Code.

c. Calculation of effluent limitations based on narrative objectives:

Once a determination is made to adopt effluent limitations based on a narrative objective, the effluent limitations are to be calculated in accordance with the procedures in *Sections IV(B)(1) and IV(B)(4)*.

d. Whole Effluent Toxicity:

If Whole Effluent Toxicity implementation procedures are adopted, then *Sections IV(B)(2)(a), (b), and (c)* above would not apply to these procedures.

3. Special Considerations

a. Dissolved metals translators:

If a point source discharge is determined to have a reasonable potential to cause or contribute to an excursion above a water quality objective for a metal which has been adopted as a dissolved concentration, USEPA regulations require the effluent limitation to be expressed as a total recoverable concentration. The

methodology to be used for developing total recoverable effluent limitations based on dissolved metals objectives is as follows:

- (i) A translator of 1:1 is to be utilized unless the discharger commits to developing a defensible translator of less than 1:1.
- (ii) Whenever there are multiple discharges of a problematic metal to a water body, an attempt should be made to have the dischargers jointly establish a defensible translator on a watershed basis.
- (iii) If one or more dischargers to a water body which is impaired based on a dissolved metal objective commit to develop a defensible translator of less than 1:1, the Regional Board shall allow the discharger(s) up to two years from the time of the reasonable potential determination to establish such a translator.
- (iv) A defensible translator is one developed using any of the procedures recommended by USEPA. The choice of procedure is up to the discharger(s).

b. Intake water

The use of surface waters as a water supply may cause a discharger's effluent to exceed its water quality-based effluent limitations due to the concentrations of pollutants in the intake water. Consequently, in certain situations, dischargers that discharge water back into the same water body from which it was taken, shall be responsible for only the increment of constituents that they add to the water in cases where the intake water is of same quality as the receiving water. The methods for setting water quality-based effluent limitations for these situations are described in *Sections IV (B)(3)(b)(i) and (ii)* below:

- (i) **Once-through cooling water:**
In cases where power plant or other once-through cooling water discharges have been determined to have a reasonable potential to cause or contribute to an excursion above an objective contained in this plan, effluent limitations (Ce) for constituents of concern shall generally be determined using the following equation:

$$Ce = Co(Dc + 1)$$

Where:

D_c = the ratio of the cooling water flow and the combined in-plant waste streams,

C_o = the water quality objective, and

C_e applies to the combined in-plant waste stream.

(ii) Other hydraulically connected intake water:

In general, where intake water is of concern, a TMDL will be developed. However, where the effluent limitations are imposed prior to development of a TMDL, the following policy shall be used in hydraulically connected waters:

Dischargers taking water out of a water body and, after use, discharging it back to the same water body shall be held responsible only for the increment of constituents that they add to their intake water, providing the quality of intake water is at least as good as the receiving water in the vicinity of the discharge.

c. Antibacksliding

In any case where a permit existing as of the effective date of this plan contains water quality-based effluent limitations that have not consistently been achieved, and the numerical effluent limitations calculated pursuant to this chapter are less stringent than the existing limitations, the less stringent limitations shall be incorporated into the permit without further consideration. This applies whether the existing effluent limitation was based on a previously adopted Statewide Plan or Basin Plan, a water quality standard that may have been promulgated by the federal government for California, or a best professional judgement interpretation of a narrative objective. However, any effluent limitation based on a previously adopted site-specific objective that will remain in effect after the effective date of this plan shall also remain in effect.

Once effluent limitations calculated pursuant to this plan are placed into a permit, less stringent effluent limits may be substituted only in accordance with the antibacksliding provisions of the Federal Clean Water Act.

d. Antidegradation

In issuing a permit, the Regional Board shall make a determination as to whether

the new or revised permit, including any effluent limitations contained therein, will result in a lowering of water quality.

[The Task Force agreed that the plans should contain a quantitative definition of what constitutes a "lowering of water quality." Possible quantitative definitions include the following:

- Greater than a X percent increase in ambient concentrations constitutes a lowering of water quality;
- Greater than a X percent reduction in unused assimilative capacity constitutes a lowering of water quality; or
- A change in water quality that will materially affect the beneficial uses of the water body constitutes a lowering of water quality.

In addition to these, there are likely other definitions worthy of consideration.]

If a determination is made that a proposed permit will result in a lowering of water quality, the Regional Board shall determine whether the proposed lowering of water quality is allowable under the State Board's Policy with Respect to Maintaining High Quality of Waters in California, Resolution No. 68-16.

In cases where a Regional Board determines that a lowering of water quality is allowable pursuant to Resolution No. 68-16, the proposed permit revision may be adopted. Where a Regional Board determines that a proposal to lower water quality is inconsistent with Resolution No. 68-16, the proposed permit shall be modified so as not to allow a lowering of water quality.

Permit findings shall contain a statement addressing the antidegradation provisions of this plan, either by stating that there is no lowering of water quality, or that the lowering of water quality is allowable under State Board Resolution No. 68-16.

4. Interim Permit Requirements

A permit may contain requirements which are effective in the interim between the date the permit is issued and the date compliance with final water quality-based effluent limitations is required. Interim permit requirements may be placed in a permit in lieu

of, or in addition to, final water quality-based effluent limitations. Any permit containing interim permit requirements may include a time schedule, if appropriate, for compliance with the interim requirements.

a. Alternative interim permit requirements

Interim permit requirements adopted pursuant to this plan may include one or more of the following:

- (i) Numeric interim effluent limitations;
- (ii) Requirements to implement source control measures and/or best management practices; or
- (iii) Requirements to participate in monitoring studies, TMDL/WLA/LA development, watershed planning, site-specific studies, or other activities necessary to develop final water quality-based effluent limitations.

b. Appropriate interim requirements for different situations

The interim requirements which are appropriate in any given situation will depend on whether reasonable potential has been established and, if it has, on whether final water quality-based effluent limitations have been developed. The appropriate interim requirements in each of these situations are described below:

- (i) Reasonable potential has not been established:
If there is not sufficient monitoring and/or dilution data to make a reasonable potential determination, a Regional Board may require the discharger to participate in monitoring studies necessary to make such a determination. Prior to a reasonable potential determination, it is inappropriate to impose interim effluent limitations or require the discharger to implement source control measures.
- (ii) Reasonable potential has been established, but final water quality-based effluent limitations have not been developed:
If reasonable potential has been established, but there is not sufficient data or information to develop final water quality-based effluent limitations, a Regional Board shall place numeric interim effluent limitations in the permit. This situation may arise because one of the following activities,

necessary to develop final effluent limitations, has not been completed:

- A translator study;
- A dynamic modeling study;
- A TMDL/WLA/LA;
- A watershed management plan;
- A site-specific objective study; or
- A use attainability analysis.

In this situation, a Regional Board may also require the discharger to participate in activities necessary to develop final water quality-based effluent limitations and/or implement source control measures.

(iii) Final water quality-based effluent limitations have been developed:

If final, water quality-based effluent limitations have been developed, but the discharger cannot immediately achieve the final limitations, a Regional Board shall place numeric interim effluent limitations in the permit. In this situation, a Regional Board may also impose interim requirements that the discharger implement source control measures.

In any case where numeric interim effluent limitations are required, the permit provisions should not include a final water quality-based effluent limitation unless the final limitation has been developed and is achievable within the term of the permit, or unless the deadline for compliance with the related objective falls within the term of the permit. If the deadline for compliance does fall within the permit term, the permit, in addition to containing a numeric interim effluent limitation, shall also include a final effluent limitation and a compliance schedule for achieving that limitation. The compliance schedule for achieving the final limitation shall not extend beyond the objective compliance deadline. Once the final effluent limitation becomes effective, the interim effluent limitation shall no longer apply.

c. Calculation of numeric interim effluent limitations

In cases where numeric interim effluent limitations are required under *Section IV (B)(4)(b)* above, the permits shall contain interim limitations (ILs) that are enforceable effluent limitations and more stringent "trigger" effluent concentrations (TECs) that will serve as triggers for the initiation of corrective actions.

The TEC is the estimated maximum effluent concentration based on an analysis of past performance data. This concentration is to be derived by applying the

statistical methodologies for estimating maximum concentrations identified in Chapter 3 (i.e., Box 3-2 and Table 3-1) of USEPA's TSD to the discharger's historical effluent measurements. [The Task Force recommends that prior to adopting the plans, the State Board consider alternative statistical methodologies to those recommended by USEPA.]

The IL is to be calculated by multiplying the TEC by an uncertainty factor to be established by the Regional Board. The uncertainty factor serves to provide for unforeseen and uncontrollable circumstances that may cause a future increase in effluent concentrations.¹

The considerations that should go into the selection of an uncertainty factor include, but are not limited to, the following:

- The relative magnitude of the TEC (a TEC of less than 10 ug/L would generally suggest a higher uncertainty factor than a TEC of greater than 50 ug/L); and
- The difference between the TEC and the practical quantitation limit (PQL) (the closer the TEC is to the PQL, the greater the uncertainty factor).

