STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

STAFF SUMMARY REPORT (Bill Johnson)
MEETING DATE: February 13, 2008

ITEM: 10

SUBJECT: **Waste Disposal Control Programs** – Status Report

DISCUSSION: This report provides the status of the Water Board's wastewater and solid waste disposal control programs. It includes background information on the sources and types of wastes, the programs in place to prevent degradation of surface and ground water from waste disposal, and future challenges.

The nearly 7 million people in the Bay Region generate a vast amount of waste. Everyday Bay Region residents and industries generate approximately 2 billion gallons of sewage and industrial wastewater, and 20,000 tons of municipal garbage. While the primary focus of the Water Board's waste disposal control programs is to ensure that wastes are disposed of in a manner that protects water quality, they also encourage, and in some instances require, waste minimization and pollution prevention. Waste disposal control programs currently make up about 25 percent of our current budget.

The Water Board's waste disposal control programs address discharges to surface waters and land separately, because there are different regulations for these categories of discharges. The program controlling discharges to surface waters is the NPDES Wastewater Program. The two programs that regulate the disposal of liquid and solid waste to land are the Title 27 (former Chapter 15) and Non-Chapter 15 Programs.

The NPDES Wastewater program is a federal program implemented by the State that regulates discharges to surface waters. Currently, there are 249-NPDES permitted discharge facilities in the Region. As illustrated in the figure in Appendix A, this program has been immensely successful in abating the odors and fish kills that were common early last century, and has also been successful in reducing the amount of pollutants discharged to the Bay, even as the population has increased. More recently, we are successfully satisfying US EPA's requirement for timely reissuance of NPDES permits.

The Title 27 Program implements the regulations of the State Water Board and the California Integrated Waste Management Board. It covers disposal of municipal and industrial non-hazardous solid wastes, which include household garbage and solid residues from the treatment of municipal wastewater and waste units at industrial facilities. Currently, there are 78 facilities permitted: 12 are active municipal landfills, 50 are inactive or closed municipal landfills, and the rest are active and inactive industrial facilities.

Before 1984 very few requirements and little attention was given to the permitting and placement of landfills. As shown in Appendix B, landfills were often not only built adjacent to, but within the Bay. Present day standards require significant siting and design requirements to ensure containment of waste for centuries. As the demand for landfill capacity continues to grow, landfills are expanding both vertically and laterally. This is no easy task and in many ways is pushing the need for more efficient recycling programs. While vertical expansions pose slope stability and engineering challenges, lateral expansions are often limited by space and must be done in a manner as to not impact wetlands and stream habitats.

The Non-Chapter 15 Program regulates all other activities that discharge to land including: on-site wastewater treatment systems, bay dredge material disposal, winery waste disposal operations, and confined animal facilities. The Non-Chapter 15 program covers about 100 facilities that are mostly located in the more rural areas of our Region.

Challenges

In the area of sewage, one of the main challenges is aging infrastructure; mainly old broken sewer pipes that leak sewage in the dry season and during the wet season take in extra water and overwhelm treatment plants or backup and discharge onto streets. We began to address this issue in 2003, and were bolstered by a State Water Board general permit in 2006 that requires sewage collection agencies to develop spill prevention programs. Replacement and repair of broken pipes has been hampered by some communities' unwillingness to fund the work and in some cases by access problems, as buildings and homes were unwittingly built on top. Strict Water Board enforcement action must continue as well as incentive-based programs and grants and loans to assist home owners and municipalities. Recently the Board approved a number of supplemental environmental projects aimed at addressing this problem.

Another challenge facing all three programs is budget cutbacks in the face of increased workload. This workload increase comes mainly from the push for more enforcement, the need for more complex permits to implement new regulations, and an increase in regulated facilities, while the number of potential pollutants introduced into the environments also increases. To address this challenge we are identifying and implementing efficiency measures such as NPDES Permit templates, and strategically focusing resources on those very high priority projects that must be done.

RECOM-
MENDATION: This item is a status report, no action is necessary.

