

## Little Things That Matter: No Soap Approach!

Never use soaps or detergents to clean oil or fuel on the water! It is [illegal](#) and bad for the environment. Adding soap to a spill breaks the oil into smaller droplets, which causes hydrocarbons to disperse into the water column. Breaking the oil down into smaller droplets also makes it much harder to contain and clean up the spill and more toxic to the aquatic environment because you are adding more chemicals to it. In addition, absorbents that are exposed to soaps or detergents are usually rendered ineffective.

[Federal and state laws](#) prohibit the discharge of oil or oily wastes into or upon the navigable waters of the United States or the waters of the contiguous zone if such discharge causes a film or sheen upon, or discoloration of the surface of the water, or causes a sludge or emulsion beneath the surface of the water.

If you spill oil, fuel, or oily wastes you are required by law to notify the authorities. Call both the National Response Center (1-800-424-8802) and the California Office of Emergency Services (800) OILS911. And notify the marina or fuel dock immediately.

## Boating Sewage Resources You Don't Want To Miss

It's against the law to discharge untreated sewage into all navigable U.S. waters, but some boaters still dump raw waste. Dumping sewage creates both environmental and human health problems, from the spread of disease from bacteria, viruses, and parasites, to harmful impacts on aquatic life such as fish and shellfish. With over four million recreational boaters in California, these individual discharges add up. Fortunately, a wealth of resources can help boaters and marinas properly dispose of boat sewage, keeping waterways safe and pristine.

Boaters can find and learn how to use functioning pumpouts through the free [Pumpout Nav](#) App, or check out DBW's clean boating maps, stocked at many marinas. For more sewage pumpout resources check our [website](#). Pumpout locations are also listed online at [www.dbw.ca.gov/Pumpouts](http://www.dbw.ca.gov/Pumpouts).



*Rolling rails help keep docks clear for boaters.*

*Photo: Victoria Gambale*

A host of resources exist for marinas as well. Clean Vessel Act (CVA) grant money can assist with the installation or operation and maintenance costs of pumpout and dump stations to service recreational vessels. Information and applications can be found at [www.dbw.ca.gov/cvagrants](http://www.dbw.ca.gov/cvagrants). Marinas that are monitored quarterly by CVA staff can take advantage of a dye tablet test to determine if sewer lines have any leaks that need repair. Marinas that need help addressing nuisance animals near pumpouts and other dock infrastructure, such as sea lions and birds, can use creative ideas such as installing rolling railing (see photo) or piling caps as deterrents to keep waste and dock damage to a minimum. More resources can be found at DBW's website [www.dbw.parks.ca.gov](http://www.dbw.parks.ca.gov).



## Destination Series: KING HARBOR

### Adventure Central

King Harbor is a hub for adventures on and off the water. Located just steps from The Strand, outdoor enthusiasts will enjoy 22 miles of biking, skating, and walking, from Redondo Beach to Will Rogers State Park in Pacific Palisades. Continue the outdoor fun with kayaking, jet skiing, whale watching, scuba diving, and sport fishing, among other recreational activities. It's likely you'll catch a glimpse of some wildlife; California brown pelicans, dolphins, and sea lions are all King Harbor regulars. If you are seeking a break from sun-soaked fun, take a stroll through the SEA Lab to learn about the ocean or replenish your energy at King Harbor's variety of restaurants.

Special events are held throughout the year and enjoyed by all ages! Check out the Festival of the Kite in March, watch fireworks off the pier on Fourth of July, indulge at Redondo Beach's very own Surf 'N Turf Lobster Festival in September, and take in holiday festivities at the holiday boat parade in December.

The city owns and operates this well-maintained recreation center and King Harbor offers boaters several resources including marinas, boat maintenance services, and a public sewage pumpout station. Fuel up with convenience at Rocky Point's Fuel Dock, where they will also properly dispose of used absorbent pads.



Photo: John Hollenbeck

With nearly 1,500 slips, four marinas, three yacht clubs, and ocean-view apartments and offices in this 150-acre harbor, visitors will certainly have plenty of opportunities to enjoy the lively scene or kick back and relax.

Contact private marinas directly with questions regarding pricing and availability of guest slips:

King Harbor Marina	310.376.6926
Portofino Marina	310.379.8481
Port Royal Marina	310.376.0431
Redondo Beach Marina	310.374.3481

For more information, visit [www.visitredondo.com](http://www.visitredondo.com).



Photo: Kris Delano



## The Devil Weed and Wakame Invasions in the Channel Islands: *What Are We Doing About It?*

**Authors: Roxanne Diaz and Sean Hastings;  
Channel Islands National Marine Sanctuary  
Resource Protection Department**

Two opportunistic, invasive Japanese algae have aggregated within Channel Islands National Marine Sanctuary (sanctuary) waters over the last few years, and sanctuary staff are concerned. With spring right around the corner, warmer waters and the high volume of boaters increase the likelihood of spreading the problem— further threatening the sanctuary ecosystem.

*Sargassum horneri* (devil weed) and *Undaria pinnatifida* (Wakame) both have incredibly unique characteristics that allow them to easily spread and invade new areas. Recent underwater dive surveys taken by the Sanctuary Research Team and Channel Islands National Park Kelp Forest Monitoring Team indicate that *U. pinnatifida* is aggregated in prime anchoring locations. As the boating season approaches, resource managers are concerned of boat-facilitated spread aiding the natural dispersal of these algae.

For these reasons, the sanctuary and partners are working on an invasive species management plan to control the spread and prevent further introductions. Learning from the management approach to address quagga and zebra mussel invasions in fresh-water bodies, we recognize a broad geographic approach across local, state, and national jurisdictions and agencies is required. One of the major goals of the plan is to create a network of coastal partners to increase the capacity to control invasive species along our coast.



