11/19/07 Public Hearing
Enclosed Bay/Estuaries-SQO
Deadline: 11/30/07 by 12 p.m.

COUNTY OF ORANGE

RESOURCES & DEVELOPMENT MANAGEMENT DEPARTMENT

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November 29, 2007

Jeanine Townsend
Acting Clerk of the Board
State Water Resources Control Board
California Environmental Protection Agency
1001 I Street
Sacramento, CA 95814

Subject: **Comments on Water Quality Control Plan for Enclosed Bays and Estuaries, Part 1. Sediment Quality, Draft Staff Report**

Dear Ms. Townsend:

The County of Orange, Resources and Development Management Department (OCRDMD) has reviewed the Draft Staff Report, Water Quality Control Plan for Enclosed Bays and Estuaries, Part 1. Sediment Quality (Report), which describes the proposed Sediment Quality Objectives Plan (SQO Plan). We respectfully submit these comments on the Report for consideration by the State Water Resources Control Board (SWRCB).

Protecting our bays and estuaries from adverse effects of toxic compounds is an important objective which we share with SWRCB. These areas are unique environments on our coastline and precious resources for the citizens of California. Efforts to protect and enhance these resources are appropriate and appreciated. We are pleased to provide detailed comments below.

Overall Comments on SQO Plan

1. We support the concepts of the Multiple Lines of Evidence (MLOE) approach and the requirement to perform Stressor Identification prior to taking management actions.

Properly applied, the MLOE approach represents a significant improvement over current approaches to assess sediment quality. Existing regulatory programs tend to compare concentrations of a limited number of compounds to sediment quality guidelines (SQGs). Sediment quality guidelines are usually not site-specific and may have no relationship to protection of beneficial uses. Inclusion of direct measures of the effects of toxic pollutants, such as toxicity testing of test species and benthic community structure, are important in correctly assessing whether or not sediment is affected by toxic pollutants. The proposed SQOs include Lines of Evidence for such measures.

Stressor identification is critical. We believe this is the appropriate course of action when sediments are impaired, and this process should be initiated *before* Total Maximum Daily Loads (TMDLs) are developed and *before* management actions are undertaken, a position we share with SWRCB Staff (Draft Staff Report, Appendix A, p. 27.) In many TMDLs and permits

adopted throughout the State, sediment quality guidelines have been used by default as regulatory targets. Stressor identification is necessary to identify pollutants responsible for observed toxicity and should be able to identify compounds responsible for observed effects. Without stressor identification, management actions may focus only on those pollutants evaluated as part of the MLOE and not others, potentially failing to address pollutants actually responsible for SQO exceedances.

2. The SQO policy should require use of current data and assessment of trends over time.

Our experience indicates it is important to evaluate trends in time and to use current data, which are more representative of current conditions than older data, in evaluating sediment quality. This is particularly important for compounds that have been banned or have been increasingly resticted in uses (e.g., DDT, dieldrin, chlorpyrifos) for which concentrations are changing over time.

3. The proposed SQO policy should specify that chemical threshold values of Section V.H. are not to be used as TMDL targets, NPDES permit limits, or for any other regulatory purpose.

Neither sediment quality guidelines nor the chemical concentrations thresholds contained in SQO Plan Section V.H are appropriate for use as regulatory targets because of the complex and site-specific factors that govern pollutant bioavailability. The fact that chemical concentrations thresholds alone are unreliable indicators of sediment quality requires the use of a MLOE approach to assessing sediment quality.

For this reason, we request that the State Board amend the proposed SQO Plan as follows:

- In Section V.H. (Sediment Chemistry), the Plan should specify that the chemistry threshold values are not to be used for any purpose other than in the chemistry LOE;
- In Section VII.B. (NPDES Receiving Water and Effluent Limits), language should be added to clarify that the threshold values of Section V.H. are not to be used as or to derive either receiving water or effluent limitations; and
- In Section VII.G. (Development of Site-Specific Management Guidelines), language should be added to specify that the threshold values of Section V.H. are not to be used to establish site-specific management guidelines or regulatory targets.

