

KB

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 94-50

AUTHORIZATION TO NEGOTIATE AND EXECUTE
CONTRACTS OR INTERAGENCY AGREEMENTS FOR ASSESSING
LOADING AND BIOLOGICAL IMPACTS OF NONPOINT SOURCE
CONTAMINANTS IN SANTA MONICA BAY

WHEREAS:

1. Santa Monica Bay was included in the National Estuary Program in 1989 which charges the Santa Monica Bay Restoration Project (SMBRP) Management Conference to develop a Comprehensive Conservation and Management Plan (CCMP). The SMBRP is in the final year of the planning phase.
2. The Governor's Fiscal Year (FY) 1993-94 authorized budget authority is \$435,660 for Tobacco Tax Funds and \$1,313,000 for Federal Funds (Section 320 of the Clean Water Act) to complete the CCMP.
3. The FY 1993/94 workplan approved by U.S. EPA and the SWRCB contains several work elements which will require contractual assistance.
4. The following contract will require authorization to negotiate, execute, and amend, as necessary, contracts or interagency agreements: "Assessment of loading and biological impacts of nonpoint source contaminants in Santa Monica Bay."
5. The budget for this contract is anticipated to be \$264,000.
6. SWRCB authorization is required for contracts which exceed \$200,000 in value.

THEREFORE BE IT RESOLVED THAT:

The SWRCB authorize the Executive Director or his designee to negotiate, execute, and amend, as necessary, contracts or interagency agreements to implement the study titled "Assessment of Loading and Biological Impacts of Nonpoint Source Contaminants in Santa Monica Bay".

CERTIFICATION

The undersigned Administrative Assistant to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 16, 1994.


Maureen Marché
Administrative Assistance to the Board

May 2, 1994

STAFF REPORT
BY THE
STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER QUALITY

SANTA MONICA BAY RESTORATION PROJECT:
PROPOSED AUTHORIZATION TO NEGOTIATE AND EXECUTE CONTRACTS TO
IMPLEMENT THE STUDY TITLED:
"ASSESSMENT OF LOADING AND BIOLOGICAL IMPACTS OF NONPOINT
SOURCE CONTAMINANTS IN SANTA MONICA BAY"

INTRODUCTION

In December 1987, the WQA was amended through the Congressional appropriations process to include Santa Monica Bay among the list of estuaries to receive priority consideration by U.S. EPA. In July 1988, following the nomination of Santa Monica Bay by the Governor of California, a Management Conference was convened for the Santa Monica Bay Restoration Project (SMBRP). The Conference organization was approved by the State Water Resources Control Board (SWRCB) in Resolution No. 88-51. The SWRCB accepted grant funds from U.S. EPA for FY 1993-94 in June 1993. This staff report presents preliminary scope of work for the interagency agreement for the study titled: "Assessment of Loading and Biological Impacts of Nonpoint Source Contaminants in Santa Monica Bay."

BACKGROUND

Santa Monica Bay is one of the most heavily utilized areas in California. Approximately 9 million people live near the Bay and use it for bathing, boating, sport fishing, and other forms of recreation. Many marine species, including at least five federally listed endangered species, may be impacted by current activities in the Bay. The Bay is used as an industrial water supply and, to a lesser extent, for shipping. The Bay is also the repository for nearly 800 million gallons per day (MGD) of treated sewage effluent, approximately 6 MGD of treated industrial waste, and 6000 MGD of power generation cooling water discharge. The Bay also receives pollutants from dozens of unregulated storm drains. Even though many of the biggest dischargers have improved the quality of their effluent, significant problems remain from past discharge practices (e.g., sediment contamination) and the lack of adequate control of stormwater discharges (e.g., bacterial and chemical contamination from storm drain discharge). These problems have had an actual or perceived impact on the Bay's marine ecosystem and the human use of those resources.

Scope of work for the contract titled: "Assessment of Loading and Biological Impacts of Nonpoint Source Contaminants in Santa Monica Bay."

