



Marine Debris Final Report
Prepared by San Diego Coastkeeper for the Unified Port of San Diego
March 2010

Overview

Marine debris is one of the world's most pervasive pollution problems and is expected to worsen in the coming years. Over 100,000 birds, marine mammals, and fish die annually by ingesting or becoming entangled in marine debris. It is estimated that 80% of marine debris comes from land-based sources, so there is an opportunity to make a significant difference by changing our actions near the coast. San Diego Coastkeeper (Coastkeeper) is proud to partner with the Unified Port of San Diego (Port) in the Port's stewardship of the environment in which it and its tenants live, work, and play.

In 2007, the Port granted \$15,000 to Coastkeeper to conduct cleanups in and around San Diego Bay. Over a two year period, we worked with the Port to choose four targeted sites that are known to regularly accumulate debris from storm drains and surface currents (see Figure 1, below). The four chosen sites were Paradise Creek, Pond 20, Chollas Creek, and the Chula Vista Marina. In total, 161 citizen volunteers removed over 2,100 pounds of trash from fragile habitat on Port tidelands and waterways surrounding South San Diego Bay.

Figure 1: During the initial scouting phase of the grant, we identified several sites for cleanups:

Some of the shoreline sites originally identified included:

- F & G streets in Chula Vista
- Pepper Park
- Emery Cove & Pond 20**

Some of the watershed sites originally identified included:

- Sweetwater River at Plaza Bonita in the County Park
- Otay Regional Park on Beyer Way
- Paradise Creek next to Paradise Elementary School**
- Switzer Canyon in Balboa Park
- Chollas Creek Sites at Chollas Pkwy & 54th** Federal and San Miguel in Lemon Grove, Palm St next to Palm Middle School in Lemon Grove, 38th & Alpha**, and Euclid & Market next to the Tubman-Chavez Center.

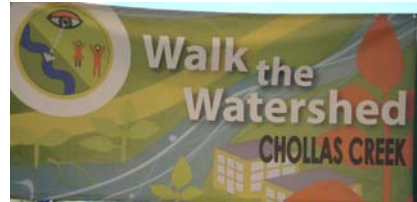


Chula Vista Marina shore prior to cleanup.

** indicates high trash accumulation during scouting trip.

South Bay Cleanups

Each of the four cleanups was unique in location, number of volunteers, amount of trash, and community partners (see Figure 2). At the Paradise Creek cleanup, volunteers supplemented cleanup activities with invasive plant and graffiti removal, with a dumpster provided by the City of Imperial Beach. During the Pond 20 cleanup, intermittent rain caused flooding in the pond, but volunteers still collected nearly 900 pounds of trash from the accessible perimeter of the pond, bike path, and parking lot. The third cleanup was integrated into Coastkeeper’s educational Walk the Watershed event, which was held in Chollas Creek between Millennial Technology School and Market Creek Plaza. The Market Creek Plaza donated the use of a dumpster for this cleanup, where volunteers removed large items such as tires and shopping carts from the impaired creek.



Walk the Watershed volunteers clean urban creeks

The final cleanup at the Chula Vista Marina involved nearly 40 teenagers from a religious youth group (NCSY) and a number of community volunteers, including many staff members of



Students show their enthusiasm for keeping the bay clean.

Marine Group Boat Works. The volunteers helped haul out many large metal items, including old pipes and discarded shopping carts. Allied Waste Services of Chula Vista provided a large roll-off dumpster as an in-kind donation to our cause. Two Chula Vista city council members, Pamela Bensoussan and Steve Castaneda, attended the cleanup. A press release about the event by the Unified Port of San Diego resulted in special announcements in the Star News and the San Diego Metropolitan, and a brief segment on Channel 6 News (See Media Attachments).

Figure 2. Overview of Cleanups in South Bay

Location	Date	Number of Volunteers	Weight of Trash (lbs)	Most unusual items	Partners
<i>Paradise Creek</i>	<i>Oct 26, 2008</i>	<i>17</i>	<i>25</i>	<i>Lampshade</i>	<i>Paradise Creek Educational Park, Kimball Park Elementary</i>
<i>Pond 20</i>	<i>Feb 7, 2009</i>	<i>27</i>	<i>874</i>	<i>Child’s couch</i>	<i>Emory Cove & Bayside Elementary</i>
<i>Chollas Creek: Walk the Watershed</i>	<i>Mar 7, 2009</i>	<i>50</i>	<i>509</i>	<i>Barbie® battery powered car</i>	<i>Ground Works Chollas, and more</i>
<i>Chula Vista Marina</i>	<i>Jan 31, 2010</i>	<i>75</i>	<i>738</i>	<i>Vacuum cleaner</i>	<i>NCSY, Allied Waste, Marine Group Boat Works</i>

Cleanup Results

San Diego Coastkeeper distributed data cards to volunteers to gather information about the types of debris collected on the shores of San Diego Bay. However, the dataset is not a complete assessment of the debris in the bay. For example, it does not include submerged or floating items, nor does every volunteer mark down every single item they collect (especially smaller pieces). Regardless, the information we collected indicates that single-use plastics dominate the list of the “Top Ten Items Found” when considered by individual item (see Figure 3). Pieces of paper, cigarette butts, and other plastic pieces also appear on the list. It should also be noted that the most common items found by weight are: metal pieces, furniture and shopping carts.