<u>Considerations for Program Implementation</u>

4. The SQO Plan should more clearly define the implementation process.

While we agree that Regional Boards should retain some discretion regarding evaluation of local factors and implementation actions, we recommend that the SWRCB should specify how, and in which order, listing decisions, stressor identification, and management actions will be taken. Over the years, many members of the SWRCB's SQO Advisory Committee have worked together to develop flow charts to show potential management actions (See Attachment A). We have included the Advisory Committee flow charts to recommend a helpful framework for implementation of management actions.

5. The State Board should explicitly require the Regional Boards to conduct project-level CEQA environmental analyses and to consider economic impacts prior to the implementation of any management action.

In the Report, Staff makes a distinction between a "program level" and "project level" CEQA analysis, and states that it is conducting a program-level analysis of the proposed SQO policy (Report, p.102). Although implementation of management actions *"could result in potentially significant impacts"* (Report, p. 102), *"Staff* ***anticipate*** (emphasis added) *that all reasonably foreseeable potential environmental impacts will be mitigated to less-than-significant levels through a project specific CEQA analysis, the Water Board's regulatory and permitting process or under through other agencies with jurisdiction in relevant area."* (Report, p.109.)

It is not possible to determine the environmental impacts of a proposed Plan when Regional Boards are given broad latitude to implement the Plan and when the stressors and proposed management actions are unknown. For this reason, we agree that it is appropriate and necessary to conduct a project-specific CEQA analysis prior to implementation of management actions. Thus, we recommend that the SWRCB explicitly state in the Policy that Regional Boards are required to conduct a project-specific CEQA analysis so that potential environmental impacts of management actions are evaluated fully.

6. Management Actions Should Also Be Analyzed For Economic Impact.

The report entitled "Economic Considerations of Proposed Sediment Quality Plan for Enclosed Bays in California," prepared by Science Applications International Corporation (SAIC) and dated September 18, 2007 (Economics Report), presents the economic evaluation of the proposed SQO Plan. As with the evaluation of environmental impacts, it is nearly impossible to assess economic impacts when stressors have not been identified and when no guidance is provided with respect to potential management actions.

Although the Economics Report provides monitoring and stressor identification cost estimates, it does not provide cost estimates associated with other implementation actions that may be required pursuant to the proposed Plan (such as remediation or cleanup actions). The costs that are provided for the existing Bay Protection and Toxic Cleanup Program (BPTCP) range up to $1.03 billion for cleanup of "hot spots" statewide. However, hot spots are, by definition, relatively small areas in larger waterbodies. The proposed SQO Plan will regulate entire waterbodies, yet the Economics Report suggests economic impacts of implementing the Plan will be small compared to the implementation of existing programs. If this is the case, we recommend that the SWRCB provide additional guidance to the Regional Boards on how to consider implementation actions and require a project-level assessment of economic costs prior to imposing specific management actions.

For example, the Economics Report estimated monitoring costs for 16 bays for which data are insufficient to assess SQO compliance. Costs ranged from $468,900 to $691,400. In addition to those 16 reaches, the Economics Report looked at the available MLOE data on eight bay segments. Estimated costs for Phase I stressor identification testing for those 24 bay segments were $210,000-$620,000 statewide. However, the County of Orange budgets $200,000 annually to conduct sediment chemistry, sediment toxicity, and benthic community analyses in Newport Bay alone. A multi-agency sediment removal project currently underway in Newport Bay is expected to cost $38 million by the time it is concluded, which we note is one of the implementation options listed in the Staff Report.

We recommend that the SWRCB specify that project-level evaluation of economic impacts and feasibility be considered when and if cleanup levels or remediation targets are established following an SQO exceedance and completion of stressor identification, and when SQO evaluations are used in NPDES permitting decisions. We also recommend that the SWRCB

specify in the Policy that the Regional Boards consider the full range of management actions and alternatives, including monitored natural attenuation, in these evaluations.

