

# Dental Amalgam Recovery Program

## Impact of Mercury on the Bay

The United States Environmental Protection Agency and the State Water Resources Control Board have identified mercury as one of several toxic pollutants impairing San Francisco Bay. Mercury is a potential neurotoxin that can affect the functioning of the brain and nervous system. Bacteria from river and estuary bottom sediments convert mercury into its highly toxic form, methylmercury. Methylmercury accumulates in aquatic organisms, including fish, making them dangerous to eat. The State Office of Environmental Health and Hazard Assessment has issued fish consumption advisories for numerous water bodies in California including San Francisco Bay.



## Mercury flushed down the drain goes straight to the Bay

The City of Hayward Water Pollution Control Facility (WPCF) operates under a municipal wastewater discharge permit (called an NPDES permit) that strictly limits the levels of mercury and other pollutants that can be discharged to San Francisco Bay. Although the WPCF meets all the permit requirements, its treatment processes can only remove a certain amount of mercury. Some of this toxic metal ends up in the wastewater discharged to San Francisco Bay or in biosolids sent to landfills.

## Why Dental Mercury is an Issue

A significant source of mercury in municipal wastewater is the scrap amalgam and mercury waste from dental offices. Placement and removal of dental amalgam generate amalgam waste particles that can be suctioned into the dental unit vacuum line and discharged into the public sewer system. While it is difficult to pinpoint the exact source of mercury in the commercial and residential wastewater discharge, mercury in dental amalgam is a known contributing factor that can be controlled through reliable waste management and treatment techniques. Local wastewater agencies, including the Water Pollution Source Control Program of the City of Hayward, are working with dental offices to reduce releases of mercury to the sewer system through the implementation of Best Management Practices (BMPs) and installation of amalgam separators.



## City of Hayward's Efforts to Reduce Dental Mercury

In 2007 and 2008 the average mercury concentration in wastewater discharge from dental offices was higher compared to that from residential and commercial areas of Hayward. In an effort to reduce mercury in the wastewater discharge, City staff is considering developing policies that, if approved by the City Council, will require installation of amalgam separators by the dental practices. The installed device will have to be ISO 11143 certified and capable of removing a minimum of 95% of amalgam. Upon approval of the City Council, the dental practices will be required to self-certify the installation of amalgam separators, and the implementation of City of Hayward's BMPs. Exemptions may be considered for practices that place or remove amalgam fillings three or fewer days in a calendar year and specialists who do not place or remove amalgam fillings in their practice.

The City mailed surveys to dental offices in 2006 and 2009 to get a better understanding of the amalgam handling practices. A BMP flyer for dental offices was mailed with the survey. The City hopes to significantly reduce the mercury level in its wastewater through the implementation of the Dental Amalgam Recovery Program.

### **Information for Dentists**

Bay Area Clean Water Agency's (BACWA) Dental Office resources  
[www.baywise.org](http://www.baywise.org)

ADA – Best Management Practices for Amalgam Waste  
[http://www.ada.org/prof/resources/topics/topics\\_amalgamwaste](http://www.ada.org/prof/resources/topics/topics_amalgamwaste)

List of Amalgam Separators  
[http://sfwater.org/detail.cfm/MC\\_ID/14/MSC\\_ID/118/MTO\\_ID/2](http://sfwater.org/detail.cfm/MC_ID/14/MSC_ID/118/MTO_ID/2)

Purchasing, Installing and Operating Dental Amalgam Separators  
<http://jada.ada.org/cgi/reprint/134/8/1054>

**For additional information contact: Water Pollution Source Control at 510-881-7900.**

*Photos courtesy of San Francisco Bay Conservation and Development Commission, and U.S. Food and Drug Administration.*

