California Regional Water Quality Control Board
Santa Ana Region

April 17, 1998

ITEM: 6

SUBJECT: Newport Bay/San Diego Creek Watershed Sediment Total Maximum Daily Load (TMDL)

DISCUSSION:

On October 17, 1997, the Regional Board adopted a Basin Plan amendment (Resolution No. 97-77) incorporating into the Plan a sediment TMDL for the Newport Bay/San Diego Creek watershed. The amendment was forwarded to the State Board for review and consideration of approval. Concurrently, the U.S. Environmental Protection Agency also prepared a sediment TMDL for the watershed, pursuant to the terms of a consent decree with Defend the Bay. The EPA relied heavily on the Regional Board's TMDL in developing its own proposal. EPA must promulgate the sediment TMDL by April 15, 1998 if the Regional Board's has not taken effect by that date. To become effective, the Regional Board's TMDL must be approved by the State Board and the Office of Administrative Law. EPA has indicated its desire to avoid promulgation in favor of action by the state and accordingly has asked Defend the Bay for an extension of this date. As of the date of preparation of this report, it is not known whether this request will be granted.

In the course of reviewing the Regional Board's TMDL, State Board and EPA staff have identified certain areas which they indicate must be clarified before the TMDL can be approved. Accordingly, Board staff proposes that Resolution No. 97-77 be rescinded and that a revised Basin Plan amendment be adopted, incorporating changes necessary to address State Board and EPA staff's concerns.

The recommended changes are outlined below. It should be emphasized that these changes are, for the most part, considered minor and will not substantively affect the Board's implementation of the TMDL or the regulatory requirements imposed on sediment contributors in the watershed. The changes also do not affect the Environmental Assessment of the sediment TMDL (See Attached Environmental Checklist)

1. Clarification of Load Allocations

Paragraph 3 of Phase 1 of the TMDL for sediment adopted in October, 1997 identified as a quantifiable target the reduction of the annual average sediment load in the watershed from a total of about 250,000 tons per year (Trimble, 1993) to 125,000 tons per year. Thereby, the sediment load to the Bay would be reduced to about 62,500 tons per year and sediment deposition in the drainages would be limited to 62,500 tons per year. This paragraph also indicated that the current annual average sediment load discharge into Newport Bay, as measured in San Diego Creek at Campus Drive, is approximately 135,000 tons per year. (Staff proposes that this statement be deleted due to confusion regarding the difference between the measured value of 135,000 tons/year and the TMDL of 125,000 tons/year.)

Paragraphs 4 and 5 of Phase 1 of the sediment TMDL identified load allocations according to land use type for discharges of sediment to Newport Bay and for discharges of sediment to tributaries of the Bay. These allocations were derived using land use data from 1982. These load allocations were as follows:

Table 1: Resolution No. 97-77 Load Allocations for San Diego Creek and Newport Bay (running 10 year average tons per year)

Element	Area Covered	Quantity
TMDL for San Diego Creek	Discharges to San Diego Creek	67,500
San Diego Creek Load Allocations	Open Space Areas and Channels Agricultural Land Areas and Channels	28,000 27,000
San Diego Creek Load Allocations	Construction Sites Urban Areas and Channels	11,000 1,500
TMDL for Newport Bay	Discharges to Newport Bay	67,500
Newport Bay Load Allocations	Open Space Areas and Channels Agricultural Land Areas and Channels	28,000 27,000
Newport Bay Load Allocations	Construction Sites Urban Areas and Channels	11,000 1,500

State Board and EPA staff commented that: (1) the load allocations total 135,000 (the load currently measured) rather than the 125,000 target; and, (2) that more recent land use data should be applied to the development of the load allocations. The more recent land use data was not available for the development of the sediment TMDL, but this data was used in the development of the nutrient TMDL. To resolve these concerns, the following revised load allocations are proposed:

Table 2: Revised Load Allocations for San Diego Creek and Newport Bay
(running 10 year average tons per year)