7. We Support The Development Of Site-Specific Management Guidelines.

We support staff's recommendation that the "*selection of corrective action can be addressed only after many site-specific factors are considered such as:*

- *The hydrodynamics and flow regime in the area of concern*
- *The specific pollutant that is causing the degradation or impairment*
- *The receptors at risk due to the presence of the pollutants at the levels observed within the area of concern.*
- *The aerial extent*
- *Presence of existing sources or legacy releases*
- *Types of controls in place and feasibility of additional controls*" (Report, p. 116.)

Because these and other factors determine the bioavailability and impacts of pollutants in sediments, and because these factors vary from region to region, we support the requirement in the Plan to develop site-specific management guidelines using the stressor identification process and knowledge of local site characteristics.

The proposed SQO Plan suggests that Staff believe that State Board Resolution No. 92-49 (Policies and Procedures for Investigation and Cleanup and Abatement of Discharges under Water Code Section 13304) will apply to the SQO if and when cleanup levels are established. Resolution No. 92-49 allows a Regional Board to approve cleanup levels less stringent than background if the Regional Board finds that it is technologically or economically infeasible to achieve background. The resolution also requires that any alternative cleanup level should be consistent with the maximum benefit to the people of the State, and should not unreasonably affect present and anticipated beneficial uses of such water. It is not clear to us that this resolution is directly applicable to the implementation of the SQO policy. [If legal review demonstrates that this resolution is not applicable during SQO implementation], we recommend that key provisions of Resolution No. 92-49 be incorporated directly into the SQO policy.

8. Application of SQOs as Receiving Water Objectives Requires Clarification.

In the proposed SQO Plan, Staff recommends that narrative SQOs may be applied in NPDES permits as receiving water limits. We agree with Staff that application as receiving water limits is far more appropriate than applying SQOs as effluent limits. However, because the relationship between a particular discharge and concentrations in sediments is complex, the proposed approach will be problematic.

First, SQOs should be applied as receiving water limits only after a stressor has been identified. Even if a stressor has been identified, it is unclear how it will be determined that a discharge "causes or contributes to" an exceedance of SQOs. For example, current discharges may be nearly irrelevant to sediment concentrations if a large reservoir of "legacy" pollutant is present. Additionally, sediments can be mobilized under certain conditions such that proximity to an individual discharge point is not necessarily indicative of causation. We recommend that Staff consider use of other management tools in addition to the insertion of receiving water limits into NPDES permits. In fact, NPDES permits would be an ineffective regulatory tool in many cases, such as for legacy pollutants, where current sources may represent only a fraction of the

contaminant reservoir within a water body. Finally, we recommend that the SWRCB specify how analyses are to be made to determine if a regulated discharge has the "reasonable potential" to cause or contribute to an exceedance of SQOs.

9. Resolve Apparent Discrepancy with the State's 303(d) Listing Policy.

The proposed MLOE approach appears to be inconsistent with the State's Listing Policy (Listing Policy)[1], which (in Section 3.6) allows a water body to be listed if (1) "statistically significant...sediment toxicity" is observed, and (2) "if the observed toxicity is associated with a pollutant or pollutants." The Listing Policy specifies that the association of pollutants with toxic or other biological effects can be established using sediment quality guideline exceedances, equilibrium partitioning approaches, or Toxicity Identification Evaluation or similar evaluations. This provision of the current Listing Policy contradicts, and is less scientifically appropriate than, the proposed MLOE approach.

For this reason, we recommend that the SWRCB amend Alternative 2 of Section 5.7.3 of the Report and Section VII.E.8 of the SQO Plan to specify that the MLOE approach is to be used to make listing decisions, and that this approach supersedes Section 3.6 of the Listing Policy.

10. Provide additional guidance on management of Possible Legacy-Only SQO Violations.

Although the stressor identification process includes a determination of whether a pollutant comes from an ongoing or legacy source, there is no guidance on how legacy-only SQO violations will be managed. We strongly recommend that the SWRCB address how remedial measures will be implemented and funded if on-going discharges of a compound are minor or absent and if no "responsible party" can be identified. We request that the SWRCB provide additional guidance on stressor identification and development of Management Guidelines for legacy pollutants, and suggest that the SWRCB include a new section detailing how legacy compounds will be addressed.

