

*Attachment*  
*Basin Plan Total Maximum Daily Load for*  
*Sediment in the Newport Bay/San Diego Creek Watershed*

**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 (Irvine, Tustin, Lake Forest, Costa Mesa, Santa Ana and Newport Beach) 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 Cities and County, acting through cooperative agreements under the Newport Bay Watershed Executive 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 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.
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 through the Basin Plan Amendment process.
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

*Attachment*  
*Basin Plan Total Maximum Daily Load for*  
*Sediment in the Newport Bay/San Diego Creek Watershed*

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. The Regional Board will determine compliance with this target 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 evaluating the 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. The Regional Board will compare this information 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.

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 19,000 tons per year shall be from agricultural land, 3) no more than 13,000 tons per year from construction sites, 4) no more than 2,500 tons per year discharged from urban areas. The Cities and County, acting through cooperative agreements under the Newport Bay Watershed Executive 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.
5. Sediment control measures shall be implemented and maintained to comply with the following Load Allocations (implemented as 10-year running annual averages) 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 19,000 tons per year shall be discharged to San Diego Creek and its tributaries from agricultural land, 3) no more than 13,000 tons per year discharged to San Diego Creek and its tributaries from construction sites, 4) no more than 2,500 tons per year discharged to San Diego Creek and its tributaries from urban areas. The Cities and County, acting through cooperative agreements under the Newport Bay Watershed Executive 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

*Attachment*  
*Basin Plan Total Maximum Daily Load for*  
*Sediment in the Newport Bay/San Diego Creek Watershed*

such dredging projects as the means of recommending Clean Water Act Section 401 Water Quality Certification for the dredging, and to ensure proper disposal of the dredged sediment.

7. 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 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 information in a complete application (report of waste discharge) demonstrates that the waiver criteria specified herein and in Regional Board Resolution No. 96-9, Waiver of Waste Discharge Requirements for Certain Types of Discharges, are met.
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. 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); 2) the use of herbicides for the control of vegetation within channels shall be avoided to the greatest extent practicable; and 3) the information in a complete application (report of waste discharge) demonstrates that the waiver criteria specified herein and in Regional Board Resolution No. 96-9, Waiver of Waste Discharge Requirements for Certain Types of Discharges, are met.
9. 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) the information in a complete application (report of waste discharge) demonstrates that the waiver criteria specified herein and in Regional Board Resolution No. 96-9, Waiver of Waste Discharge Requirements for Certain Types of Discharges, are met. 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

*Attachment*  
*Basin Plan Total Maximum Daily Load for*  
*Sediment in the Newport Bay/San Diego Creek Watershed*

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 Officer 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. 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 Cities and County, acting through cooperative agreements under the Newport Bay Watershed Executive 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 areas that contribute sediment are not under the jurisdiction of entities that are currently part of the Newport Bay Watershed Executive 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 Newport Bay Watershed Executive 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 three 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 County intends to continue this monitoring program on behalf of the Newport Bay Watershed Executive Committee.

In addition, the Newport Bay Watershed Executive Committee shall:

*Attachment*  
*Basin Plan Total Maximum Daily Load for*  
*Sediment in the Newport Bay/San Diego Creek Watershed*

1. 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 will not become effective until approved by the Regional Board at a duly noticed public hearing as specified in Chapter 1.5, Division 3, Title 23 of the California Code of Regulations (Section 647 et seq.).
2. 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 will not become effective until approved by the Regional Board at a duly noticed public hearing as specified in Chapter 1.5, Division 3, Title 23 of the California Code of Regulations (Section 647 et seq.).
3. Conduct topographic and vegetation surveys of Upper Newport Bay at least every three 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. 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.
4. Submit an annual report by December 31 of each year providing the monitoring data and information collected by the Newport Bay Watershed Executive Committee, including the flow and suspended solids monitoring data, the scour studies, the bathymetric and vegetation surveys, (and any additional information collected by the Committee). 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 Newport Bay Watershed Executive 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 Regional Board's Basin Planning process.
5. The monitoring data and information collected by the Newport Bay Watershed Executive Committee, including the flow and suspended solids monitoring data, the scour studies, the bathymetric surveys and the vegetation surveys, (and any

*Attachment*  
*Basin Plan Total Maximum Daily Load for*  
*Sediment in the Newport Bay/San Diego Creek Watershed*

additional information collected by the Newport Bay Watershed Executive 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 Newport Bay Watershed Executive 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.