the CHANGING TIDE

Winter 2021

2021 Coastal Cleanup Day Hybrid Model a Success

Author: Bekkah Scharf, California Coastal Commission, Public Education Program

After a year away, the 2021 California Coastal Cleanup was held in-person in most locations. Due to the ongoing COVID-19 pandemic, the Coastal Commission promoted a hybrid model, holding Coastal Cleanup Day on Saturday, September 18, in accordance with county safety guidelines, and encouraging self-guided cleanups throughout the month. This hybrid model allowed for a wider cleanup audience, as not all counties hosted events on Coastal Cleanup Day but residents still had a way to participate.

Almost 30,000 volunteers participated in the cleanup, at 469 cleanup coastal and inland sites throughout California, scouring more than 1,000 miles. Volunteers who did self-guided neighborhood cleanups were encouraged to log their trash collection data on the Clean Swell app or by printing and mailing a paper data card from the Ocean Conservancy.

Volunteers picked up more than 300,000 pounds of debris from the coast and waterways throughout the state, including 299,098 pounds of trash and 13,348 pounds of recyclables. The top-10 most commonly found items were cigarette butts (51,667), food wrappers (33,505), plastic bottle caps (10,632), plastic cups and plates (7,353), plastic beverage bottles (7,149), plastic grocery bags (7,075), metal bottle caps (6,794), construction materials (6,300), beverage cans (5,986) and glass beverage bottles (5,417). Plastic grocery bags, which ranked the No. 7 most-commonly found item in 2020, moved up to No. 6. Personal protective equipment, which ranked the No. 12 in 2020, moved down to No. 13, at 4,585 pieces.

Once again, this year the boating facilities and boating groups demonstrated its commitment to keeping our shorelines and waterways clean. Forty-two boating facilities and boating groups participated in (continued on page 2)

Energetic Santa Monica Windjammers Yacht Club (Los Angeles County) members celebrating Coastal Cleanup Day. Photo: Santa Monica Windjammers Yacht Club

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Oyster Point Yacht Club (San Mateo County) members enjoying Coastal Cleanup Day.
Photo: Oyster Point Yacht Club.

the event, with 1,238 volunteers who collected 18,032 pounds of trash and recyclables on land and from 169 vessels (kayaks, canoes, stand-up paddleboards and dinghies).

Trash from inland areas flows to the ocean, so local, inland cleanups help prevent trash from becoming marine debris. Thank you to everyone who participated in the 2021 California Coastal Cleanup. We are looking forward to next year. For more information about this event, visit the event website.

Jack London Aquatic Center (Alameda County), Oakland.
Photo: Bekkah Scharf, California Coastal Commission.

Recap of the Orange and San Diego Counties October 2021 Oil Spill Incident

California is home to some of the most iconic natural resources and wildlife in the world. It was heartbreaking to see them impacted by the recent coastal oil spill that affected Orange and San Diego counties.

According to the Incident's Unified Command, on October 2, the U.S. Coast Guard received an initial report of an oil sheen off the coast of Newport Beach. A leak was detected in a pipeline that transfers oil between Platforms Elly and the Beta pump station in Long Beach, California. The spill amount is estimated at approximately 24,696 gallons. This estimate was reached by consensus across seven agencies involved in the incident (U.S. Coast Guard, California Department of Fish and Wildlife-Office of Spill Prevention and Response, Pipeline and Hazardous Materials Safety Administration, National Oceanic and Atmospheric Administration, California State Lands, State Fire Marshall, and Bureau of Safety and Environmental Enforcement).

The good news was that we had the best people on the ground assessing, responding and mitigating the impacts. The U.S. Coast Guard, California Department of Fish and Wildlife, and pretrained and affiliated volunteers worked tirelessly to remove oil from the ocean, shorelines and impacted beaches, along with helping affected wildlife.

In addition, there was an extraordinary collaborative effort between federal, state and local agencies to quickly respond to the event and implement a complex response plan, which included source control; on-water skimming; site sensitive protective booming; fishery closures; wildlife operations; shoreline assessment, cleanup and sign off; and boat cleaning.

Oiled Snowy Plover recovered from the Orange County oil spill site awaiting transport to Wetlands & Wildlife Care Center, an OWCN field stabilization facility, on Oct. 5, 2021. Photo: Oiled Wild Care Network/UC Davis.

Due to the toxicity created by the spill, several beaches, shorelines, harbors and state park units were impacted and closed, or partially closed, for several days, including Dana Point and (continued on page 4.)