11. SQO Monitoring Should Be Performed, Whenever Possible, by Monitoring Coalitions.

We recommend that the SQO Plan be amended to require that individual NPDES permittees join monitoring coalitions. Individual monitoring should only be permitted if a coalition cannot be formed, or if there is reason to believe, subsequent to a stressor identification process, that an individual NPDES permittee discharges a significant amount of a stressor pollutant, or to address the issue of whether or not a given NPDES-permitted discharge "causes or contributes to" an exceedance of SQO.

9. Local Agencies Should Be Allowed Latitude to Prioritize Management of Impacted Sites, in Accordance With the Principles of Adaptive Management.

We support allowing the Regional Boards discretion to determine whether stations in the "Possibly Impacted" category are impaired or not. The thresholds between categories are defined such that large portions of specific water bodies (e.g., the majority of San Francisco Bay, portions of Newport Bay) fall into the "Possibly Impacted" category. In perhaps most cases, "Clearly Impacted" sites should be addressed prior to "Likely Impacted" or "Possibly

[1] Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List, California Water Boards, adopted September 2004.

Impacted" sites. However, addressing some "Clearly Impacted" sites may be economically or environmentally infeasible in the short term. We recommend that the SQO Plan allow discretion to local agencies, in consultation with the Regional Boards, in the prioritization of management of impacted sites.

13. Additional clarification is required on the following technical implementation issues.

p. 9: *Section V.F* - It is unclear how response categories among different toxicity tests will be integrated to provide a final sediment toxicity response category. Ranges in percent response differ among different tests. For example, the category "Low Toxicity" for an *Eohaustorius* survival test has a response range of 82-89%, while a *Leptocheirus* survival test has a response range of 78-89%. The bounds for the "Low Toxicity" category are even more problematic for sublethal tests, with a response range of 68-90% for *Neanthes* growth and a very narrow response range of 77-79% for *Mytilus* development. Thus, we seek clarification on how these response scores should be averaged to generate a response category from multiple tests. Otherwise, we are unaware of any acceptable protocol for averaging the response categories themselves, since they are essentially nominal data.

p. 11: *Section V.G* – We would like to clarify whether all four benthic indices are required to generate a response category for the benthic community condition line of evidence. This would seem to be unnecessary, since the individual indices are already integrative by nature, especially considering the high cost of such assessments. Will local agencies have the discretion to choose one of the benthic indices for use in their monitoring programs? If two or more of the indices are required to generate a response category for this line of evidence, how will different indices be integrated? The response ranges for the different indices are even more disparate than response ranges for the sediment toxicity line of evidence noted above.

p. 13: *Section V.H* – While we have a good understanding of how the Chemical Score Index and Logistic Regression Model probabilities are calculated, we suggest that instructions for development of this LOE be clarified as much as possible. We believe that implementation of this LOE could prove challenging for both the Regional Boards and local resource management agencies. Particularly, Integration of Sediment Chemistry Categories is unclear (SQO Plan, p. 15), since there is no clear protocol for averaging categories.

In addition, we note that some of the metals concentrations may be inappropriate. For example, concentrations of cadmium in the low to moderate disturbance categories are considered anthropogenically unenriched according to the iron normalization method developed as part of Bight '03. Such concentrations should not be categorized as disturbed if anthropogenic sources are unlikely to have made a contribution to them, despite their association with low levels of benthic disturbance.