[The plans should identify the acceptable range (e.g., 1.15 to 2.0) for the uncertainty factor. The Task Force is also investigating the potential of using a statistical methodology to establish an uncertainty factor.]

d. Exceedance of numeric interim effluent limitations

Exceedance of the TEC will result in a requirement that the discharger investigate the cause of the exceedance and notify the Regional Board of the results of the investigation. Upon review of the investigation, the Regional Board may request the discharger to submit for approval an action plan identifying all reasonable

¹ Examples of unforeseen and uncontrollable circumstances include: (a) a cannery which previously discharged a large volume of toxic-free wastewater to a POTW, thereby diluting the concentration of a toxic constituent of concern in the POTW's wastewater, relocates to another community; (b) a drought results in decreased water usage and corresponding increased toxic constituent concentrations; (c) a municipality or an industry abandons its water wells and secures a surface water source, which either has higher concentrations of a constituent of concern, or is more corrosive than the well water thereby leaching more metals from the distribution and household plumbing systems; and (d) a manufacturer reformulates a large-volume household product, as was seen several years ago when manufacturers substituted arsenic for nickel as a key element in household detergents.

identifying all reasonable steps to be taken by the discharger to address the cause of the exceedance. In some cases (e.g., some of those cited in footnote 1), the discharger may be unable to reasonably address the cause of the exceedance.

Exceedance of the IL will result in the initiation of appropriate enforcement action by the Regional Board.

e. Permit findings, requirements and provisions

Where numeric interim effluent limitations are included in the permit provisions in lieu of final water quality-based effluent limitations and compliance with final effluent limitations is not required within the term of the permit, the permit findings, where applicable, should include the following:

- (i) A statement that the water body has previously been identified as "impaired;"
- (ii) The water quality objective to be achieved;
- (iii) The reason that a final water quality-based effluent limitation is not being incorporated into the permit as an enforceable effluent limit at this time (e.g., a TMDL/WLA/LA or site-specific study is being developed);
- (iv) A schedule for development of a final water quality-based effluent limitation (unless the final effluent limitation has already been developed); and
- (v) A statement that it is the intent of the Regional Board to include the final, water quality-based effluent limitation as an enforceable limit in a subsequent permit revision and (unless the final effluent limitation has already been developed) a statement that the final effluent limitation will be either the water quality objective itself, or an effluent limitation dictated by future regulatory developments (e.g., development of TMDL/WLA/LA, adoption of a site-specific objective, etc.).

In addition, the permit provisions should include any interim permit requirements and, if appropriate, a schedule for compliance with the interim permit requirements. The permit provisions shall identify the TEC and specify the actions to be taken in the event the TEC is exceeded. These provisions shall require the discharger to take all reasonable steps to identify the cause(s) if there

is an exceedance of the TEC, and to take all reasonable steps within a reasonable time frame to address the cause and to reduce effluent concentrations to their historic levels.

C. MIXING ZONES

The State may designate a mixing zone or a dilution allowance provided that an appropriate authorizing policy is included in the State's water quality standards. In designating a mixing zone or allowing dilution, regulatory relief is provided for the discharge such that mixing with the receiving waterbody occurs before attainment with water quality standards is required.

1. Concern

The mixing zone program of implementation contained in the original Statewide Plans has resulted in the inconsistent and arbitrary application of mixing zones by Regional Boards. The State's original implementation program does not effectively deal with issues of primary concern to the discharger community, including:

- Allowing mixing zone for acute toxicity;
- Guidance on the establishment of technically defensible mixing zones, and
- The elimination of artificial limitations on the size or use of mixing zones.

2. Recommendation

There is stakeholder consensus that a statewide policy on mixing zones is needed. This mixing zone policy should establish the situations in which mixing zones may be authorized or restricted (i.e., limited or denied). Mixing zone implementation procedures should:

- Establish the specific methods, guidelines and technically-defensible approaches followed in determining mixing zone boundaries and restrictions;
- To the extent appropriate, specify a particular approach to promote consistency;

- Clearly set forth the considerations, guidelines and default assumptions utilized in making case-by-case decisions (e.g., critical design periods for effluent discharges and receiving waterbodies); and
- Be sufficiently detailed to ensure consistency in the derivation of water quality-based effluent limits in point source discharge permits.

The State Board should consider how this mixing zone policy might apply to non-point source/stormwater discharges, particularly in the evaluation of the effect of specially-designated waters (e.g., agricultural waters, effluent dependent waters) on the attainment of water quality objectives in downstream waters, after mixing.

3. Detailed Suggestions

This section summarizes recommendations and options developed by the Task Force for consideration by the State Board.

a. Establishing mixing zone boundaries

The State Board should develop policy guidelines for determining the actual dilution which is received within a designated mixing zone. At minimum, the policy must establish the principal that mixing zone/dilution allowances are based on mathematical predictions and scientifically defensible field studies that consider exposures which are appropriate to the water quality objectives, field conditions, and the behavior of resident species.

Allowable mixing zone characteristics should be established to ensure:

- (i) A continuous "zone of passage" that meets all water quality criteria;
- (ii) That changes in structure and function of the ecological community is minimized;
- (iii) No lethality to organisms passing (i.e., drifting and swimming) through the plume; and
- (iv) That significant health risks are minimized, considering likely pathways of exposure.

The policy should require permittees to coordinate with the Regional Board on the design and implementation of mixing zone studies, when such studies are necessary.

b. The mixing zone policy should:

- (i) Explain how mixing zones will be sized for aquatic life and human health protection. For example, field studies and mathematical analyses must examine exposures which are consistent with the appropriate averaging periods for acute and chronic aquatic life objectives, and human health objectives, etc.
- (ii) Describe methods by which mixing zones and water quality-based effluent limitations will be derived to achieve mixing zone size and shape requirements (see TSD, Chapter 4). For example:
 - Modeling methods (e.g., steady-state and dynamic), ranging from simple (ambient diffusion only) to more data-intensive (discharge-induced and ambient diffusion), and critical design flows that will ensure objective compliance at the appropriate duration and frequency;
 - Field study methods (e.g., tracer studies), using field data to quantify the actual ambient mixing rate and effluent dilution; in concert with tracer studies and/or mathematical analyses, using additional ecological data to size mixing zone.
 - Factors (e.g., drinking water intakes, presence of biologically important areas of concern, etc.), that should be considered in the evaluation of appropriate mixing zone boundaries.
- (iii) Identify any minimum "in zone" quality requirements established for all mixing zones (e.g., narrative objectives that must be met within the mixing zone).

c. The policy should apply to the development of both chemical-specific and Whole Effluent Toxicity water quality-based effluent limitations.

Mixing zone studies should estimate the distance of the outfall to the point where effluent mixes completely with the receiving water. [This boundary is generally defined as the location where the concentration across the transect of the waterbody differs by less than five percent.] If completely mixed conditions occur within a short distance of the outfall (e.g., an effluent dominated receiving water), then mixing zone modeling is not necessary, and fate and transport

modeling techniques (i.e., steady-state or dynamic) may be used to calculate water quality-based effluent limitations. If completely mixed conditions do not occur within a short distance of the outfall, mixing zone analysis should rely on monitoring and modeling.

d. Chronic mixing zones

The policy should specify that mixing zones for chronic toxicity and chronic chemical specific objectives which are based on appropriate consideration of anticipated exposures are allowable. USEPA guidance provides chronic mixing zones for numeric criteria.

e. Acute mixing zones

Option 1: The policy should specify that mixing zones for acute toxicity and acute chemical specific objectives which are based on appropriate consideration of anticipated exposures are allowable. USEPA guidance provides acute mixing zones for numeric criteria.

Option 2: The policy should specify that mixing zones for acute chemical specific objectives which are based on appropriate consideration of anticipated exposures are allowable. The policy should specify that mixing zones for acute toxicity objectives are not allowable.

f. The policy should address the mixing of upstream waters with downstream waters. For example, where an agricultural water or effluent dominated water mixes with a downstream waterbody, the same principles of analysis pertaining to exposures, actual field conditions, and the behavior of resident organisms should be applied in evaluating whether water quality objectives are attained in the downstream waters.

g. The policy should state that the establishment of mixing zones is an important and necessary area of flexibility within the water quality-based toxics control approach.

h. The policy must establish State authority to revisit and adjust mixing zone analyses as better information on the rate of mixing and/or the impacts of the discharge becomes available.

D. COMPLIANCE SCHEDULES

1. Compliance Deadline

The State Board recognizes that immediate compliance with the numerical water quality objectives contained in this plan may not be feasible in all circumstances. It is the policy of the State Board that the water quality objectives be achieved in the shortest practicable period of time, not to exceed fifteen years from the date of their adoption.

For the purposes of this provision, any new numerical interpretation of a narrative objective, whether incorporated into a basin plan or into an NPDES permit or waste discharge requirement, shall be considered a new objective having as its effective date the date of the new interpretation.

Subsequent to the effective date of this plan, a Regional Board, for good cause (e.g., when site-specific objectives are being developed), may adopt a basin plan amendment containing a different compliance deadline for a specific objective and/or water body. Upon approval by the State Board and the Office of Administrative Law, that compliance deadline shall supersede the deadline contained in this plan.