Shopping carts litter S. Bay mudflats near creek outlets

Figure 3: TOP TEN DEBRIS ITEMS BY COUNT

<i>Paper</i>	636
<i>Plastic Food Wrappers</i>	574
<i>Styrofoam</i>	494
<i>Plastic Bags</i>	490
<i>Plastic Lids, Cups, Straws</i>	408
<i>Plastic Bottles Caps</i>	311
<i>Cigarette/Cigarette Butts</i>	282
<i>Plastic Bottles</i>	196
<i>Other Plastics</i>	179
<i>Plastic Utensils</i>	101

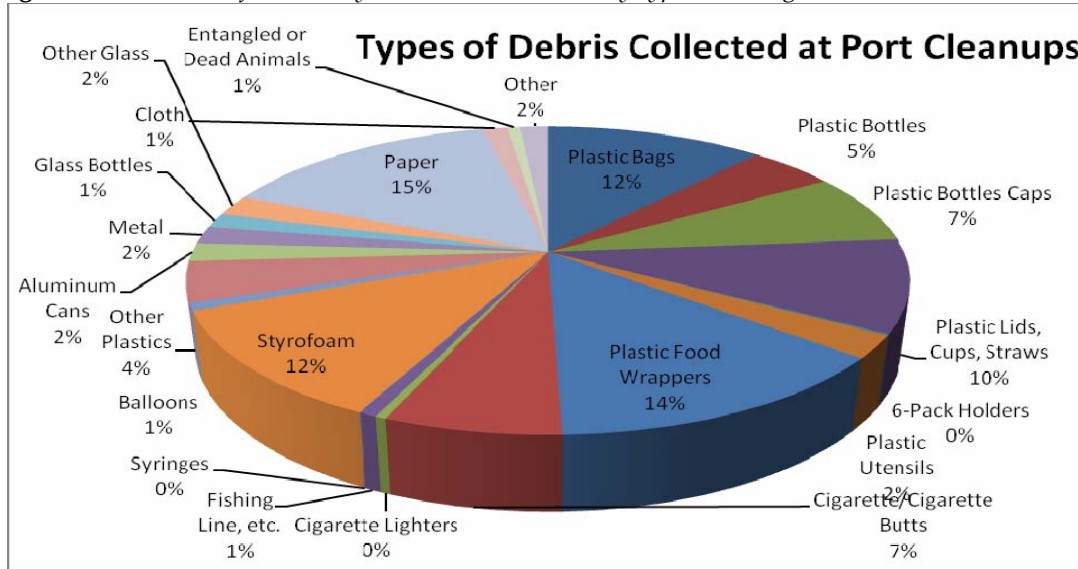
Besides these top items, other items of concern were collected at Coastkeeper’s four cleanups (see Figure 4, next page). Volunteers counted over 29 dead or entangled animals, 25 pieces of fishing line and hooks, one syringe, and some bulky pieces of metal that would pose a risk to human and environmental health had they been left in the environment.



Some of the litter from urban creeks (above) ends up on South Bay shores (right), then is collected by volunteers for proper disposal (left). The rest of the trash flushes to the sea.



Figure 4: Breakdown of South Bay shore debris collected by type according to volunteer data cards.



Solutions to reduce debris in the bay

Through its South Bay Cleanup Grant to San Diego Coastkeeper, the Unified Port of San Diego made clear its commitment to reduce pollutants entering the Bay as marine debris. Community cleanups are an excellent way to engage citizens in environmental stewardship, especially by raising awareness by having volunteers collect data about the types of trash they collect. In addition to this grant, the Port supported the installation of trash skimmers in certain marinas to remove debris before it sinks or gets flushed out of the Bay to the ocean. These removal efforts are commended and essential, but they do not address the root causes of marine debris pollution.

It is imperative that we halt the introduction of pollutants before they reach our coastal ecosystem. Illegal dumping and abandoned transient encampments are notable sources of debris, especially large items such as furniture, shopping carts, and electronics. These bulky items pose serious health and safety hazards. Providing waste hauling, recycling, and transient housing can effectively reduce large debris entering the bay.