"DDTs, total" in Table 6 should be clarified. The conventional understanding of "Total DDT" includes all forms of DDT and their metabolites. However, since DDD and DDE were also qualified using the term "total," "DDTs, total" could be construed to refer only to the various forms of DDT but not their metabolites.

p. 23: *Section VII.E.5* – We note that selection of sampling strata shall consider numerous water body characteristics to ensure that a statistically sound monitoring plan is developed. We agree that much consideration should be given to an appropriately designed, stratified sampling plan, which we believe should be an integral part of the work plan addressed in Section VII.E.3. However, the listed characteristics should only be considered in the sampling plan, and not

required to be addressed. Allowing for adaptive management will enable local agencies to implement management work plans that will maximize efficiency, minimize costs, and allow local conditions and constraints to be considered appropriately.

Application of SQO Plan to the Newport Bay Watershed

14. The SQO Plan should explicitly recognize that ongoing efforts to address toxic compounds present in Newport Bay sediments constitute compliance with Porter-Cologne Chapter 5.6 and also provide appropriate SQOs for the Bay. The County, Santa Ana Regional Board, and other stakeholders within the Santa Ana Region have been engaged in a similar process to that proposed in the SQO Plan to address toxic compounds in sediments as required under Chapter 5.6. Under a recent Santa Ana River Basin Plan Amendment incorporating organochlorine TMDLs for the Newport Bay watershed, we currently are developing a work plan to use significant stakeholder investment to perform stressor identification studies for sediments in the Bay.[2]

* * * * *

We appreciate the opportunity to submit these comments, and we look forward to working with the SWRCB and Staff as the Policy is moved toward adoption. If you have any questions regarding these comments, please call Amanda Carr at (714) 567-6367.

Very truly yours,

Chris Crompton, Manager
Environmental Resources

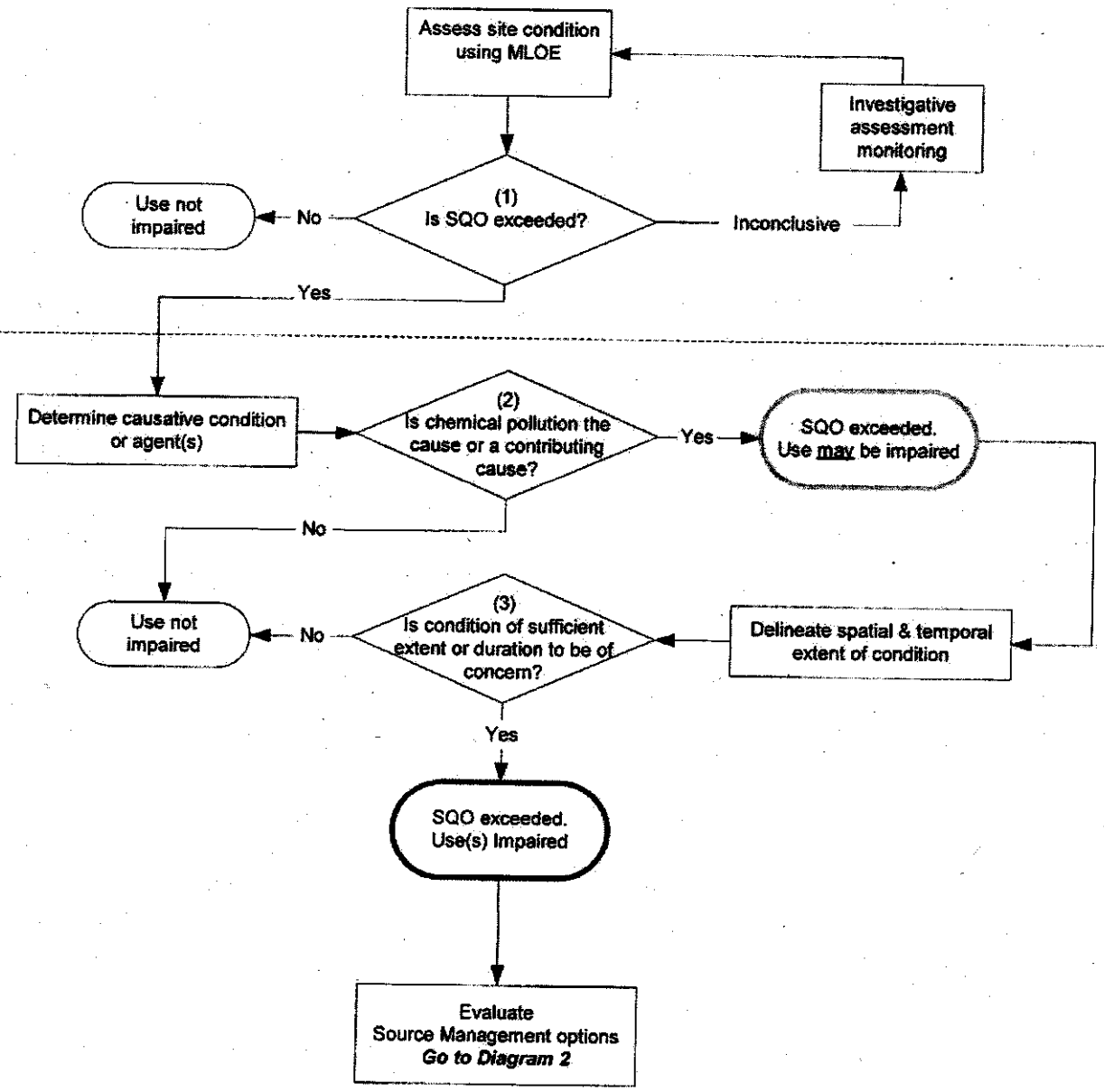
Attachment: A. SQO Guidance Framework Flowcharts