(To be inserted in Chapter IV - Program of Implementation)

2. Compliance Schedules

In cases where final effluent limitations necessary to achieve water quality objectives have been calculated pursuant to the procedures in this chapter and a Regional Board has determined it is impracticable for a discharger to immediately achieve those limitations, the Regional Board may establish in NPDES permits or waste discharge requirements a schedule of compliance. The permit or waste discharge requirement shall include a time schedule for achievement of the final water quality-based effluent limitations or, if it is not practicable to achieve the limitations during the term of the permit or requirement, a time schedule for completion of a series of actions necessary to demonstrate reasonable further progress toward compliance with the limitations. In the latter case, time schedules may include completion dates for each action, including but not limited to the development and implementation of source reduction programs.

Any schedule of compliance for achievement of final effluent limitations based on water quality objectives may not extend beyond the compliance deadline for the objectives.

In cases where final water quality-based effluent limitations have not been incorporated into a permit or waste discharge requirement due to a lack of data, a TMDL/WLA/LA, a watershed plan, a site-specific study, or other necessary activities, the permit or requirement may contain a time schedule for collection of the necessary data or for the completion of the necessary activities. In these and other cases, a permit or waste discharge requirement may also contain compliance schedules for achieving interim requirements that may be imposed pursuant to the provisions of this plan.

V. MONITORING AND REPORTING REQUIREMENTS

A. MONITORING PROGRAM DESIGN

Well-designed monitoring programs are essential for collecting the data necessary to assess reasonable potential, effluent limitations, contaminant transport and fate, and compliance with established permits as well as to assess water quality, identify significant pollutant sources, and develop TMDLs\WLAS\LAS, total recoverable\ dissolved metals translators, and site specific criteria. Currently, data are often collected and reported without sufficient attention given as to how the data are later going to be analyzed. Significant resources could be saved by clearly establishing monitoring goals, statistical objectives and procedures, analytical techniques, sampling locations and methods, data format, etc. before sampling is commenced.

The Statewide Plans need to provide guidance on monitoring programs to ensure that monitoring programs have clear goals directly relating to their end use, and that monitoring is conducted that is appropriate for the intended purpose, and that duplication is avoided. In addition, the Statewide Plans need to specify who is responsible for performing and paying for monitoring, and recognize the need to balance monitoring needs with limited state, local, and private resources. Depending on the goal(s) of the monitoring program, it may be more appropriate for monitoring to be performed on a waterbody or watershed basis as opposed to a discharger basis. Flexibility should be built into monitoring programs which would allow, for example, for changes or reduced monitoring requirements within the life of a permit and allow for the substitution of biological assessment or indicator monitoring of the receiving waters in place of some effluent monitoring requirements. Biological assessment monitoring should not be required of dischargers until such time as assessment techniques have been sufficiently developed and scientifically proven.

B. STATEWIDE GUIDANCE ESTABLISHING A RISK-BASED COST-BENEFIT APPROACH TOWARDS MONITORING

1. Concern

Effluent and ambient monitoring requirements are not always commensurate with the conditions and/or risk, and as a result monitoring requirements imposed on dischargers are often more expensive than is necessary and reasonable.

There is, furthermore, uncertainty as to whether monitoring programs for pathogenic organisms and indicators adequately address aberrations in the treatment process which could result in public health risk.

2. Recommendation

The Task Force recommends that the State Board clearly establish goals and objectives for a risk-based, cost-benefit approach for effluent and ambient monitoring, and that it further should evaluate current monitoring programs to determine if more emphasis on pathogenic monitoring for the protection of human health is appropriate.

The goals and objectives for a specific monitoring program could include: compliance monitoring for permits, monitoring associated with beneficial use protection, monitoring for receiving water quality analysis, identification of significant pollutant sources, and monitoring necessary for the development of TMDLs\WLA\LAs, site specific objectives, and total recoverable\dissolved metals translators.

In developing the statewide guidance, the Task Force recommends that the State Board consider how the data will be analyzed and used and the costs associated with collecting the data. The guidance should specify how monitoring data will be used to show compliance with permit limits and with water quality objectives, establish appropriate statistical methods and analytical techniques for evaluation of monitoring data, and discuss establishment and selection of sampling parameters, station locations and monitoring frequencies to satisfy goals and objectives.

The Task Force further recommends that the monitoring data reporting formats be standardized to facilitate their usefulness.

C. STATEWIDE GUIDANCE ON BALANCING EFFLUENT AND AMBIENT MONITORING REQUIREMENTS USING A COST\BENEFIT APPROACH

1. Concern

Statewide guidance on balancing effluent and ambient monitoring requirements is lacking. The statewide guidance should provide for a cost-benefit approach for balancing effluent and ambient monitoring requirements.

2. Recommendation

The Task Force recommends that the State Board develop statewide guidance on balancing effluent and ambient monitoring requirements.

In accordance with the statewide guidance Regional Boards should, if appropriate, require simultaneous monitoring of effluent discharged and the receiving waters. Cooperative monitoring of mixing zones and receiving waters in general by dischargers should, for example, be encouraged and facilitated, and where possible permits should be written on a watershed basis with monitoring requirements written into the permits which complement regional or watershed monitoring programs.

D. STATEWIDE GUIDANCE FOR ESTABLISHING WATERSHED\REGIONAL MONITORING PROGRAM

1. Concern

Statewide guidance for watershed\regional monitoring is lacking.

2. Recommendation

The Task Force recommends that the State Board provide statewide guidance and develop a mechanism which will both encourage and facilitate the conduct of watershed\regional monitoring programs where appropriate. It is desirable that the varied point source, nonpoint source, and agency monitoring needs be integrated on a watershed\regional basis wherever possible.

The Task Force also recommends that the State Board address ambient monitoring in the statewide guidance. Watershed\regional ambient monitoring should be conducted to establish baseline levels and trends.

The State Board and the Regional Boards are in the process of integrating the watershed approach into their programs. Regional Boards can be an important resource to assist stakeholders in the development of a watershed\regional monitoring network by identifying specific points where monitoring should be conducted. The Task Force recommends that the State Board provide statewide guidance on the allocation of responsibility for performing and funding monitoring programs among interested federal, state, local and private groups or agencies.

E. STATEWIDE GUIDANCE ON USE OF CERTIFIED LABS, PROCEDURES FOR DEVIATION FROM GUIDANCE

1. Concern

There is no statewide guidance on the use of certified labs and procedures for deviation, when appropriate. There is no process under which a lab can receive partial (limited) certification.

2. Recommendation

The Task Force recommends that the State Board provide statewide guidance on the use of certified labs, and provide for procedures for deviation from the guidance. The statewide guidance should specify the procedures for certification.

Laboratories analyzing monitoring data should be certified by the Department of Health Services Environmental Laboratory Accreditation Program (ELAP) and must include QA\QC data in the report. The Task Force recommends that the State Board include in the statewide guidance provisions for partial (limited) certification of labs.

Analytical methods used should be those specified in 40 CFR 136 or approved as equally sensitive (alternate test procedures).

Analytical methods that are not specified in 40 CFR 136 should be reviewed and verified by the State Board in coordination with the Regional Boards to be appropriate for the sample matrix. Alternate methods should be readily accessible to State Board and Regional Board staff.

F. REPORTING REQUIREMENTS

1. Concern

There is a need for a standardized format for submittal of monitoring data to facilitate analysis of the data.

2. Recommendation

The Task Force recommends that a standardized format for submittal of monitoring data be developed. The format should be carefully developed to ensure that the data reported can be integrated into a regional\state electronic monitoring data bank.

3. Concern

Volume of monitoring data submitted to Regional Boards.

4. Recommendation

The Task Force recommends that the State Board explore options to cut down on the volume of monitoring data Regional Boards must deal with. One such option would be to allow for the submittal of a summary of the data with the discharger required to keep the raw data.

VI. RESPONSIBILITY FOR MANAGING AND FUNDING SPECIAL STUDIES

Many studies, e.g. studies necessary to develop TMDLs, would logically be done on a waterbody or a watershed basis rather than on an individual discharger basis and would logically be funded by the State or jointly funded by multiple dischargers. But there are often not institutional structures in place that would facilitate joint funding of waterbody or watershed studies.

A. CONCERN

1. A number of the monitoring and other studies required in conjunction with Statewide Plan implementation will involve considerable expenditures.
2. The State Board, Regional Boards, and local agencies in many cases will not have money budgeted to perform any significant studies. Smaller dischargers may be especially hard-pressed to fund significant studies.

B. RECOMMENDATION

1. The Statewide Plans need to contain a policy on who is responsible for designing, funding, managing, and approving the various types of special studies that may be necessary during plan implementation.
2. The policy must be fair and not just pass on to local agencies or private parties responsibilities and costs that are the responsibility of the State.
3. The policy must address the reality that many small and medium-sized dischargers may not have the resources necessary to perform studies on their own.
4. The Statewide Plans need to encourage and facilitate waterbody and watershed studies where appropriate.

C. LIST OF POSSIBLE SPECIAL STUDIES

- TMDL/WLA/LA study
- Site-specific objectives study
- Use attainability assessment
- Regional ambient monitoring
- Translator study
- Effluent and Receiving Water Quality Assessment (ERWQA)
- Mixing zone study
- Reasonable potential study
- Contaminant fate and transport monitoring

For all of these studies, responsible parties for funding, managing, and executing need to be identified.