Huntington Harbors, Crystal Cove State Park and Huntington and Bolsa Chica state beaches.

Spill response efforts and outcomes include:

- More than 5,544 gallons of oil recovered from skimming, and approximately 13.6 barrels of tar balls and over 532,522 pounds of oily sand/debris collected.
- Over 115 local volunteers, who were trained and assisted in the shoreline cleanup efforts.
- The reopening of all city and state beaches and harbors.
- The setup of vessel decontamination stations at Long Beach, Huntington, and Newport Harbors. At the time this article was written, 264 claims from recreational vessels have been received. 104 vessels had been cleaned, or determined that didn't need to be cleaned, and 14 vessels are remaining to be cleaned after contacting the file claimed number.

Important resources:

- For additional information on the oil spill itself, visit SoCalSpillResponse.com.
- Fishery closures information and a closure map can be seen on the So Cal Spill Response's site, Fisheries Closure page.
- For the latest wildlife statistics, visit Oiled Wildlife Care, hosted by the UC Davis School of Veterinary Medicine.
- For the status of parks and beaches, visit:
    - State Parks: parks.ca.gov/Incidents
    - Orange County: ocgov.com/news
    - San Diego County: sdcountyemergency.com

Members from a contracted cleanup team pick up a tar ball on Crystal Cove Beach in Newport Beach, California, Oct. 14, 2021. Photo: Photo by Petty Officer 3rd Class Janessa-Reyanna Warschkow, U.S. Coast Guard District 11 PADET Los Angeles.

Contracted workers decontaminate a vessel impacted by oil, Oct. 11, 2021. The Unified Command established three decontamination stations at Long Beach, Huntington, and Newport Harbors to clean recreational vessels impacted by the oil spill after contacting the claims hotline and scheduling a time for vessel decontamination. Photo: U.S. Coast Guard District 11.

- Info for recreational boaters can be found on the California State Parks' Division of Boating and Waterways website, dbw.parks.ca.gov.

Winter 2022 Boaters' Gift Guide

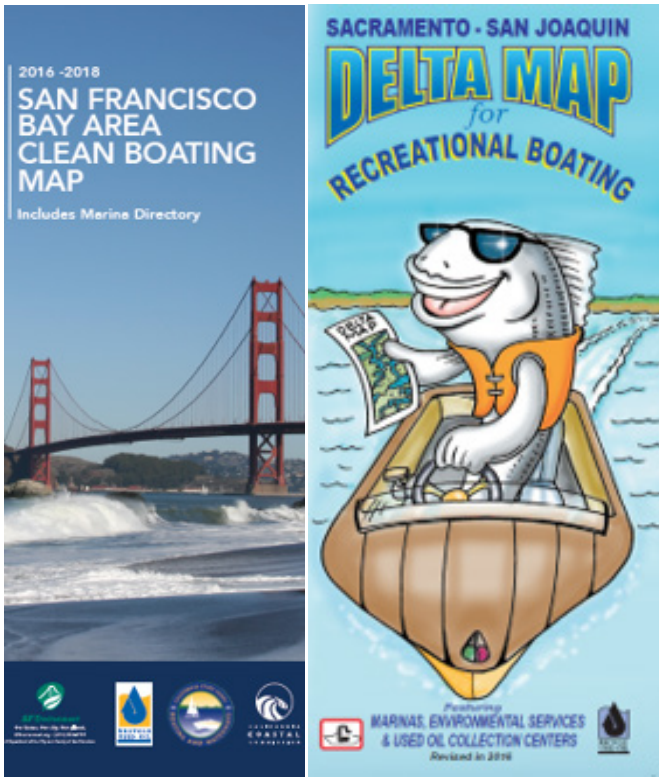
Even though the gift-giving season is during the winter, there's never a bad time to start thinking about gifts for boaters because true boaters are always thinking about their next trip out on the water. We've come up with a gift guide for the boaters in your life, and we think each of these is a guaranteed invite aboard!

1. Give the gift of peace of mind:

The Y-Valve Kit has all the informtion needed to help a boater prevent accidental discharges into our waterways. If you are interested in receiving a Y-Valve Kit, please complete and submit a Y-Valve Kit resource request form.

2. Give the gift of connection

A wide variety of maps aboard ensures that the boater in your life will never waste time searching for pollution-prevention services. The California State Parks' Division of Boating and Waterways (DBW), the California Coastal Commission, and the San Francisco Estuary Partnership have maps—in both English and Spanish—that help boaters of Northern California identify the San Francisco Bay and the Sacramento-San Joaquin Delta for the nearest sewage and oil-related pollution-prevention services. If you are interested in receiving copies of the San Francisco and Delta Clean Boating Maps, please contact Vivian Matuk at vmatuk@coastal.ca.gov.