[2] Attachment 2 to Resolution No. R8-2007-0024, Santa Ana Regional Water Quality Control Board Resolution Amending the Water Quality Control Plan for the Santa Ana River Basin to Incorporate Organochlorine Compounds Total Maximum Daily Loads (TMDLs) for San Diego Creek, Upper and Lower Newport Bay, Orange County, California.

SQO Guidance Framework
Diagram 1
Assessment & Confirmation
2 May 2005

ASSESSMENT

CONFIRMATION: CAUSATION AND SPATIAL & TEMPORAL EXTENT



SQO Guidance Framework
Diagram 2
Source Management Options & TMDL
2 May 2005

From Diagram 1

EVALUATION OF SOURCE MANAGEMENT OPTIONS

(4) Is a single NPDES Point Source contributing to the impairment?

No → (5) Is impairment solely amenable to 'hot spot' sediment management?

No → *Is there a PRP to support cleanup?*

Is size of 'hotspot' amenable to sediment management action?

Is zone part of a separate management program (e.g., Superfund)?

Yes

Place water body on 303(d) List as Category 2.2 *'Water Quality Limited Segment Being Addressed'*

No TMDL necessary

Control Point Source via NPDES Effluent limits to resolve impairment

Initiate Adaptive Monitoring & Management *Go to Diagram 4*

Yes

Place water body on 303(d) List as Category 2.2 *'Water Quality Limited Segment Being Addressed'*

No TMDL necessary

Initiate Sediment Management options *Go to Diagram 3*

(6) What is nature of controllable ongoing sources?

Predominant (little active reservoir of pollutants)

Negligible (legacy pollutant sources predominate)

Both ongoing & legacy sources contribute

Ongoing-Source Management options

Initiate Sediment Management options *Go to Diagram 3*

TMDL

Multiple Point and/or Non-point Sources are contributing

Place water body on 303(d) List as Category 2.1 *'Water Quality Limited Segment'*

TMDL necessary

Identify & quantify sources

Establish linkage analysis & scientific basis for TMDL

Point Source Control necessary to address contribution to impairment

Waste Load Allocation (WLA)

NPDES Effluent Limits

Non-point Source Control necessary to address contribution to impairment

Load Allocation (LA)