VII. COMPLIANCE DETERMINATION

The Task Force discussed a number of issues related to compliance determinations. Following is a discussion of the issues which were discussed.

A. DETECTION/QUANTITATION ISSUES

1. Concern

The performance of analytical methods degrade as the concentration of the analyte decreases due to increased analytical variability. Consequently, not all analytical data are suitable for use in evaluating compliance with permit limits.

2. Recommendation

The Statewide Plans need to specify how analytical data, which are below their applicable detection or quantitation levels, are to be used in compliance determinations.

3. Detailed Suggestions

a. Detection limit and quantitation limit definitions

The Statewide Plans need to define "detection limit" and "quantitation limit" so that it is clear how they are to be calculated. The definitions should state that they are to be based upon matrix specific inter-laboratory testing using 40CFR136 approved test methods.

Where test data is not available to determine matrix specific inter-laboratory quantitation limits, dischargers or discharger groups should be given the opportunity to develop the limits. Alternately, where this is not feasible, default values (such as identified in the Ocean Plan) shall be defined.

b. Compliance determinations

Based upon discussions between Task Force members two options for compliance

determinations were developed. The interest categories supporting each option are identified below. No representatives were present from the Stormwater, Public Health, Agricultural and Environmental interest categories.

Option 1: *Option 1* is supported by representatives from the "regulated" interest categories (i.e., Publicly Owned Treatment Works, Industry, and Water Supply) because it represents a more clear-cut recognition that the calculated limit cannot be used as an enforceable limit. Porter-Cologne requires that regulation of water quality, which includes establishment of permit limits be "reasonable" (see Section 13000). Reasonableness cannot be determined when a limit is not quantifiable. Anti-backsliding is also an issue. It can be argued that anti-backsliding requirements prevent the relaxation of the calculated limit, despite the fact that it may be determined to be unreasonable at a later date. Dischargers believe that the courts may determine that anti-backsliding would apply in this situation. Under Section 402 (o) of the the CLean Water Act, there are two key constraints on backsliding for a discharger unable to show compliance with an effluent limitation:

- The discharger must have installed the treatment facilities necessary to meet the limitation (402 (o) (E)); and
- The revised effluent limitation together with other actions, must result in the achievement of water quality standards (402 (o) (1) & (3) and 303 (d) (4)).

However, discharges believe that *Option 2* is preferable to the current situation, where quantitation is not incorporated in compliance determinations. Following is the *Option 1* recommendation:

When the permit writer calculates a permit limit and the calculated value is less than the quantitation limit, the permit writer shall set the permit limit at the quantitation limit. The permit shall contain a finding which identifies the actual calculated limit.

Quantitation limits may be changed during the life of the permit only through the modification of the NPDES permit. A quantitation limit may be modified for the following reasons:

- A lower quantitation limit is justified based upon improved analytical methods. Because this represents a new lower limit, a schedule to achieve compliance with the new lower quantitation limit shall be incorporated into the modified

NPDES permit.

- A higher quantitation limit is justified based upon improvements in the method for calculating quantitation limits. In this event the limit shall be increased to the higher quantitation limit.

Option 2: *Option 2* is supported by representatives from the "regulatory" interest categories (i.e., Fish and Wildlife Agencies, State Board, Regional Boards, and USEPA), because setting the limit at the calculated value reflects the scientifically defensible level of discharge performance that is needed to protect receiving water quality, anti-backsliding issues are addressed up-front (i.e., anti-backsliding would not apply in the situation where the discharger cannot directly show compliance with the limit), and is consistent with existing regulatory requirements. Following is the *Option 2* recommendation.

When the permit writer calculates a permit limit and the calculated value is less than the quantitation limit, the permit writer shall set the permit limit equal to the calculated value.

The permit shall contain the following statement:

"Any measurement that is greater than the permit limit but less than its quantitation limit shall be deemed to be in compliance with its permit limit."

Quantitation limits may be changed during the life of the permit only through the modification of the NPDES permit. A quantitation limit may be modified for the following reasons:

- A lower quantitation limit is justified based upon improved analytical methods. Because this represents a new lower limit, a schedule to achieve compliance with the new lower quantitation limit shall be incorporated into the modified NPDES permit.
- A higher quantitation limit is justified based upon improvements in the method for calculating quantitation

limits. In this event the limit shall be increased to the higher quantitation limit.

B. DISCHARGE LIMITS - SIGNIFICANT FIGURES

1. Concern

The results from an analytical test actually represents a range (value +/- a percentage), not a finite point. The Statewide Plans need to clarify how to assess compliance with a fixed value limit (e.g., 0.1) when the analytical result is slightly above it (e.g., 0.12).

2. Recommendation

Specify in the Statewide Plans how to report analytical data and adopt an enforcement response policy specifically for the above type of technical (i.e., scientific) issues. This recommendation was supported by representatives from both the "regulatory" interest categories (i.e., Fish and Wildlife Agencies, State Board, Regional Boards, and USEPA) and the "regulated" interest categories (i.e., Publicly Owned Treatment Works, Industry, and Water Supply). No representatives were present from the Stormwater, Public Health, Agricultural and Environmental interest categories.

3. Detailed Suggestions

a. Reporting of analytical data

The Statewide Plans should state that analytical data be reported to the same significant figures as the limit, where possible.

b. State Board policy on enforcement response

The State Board should adopt an enforcement response policy which addresses the type of enforcement action to be taken in response to various degrees of exceedance related to technical (i.e., scientific) issues.

C. AVERAGING PERIODS - SAMPLING PROGRAMS

1. Concern

Limits of different averaging periods (e.g., instantaneous maximum, 1-hr average, 4-day average, 30-day average, etc.) may be put into a permit. The sampling program needs to adequately reflect the limit averaging periods so that compliance can be adequately determined.

2. Recommendation

The Regional Boards should specify in permits the base level number of samples and the number of resamples required under situations of non-compliance. This recommendation was supported by representatives from both the "regulatory" interest categories (i.e., Fish and Wildlife Agencies, State Board, Regional Boards, and USEPA) and the "regulated" interest categories (i.e., Publicly Owned Treatment Works, Industry, and Water Supply). No representatives were present from the Stormwater, Public Health, Agricultural and Environmental interest categories.

3. Detailed Suggestions

The Regional Boards should specify in NPDES permits:

- That if a single sample exceeds a long-term average it shall generally trigger additional sampling; and
- A specific number of resamples during the averaging period if the first sample exceeds the long-term average.

D. MULTIPLE MONITORING LOCATIONS

1. Concern

Discharge limits may be set at multiple locations (e.g., end of pipe, in-plant, receiving water) which subjects the discharger to increased monitoring expenses.

2. Recommendation

The Statewide Plans should clarify where discharge limits should be set and compliance

monitoring is conducted and any conditions under which multiple locations should be utilized. This recommendation was supported by representatives from both the "regulatory" interest categories (i.e., Fish and Wildlife Agencies, State Board, Regional Boards, and USEPA) and the "regulated" interest categories (i.e., Publicly Owned Treatment Works, Industry, and Water Supply). No representatives were present from the Stormwater, Public Health, Agricultural and Environmental interest categories.

3. Detailed Suggestions

The location where discharge limits should be set, where compliance monitoring is conducted and any conditions under which multiple locations should be utilized should be left up to the discretion of the Regional Boards.

E. COMPLIANCE DETERMINATIONS FOR PERMITS WITHOUT QUANTITATIVE EFFLUENT LIMITS

1. Concern

The Statewide Plans should contain a compliance determination policy for permits which do not contain quantitative effluent limits.

2. Recommendation

Include in the Statewide Plans a compliance determination policy for permits which do not contain quantitative effluent limits. This recommendation was supported by representatives from both the "regulatory" interest categories (i.e., Fish and Wildlife Agencies, State Board, Regional Boards, and USEPA) and the "regulated" interest categories (i.e., Publicly Owned Treatment Works, Industry, and Water Supply). No representatives were present from the Stormwater, Public Health, Agricultural and Environmental interest categories.

3. Detailed Suggestions

The Statewide Plans should contain the following policy for permits which do not contain quantitative effluent limits (e.g. stormwater permits):

"Permits shall require the implementation of control measures and tasks designed to achieve water quality objectives and other goals of the Statewide Plans. Compliance

with permits will then be based on the degree of implementation of control measures and tasks."

F. ISSUES IDENTIFIED, BUT NOT ADDRESSED BY THE TASK FORCE

Following are issues which were identified, but not addressed, by the Task Force either because:

- They were outside the Task Force's area of responsibility (and should be addressed by one of the other Task Forces); or
- The Task Force ran out of time. The Task Force recommends that the State Board address these issues in the development of the Statewide Plans.

1. Compliance with Narrative Water Quality Objectives

There is not a clear method of demonstrating compliance with narrative water quality objectives when they are incorporated into permits. Where possible, compliance with narrative water quality objectives should be linked to compliance with numerical limits and toxicity limits.