Element	Area Covered	Quantity
TMDL for San Diego Creek	Discharges to San Diego Creek	62,500
San Diego Creek Load Allocations	Open Space Areas and Channels Agricultural Land Areas and Channels	28,000 19,000
San Diego Creek Wasteload Allocations	Construction Sites Urban Areas and Channels	13,000 2,500
TMDL for Newport Bay	Discharges to Newport Bay	62,500
Newport Bay Load Allocations	Open Space Areas and Channels Agricultural Land Areas and Channels	28,000 19,000
Newport Bay Wasteload Allocations	Construction Sites Urban Areas and Channels	13,000 2,500

Further, staff proposes to delete the last sentence of paragraph 3 regarding the 135,000 tons of sediment per year currently measured since it is an apparent source of confusion. It must emphasized that this change in language, and the revised load allocations, do not substantively affect the implementation of the TMDL: sediment measurements are imprecise and there is essentially no difference between 125,000 and 135,000 tons when viewed in the watershed perspective. Additionally, EPA has called the load allocations for construction and urban land use types, "Waste Load Allocations," because discharges from these land use categories are regulated by NPDES permits. The Clean Water Act requires that waste load allocations be established for point source discharges, such as those regulated under the NPDES program, and that load allocations be specified for the nonpoint sources.

2. Water Quality Certification/ Development of a Special Area Management Plan (SAMP)

The basin plan amendment adopted by Resolution No. 97-77 included provisions for the manner the Regional Board intends to employ to regulate sediment and flood control projects which may be part of the sediment TMDL implementation. These included provisions for waiving water quality certification for projects that meet certain conditions. SWRCB legal staff has asked that we change the reference to a waiver of waste discharge requirements, rather than water quality certification. Additionally, the Board adopted language that stated the Board's willingness to work with the watershed stakeholders and

the Corps of Engineers in the development of a Special Area Management Plan, and to use this plan as the basis for a general permit for certain types of projects that impact wetlands in the watershed. The SAMP would enable the Board and others to address the potential impacts of proposed projects on wetlands in a comprehensive way, rather than the project-by-project approach which is now necessary.

The Corps of Engineers is conducting a scoping study during the next year to determine what it would take to complete a SAMP. They do not currently have funding to complete a SAMP for the Newport Bay Watershed. Therefore, staff recommends that the Regional Board revise the waiver conditions to include a requirement that a comprehensive delineation of the wetlands in the watershed be completed by June 1, 1999. This would allow the Board to use a comprehensive rather than piece meal regulatory approach. Staff is working with USEPA, the Coastal Conservancy, and the County on a scope of work to develop a watershed management plan, which includes some funds for tasks associated with a survey of the wetland and aquatic resources of the watershed. However, in order for the Corps of Engineers and Board staff to be able to use this survey in the regulatory process, additional funding may be needed to provide a more detailed analysis of the resources and potential impacts of projects in the watershed. Staff will work with the Corps of Engineers and the stakeholders to develop the comprehensive delineation of the wetlands in the watershed, and potential impacts to these resources from sediment and flood control projects, and plans to use this evaluation to recommend a more general permitting program to replace our current individual project permitting process.

3. Minimum Depth Target for Marine Aquatic Habitat

Paragraph 1 of Phase 1 of the adopted sediment TMDL called for the implementation of sediment control measures to maintain certain acreages of several types of habitat in the Bay, including marine aquatic habitat. To assure the maintenance of this habitat, USEPA included in their proposed TMDL for sediment in the Newport Bay Watershed, a target to maintain a minimum depth in the Unit 1 sediment basin in Upper Newport Bay of at least 7 feet below mean sea level. As shown on Figure 1, the Unit 1 sediment basin is just downstream of the Jamboree Road bridge across San Diego Creek, and includes approximately 60 acres of marine aquatic habitat with two nesting islands. Staff agrees with USEPA that this depth requirement is necessary to clarify that the acreage target for marine aquatic habitat is not truly meaningful without some minimum depth requirement. This issue was discussed at length during the September 1997 public workshop and the October 1997 public hearing. Staff believes the record is clear that the Board intended that both of the sediment basins in Upper Newport Bay be maintained to provide sufficient depth to maintain the marine aquatic habitat. Staff informed the Board that the design for the in-bay sediment basins allowed for the use of 2 areas, of approximately 50 to 60 acres each, where sediment could be trapped between 14 and 7 feet below mean sea level, while ensuring a minimum depth to protect the beneficial uses of the marine aquatic habitat. The two basins are located in the Upper Bay just downstream of Jamboree Road and the old salt dike. (Figure 1) Staff informed the Board that without