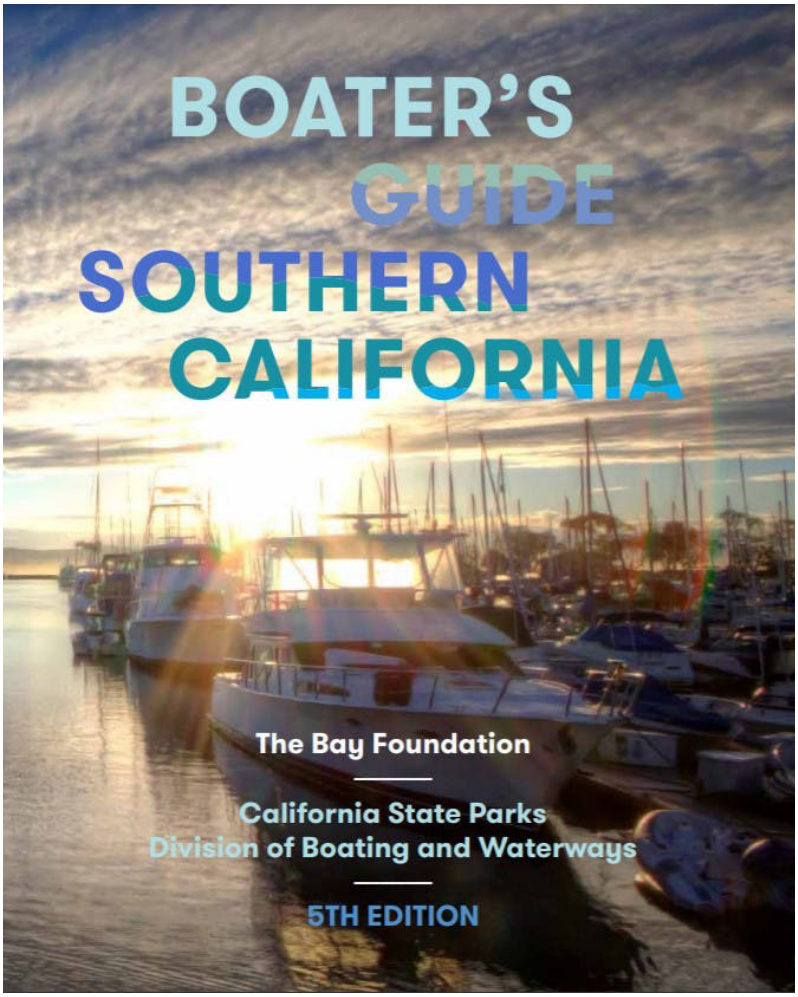
San Francisco Clean Boating Map and Delta Clean Boating Map.

3. Give the gift of convenience:

The Deck Adapter Kit contains everything a boater needs to pump out their boat hands-free. The deck adapter comes in both 1.5-inch and 1.25-inch screw sizes—make sure you know which one you need before gifting! If you are interested in receiving a Deck Adapter Kit, please complete and submit a Deck Adapter Kit resource request form.

4. Give the gift of expertise

Even the most responsible and knowledgeable boater in your life could have something to gain from the "Southern California Boater's Guide" produced by The Bay Foundation and DBW. This helpful guide provides an overview of harbors in Southern California; however, there are plenty of tips on navigation, green boating and more that can be helpful to boaters everywhere. If you are interested in receiving a printed copy of the "Southern California Boater's Guide," please complete this order form."



The "Boater's Guide" cover page, available in digital and print formats.

The Responsible Boater's Primer to Sewage Discharge

Sewage discharge from boats is not only gross, but also negatively impacts human health and the environment. Sewage in waterways can lead to human health issues from bacteria, viruses and parasites. It can also cause excessive algae and plant growth, which negatively impacts wildlife and can even hinder boats from moving in and out of marinas.

Every boater can be proactive in preventing sewage from harming the waters that we all enjoy. Boaters should know what type of head they have on board and how to operate and care for it properly. Heads should only be used for sewage; never dump oils, solvents, fats, wipes, or trash in the toilet. Also, heads should be pumped out often to minimize the risk of overflow, deodorized with enzyme-based products to control odors safely and maintained on a regular schedule to ensure that everything is working properly.