2. Toxicity Test Compliance

Failure of one toxicity test could be considered to be a violation of a permit toxicity limit. Compliance with toxicity limits needs to be based upon consistent (repeated) failures of toxicity tests. Toxicity Investigation Evaluations/Toxicity Reduction Evaluations should only be triggered when the toxicity limit is exceeded.

3. Toxicity Objectives

Toxicity objectives may be expressed as narrative objectives. The Statewide Plans should include a policy for determining compliance with narrative toxicity objectives.

4. Compliance with Hardness and pH Dependent Limits

The hardness and pH of a discharge may be significantly affected by the receiving

water. Compliance with hardness and pH limits should be conducted after mixing with the receiving water.

5. Compliance Based Upon Dissolved vs. Total Recoverable Measurements

Compliance with some water quality objectives may be more appropriately done based upon dissolved versus total recoverable test results. The Statewide Plans should clarify the test basis (total vs. dissolved) that should be used to determine compliance with the permit limits.

6. Data Below Quantitation Limits

Permit limits may be based upon averages or medians of monitoring data. The Statewide Plans need to specify how data below the quantitation limit shall be used in the calculation of averages and medians (e.g., data that is less than the quantitation limit shall be considered to equal zero in compliance determination calculations).

VIII. EXCEPTIONS TO PLAN REQUIREMENTS

The State Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the USEPA, grant exceptions to plan requirements where the State Board determines that the exception will not compromise protection of beneficial uses, and public interest will be served.

APPENDIX A. ROSTER OF TASK FORCE PARTICIPANTS

Task Force Member	April 17	April 18	May 15	June 1	June 19	July 17	July 18	Aug 1	Aug 21	Aug 22	Sept 18	Sept 19
Phil Bobel	X	X	X	X		X	X	X	X	X	X	X
Bob Shanks	X	X	X	X	X	X						
Doug Harrison	X	X			X	X	X		X			
Don Frietas	X	X										
Sandra Mathews	X	X	X		Alternate	Alternate	Alternate	X	X	Alternate	Alternate	Alternate
Fred Jacobsen	X	X	X		X	X			X	X		X
Kathy Mannion	X	X	X				X					
Justin Malin			X									X
John Jones	X	X	X			X					X	X
David Zweig	X	X	X			X	X			X	X	X
Gary Stephany	X	X		X	X	X		X				
Terry Oda	X	X	X		X	X	X	X			X	X
Robyn Stuber	X	X	X			X	X		X	X	X	X
Pete Phillips	X	X			X	X			X		X	
Michael Lyons	X	X		X	X	X	X	X	X	X	X	X
Gary Stewart	X	X	X			X	X		X	X	X	X
Joanna Field	X	X	X	X	X	X	X	X	X	X	X	X
James Kassel			X		X	X	X		X	X	X	X

Notes:

Shaded areas indicate absence and crosses indicate presence.

The alternate for Sandra Mathews was Erich Brandstetter.

Part VII

Watershed Task Force Report

WATERSHED TASK FORCE

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Watershed Task Force Attendance Roster

Interest Category	Name	April 27	April 28	May 24	June 19	July 26	Aug. 23	Sept. 27	
POTW	M Stevan Stroud								
POTW	A Michael Wallis								
Stormwater	M Alex Sheydayi								
Stormwater	A Bill Reichmuth								
Industry	M Robert Kanter								
Industry	A Matthew Cowden								
Agriculture	M Jackson Gualco	*	*					*	
Agriculture	A Carl Yank						*		
Water Supply	M Ben Penneck								
Water Supply	A Doug Rayner								
Environmental	M Arthur Whipp								
Environmental	A Kenneth Gerlach					****			
Environmental	A Mario Menesini								
Public Health	M Paul Gilbert-Snyder				**				
U.S. EPA	M Sam Ziegler								
U.S. EPA	A Maria Rea								
Fish & Wildlife	M Deborah Johnston								
Regional Boards	M Brad Hagemann				****				
Regional Boards	M Sue Yee								
Regional Boards	A Jeanne Chilcott								
State Board	M John Norton								
State Board	A Michael Reid								
DPR	M David Duncan								
Food & Ag	M Steve Shaffer						*****		
		*Kendra Dajjogo attended for Jackson Gualco							
	M = Member	**Mike Kiado attended for Paul Gilbert-Snyder							
	A = Alternate	***Sue Yee replaces Brad Hagemann							
		****Mario Menesini replaces Ken Gerlach							
		*****Marshall Lee attended for David Duncan							

Watershed Task Force Recommendations

Mission Statement: Provide input to the ISWP and EBEP to insure that they are implemented in a manner that promotes a coordinated and comprehensive watershed management approach to addressing all factors affecting water quality (as per §13241 Porter-Cologne).

Objectives:

- A. Describe watershed management and ensure it is promoted in ISWP and EBEP as an implementation strategy for protecting beneficial uses*¹.
- B. Promote net environmental gain* concept in ISWP and EBEP.
- C. Measure the effectiveness of watershed management approach on water quality on a statewide and on an individual watershed basis.
- D. Consideration of site specific objectives may be a part of watershed management planning process.
- E. Assure commitment by State Board, Regional Boards, USEPA, and other entities*
- F. Ensure adequate and accurate information on which to base decisions.
- G. Promote public awareness, education, and involvement.

Recommendations:

- I. Describe watershed management (A)²
 - A. Provide an overview
 - 1. Description - Watershed management is an integrated holistic approach for restoring and protecting aquatic ecosystems and protecting human health. Watershed management may include diverse issues as defined by the watershed's stakeholders to insure comprehensive solutions. It reflects a growing consensus that many of the existing water quality problems* can best be addressed by a more integrated, basin-wide approach. The purpose of watershed management is variously viewed as 1) a method for returning environmental protection to the local level, 2) an approach to reducing the impact of nonpoint sources, 3) a strategy for integrating management of all components of aquatic ecosystems, and 4) a process for optimizing the cost effectiveness of a blend of point and nonpoint source control efforts. Whichever purpose or blend of purposes predominates, watershed management is not a new centralized program that competes with or replaces existing programs. Rather, it is an approach through which diverse interests - individuals, landowners, farmers, POTWs, environmentalists, and agencies - work together to achieve significant net environmental gain.* Furthermore, watershed management provides a mechanism for considering social and economic interests, in the context of resolving water quality issues.
 - 2. Guiding principles
 - a. Net environmental gain* achieved through watershed management does not necessarily provide relief from state or federal law. However, due to the

newness of watershed management, regulatory flexibility* (i.e. changes in regulations and statutes) should be explored as an incentive for the widespread adoption of watershed management. To remove a significant stumbling block to effective partnerships between point and nonpoint sources, compliance with an approved watershed management plan should provide protection equivalent to applicable laws.

- b. Commitment of all stakeholders to adhering to an adopted watershed plan is critical to its success. In particular, mechanisms are needed to ensure that stakeholder regulatory decisions are consistent with adopted watershed plans.
- c. Rather than just another program, watershed management should be viewed as a whole new way of doing business. Over the long range, it should be viewed as a more effective mechanism (where it works) for achieving desired results rather than as another demand on scarce staff resources. Although it may seem more time consuming in the short term, true collaborative partnerships will result in lasting improved effectiveness.
- d. The responsibility for discharge as well as reductions in discharge should be allocated fairly. Interest-based, collaborative problem-solving provides a forum for arriving at equitable solutions.
- e. Protection and enhancement efforts should focus on beneficial uses* as well as numeric water quality objectives.
- f. Stakeholder* involvement - fostering participation of the people most likely to be concerned and most willing to take action - is a key component in successful watershed management.
- g. Watershed management will not always be successful in finding beneficial use protection/enhancement interests that are compatible with economic ones; however, win-win situations are frequent enough that watershed management should be viewed as a significant new option for protecting or enhancing beneficial uses* in a cost-effective manner.
- h. Since watershed management will be broadly beneficial, there should be an equitable sharing of costs among all beneficiaries.
- i. When water quality impairments have been clearly documented and stakeholders* are either unwilling or unable to implement voluntary actions, and the Regional Board has determined that the impairment would be best addressed using a watershed approach, the State and Regional Boards should develop and implement watershed management plans which identify the best options for controlling these impairments.

B. Describe the scope

1. Breadth of concerns - Ensure that water quality objectives, private property interests, beneficial uses*, sustained economic vitality, resource values, social factors, and net environmental gain* can be jointly addressed.
2. Range of stakeholders* - Ensure participation by all interests and the general public, given the purpose of watershed management described above (i.e. the primary focus

should be on net environmental gain* rather than, for example, economic development).