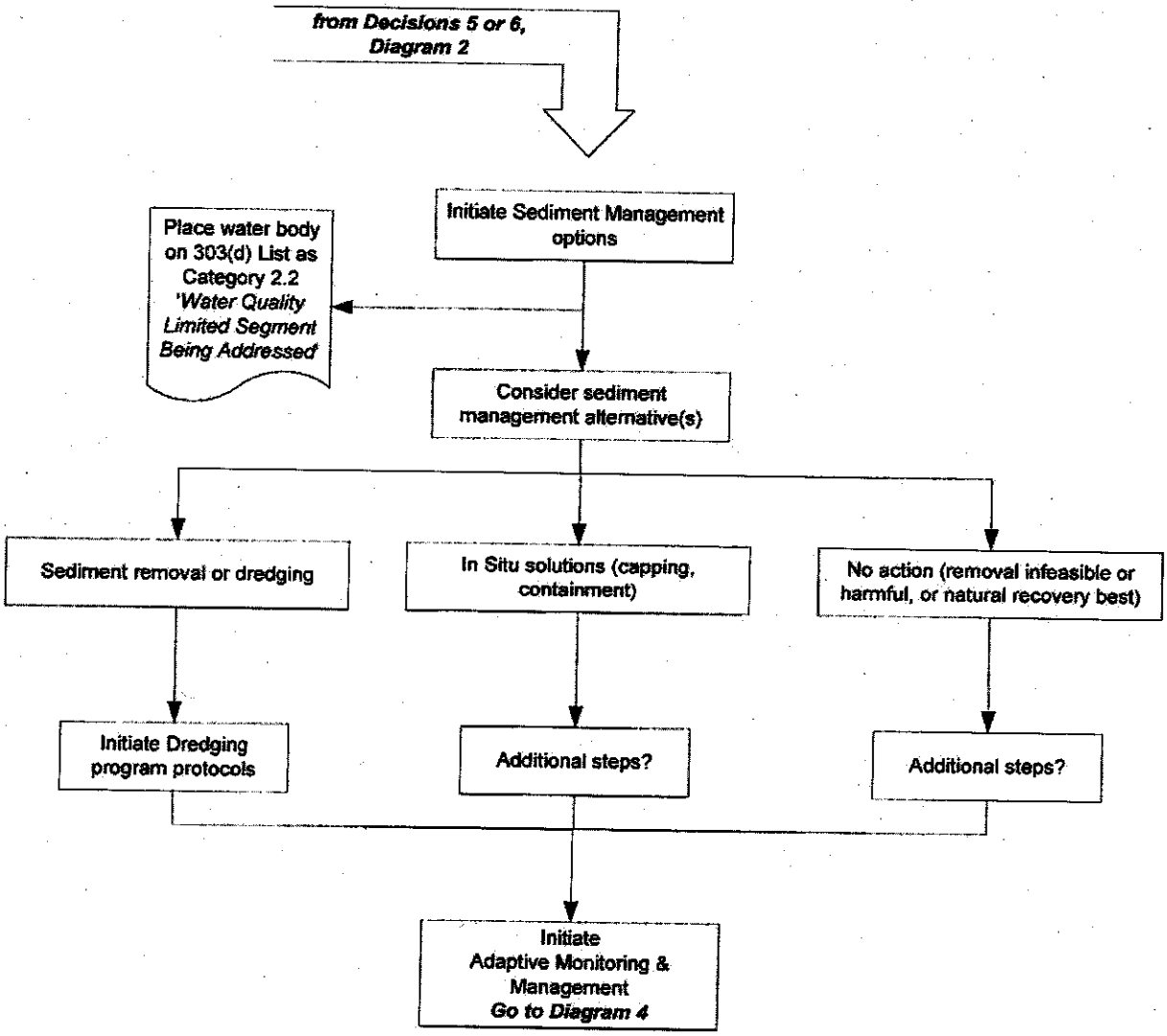
Non-point Source Controls

Place water body on 303(d) List as Category 2.2 *'Water Quality Limited Segment Being Addressed'*

Initiate Adaptive Monitoring & Management *Go to Diagram 4*

SQO Guidance Framework
Diagram 3
Sediment Management Options
2 May 2005

EVALUATION OF SEDIMENT MANAGEMENT OPTIONS



SQO Guidance Framework
Diagram 4
Adaptive Monitoring & Management
2 May 2005