If discharging sewage into water is unavoidable, it is important to know where you can do so legally. Federal law prohibits discharging untreated boat sewage in inland waters and coastal waters extending 3 miles from shore. Additionally, sewage is prohibited in freshwater lakes and rivers that do not support interstate vessel traffic—regardless of whether or not it is treated. Lastly, it is absolutely prohibited to discharge any sewage (treated or not) in federally designated no-discharge zones, also known as NDZs. You can find a complete list of NDZs on the Environmental Protection Agency webpage No- Discharge Zones by State.

As best practice, just remember that it is always best to use onshore facilities when available to empty your holding tank.

For additional resources, check the Environmental Protection Agency's publication "A Recreational Boater's Guide to Vessel Sewage" and the California State Parks' Division of Boating and Waterways' Clean Vessel Act Program for sewage related educational videos, publications and tools.

Microplastics, Macro Problem

Authors: Timnit Kefela, PhD Candidate and Researcher at the Bren School of Environmental Science & Management, UC Santa Barbara

Microplastics collected in Long Beach, CA. Photo: California Coastal Commission.

Plastics are everywhere. In fact, if you were to look around you and count the number of items that have plastic in it, you would find at least one. This is because plastics are durable, malleable and cost-effective materials that can be used for a diverse number of things, including our clothing, food packaging, buildings and transportation. Their diverse applications have led us to produce 8.3 billion metric tons of plastic since their commercialization in 1950. Petroleum-based plastics, however, do not biodegrade and instead break down into small particles or microplastics. Microplastics have been found in many different environments, ranging from alpine glaciers to marine sediment.

Microplastics are small pieces of plastics that are diverse in shape, color, type and are less than 5 mm in size. They can be produced to be intentionally that size such as microbeads in laundry detergents, or they can form by breaking off a larger piece of plastic like a water bottle. But why should we worry about them being in the environment? Plastics in the environment are harmful for a variety of reasons. One concern has to do with chemical additives, which are added to give them the versatile properties we want them to have. These additives come into contact with the environment and can become harmful chemicals that affect the livelihood of different organisms like fish. Microplastics can also be carriers of toxicants, like pesticides, that they encounter in the environment and have harmful effects to the food web and in turn, to human health.

So how can we effectively mitigate microplastic pollution? There needs to be a multitiered effort at the community, industry and governmental levels. As community members, we can be mindful of our plastic use and substitute more sustainable choices wherever we can. Industry needs to consider how the fate of their products affect their environment. Lastly, effective legislation can play a significant role in implementing microplastic management strategies, such as current efforts in California to measure microplastics in drinking water (Senate Bill 1422) and mitigate the ecological risks of microplastics to coastal marine systems (SB 1263).

For more information about microplastics in California, visit the Microplastics Drinking Water | California State Water Resources Control Board website.

Marine Pump Protection in Newport Beach With Particle Separator Device

Authors: George Hylkema, Boater and Inventor of the Particle Separator

The City of Newport Beach, with funding provided by the Sport Fish Restoration and Boating Trust Fund through California State Parks Division of Boating and Waterways, installed new SaniSailor pumps for boaters to pump out sewage from boat holding tanks into the city's sewer system. However, over the years, there have been frequent pump failures due to damage caused to the internal hose of the peristaltic pump (see Figure 1), which can be torn or punctured by the ingestion of particles (e.g., screws and bolts) when the pumps are improperly used to pump boat bilges. The pump failures have been expensive, inconvenient to boaters and risk the possibility of improper waste disposal.

To confront this challenge, a new device has been developed to ensure functionality and longevity of the SaniSailor pumps. The Particle Separator (Patent Nos. U.S. 10,918,947 and U.S. 11,098,473 with additional patents pending) is a simple device with no moving parts or filters (with attendant biohazard issues) that can successfully protect dockside marine waste pumps from damage by removing the offending particles from the waste flow before they can enter the pump. Although other installations are possible, the present Particle Separator devices are installed in a locked wooden housing secured to the dock next to the pump system (see Figure 2).

Figure 1: Internal hose of a peristaltic pump; Figure 2: Pumpout unit with locked wooden housing for the Particle Separator; Figure 3: Screws that have been caught by Particle Separator; Figure 4: Internal view of the Particle Separator; Figure 5: External view of the Particle Separator; Figure 6: Particle receiver. Photo: George Hylkema.

For approximately five months, Newport Beach has maintained Particle Separators on five new pump systems. Within these past few months, particles have already been found during inspections (Figure 5).

These various items would have likely caused an internal hose failure if this device was not in place. The current price of the Particle Separator is no more than that of a typical pump replacement hose.