3. Type of water body - Ensure that groundwater, inland surface water, enclosed bays and estuaries, and ocean water can be jointly addressed where appropriate.
- C. Describe the process (A,B,C,E,F,G)²
1. Flow chart the process - See attached flowchart.
 2. Provide a narrative description - The first step in the process combines assessment with categorization of water bodies, establishment of watershed boundaries, identification of sources, and prioritization of watersheds and water bodies. Assessment either recognizes threats to be prevented or describes undesirable conditions to be improved. For problem areas identified in this step, watershed management should be initiated in some prioritized fashion. For areas without problems, a baseline effort to keep these areas free of problems should be applied, given the concurrence of watershed management groups. Ideally, initiation will happen in a grass roots manner, where local stakeholders* are informed of the problem and begin to come together in a collaborative problem-solving fashion. Their role at this stage can be to define the watershed management area, review and summarize data, prepare a state-of-the-watershed report, identify interests, and develop a work plan. If a grass roots effort is slow to develop in high priority watersheds, then the Regional Board should take on a leadership role to encourage the development of one with an eye towards timely implementation. In either case, an important step in the process should be the active identification of potential stakeholders* and an invitation to participate for a specified set of stakeholders*. Active identification should include local research, mail or telephone surveys, interviews, and public notices and the specified set of stakeholders should be those appropriate to any watershed.

The next step is the preparation of a watershed management plan (WMP). This should include a problem description, mission statement, list of objectives, and specific tasks to achieve the objectives and reflect common, compatible, and conflicting interests of the various stakeholders.* Additional monitoring needs may be specified in the plan and the cost and commitments necessary to implement each task should also be included. Tasks should specify who, what, when, and where and reflect a commitment towards accomplishment. Watershed management plans can provide for management of watershed resources beyond water quality, for example, recreational access, bike trails, water supply and flood control. The Regional Board is responsible for approving only those elements which are considered an implementation of the Basin Plans or Statewide Plans. The plan should be made available for public review prior to approval by the Regional Board and other agencies.

Finally, the plan is implemented and eventually the effect of watershed management on beneficial use impacts is evaluated by comparison to the original assessment data. The basis for this comparison should be recent water quality assessment data rather than historical conditions. Resources and technical assistance

necessary to accomplish the specified tasks are obtained and monitoring is performed periodically to demonstrate progress and eventual success. Throughout this process interim actions must be in effect. These actions may take the form of a schedule for WMP development and compliance with objectives when there is early implementation of practicable BMPs. Interim permit limits are to be negotiated between the Regional Board and the discharger rather than by all the stakeholders.*

- D. Illustrate different organizational approaches - The bottom-up or grass roots approach has often consisted of voluntary efforts taken by local watershed stakeholders* to control nonpoint sources and enhance beneficial uses* via collaborative problem-solving. Because participants in these efforts have seen their interests effectively addressed, commitments have remained strong, and lasting, on-the-ground results have been achieved. In contrast, the top-down or regulatory approach consists of command-and-control specification of procedures, products, schedules, participants, etc., etc. If regulators focus too heavily on procedural concerns, local stakeholder interests risk being neither identified nor addressed, commitment may be lacking, and improvements in beneficial uses* may be nonexistent. A straightforward indication of the lack of attention to local stakeholders' * **real** interests will be the development of watershed management plans that are never implemented. The regulatory approach can be useful in fostering the participation of stakeholders; however, it will usually be of more importance to focus on a grass roots watershed management approach.
 - E. Show how different organizational approaches interact - Typically, the grass roots, voluntary cooperative approach should dominate but the top-down, regulatory approach should be applied in appropriate instances (e.g., to monitor impacts to beneficial uses*, to stimulate development of a grass roots effort when none is forthcoming, and to encourage the participation of stakeholders.)
 - F. Provide assistance for developing watershed management plans - Offer examples and a model plan. The State Board, in collaboration with government and private sector representatives, should develop WMP guidance which provides for a range of goals (e.g., water quality, flood control, water supply, recreation, and development). Some plans will be very flexible, with minimal commitment and requiring no government approval. Others may be very specific, assure commitments, and require approval of Regional Boards and other governmental agencies (such as county government). The guidance should include a process for ensuring policy maker involvement during the planning process.
 - G. Address watershed boundaries and the sequence in which watersheds should be managed - Describe the various approaches to setting watershed boundaries and determining the sequence in which they are managed.
 - H. Ensure scientific quality - Describe quality assurance, scientific advisory groups, scientist-stakeholders*, and other methods for ensuring scientific quality. Distinguish between the QA/QC needs of voluntary collaborative efforts and those of command-and-control, often litigious, efforts.
- II. Provide incentives for the widespread use of watershed management
- A. Increase regulatory flexibility* to achieve net environmental gain* (B,D)²

1. Provide regulatory flexibility* in meeting water quality objectives as long as steps (described in watershed management plan) are taken to achieve net environmental gain* - Allow adequate compliance schedules for point source dischargers when they participate in the implementation of a watershed management plan showing documented progress; investigate ways of modifying or replacing the current method for calculating effluent limits to incorporate a watershed-wide, all-sources-of-input perspective. (For a more thorough discussion of some of the background underlying this recommendation, refer to Section 2.A. of the 8/16/95 memorandum to the task force). Pursue legal research and negotiation with USEPA and other groups to resolve additional issues of regulatory flexibility* for point sources. Regulatory flexibility* for nonpoint sources exists as the Nonpoint Source Management Plan's three-tier approach.
 2. Promote assessment techniques that allocate responsibility and facilitate voluntary and cooperative implementation; the rigorosity of these techniques can range from qualitative to quantitative and is determined by each watershed management group - Emphasize the risk of doing nothing and present examples that range from complex studies or models, detailed allocation schemes, and carefully orchestrated implementation programs to simple analytical efforts, rough estimates of load allocations, and "let's quit studying it and get on with cleanup" control efforts.
 3. Adopt emergency clauses - To provide regulatory flexibility* during emergency situations, clauses exempting agricultural and other dischargers should be included in the event of pest outbreaks and severe weather; "emergencies," however, should be carefully defined (codified or otherwise).
 4. Adopt other incentives - A variety of options may exist here; the ones mentioned by the Task Force were to extend and synchronize the terms of permits, to provide partial relief from permit monitoring requirements, and to pursue USEPA's regulatory reinvention pilot project announcement. The latter may involve modification to existing regulations.
- B. Assure commitment to watershed management by regulatory agencies (B,E,F)²
1. Redirect* resources to watershed management - Identify agencies, personnel, and funds appropriate for redirection (e.g., State/Regional Boards, dischargers, State Revolving Fund, State Clean Water Bond Funds and federal grant funds) and then redirect*.³ Demonstrate commitment at an early stage so that local interests are motivated to participate. Provide resources in proportion to initial threats to beneficial uses*.
 2. Encourage stakeholders* to seek additional funding - Emphasize the opportunity that all stakeholders* have in securing funds for watershed management and encourage them to pursue these opportunities.³
 3. Conduct annual review of watershed management progress - List indicators that will be used to measure progress in implementing this approach on an annual basis.
 4. Conduct evaluation of the effect of the watershed management approach on net environmental gain* - Describe a study design, success criteria, monitoring

procedures, sampling sites, and an appropriate schedule for evaluating the success of this new approach.

- C. Provide other support services (E,F)²
 - 1. Provide public education and technical assistance - Implement a program that combines public outreach, publicity campaigns, training, volunteer monitoring*, a clearinghouse, and a guidance manual.³
 - 2. Promote inter-agency and intra-agency coordination - Foster teamwork to provide technical assistance, coordinate inspections, etc.³
 - 3. Encourage legislative support - In collaboration with public and private interests develop watershed management legislation which provides not only for recognition of this approach but establishes a forum to coordinate a widely defined set of interests (e.g., water quality, flood control, water rights, Good Samaritan law, etc.).³
- III. Describe the relationship of watershed management to various programs which include but are not limited to: (A)²
 - A. Nonpoint Source Management Plan - Incorporate the NPSMP's three-tiered approach (without modification) into the ISWP and EBEP and explain that watershed management can be an example of the tier one voluntary approach. Explain the role of watershed management in tiers two and three as well (e.g., watershed management may be an example of the tier two approach when it is performed pursuant to potential traditional regulatory actions arising from documented impairments).
 - B. Management Agency Agreements and Memoranda of Understanding - Describe in MAAs and MOUs that each signatory agency is to participate as a stakeholder* in any watershed management effort that addresses that agency's legal mandates. For watershed management to be most effective, MAAs and MOUs should complement WMPs.
 - C. Water quality assessment and monitoring generally - Redirect* resources to these efforts both to identify areas in need of watershed management and to evaluate the success of watershed management.
 - D. Land use general plans - Examine the potential for linking general plans and watershed management plans for advancing the protection of beneficial uses*..
 - E. Section 401 certification - Add wetlands and riparian protection as another interest for watershed management.
 - F. Antidegradation - Add antidegradation as an interest for watershed management and explore its role in describing baseline conditions for unimpacted watersheds. The State Board should develop guidance for implementation of the statewide antidegradation policy; moreover, watershed management groups should consider it in relation to water reclamation, the permanence of discharge below water quality objectives, promoting historically poor water quality, beneficial use protection vs achievement of water quality objectives, and economic considerations.
 - G. Option 9 - The President's Forest Plan - Emphasize the inclusion of beneficial uses* that address this interest in watershed management.
 - H. Basin Plans - Describe the relationship of WMPs to Basin Plans once it has been determined by the Watershed Management Initiative.