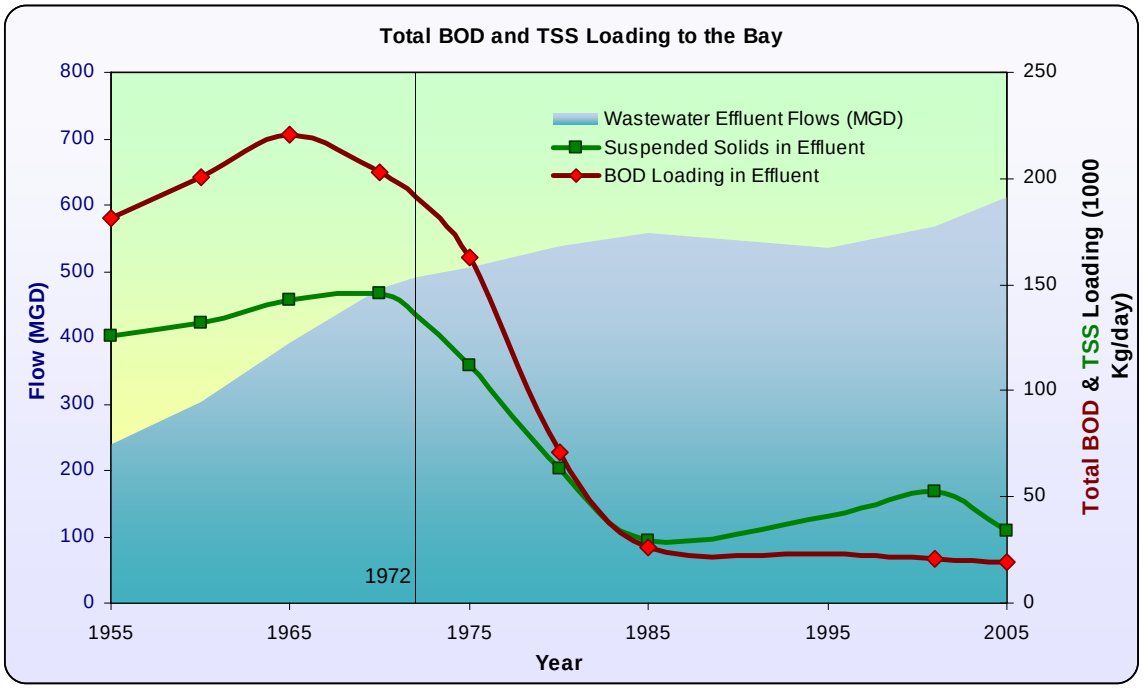
APPENDICES: A. Success of the NPDES Wastewater Program in reducing waste in discharges
B. Changes in landfill siting and design

Appendix A

Success of the NPDES Wastewater Program

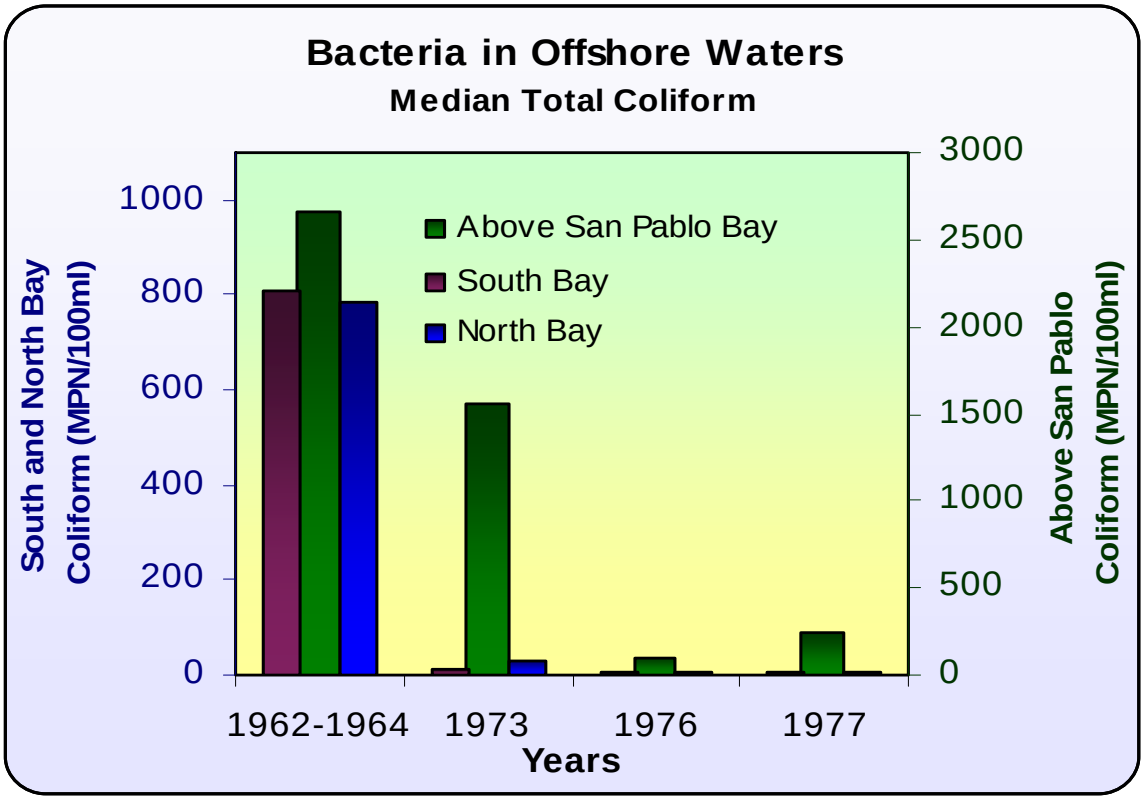
Following figures are excerpts from
Regional Monitoring Program for Water Quality in the San Francisco Estuary
The Pulse of the Estuary 2007