The goal of this contract is to assess loading and biological impacts of nonpoint sources, including storm water and aerial fallout in Santa Monica Bay.

Specific objectives of this contract are to:

1. To characterize wet weather flow and assess its potential for biological impacts in the marine receiving environment.
2. To characterize the chemical composition of sediments in storm drains and assess the potential for biological impacts of sediments discharged from storm drains into the near coastal environment.
3. To characterize the direct contribution of aerial fallout pollutants into Santa Monica Bay and indirect contribution of aerial fallout pollutants into storm water/urban runoff.
4. To investigate the feasibility of establishing effluent limits for storm water/urban runoff.

An assessment of annual pollutant loading associated with storm water and an assessment of dry-weather toxicity was completed in the previous years. The dry-weather toxicity study indicated that the toxicity was generally present in dry-weather urban runoff samples.

Specific tasks include:

1. Conduct screening study of toxicity and examine the toxic components of the wet weather flow.
 - A. Collect two sets of samples from wet weather flows of two selected storm drains. Ideally, the flow samples will be collected from the first major storm of the wet season and from different parts of the storm. Examine the basic characteristics of the flow by analyzing a set of water quality parameters. The parameters to be analyzed include (but are not limited to) pH, conductivity, ammonia, and nitrite, TDS, TSS, VSS, COD, and DOC. Conduct toxicity tests using one set of flow samples with at least three species of organisms. The tests shall be conducted for both the liquid and the solid phase of the flow samples. Preserve the second sets of samples for the purposes of Task 1B.

- B. Select the storm drain and the parts of the flow which are shown to have the highest toxicity based on results obtained under Task 1A. Identify the toxic components by conducting a series of toxicity tests on different extraction and fractionation of the second-set samples.

2. Conduct screening study of toxicity in sediments.

- A. Collect sediment samples from two storm drain sites. One site should be within one of the two storm drains selected for Task 1. Ideally, the site selected for sampling is within the storm drain but close to the tidal prism, and the flow from the storm drain where the site is located has been shown to have the highest toxicity. The other site should be within a storm drain which is considered relatively "clean". Conduct toxicity tests on extracts of the sediments.

- B. Identify biomarkers and anthropogenic markers both on suspended solids from samples collected for Task 1 and on sediment samples collected for task 2A. Assess the characteristics (sediment chemistry, speciation of pollutants) and origin of sediments in storm drains.

3. Evaluate the feasibility of developing numerical water quality effluent limitation for storm water discharge.

Review existing sources of water quality data, including data collected from Tasks 1 and 2, for selected drainage channels and evaluate whether existing data is adequate to develop numerical effluent limitations. Develop and analyze alternative limitations that are appropriate for the unique conditions of storm water discharge into coastal waters; and consider differences in effluent limitations that may be appropriate for discharges at different locations. For one selected storm water discharge, determine whether development of effluent limitations is feasible and, if so, which of the methods would be best suited to develop such a limitation.

4. Estimate the loading of airborne pollutants of concern both directly into Santa Monica Bay and indirectly into the Santa Monica Bay watershed. Identify the major sources of these airborne pollutants attributable to the direct and indirect loading.

- A. Use meteorological as well as other types of models as evaluated by Task A to examine the effects of weather patterns (including rainfall, temperature variation, etc.) and geographical patterns (topographical, hydrological, and land use, etc.) on the fate and distribution of the

airborne pollutants of concern. Based on the modeling, provide preliminary description of the routes of aerial input and evaluate the importance of aerial sources (especially transportation-related sources) vs. other sources of inputs.

- B. Compile information obtained in Tasks A and B. Based on compiled information, recommend sources and constituents to be targeted in further studies and identify the need for further large-scale field studies and laboratory analysis. Identify the objective, strategy, and focus of the further studies, and select study areas and develop study options if necessary.

The total budget for this contract is expected to be \$264,000.