- I. Total Maximum Daily Load (TMDL) - TMDL is a formal process under the Federal Clean Water Act that leads to the assignment of load allocations and waste load allocations to dischargers. A broader, more flexible, framework of "allocation of responsibility* for pollutant discharge" that can apply to all sources in a watershed should be supported. This process becomes a useful option to conduct watershed management. Voluntary, collaborative problem solving is characteristic of both nonpoint source allocation of responsibility* and watershed management. The allocation of responsibility process may be a voluntary (tier 1) approach with flexible responsibilities agreed upon by the local watershed stakeholders. The process may also be a directed approach under the prospect of regulatory action (regulatory-based encouragement - tier 2), or if required, result in formal load allocations or waste load allocations (tier 3). The ISWP and EBEP should clarify this distinction and describe the relationship of both the TMDL process and the allocation of responsibility* process to watershed management plans.
 - J. Site-specific objectives - Explain that watershed management and the development of site-specific objectives are distinct exercises and that they may occur independently so that neither one impedes progress on the other or they may occur in conjunction with each other. Describe the relationship between a WMP and a site-specific objective when both are developed.
 - K. Proposition 65³ - Emphasize the inclusion of beneficial uses* that address this interest in watershed management.
 - L. Endangered Species Acts³ - Emphasize the inclusion of beneficial uses* that address this interest in watershed management.
 - M. Bay Protection and Toxic Cleanup Program - Make BPTCP data widely available and user-friendly to enhance water quality assessment and adopt watershed management as a BPTCP option for identifying, remediating, and preventing Toxic Hot Spots.
 - N. Sanitary Surveys - Encourage widespread availability of sanitary survey data to enhance water quality assessment and include domestic water supply agencies as watershed management stakeholders.*
 - O. Section 404 - Add Discharge into the Waters of the United States as another interest for watershed management.
 - P. Section 1600 - Add Fish and Game Code Streambed Alteration Agreements as another interest for watershed management.
- IV. Initiate specific efforts (E)²
- A. Maintain involvement of the Watershed Task Force as the FED and plans are developed - Discourage development of an FED draft by State Board staff working in isolation who end up with excessive ownership of the language. Rather than scheduling meetings in accordance with completion of portions of the draft language, pursue other options to maximize ownership by the full range of stakeholders* presently represented. Acknowledge, however, that ultimate responsibility for the plans and the FED remains with the State Board.
 - B. Link milestones for implementing watershed management to regulatory actions so that they take effect if the milestones are not met on time.

- C. Provide seed money
- V. Definitions (G)²
- A. Net environmental gain (NEG) - This should focus on beneficial uses* and the physical and biological, as well as chemical, integrity of the State's waters. Various NEG options should be compared (e.g., water quality objectives, habitat enhancement, and resource extraction*) with eventual selection determined by maximum benefit compatible with watershed community needs. Because the stakeholders* in each watershed are the best judges of what constitutes NEG, watershed management groups must retain a leading role in defining it. For the purposes of this definition "benefit" and "gain" can be used interchangeably and both have the same meaning as "enhancement."
- B. Other entities - This means all regulatory and resource agencies with authority in the watershed as well as private organizations and individuals.
- C. Regulatory flexibility - Regulatory flexibility should result in net environmental gain* and will be allowed in the context of an effective watershed management effort which documents net environmental gain*. Specific requirements or regulations which may be modified include compliance schedules, effluent limit calculations, TMDLs, antidegradation, mixing zones, background levels, and others.
- D. Redirect - To move resources (staff, funds, etc.) from one program or activity to another.
- E. Volunteer Monitoring - A way for stakeholders* to assess conditions and to track the success of watershed management and to judge whether their interests have been truly addressed. If they have been, the stakeholders* will be committed* to the watershed and to tracking its health. Combining this commitment with proper training and technical support will produce data of high quality. A lack of attention to stakeholders'* fundamental interests and a consequent lack of commitment will not.
- F. Allocation of responsibility process - The allocation of responsibility process is a method of providing a flexible assessment and planning framework for identifying actions needed to protect and enhance beneficial uses*. As part of the process,, contributing sources are identified, control efforts are assigned, and an implementation plan is developed. As described previously in Section III. I., this can be implemented as a three-tiered approach that first relies on voluntary collaboration and cooperation (tier 1), if necessary, moving to regulatory-based encouragement (tier 2), and finally, if necessary, moving to a formal assignment of load allocations and waste load allocations under a TMDL assessment (tier 3).
- G. Stakeholders - These are representatives of the watershed community, including those who live and work there, those who derive economic benefit from, protect resources, or recreate within the watershed. Landowners, land managers, environmental groups, educational institutions, drinking water utilities and local, state, and federal government agencies are to be included.
- H. Resource extraction - This means the removal of physical or biological resources (e.g., fish, wildlife, in stream gravel, the water itself) from an aquatic ecosystem.

Watershed management may include resource extraction in its determination of net environmental gain*.

I. Water quality problems - Watershed management groups have included, but are not limited to, the following water quality problems:

- Habitat loss (salt marsh, mud flats, riparian, migratory and resident fish, spawning areas, (etc.)
- Endangered species loss
- Stream stabilization
- Biological diversity
- Soil erosion
- Water management and diversions
- Grazing
- Flooding and flood management
- Pesticide and fertilizer application
- Agricultural productivity
- Residential and commercial development
- Septic systems
- Filling of wetlands
- Urban runoff
- Removal of vegetation
- Streamside buffer strips
- Reforestation and revegetation
- Road construction
- Conjunctive use of ground and surface water
- Reuse of treated wastewater
- Loss of sustained low-flow regime in streams
- Altered peak flows
- Loss of infiltration capacity
- Logging
- Algal growth
- K-12 curriculum development
- Water temperature
- Bacteriological contamination
- Chemical contamination
- Impediments to fish passage
- Dumping (toxics, exotic plant seeds, DO-lowering green waste, etc.)
- Homeless encampments
- Horse manure
- Inadequate creekbank setbacks
- Educational kiosk
- Hike/bike/equestrian trails

J. Beneficial uses -

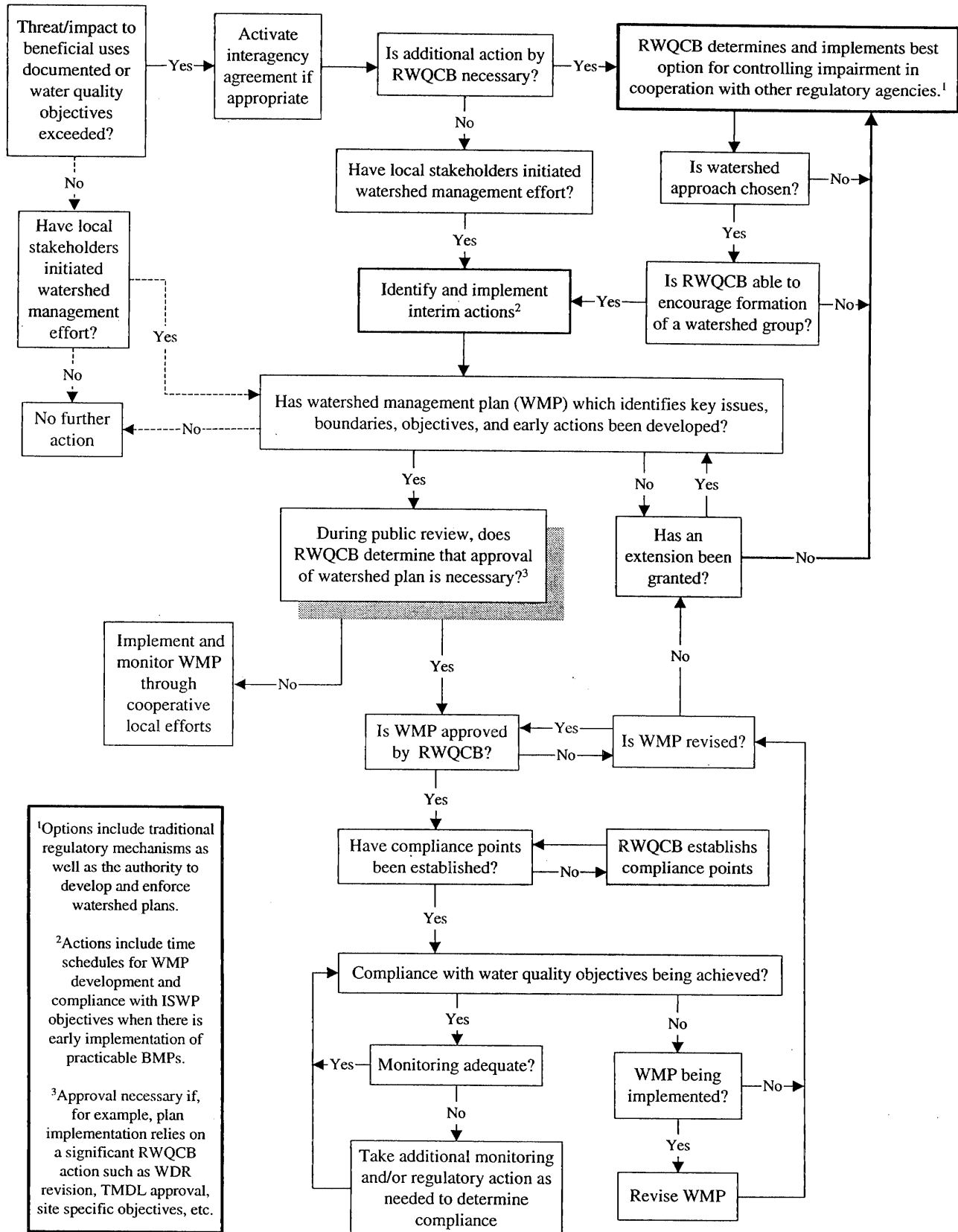
1. Municipal and Domestic Supply - Includes usual uses in community or military water systems and domestic uses from individual water supply systems.
2. Agricultural Supply - Includes crop, orchard, and pasture irrigation, stock watering, support of vegetation for range grazing and all uses in support of farming and ranching operations.
3. Industrial Service Supply - Includes uses which do not depend primarily on water quality such as mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, and oil well repressurization.
4. Industrial Process Supply - Includes process water supply and all uses related to the manufacturing of products.
5. Groundwater recharge - Natural or artificial recharge for future extraction for beneficial uses and to maintain salt balance or halt saltwater intrusion into freshwater aquifers.
6. Freshwater Replenishment - Provides a source of freshwater for replenishment of inland lakes and streams of varying salinities.
7. Navigation - Includes commercial and naval shipping.
8. Hydropower Generation - Used for hydropower generation.
9. Water Contact Recreation - Includes all recreational uses involving actual body contact with water, such as swimming, wading, waterskiing, skin diving, surfing, sport fishing, uses in therapeutic spas, other uses where ingestion of water is possible.
10. Non-Contact Water Recreation - Recreation uses which involve the presence of water but do not require contact with water, such as picnicking, sunbathing, hiking, beachcombing, camping, pleasure boating, tidepool and marine life study, hunting, and aesthetic enjoyment in conjunction with the above activities as well as sightseeing.
11. Ocean Commercial and Sport Fishing - The commercial collection of various types of fish and shellfish, including those taken for bait purposes, and sport fishing in oceans, bays, estuaries, and similar no-freshwater areas.
12. Warm Freshwater Habitat - Provides a warm-water habitat to sustain aquatic resources associated with a warmwater environment.
13. Cold Freshwater Habitat - Provides a cold-water habitat to sustain aquatic resources associated with a coldwater environment.
14. Preservation of Areas of Special Biological Significance - Includes marine life refuges, ecological reserves, and designated areas of special biological significance, such as areas where kelp propagation and maintenance is a feature of the marine environment requiring special protection.
15. Saline Water Habitat - Provides an inland saline water habitat for aquatic and wildlife resources.
16. Wildlife Habitat - Provides a water supply and vegetative habitat for the maintenance of wildlife.
17. Preservation of Rare and Endangered Species - Provides an aquatic habitat necessary, at least in part, for the survival of certain species established as being rare and endangered species.