the maintenance of the sediment basins, the basins would fill up, resulting in the loss of marine aquatic habitat. Staff recommends that a minimum depth requirement of 7 feet below mean sea level be identified in the sediment TMDL for both the Unit 1 and 2 sediment basins.

RECOMMENDATION

Rescind Resolution No. 97-77 and adopt Resolution No. 98-69. The revised Newport Bay/San Diego Creek Watershed Sediment TMDL is shown in the attachment to Resolution No. 98-69. The differences between what is currently proposed and what the Board adopted on October 17, 1997 are shown in bold type.

Attachments

Tentative Resolution No. 98-69, with attached Basin Plan amendment
Environmental Checklist

California Regional Water Quality Control Board
Santa Ana Region

RESOLUTION NO. 98-69

A Resolution Amending the Water Quality Control Plan
for the Santa Ana River Basin
Establishing a Total Maximum Daily Load for Sediment
in the Newport Bay/San Diego Creek Watershed
and Rescinding and Replacing Resolution No. 97-77

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

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

2. The Basin Plan includes a narrative objective for sediment in the Newport Bay/San Diego Creek Watershed that specifies that Newport Bay and San Diego Creek, and its tributaries, shall not contain suspended or settleable solids in amounts which cause a nuisance or adversely affect beneficial uses as the result of controllable water quality factors.

3. The sediment objective is not being met because sediment discharges have adversely impacted beneficial uses. The Regional Board has listed Newport Bay and San Diego Creek as being water quality limited in accordance with Section 303(d) of the Clean Water Act. Section 303(d) of the Clean Water Act requires the establishment of the Total Maximum Daily Load (TMDL) of sediment that can be discharged while still ensuring compliance with water quality standards. Section 303(d) also requires the allocation of this TMDL among sources of sediment, together with an implementation plan and schedule that will ensure the TMDL is met and compliance with water quality standards achieved.

4. The adoption of the Basin Plan amendment attached to this resolution is intended to meet the requirements of Section 303(d) of the Clean Water Act by requiring the implementation of Best Management Practices (BMPs) to control non-point sources of sediment to provide a reasonable assurance that water quality standards will be met.

5. The Regional Board discussed this matter at public workshops held on July 18, 1997 and September 12, 1997, after notice was given to all interested persons in accordance

with Section 13244 of the California Water Code. Based on that discussion and the testimony received, the Board directed staff to prepare the appropriate Basin Plan amendment and related documentation to establish a TMDL for sediment in the Newport Bay/San Diego Creek Watershed.

6. On October 17, 1997 the Regional Board held a public hearing and adopted Resolution No. 97-77, which incorporated a TMDL for sediment in the Newport Bay/San Diego Creek Watershed. On November 24, 1997, Regional Board staff submitted the Basin Plan amendment to the SWRCB for approval. Based on comments from SWRCB staff and USEPA, it is appropriate to make minor modifications to the adopted sediment TMDL to assure clarity and to be consistent with a similar proposed TMDL for sediment by USEPA. This resolution, and the attached amendment to the Basin Plan, rescinds and replaces Resolution No. 97-77, and makes minor modifications to the load allocations and the language adopted in Resolution No. 97-77 to further clarify the sediment TMDL targets and load allocations.

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

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

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

10. On April 17, 1998, the Regional Board held a Public Hearing to consider the Basin Plan amendment. Notice of the Public Hearing was given to all interested persons and published in accordance with Water Code Section 13244.

