

**REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

**EXECUTIVE OFFICER SUMMARY REPORT  
October 10, 2018**

**ITEM 6**

**SUBJECT**

Informational Item: State of the Ocean Report by the City of San Diego on Status and Trends of Water Quality Conditions in the Vicinity of Point Loma Ocean Outfall and South Bay Ocean Outfall. *(Keith Yaeger)*

**STAFF RECOMMENDATION**

This is an informational item and the Board will not take an action.

**KEY ISSUE**

This informational item will provide an assessment by the City of San Diego (City) on the state of San Diego's coastal waters surrounding the Point Loma Ocean Outfall (PLOO) and South Bay Ocean Outfall (SBOO). The City's presentation of this "State of the Ocean" assessment report to San Diego Water Board members is required on a biennial basis as a condition of the Monitoring and Reporting Program (MRP) of the NPDES Permits for the City's Point Loma Wastewater Treatment Plant and the South Bay Water Reclamation Plant as well as the South Bay International Wastewater Treatment Plant which is owned and operated by the U.S. Section of the International Boundary and Water Commission (USIBWC).

**PRACTICAL VISION**

This informational item is consistent with the Monitoring and Assessment chapter of the Practical Vision.<sup>1</sup> The purpose of the State of the Ocean Report is to transparently and effectively communicate findings and conclusions from the ocean monitoring program conducted in accordance with NPDES permit requirements to assess the impact of wastewater discharged through the PLOO and SBOO on the coastal marine environment off San Diego.

**DISCUSSION**

The City conducts an extensive ocean monitoring program to evaluate potential environmental effects associated with the discharge of treated wastewater to the Pacific Ocean through the PLOO and SBOO. The data collected are used to determine compliance with receiving water conditions specified in the NPDES permits (referred to by Order No.) for the City's Point Loma Wastewater Treatment Plant discharge to the PLOO ([Order No. R9-2017-0007](#)), the City's South Bay Water Reclamation Plant discharge to the SBOO ([Order No. 2013-0006](#)) and the USIBWC South Bay International Wastewater Treatment Plant discharge to the SBOO ([Order No. R9-2014-0009](#)). Since treated effluent from the two South Bay facilities commingle before discharge to the ocean through the SBOO, a single ocean monitoring program approved by the San Diego Water Board is conducted to comply with these two NPDES permits. Moreover, with implementation of the San Diego Water Board's modifications to the MRPs for the PLOO and SBOO in 2017, the ocean monitoring program for each of the two ocean outfalls is now closely aligned with respect to overall sampling design, frequency of sampling types, laboratory test and analyses, and reporting guidelines. This has essentially created a single comprehensive ocean monitoring program for the PLOO and the SBOO.

Consistent with the requirements of the NPDES permits, the City conducts ocean water monitoring for the PLOO and SBOO in a monitoring area spanning about 340 square miles (881 square kilometers) of coastal marine waters from northern San Diego County to northern Baja California, Mexico (**Supporting Document No. 1, Figure A.1**). Core (routine) monitoring for the PLOO is

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<sup>1</sup> Practical Vision: [https://www.waterboards.ca.gov/sandiego/water\\_issues/programs/practical\\_vision/](https://www.waterboards.ca.gov/sandiego/water_issues/programs/practical_vision/)

conducted at 82 different stations located from the shore seaward to a depth of about 380 feet (116 meters), while core monitoring for the SBOO is conducted at 60 stations ranging from along the shore to offshore depths of about 200 feet (61 meters). Each of the core monitoring stations is sampled for specific parameters as specified in the appropriate MRPs. In addition to monitoring at the permanent core stations, an annual survey of benthic conditions (sediment quality, macrobenthic communities) is typically conducted each year at 40 randomly selected stations that range from near the international border to northern San Diego County and that extend further offshore to continental slope depths as deep as 1,640 feet (500 meters). These broader geographic surveys are useful for evaluating patterns over the entire San Diego region and provide information important for distinguishing reference areas from those impacted by human activities (**Supporting Document No.1, Figure A.2**).

The main objectives of the ocean monitoring program are to: 1) provide data that satisfy NPDES permit requirements, 2) demonstrate compliance with NPDES permit receiving water limitations including California Ocean Plan water-contact bacteriological standards in State waters, 3) track movement and dispersion of the wastewater fields or plumes discharged through the outfalls, and 4) identify any biological or chemical changes that may be associated with wastewater discharge. These data are then used to evaluate and document any effects of wastewater discharge, other anthropogenic influences (e.g., storm water discharge, urban runoff), or natural factors (e.g., climate changes) on coastal water quality, seafloor sediment conditions, and local marine organisms.

In addition to the receiving water monitoring, the City and USIBWC have implemented an ongoing wastewater plume tracking program. The outfall plume tracking is used to determine the movement and dispersion of the wastewater plume discharged through the PLOO and SBOO. To fulfill this requirement, the City and USIBWC have deployed permanent mooring systems near the terminus of both the PLOO and the SBOO. The mooring system is composed of an acoustic doppler current profiler at the surface and various sensors used to detect indicators (e.g., colored dissolved organic matter, pH, salinity, etc.) spaced throughout the water column. The mooring system coupled with the use of a remotely operated towed vehicle (ROTV) allows the City and USIBWC to determine the location, extent and dispersion of the wastewater plumes discharged from the PLOO and the SBOO. The potential deployment of this technology at other ocean outfalls in the San Diego Region was the subject of a recent workshop hosted by San Diego Water Board on September 21, 2018.

Data files, detailed methodologies, completed reports, and other pertinent information regarding the ocean monitoring program for the PLOO and the SBOO are online at the City's website at <https://www.sandiego.gov/mwwd/environment/oceanmonitor>

## **SUPPORTING DOCUMENTS**

1. Receiving Water Monitoring Stations Around the Point Loma Ocean Outfall and South Bay Ocean Outfall