18. **Marine Habitat** - Provides for the preservation of the marine ecosystem including the propagation and sustenance of fish, shellfish, marine mammals, waterfowl, and vegetation such as kelp.
19. **Fish Migration** - Provides a migration route and temporary aquatic environment for anadromous or other fish species.
20. **Fish Spawning** - Provides a high quality aquatic habitat especially suitable for fish spawning.
21. **Shellfish Harvesting** - The collection of shellfish such as clams, oysters, abalone, shrimp, crab, and lobster for either commercial or sport purposes.
22. **Aquaculture** - Provides water supply for fish hatcheries and aquaculture operations.
23. **Estuarine Habitat** - Provides an essential and unique habitat that serves to acclimate anadromous fishes (salmon, striped bass) migrating into fresh or marine water conditions. This habitat also provides for the propagation and sustenance of a variety of fish and shellfish, numerous waterfowl and shore birds, and marine mammals. (San Francisco Bay Regional Plan)
24. **Mariculture** - The culture of plants and animals in marine waters independent of any pollution source. (Ocean Plan)

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1. Terms followed by an asterisk (*) are defined in Section V.
 2. These capital letters illustrate linkages to the seven objectives identified by the Task Force.
 3. These issues address the Watershed Management Initiative.

Watershed Management Approach for Net Environmental Benefit

The following outlines an approach to watershed management which promotes local stewardship and allows for regulatory flexibility



Executive Summary

Watershed Task Force Recommendations

The Watershed Task Force developed the following mission statement and set of objectives:

Mission Statement: Provide input to the ISWP and EBEP to insure that they are implemented in a manner that promotes a coordinated and comprehensive watershed management approach to addressing all factors affecting water quality (as per §13241 Porter-Cologne).

Objectives:

- A. Describe watershed management and ensure it is promoted in ISWP and EBEP as an implementation strategy for protecting beneficial uses.
- B. Promote net environmental gain concept in ISWP and EBEP.
- C. Measure the effectiveness of watershed management approach on water quality on a statewide and on an individual watershed basis.
- D. Consideration of site specific objectives may be a part of watershed management planning process.
- E. Assure commitment by State Board, Regional Boards, USEPA, and other entities
- F. Ensure adequate and accurate information on which to base decisions.
- G. Promote public awareness, education, and involvement.

The recommendations that evolved from the objectives emphasized that the plans should describe watershed management, provide incentives for its widespread use, and describe its relationship to other programs. Recommendations regarding immediate steps that might be taken to encourage its development were also included.

In order for the plans to describe watershed management, the Task Force has recommended a succinct description of watershed management, a set of guiding principles, and a description of watershed management's scope and process. The brief description highlights the breadth and purposes of watershed management and reads as follows:

Watershed management is an integrated holistic approach for restoring and protecting aquatic ecosystems and protecting human health. Watershed management may include diverse issues as defined by the watershed's stakeholders to insure comprehensive solutions. It reflects a growing consensus that many of the existing water quality problems can best be addressed by a more integrated, basin-wide approach. The purpose of watershed management is variously viewed as 1) a method for returning environmental protection to the local level, 2) an approach to reducing the impact of nonpoint sources, 3) a strategy for integrating management of all components of aquatic ecosystems, and 4) a process for optimizing the cost effectiveness of a blend of point and nonpoint source control efforts. Whichever purpose or blend of purposes predominates, watershed management is not a new centralized program that competes with or replaces existing programs. Rather, it is an approach through which diverse interests - individuals,

landowners, farmers, POTWs, environmentalists, and agencies - work together to achieve significant net environmental gain. Furthermore, watershed management provides a mechanism for considering social and economic interests, in the context of resolving water quality issues.

This succinct description is accompanied by a set of guiding principles that address watershed management's compatibility with existing law, the need for commitment at all levels to this new approach, and a shift from a more narrow focus on water quality objectives to a wider concern for protection of beneficial uses. Other recommended principles include the necessity of stakeholder involvement, the need to protect the economy as well as the environment of watersheds, the appropriateness of cost sharing among all beneficiaries, and the role of State and Regional Water Boards. In addition to these guiding principals, recommendations are provided for the scope of watershed management. Both economic and environmental concerns should be addressed, a broad range of stakeholders should participate, and there should be no barriers to the joint protection of all types of water bodies.

In regards to the process of watershed management, recommendations were developed in the form of a narrative description and flow chart. Both items presented details of the planning and assessment stage, the preparation and implementation of watershed management plans, and the determination of progress and eventual success. Features of the process that were emphasized include the active rather than passive identification of stakeholders, the need for prioritization of watersheds, the back up role of Regional Boards if stakeholders fail to organize, and the identification of common, compatible, and conflicting interests among stakeholders. The need for and details of interim actions that are to be in effect throughout the process were also presented. Other recommendations included in the description of watershed management emphasize the preference for a grass-roots, collaborative problem-solving approach as opposed to a command-and-control organizational approach and argue for providing guidance in plan development, quality assurance, and other areas. The guidance should include a process for ensuring policy maker involvement during the planning process.

Recommended incentives to promote the widespread use of watershed management include increased regulatory flexibility, a focus on net environmental gain, the use of a wide range of methods to allocate responsibility, and the adoption of emergency clauses. Although some ideas emerged for enhancing regulatory flexibility, the Task Force recommended the pursuit of additional legal research and negotiation with USEPA and other groups to identify specific options. The Task Force further recommended that the State and Regional Water Boards assure their commitment to watershed management and that they do so early in the process to encourage stakeholder participation. Commitment should be expressed, in part, through the Watershed Management Initiative and include the redirection of resources to watershed management, the acquisition of new funding, and the conduct of annual and longer-term reviews to assess the progress and accomplishments of watershed management. Recommended support services include public education, technical assistance, inter- and intra-agency coordination, and legislative support.

Finally, recommendations are provided for describing the relationship of watershed management

to other programs. The Task Force urged the incorporation of the Nonpoint Source Management Plan's three-tier approach into the plans, accompanied by an explanation of the role of watershed management in each tier. Another recommendation urged that each signatory agency of an MAA or MOU participate as a stakeholder in watershed management groups and that these interagency agreements complement watershed management plans. In conclusion, the Task Force recommended that the experiences to date of watershed management groups be used to help guide expansion of this new approach and that steps be taken now to implement watershed management rather than waiting for completion of the plans.