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

12. The U.S. EPA is in the process of promulgating a sediment TMDL for the Newport Bay/San Diego Creek Watershed. The U.S. EPA TMDL is expected to become effective prior to full approval of the Regional Board TMDL specified by this Basin Plan amendment. The U.S. EPA TMDL is patterned after and relies to a large extent on the Regional Board TMDL, but it is more general and does not include the implementation measures and schedules specified in this amendment. The Regional Board must define, and implement, the measures necessary to carry out TMDLS. The Regional Board TMDLs specifies the implementation measures and schedules by the which the Regional Board TMDL, and the U.S. EPA TMDL will be implemented. Until the Regional Board TMDL becomes effective, the Regional Board will implement the U.S. EPA TMDL. Implementation of the U.S. EPA TMDL will be accomplished through the use of best professional judgment, using the Regional Board TMDL as guidance.

NOW, THEREFORE, BE IT RESOLVED THAT:

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

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

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

4. **Resolution No. 97-77 is rescinded.**

I, Gerard J. Thibeault, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Santa Ana Region, on April 17, 1998.

Gerard J. Thibeault
Executive Officer

Attachment to Resolution No. 98-69

Amendment to the Santa Ana Region Basin Plan

Chapter 5-Implementation Plan, Page 5-39

(Language deleted is struck out and language added is underlined. Changes from the amendment adopted by the Regional Board on October 17, 1997 are in bold.)

Newport Bay Watershed

Water quality problems in Newport Bay were described in detail in reports prepared in response to Senate Concurrent Resolutions 38 and 88 [13,14]. These problems are essentially nonpoint source problems and fall into four major categories: 1) siltation; 2) bacterial contamination; 3) eutrophication and 4) toxic substances contamination. ~~Each of these problems have been or is being addressed by either local or state agencies. A brief description follows:~~ Because of these problems, the Bay and, in some cases, certain tributaries, have been identified as being water quality limited, pursuant to the requirements of Section 303(d) of the Clean Water Act. (See Water Quality Assessment, Page 6-17.) Section 303(d) requires that Total Maximum Daily Loads (TMDLs) be established for each pollutant causing water quality impairment. The TMDL must: 1) identify the maximum load of pollutant which can be discharged while ensuring compliance with water quality standards; 2) allocate necessary reductions in the pollutant load among contributing sources; and, 3) establish a plan and schedule to meet the target pollutant load. The following sections describe the major nonpoint source problems and **will include the** ~~establish~~ TMDLs and Load Allocations for each category and an Implementation Plan and Schedule for the TMDLs and Load Allocations, **after each TMDL is adopted**. Each TMDL includes a proposed target for the reduction of pollutant discharge, together with an implementation plan and schedule for requiring compliance with the water quality objectives in the Basin Plan for each pollutant.

1. Siltation

Erosion in the watershed and the resultant siltation in the Bay are a continual threat to the Bay's designated uses. Sediment loads result from erosion of open space lands in foothill areas and from man's activities in the watershed, including: 1) extensive grading for development; 2) increased runoff and channel erosion due to urbanization; and 3) erosion of agricultural lands. San Diego Creek, ~~which is~~ the largest drainage system in the watershed, accounts for approximately 94 percent of the sediment delivered to the Bay. Most deposition occurs during major storm events, although low-level transport occurs year-round.

In 1982, the Southern California Association of Governments (SCAG) completed the "San Diego Creek Comprehensive Stormwater Sedimentation Control Plan" (Plan) as part of an

areawide planning process conducted pursuant to Section 208 of the Clean Water Act. The Plan recommended a two-part approach to management of the erosion-siltation problem. The first part is the reduction of erosion at the source through the implementation of agricultural and construction best management practices (BMPs) and resource conservation plans (RCPs). The second part of the Plan is to intercept as much of the remaining sediment as possible in sediment traps in San Diego Creek and in excavated basins in the upper Bay.

