Quantification of Debris in San Diego Bay

What is it?

Marine debris has become one of the most recognized pollution problems in the world's oceans and watersheds today. Debris is defined as persistent solid material that is manufactured or processed and directly or indirectly, intentionally or unintentionally, disposed of or abandoned into the environment. About 80 percent of debris found in marine environments is generated from land-based sources; therefore, reduction of debris sources from watersheds is an important management action to reduce marine debris.

Debris particles, San Diego Bay

The San Diego Bay Debris Study is being developed as a special study to the Bight 2013 debris study. It complements the Bight data set by providing a linkage between riverine and nearshore marine habitats. Coastal embayments serve as a critical link between watershed sources and the export of debris into the marine environment. In some cases, they are also a source of debris itself. Because of the extended residence time, coastal embayments promote the retention and breakdown of debris into smaller and more environmentally problematic pollutants that can potentionally impact a greater diversity of wildlife. San Diego Bay is the largest coastal embayment in the San Diego Region with several beneficial uses and a wide range of habitats.

The goal of the San Diego Bay Debris Study is to develop a baseline debris assessment of the bay habitats that includes identifying the most abundant type of plastic items, evaluating where the plastic accumulates in greatest quantities, evaluating plastic items that are preferentially

transported to the bay during wet weather conditions, and determining whether plastics that reach the open waters of the bay affect fish communities.

The Bay Debris Study workgroup consists of members from the San Diego Water Board, Unified Port District of San Diego, City of Chula Vista, City of Imperial Beach, United States Naval Facilities Engineering Command, San Diego Coastkeeper, Ocean Discovery Institute, California Sea Grant, WILDCOAST, Surfrider Foundation San Diego Chapter, members of the San Diego Bay Port Tenants Association, Southern California Coastal Waters Research Project, and AMEC Environment & Infrastructure.

Why is it important?

It is expected that the data from the San Diego Bay Debris Study will thoroughly characterize and assess the debris in San Diego Bay and its associated watersheds. This study provides a first-time comprehensive assessment of the bay with respect to debris and will help managers understand the current extent and severity of debris issues across the bay. This study will generate results that can be used by decision makers to address debris in watersheds, coastal wetlands/bays, and ultimately the marine environment.

The Bay Debris Study is also providing a public outreach opportunity for local communities. It is coordinating with ongoing educational programs sponsored by the Ocean Discovery Institute, California Sea Grant at Scripps Institution of Oceanography, and WILDCOAST, a non-profit conservation group working in the Otay River Watershed. Volunteers for these programs will be able to contribute to the Bay Debris Study and share the skills and knowledge they learn to address riverine debris.

How will this information be used?

The data produced by this project will be used in water body assessments under the Clean Water Act (CWA) Section 305(b). It may also inform future monitoring and regulatory actions. The data will be available to the public through the California Environmental Data Exchange Network (CEDEN). A fact sheet on this study will be shared and communicated to stakeholders and other interested parties.