May 17, 2004

Frank Roddy
Division of Water Quality,
State Water Resources Control Board,
P.O. Box 100
Sacramento, CA 95812-0100

SUBJECT: California Ocean Plan Triennial Review and Supplemental Notice

Dear Mr. Roddy:

The City of Santa Cruz Public Works Department appreciates the opportunity to submit comments on the California Ocean Plan in accordance with the supplemental notice published on April 26, 2004.
The City supports an updated Ocean Plan that includes protective and measurable limits consistent with the advances in environmental sciences and technologies. The following comments and references are submitted with specific focus on the following areas of the Ocean Plan:

1. Indicator species.
2. Reasonable Potential (TMDLs)

If you have any questions or require additional information, please contact Akin Babatola at 831.420.6045.

Sincerely,

Mark Dettle, Director
Public Works Department

cc: Akin Babatola
Steve Wolfman
Suzanne Healy
Director of Public Works/File.

1: INDICATOR SPECIES:

The choice of indicator organisms in the California Ocean Plan is critical to defining acceptable performance and monitoring limits for point dischargers, beach monitoring programs and local environmental health authorities. All of these functions are guided by the provisions of the Ocean Plan in California (as well as the Clean Water Act, as amended). Current law requires the Ocean Plan be reviewed periodically to include the best available information for protecting the public. It is clear from that premise that the Ocean Plan was designed to evolve with the best available scientific information to guide its protective functions.
Current limits within the Ocean Plan should be updated to include data and technical information available from sources referenced below and from data available from local environmental health agencies since the implementation of AB411.
A summary of technical information available from these sources leads to the following conclusions:

Choices of indicator organisms are better informed when:

1) Single sample measurements are not based upon organisms from the group of total coliforms because this biochemical/morphological association of bacteria:
   a.) Are collectively lacking in evidence of sustainable and credible disease associations,
   b.) Have such ubiquitous environmental distribution (in recreational/marine and wastewaters) to provide decisive information on pollution events when there are no "low" levels of enterococcus and/or E. coli);

2) Protective standards need to exclude ubiquitously distributed organisms lacking in clear epidemiological associations. Including these organisms tend to confound information as clear-cut as would be discernible from the UC Berkeley study published by Spear et. al. in 1986; And

3) Survival/Attenuation rates of indicator organisms in discharge waters and the ocean are critical and informative of measurable risks. Total coliform populations are so rapidly attenuated in these waters that postings based upon their populations have no discernible protective effects. Since enterococcus bacteria have longer survival rates, their populations would be expected to be relevant to the health risks of exposed populations when the surviving fractions of total coliforms are no longer near levels from the analytical exercise. This often occurs within 24 hours of the sampling event.

RECOMMENDATIONS:

Based upon these premises, the Ocean Plan bacterial limits should be revised as follows:

I. Include enterococcus sp. because of the epidemiological associations; survival rates in the ocean, and sewage waters as highlighted above.

II. Include acceptable analytical methods for ocean bacteria of epidemiological significance. Many local environmental health agencies have opted for Colilert-18 in the analyses of coliforms, however data from references 3 and 4, as well as other sources indicate significant over-estimation of total coliforms in marine waters by this methodology. (Growth in rapid detection technologies seems to be associated with parallel increases in coliform counts, beach postings, and potential permit violations).

III. Exclude single sample measurements for any indicator organisms, except for purposes of preliminary evaluation of the need for additional study. And

IV. Single measurements of total coliforms should not be used when they are not normalized for false-positives.

REFERENCES:

The foregoing comments and recommendations are based upon critical assessments of technical information available in the public domain, including but not limited to the following references:

1. An Epidemiological Study of the Possible Adverse Health Effects of Swimming In Santa Monica Bay. Final Report May 7, 1996.
2. EPA 823-R-00-003. (February 2000) Regional BEACH Program Conferences 1999.
3. Applied and Environmental Microbiology 68 (2) pages 539-544 2002. Marine Bacteria Cause False-Positive Results in the Colilert-18 Rapid Identification Test For Escherichia coli in Florida Waters. John M. Pisciotta (et. al.).
4. Unpublished data on Near Shore Bacterial analyses from CCLEAN (Central Coast Long-Term Environmental Assessment Network)

2: REASONABLE POTENTIAL (TMDLS):

Current language in the California Ocean Plan allows some dischargers to certify that Table B pollutants are not present in their effluent in lieu of monitoring. This exception limits options available for developing regional based solutions for limiting pollutants that may be present below the limits of detection within these dischargers effluents, but measurable at other dischargers effluents (in the same region). A scientifically sound and defensible TMDL can only be developed when all potential point sources can be assessed. In addition, there are current protocols for assigning value to data points below method detection limits (MDLs). These efforts are guided by the need for protective and equitable standards of comparison. USEPA and several voluntary consensus standard bodies (VCSB) are currently guiding efforts to develop mechanisms for assigning defensible values for these chemicals. These efforts are sufficiently advanced to offer promise of resolution that would be incorporated into future updates of the Ocean Plan.

RECOMMENDATIONS:

Based upon these premises, the Ocean Plan should be revised as follows:

1. Include language requiring uniform analytical and monitoring standards within the same discharge industry in contiguous areas of the state.
2. Continue language to provide for negative declaration and exception from monitoring of Table B pollutants only when there are no other point dischargers within the same regional area.
3. Allow the continuance of the foregoing exception contingent upon the finalization of the effort by USEPA and CVSB.

REFERENCE:

The foregoing comments and recommendations are based upon critical assessments of technical information available in the public domain, including but not limited to the following reference:

1. Technical Support Document for the Assessment of Detection and Quantitation Approaches
http://www.epa.gov/waterscience/methods/det/dqch1-3.pdf