Intensive and well-coordinated efforts to implement the recommendations of the 208 Plan have been and are being made by the state, local agencies and The Irvine Company, the largest private landowner in the watershed. In the past, c~~C~~onstruction and maintenance of in-channel and in-bay basins was ~~is~~ achieved through cooperative agreements among the California Department of Fish and Game, the County of Orange, the Cities of Newport Beach, Irvine and Tustin, and The Irvine Company (collectively known as the Sediment Executive Committee). Between 1982 and 1988, about 2.4 million cubic yards of sediments were removed from the Bay, at a cost of about $13 million. The location and design of the in-bay basins are carefully coordinated with the Department of Fish and Game's management plan for the Upper Newport Bay Ecological Reserve, so that the basins serve not only to trap sediment but also to ~~restore wildlife~~ preserve habitat for many rare and endangered species.

Congress and the U.S. Army Corps of Engineers (Corps) have determined there is a federal interest in sediment removal in the Upper Bay. The Corps also has the primary responsibility for the dredging necessary to maintain navigable channels in the Lower Bay which are impacted by the accumulation of sediment in the Upper Bay. The Corps is currently involved in conducting a Feasibility Study of potential environmental restoration projects in the Upper Bay and has received Congressional authorization of initiate a "Fast Track Recon" Study of the San Diego Creek watershed to determine if there are federal interests sufficient to warrant conduct of a Watershed Management Study. ~~The U.S. Army Corps of Engineers is also involved in sediment removal from the Bay. The Corps has principal responsibility for dredging activities needed to maintain navigable channels in the lower bay. The Corps has also received congressional authorization to dredge a new channel in the upper Bay which may have substantial effects on circulation patterns in the Bay and therefore, on t he transport of sediments and other constituents in the water column.~~ ~~This~~ The Feasibility Study and Fast Track Recon Study ~~project is~~ are in the planning stages.

To minimize sediment transport to the Bay, programs have been implemented to control erosion resulting from grading operations at construction sites, and to prevent erosion of agricultural lands. The cities of Irvine, Costa Mesa, Santa Ana, and Newport Beach have grading ordinances which require erosion/siltation control plans for construction projects within their boundaries. The focus of these plans is on the implementation of BMPs.

~~Permit actions by the Regional Board (the areawide stormwater permit for Orange County) and the State Water Resources Control Board (the general construction activity stormwater permit) (see preceding discussion on the Stormwater Program)~~ Compliance with the areawide stormwater permit for Orange County and the State Water Resources Control Board's general construction activity stormwater permit, will necessitate additional coordinated efforts to control sediment inputs from construction activities. With technical assistance from the Regional Board, Orange County oversees a program to ensure development and implementation of resource conservation plans (RCPs) by agricultural landowners, principally the Irvine Company.

1.a Phase 1 of the TMDL for Sediment

The Total Maximum Daily Load for sediment in the Newport Bay/San Diego Creek Watershed includes the following quantifiable targets and Load Allocations that shall be implemented by the Cities and County responsible for the sediment discharged into stormwater and flood control conveyances under their control which discharge into San Diego Creek and/or Newport Bay.

1. Sediment control measures shall be implemented and maintained to ensure that sediment discharges into Newport Bay will not significantly change the existing acreages of aquatic, wildlife, and rare and endangered species habitat, and to maintain the navigational and non-contact recreational beneficial uses of the bay. The existing aquatic and wildlife habitat of the Upper Bay, which is comprised of approximately 210 acres of marine aquatic habitat , 214 acres of mudflat habitat, 277 acres of salt marsh, and 31 acres of riparian habitat within, **and adjacent to**, the 700 acre Upper Newport Bay Ecological Reserve and the existing navigational and recreational uses of Newport Bay, will be used by the Regional Board as a performance standard of the effectiveness of the sediment TMDL. If these acreages are changed by more than 1% as the result of sediment deposition, if the in-bay sediment basins or the in-channel sediment basins are not maintained, or if there are impacts to navigational and recreational uses, this will indicate that the local sediment control measures are not adequate to protect the beneficial uses provided by these areas, and the Board will reevaluate the sediment TMDL for Newport Bay and San Diego Creek. Since the intent of the sediment TMDL is to protect these beneficial uses, this quantifiable target will be used as the primary measurement of the success of the TMDL. **In order to maintain the marine aquatic habitat of the Unit 1 and 2 Sediment Basins in Upper Newport Bay, a minimum depth of 7 feet below mean sea level shall be maintained.** The Sediment Committee shall conduct bathymetric and vegetation surveys of Newport Bay no less than once every three years or as agreed upon by the Executive Officer. This information will be used to evaluate compliance with ~~this~~ the **acreage and depth** targets. If these acreages are changed by more than 1% as the result of sediment deposition, **if the minimum depth is not maintained,** and if the 50% target sediment reduction described below is

not achieved, the Regional Board may consider appropriate enforcement action ~~and modification to the sediment TMDL~~.