Another significant threat to marine ecosystems is the ongoing input of environmentally damaging products into the Bay through human practices. Reducing the use of single-use plastic items -- such as plastic bags and expanded polystyrene for take-out food -- would greatly reduce the volume of trash on our beaches. San Diego Coastkeeper has embraced this challenge by connecting with community leaders to work towards simple adjustments that will greatly improve coastal protection. We invite the Port to partner with us to create a Plastic Reduction Plan that will engage Port tenants in reducing their impact on the environment by switching to non-plastic items that are not as persistent in the aquatic environment. These measures to reduce trash at the source will make the greatest positive impact on human and environmental health in the Bay and beyond.

Media Attachments

DAILY BUSINESS REPORT

January 22, 2010

San Diego Metropolitan

THE STAR NEWS

January 22, 2010

South Bay Harbor Cleanup Set for Jan. 31

San Diego Coastkeeper will host the South Bay Harbor Cleanup on Sunday, Jan. 31, at Marina View Park, 200 Marina Parkway, in Chula Vista. The event will be from 12:30 to 2:30 p.m. and is made possible by a grant of \$15,000 to Coastkeeper from the Port of San Diego's environmental fund. The grant helped fund Coastkeeper's Marine Debris program, which consists of four cleanups in South Bay. The prior three cleanups helped remove 1,408 pounds of debris from Paradise Creek, Emory Cove and Chollas Creek. Volunteers at the cleanup will be asked to keep a tally of all the debris they remove while participating in the cleanup. The cards are used to quantify the data. The Port of San Diego's environmental fund was established in June 2006 to finance environmental projects that go beyond state and federal compliance. Each year one-half of 1 percent of the Port's total earnings is set aside for this fund, about \$600,000. Cleanup participants are asked to wear comfortable clothes, closed-toed shoes and sunscreen. Coastkeeper will provide bags, gloves and water. Each person must fill out a liability waiver before participating. Persons under 18 must have a parent or guardian sign the waiver.

Clean up the harbor

Chula Vista council members Pamela Bensoussan and Steve Castaneda, as well as local environmental group San Diego Coastkeeper and members of the community will participate in a harbor cleanup at Marina View Park in Chula Vista. The event is funded by the Port of San Diego. The event will take place Sunday, Jan. 31, from 12:30 to 2:30 p.m. at Marina View Park in Chula Vista.

For further details contact Alicia Glasco with San Diego Coastkeeper at (619) 758-7743 x125, or email alicia@sdcoastkeeper.org.
—Jon Campbell

Audience: 20,346
Hits: 2
Duration: 00:04:26

SAN DIEGO COASTKEEPER

01/29/2010 - 02/01/2010

Television and Radio

1. San Diego 6 News In The Morning

XETV-TV (CW) CH 6, San Diego | DMA: 28
02/01/2010, 05:30 AM - 06:00 AM

[CC] 00:06:39 Marina View Park in the South Bay has never looked so good thanks to some major cleanup efforts. San Diego Coastkeeper volunteers finished the 4th and final cleanup within the Port Tidelands yesterday. The efforts were funded by a grant from the Port of San Diego. Organizers say these cleanups are especially vital after storms. Our last storm exposed some unique debris. "Some of the bigger items actually get moved down the channel so we've actually got a couple shopping carts we're going to be removing today, which usually stay further up in the watershed but when we get big storms they get washed strait out to the bay." If you want to get involved with the San Diego Coastkeeper organization, just log onto San Diego 6 dot com and click on hot topics.00:09:39

Audience: 7,053 **Spot Cost:** \$46

2. San Diego 6 News At Ten

XETV-TV (CW) CH 6, San Diego | DMA: 28
01/31/2010, 10:00 PM - 10:30 PM

[CC] 00:09:49 If you want to check out the horses, equip ment, and requirements you must meet, go online to public-surplus dot com. The department says all questions must be submitted on the website to the main contact via email. No phone calls will be taken. Marina view park in the south bay has never looked so good. Using a grant from the port of San Diego, San Diego CoastKeeper finished the 4th and final cleanup within the port tidelands today. Volunteers got dirty for a great cause. These cleanups are especially vital after storms. Our laststorm exposed some unique debris. "Some of the bigger items actually get moved down channel so we've actually got a couple shopping carts we're going to be removing today, which usually stay further up in the watershed but when we get big storms they get washed straight out to the bay." If you want to get involved with the San Diego CoastKeeper organization you can do so at S-D-Coastkeeper.org. Cleanups are run every other Saturday along the San Diego county coastline.00:11:15

Audience: 13,293 **Spot Cost:** \$221