[*Caption*] Figure 5. In 1972, Clean Water Act funding for the construction of treatment facilities produced a sharp drop in pollutants released to the Bay. By 1985, Bay Area municipal wastewater treatment plants had reduced total suspended solids (TSS) by 80 percent and biochemical oxygen demand (BOD) by 88 percent from the high values recorded two decades earlier, while the service area population increased by 52% over the same period.[1] TSS and BOD are standard parameters used in wastewater treatment and are strongly correlated to the level of pollutants in wastewater.



[1] CRWQCB, 1987 (1955 – 85) *plus*: J. Lam & other data

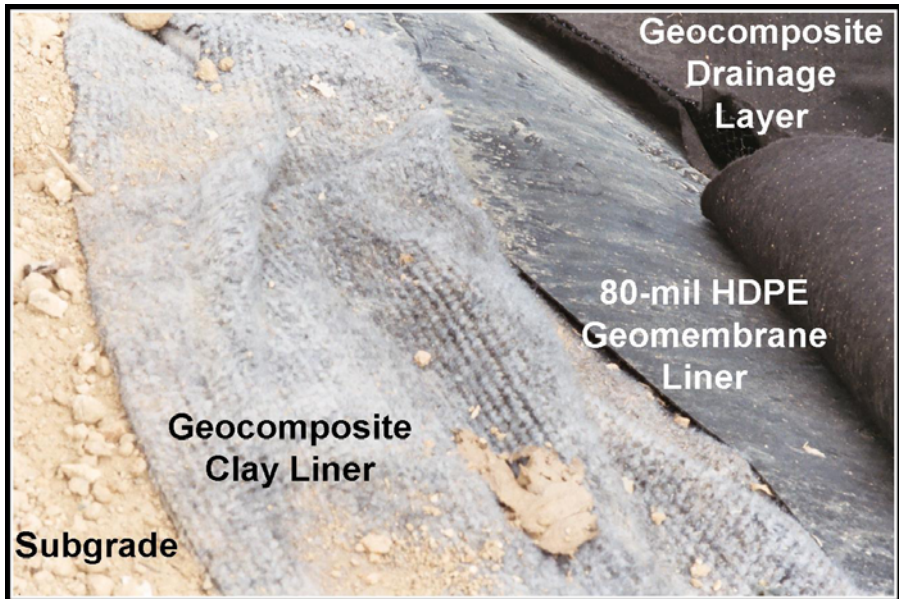
[*Caption*] Figure 10. Data collected by the Regional Water Board in 1977 showed rapid improvement in the bacterial quality of offshore waters in the Bay. Coliform bacteria are typically used as indicators of the possible presence pathogenic organisms in wastewater or the Bay (Luoma, 1982, citing Regional Water Board in-house data).



Appendix B

Waste Containment Advances

As late as the 1960's, Landfills were constructed into the Bay by placing earthen berms into the Bay and simply filling the center with waste.



Present-day standards require engineered designs consisting of liners with multiple components. The above is for a sideslope, where yet another High Density Polyethyene (HDPE) layer will be put on top of what is shown here.