2. It is recognized that the Department of Fish and Game, which is responsible for the management of the Reserve, may wish to modify the habitat composition and acreages of the Reserve to address wildlife needs. The habitat acreages identified above will be revised accordingly.

3. The second quantifiable target is to reduce the annual average sediment load in the watershed from a total of approximately 250,000 tons per year to 125,000 tons per year, thereby reducing the sediment load to Newport Bay to approximately 62,500 tons per year and limiting sediment deposition in the drainages to approximately 62,500 tons per year. Sediment control measures shall be implemented and maintained to result in a 50% reduction in the current load of sediment in the Newport Bay/San Diego Creek Watershed within 10 years. Compliance with this target will be evaluated by calculating the annual average amount of suspended solids measured in San Diego Creek at Jamboree Boulevard and Campus Drive over a ten year period, and by conducting scour studies of the creek channels and topographic surveys of all the sediment control basins in the watershed to estimate the amount of deposition. Given that annual sediment deposition can vary widely based on weather and other conditions, it is appropriate to evaluate compliance with the sediment reduction target as a 10 year running annual average of the suspended solids load measured in San Diego Creek at Jamboree Boulevard and Campus Drive. This information will be compared to the bathymetric and scour studies information to determine if the monitoring data accurately reflects sediment deposition in the bay and creek channels and to determine compliance with this target. ~~The current annual average sediment load discharge into Newport Bay, as measured by the amount of total suspended solids discharged by San Diego Creek at Campus Drive, is approximately 135,000 tons per year.~~

4. Sediment control measures shall be implemented and maintained to comply with the following Load Allocations (implemented as 10-year running annual averages) **for discharges of sediment to Newport Bay**: 1) no more than 28,000 tons per year of sediment shall be discharged to Newport Bay from open space areas within the watershed, 2) no more than ~~27,000~~ **19,000** tons per year shall be from agricultural land, 3) no more than ~~11,000~~ **13,000** tons per year from construction sites, 4) no more than ~~1,500~~ **2,500** tons per year discharged from urban areas. The Sediment Committee agencies shall be required to provide a proposal for evaluating compliance with these individual land use type load allocations that is subject to the approval of the Executive Officer. This proposal shall be implemented upon approval of the Executive Officer.

5. Sediment control measures shall be implemented and maintained to comply with the following Load Allocations (implemented as 10-year running annual averages)

~~considering~~ **in addition to** the load allocations specified above for Newport Bay **for discharges of sediment to tributaries of Newport Bay**: 1) no more than 28,000 tons per year of sediment shall be discharged to San Diego Creek and its tributaries from open space areas within the watershed, 2) no more than ~~27,000~~ **19,000** tons per year shall be discharged to San Diego Creek and its tributaries from agricultural land, 3) no more than ~~11,000~~ **13,000** tons per year discharged to San Diego Creek and its tributaries from construction sites, 4) no more than ~~1,500~~ **2,500** tons per year discharged to San Diego Creek and its tributaries from urban areas. The Sediment Committee shall be required to provide a proposal for evaluating compliance with these individual land use type load allocations that is subject to the approval of the Executive Officer. This proposal shall be implemented upon approval of the Executive Officer.

6. Sediment control measures shall be implemented such that Upper Newport Bay, including In-Bay Sediment Basins 1 and 2, need not be dredged more frequently than about once every 10 years, and the long term goal of Phase 1 of the TMDL for sediment is to reduce the frequency of dredging to once every 20 to 30 years. It is recognized that extreme rainfall conditions may necessitate more frequent dredging of the in-bay basins. The Regional Board will adopt waste discharge requirements for such dredging projects as the means of ~~providing~~ **recommending** Clean Water Act Section 401 Water Quality Certification for the dredging, and to ensure proper disposal of the dredged sediment.