Particle Separator components

The Particle Separator consists of a hollow Sanitary Tee with side ports. The lower end is expanded in diameter and connected to the receiver cup. It is constructed of industry-accepted, marine-grade polymeric materials and has an uncomplicated, long-term use estimation.

How it works

The waste flow from a boat enters the Particle Separator through the inlet connection and exits on the other side through an outlet fitting, through a short hose to the waste pump. A "tongue" divides the device lengthwise between these fittings terminating above the bottom of the device (see Figure 4). Waste entering the device is directed downward by the tongue, deposits the particles in the receiver cup as the upward flow goes around the end of the tongue, out the exit and into the pump.

Periodic inspection

Periodic inspection of the device is simple. The system is flushed with sea water. The bottom receiver is released, and the particle receiver emptied and inspected for content (see Figure 6).

One of the five pumpout units in Newport Beach equipped with the new Particle Separator device.

Learn more

Click here to watch a video from City of Newport Beach's "The Village Green" program, showing the SaniSailor pumps and the Particle Separator.

For more information, call George Hylkema at (949) 929-9024 or send an email to ParticleSeparator@yahoo.com.

Thank You Partner Dockwalkers

This year continued to be a challenging one for all of us. Due to COVID-19, Dockwalker program partners—California State Parks, the California Coastal Commission, and The Bay Foundation—continued offering virtual trainings and even designed a new refresher virtual class for already trained Dockwalkers. We were able to offer 13 Dockwalker virtual trainings to 226 participants!

Dockwalkers are partners and environmental educators, trained to provide face-to-face education about clean boating practices and distribute California Boater Kits to recreational boaters. They perform these duties while visiting boating facilities, boat launch ramps, boat shows and events, and through presentations at yacht clubs or by simply talking to boaters when the opportunity arises. Boaters receive a Boater Kit after completing a questionnaire and signing a pledge to adopt clean boating practices. The questionnaire helps to improve future education efforts for the Dockwalker program. In addition, the questionnaire notes a boater's zip code; this way we can identify which areas around the state have been engaged by Dockwalkers. Due to the pandemic, safety guidelines were established. By summer, depending on their locations across the state, some partner Dockwalkers were able to safely meet with boaters, distribute the California Boater Kits and share clean boating practices with them.

Partner Dockwalkers, Los Angeles Conservation Corp sharing clean boating practices with boaters at a marine supply store Photo: Los Angeles Conservation Corp.

Dockwalker Partner, Carol Smith conducted a clean boating presentation at an event at the Port Royal Yacht Cub in Los Angeles. Photo: Carol Smith

This year, partner Dockwalkers and staff distributed 5,500 Boater Kits. Despite the challenges and limitations, these dedicated partners made this year another success.

Dockwalkers make a difference throughout the State of California!

View the Dockwalker Hall of Fame to see Dockwalkers who administered and returned the highest number of surveys and joined the ranks in this accomplishment.

Thanks to our partners, the following awards were provided to the Hall of Fame recipients:

- Trader Joe's products
- Gift certificates to:
  - West Marine
  - Starbucks
  - Chipotle Mexican Grill
  - Sprouts Farmers Market
- California State Parks annual passes
- Life jackets

Next year's program partners will continue to offer more virtual trainings and even a couple of in-person trainings.

To learn more about the Dockwalker program, visit www.BoatingCleanandGreen.com or contact Vivian Matuk at vmatuk@coastal.ca.gov. The 2022 trainings will be posted in the Dockwalkers' website in January 2022.

Thank you Dockwalkers for all you do in providing clean boating education and improving the health of our waters.

US Coast Guard Auxiliary and Partner Dockwalker, Jim Goff educating boaters at a marine supply store.

Boater installing an oil absorbent after receiving clean boating information and the California Boater kit from Partner Dockwalkers with the Solano Resource Conservation District. Photo credit: Solano Resource Conservation District.

CHANGING TIDE STAFF

SOUTHERN CALIFORNIA
The Bay Foundation
www.santamonicabay.org
Georgia Tunioli
gtunioli@santamonicabay.org
(888) 301-2527

CALIFORNIA DELTA
San Francisco Estuary Partnership
www.sfestuary.org
Natasha Dunn
natasha.dunn@sfestuary.org
(415) 778-6687

NORTHERN CALIFORNIA
California State Parks and
California Coastal Commission
www.BoatingCleanandGreen.com
Vivian Matuk
vivian.matuk@coastal.ca.gov
(415) 904-6905