7. ~~Section 401 Water Quality Certification~~ **Waste Discharge Requirements** will be waived for maintenance dredging of flood control channels and drainages throughout the watershed in order to maintain flood control capacity, under the following condition; any vegetation removal or earthwork conducted between March 1 and September 1 shall be supervised by a qualified biologist, approved by the Department of Fish and Game, to ensure compliance with the Endangered Species Act and Migratory Bird Treaty Act. This monitor shall have the authority to the stop or divert work to avoid impacts as necessary.

8. All in-channel and foothill sediment control basins throughout the drainages in the watershed shall be maintained to have at least 50% of design capacity available prior to November 15 of each year. ~~Water Quality Certification~~ **Waste Discharge Requirements** will be waived for sediment control basin maintenance activities under the following conditions: 1) any vegetation removal or earthwork conducted between March 1 and September 1 shall be supervised by a qualified biologist, approved by the Department of Fish and Game, to ensure compliance with the Endangered Species Act and Migratory Bird Treaty Act (this monitor shall have the authority to the stop or divert work to avoid impacts as necessary); and 2) the use of herbicides for the control of vegetation within channels shall be avoided to the greatest extent practicable.

9. ~~Water quality certification~~ **Waste Discharge Requirements** will be waived for drainage channelization and stabilization projects on drainages within the watershed between the foothill sediment basins and Upper Newport Bay, under the following conditions: 1) while modifying the channels, no native riparian wetland vegetation shall be removed from within the basins or adjacent to the basins during the period between April 1 and September 1 of each year, in order to protect the federally listed least Bell's vireo, unless one to one mitigation is provided for the loss of the riparian and aquatic habitat; 2) any vegetation removal or earthwork conducted between March 1 and September 1 shall be supervised by a qualified biologist, approved by the Department of Fish and Game, to ensure compliance with the Endangered Species Act and Migratory Bird Treaty Acts (this monitor shall have the authority to stop or divert work to avoid impacts as necessary); and 3) there shall be no net loss of wetland or aquatic habitat as the result of channel stabilization or modification projects within the watershed. Where the loss of these habitats is unavoidable, mitigation shall be provided on at least an acre for acre basis, within the watershed. The Regional Board will continue to work with the U.S. Army Corps of Engineers and other appropriate agencies towards the adoption of a Special Area Management Plan (or comparable plan) and General Permit for channel stabilization and flood control projects in accordance with Section 404 and 401 of the Clean Water Act. **If a plan for completing the Special Area Management Plan by June 1, 1999 is not submitted to the Executive Officer by January 1, 1999, then the Executive Office is directed to require, as an additional condition for obtaining a waiver, the completion of a comprehensive delineation of all the wetlands in the watershed and an evaluation of the cumulative impacts of projects to control sediment and the build-out of the watershed on the beneficial uses of these waters of the State. This evaluation of the cumulative impacts must be completed, according to a plan acceptable to the Executive Officer, by June 1, 1999. The Executive Officer may extend this deadline for reasonable causes, at his discretion. Staff intends to use the delineation to propose a general permit to the Regional Board that will cover the kind of activities described in the amendment. Until the SAMP, or, alternatively, the comprehensive delineation described above, is completed, staff will continue to process individual permit applications for each project.**

10. The Sediment Committee shall evaluate: 1) the amount of sediment being discharged from areas that contribute sediment to the total load discharged to Newport Bay; and 2) the effectiveness of the local sediment control plan (the 208 Plan). Where these areas that contribute sediment are under the jurisdiction of entities that are not currently part of the Sediment Committee, the Cities and County shall recommend to the Regional Board, if necessary, a new formula for allocating sediment loads and sharing of the costs of implementing the sediment control measures that will provide a 50% reduction in the current load of sediment. This evaluation shall, at a minimum, address the

sediment loads from the Santa Ana-Delhi Channel, Bonita Creek, the federal lands within the watershed, and the City of Lake Forest.

These conditions shall not supersede more restrictive conditions of other agencies, such as the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, the State Department of Fish and Game, or other local agencies.

1.b Phase 2 of the TMDL for Sediment: Monitoring and Reassessment

The Sediment Committee has developed an agreement whereby the County of Orange conducts the monitoring of sediment discharge within the watershed, with the costs shared by all parties, except the Department of Fish and Game. There has been no site specific monitoring of the various sources of sediment, so it is impossible to determine the effectiveness of specific BMPs. It is also too soon to reach any conclusions about the overall effectiveness of the local sediment control measures.

Since 1983, the County has monitored flow and total suspended solids at 3 locations and conducts periodic scour studies to evaluate sediment transport and deposition in the drainages within the watershed. In addition, the County has conducted two topographic surveys of the Upper Bay to determine sediment accumulation in the Upper Bay. The current monitoring program being implemented by the Sediment Committee shall be continued, with the following modifications:

1. The Sediment Committee shall propose monitoring stations and schedules to be established to monitor the discharge of sediment from the Santa Ana-Delhi Channel and Bonita Canyon Creek into the Upper Bay and to evaluate the effectiveness of the BMPs being implemented in the watershed. This monitoring plan shall also propose monitoring to evaluate compliance with the Load Allocations for various land use types. This monitoring plan is subject to the approval of the Executive Officer and shall be implemented upon his approval.

2. The Sediment Committee shall propose monitoring stations and schedules to conduct the scour studies for the drainages in the watershed to be conducted annually. These surveys shall determine the amount of sediment accumulated in San Diego Creek and its tributaries, the in-channel sediment basins, the foothill sediment basins, and any other sediment basins in the watershed. The survey report shall be used to demonstrate whether the sediment basins have at least 50% capacity prior to November 15 of each year. This monitoring plan is subject to the approval of the Executive Officer and shall be implemented upon his approval.

3. Topographic and vegetation surveys of Upper Newport Bay shall be conducted at least every 3 years, or as agreed upon by the Executive Officer, and after any year in which the monitoring for total suspended solids at Campus Drive shows that more than 250,000 tons of sediment were discharged to the bay. In any year in which these surveys are required, the surveys shall be conducted by July 1. The results of these surveys shall be submitted as part of an annual report by December 31 of each year.

4. The topographic and vegetation surveys shall be conducted to determine the amount of sediment deposition in the two In-Bay basins and the other marine aquatic habitat areas and to determine changes in the areal extent of the existing aquatic, wildlife, and endangered species habitat areas.

5. The monitoring data and information collected by the Sediment Committee, including the flow and suspended solids monitoring data, the scour studies, the bathymetric surveys and the vegetation surveys, (and any additional information collected by the Sediment Committee) shall be submitted in an annual report by December 31 of each year. The monitoring shall be completed prior to July 1 of each year and this information shall be used to determine the maintenance requirements of all sediment basins in the watershed. Additionally, the Sediment Committee shall submit a report by November 15 of each year certifying whether the sediment basins in the watershed have at least 50% capacity. The Regional Board will use the information collected by this monitoring program to evaluate the effectiveness of the sediment TMDL and will reevaluate the sediment TMDL as part of the Board's Basin Planning process.

1.c. Estimated Costs of Agricultural Water Quality Control Programs and Potential Sources of Financing

The estimate of capital and operational costs for agricultural operations to achieve the 10 year sediment reduction targets specified in the sediment TMDL for the San Diego Creek/Newport Bay watershed ranges from $1.0 million to $1.5 million.

Potential funding sources include:

1. Private financing by individual sources.

2. Bonded indebtedness or loans from governmental institutions.

3. Surcharge on water deliveries to lands contributing to the drainage problem.

4. Ad Valorem tax on lands contributing to the drainage problem.

5. State or federal grants or low-interest loan programs.

6. Single-purpose appropriations from federal or State legislative bodies (including land retirement programs).