**CINMS Diver Ryan Freedman holds up an invasive *Undaria pinnatifida* during an algae survey dive.**

**Photo: Jessie Altstatt**

Sanctuary staff hope to serve as integral proponents and partners for this network approach to manage aquatic invasive species. Our hope is that by working together we can at least control the current invasion and prevent further spread by sanctuary visitors. To do this, CA Sea Grant and the UC Santa Barbara Marine Science Institute have a great awareness campaign – see [marineinvasives.org](http://marineinvasives.org).

As boaters navigate sanctuary waters, we encourage them to maintain effective control strategies including learning how to properly identify invasive species; keeping hulls, gear, anchors, and anchor lines clean and free of invasive hitchhikers; not intentionally or accidentally removing or releasing invasive species; and reporting sightings of the algae. If you spot invasive algae on a dive, please post the sighting to [marineinvasives.org](http://marineinvasives.org).

## New Year Resolutions

It is said ancient Babylonians were the first people to make New Year's resolutions, some 4,000 years ago. For them the new year began in mid-March when crops were planted. With the boating season approaching it's not too late for your boating related resolution. Help protect the environment you love to recreate in by committing to a resolution below:

- ⚓ Attend a Dockwalker training.\*
- ⚓ Participate in a clean-up event.\*
- ⚓ Use a pumpout, don't dump waste overboard.
- ⚓ Know where to properly dispose of household hazardous waste and what to do if there's a spill.\*

- ⚓ Ditch disposable utensils and straws for reusable ones.
- ⚓ Know where to report injured wildlife.
- ⚓ Share your resolution with a friend.

*\*See last page for a list of related events.*

## Delta Destination OXBOW MARINA

Oxbow Marina is a fifth-generation, family-owned marina located on the Georgiana Slough in the middle of the Sacramento-San Joaquin River Delta. The Korth family started the marina in 1979 after establishing themselves in the region building boats in the early 1930s. The property sits on a bend between the Sacramento and Mokelumne rivers, just a short drive from the historic town of Isleton in Sacramento County. Residents and guest boaters can enjoy the slower currents and winds, and take advantage of the great boating, fishing, and water sports, or just do some old-fashioned relaxing.



*Oxbow Marina  
in the Sacramento-San Joaquin Delta.*

*Photo: Oxbow Marina*

Clean boating has long been a priority for the owners, who seek to preserve the area for future generations of boaters and family alike. "We need to put best practices into place - it's a lot different now than in 1931," says Harbormaster Ron Duckhorn. A mobile pumpout company services boaters regularly, or boaters can use a self-service pump out 24 hours a day at the fuel dock.

In addition to the free pumpout, the location has a Port-a-Potty dump station, a convenience shop for bait and tackle, a fish cleaning area, and a boat wash area. The property has 95 manufactured homes, 423 covered berths, 16 guest slips for transient boaters, and a large guest dock. RV slips, a pool, laundry facilities, a BBQ area, and loaner bikes, kayaks, and paddle boats are available for tenants. The prominent palm trees on the property were grown from seed, and now add to the Polynesian flair of the marina. Stop by for their complementary weekend continental brunch and check them out!

The marina is open seven days a week. Marina staff are happy to welcome you to Oxbow and ensure your stay is relaxing and memorable. You can reach the marina at [www.oxbowmarinasite.com](http://www.oxbowmarinasite.com) or visit them on Facebook.

## The Delta Pumpout Network An Effort Among All for Functioning Pumpouts

The San Francisco Estuary Partnership (SFEP) and The Bay Foundation work with the Division of Boating and Waterways (DBW) to monitor publicly accessible sewage pumpouts. These agencies encourage marinas to be part of a strong regional 'pumpout network' of stakeholders that have a common goal of ensuring the reliability of clean boating options. The Sacramento-San Joaquin Delta (Delta) region has some unique challenges stemming from its rural nature and high reliance on septic systems.

Over the past year, monitoring staff have begun discussing with marinas some of the challenges around sewage management and creative solutions. In January, SFEP and DBW held a meeting with marinas to ask questions such as how far must boaters go to find a functioning pumpout, who could benefit from getting a pumpout grant, and what are some of the challenges in keeping a pumpout in working order?

Good participation and lively conversation among marinas and agency staff made for a productive meeting. The discussion covered a wide array of resource information and questions about how to encourage being an active part of a functional pumpout network. The Delta is a truly special place, and all agreed it is well worth the effort to preserve it.

Engagement is the key to change, and there are great hopes for more marinas to add their voices to the conversation. Future meetings on more resources and efforts of partner agencies will be held to keep working on issues that matter to marinas and boaters, and that help keep our waterways clean, safe, and enjoyable for all.

Visit <http://www.sfestuary.org/clean-vessel-act-grant-program/> or contact [natasha.dunn@sfestuary.org](mailto:natasha.dunn@sfestuary.org) for more information.

## Keeping Invasive Mussels out of California's Reservoirs

*Author: Quagga and Zebra Mussel Infestation Prevention Grant Program Team, Division of Boating & Waterways*

As a boater, have you wondered why you are now required to purchase a “Mussel Fee Paid” sticker, the state’s mussel sticker, if boating in freshwater? Why you might be stopped at a reservoir and have your boat inspected before launching, or why the motto “Clean, Drain and Dry” has become a new phrase with boaters leaving reservoirs?

Small and highly invasive mussels are threatening California’s fresh water systems. Quagga and zebra mussels are invasive Eurasian freshwater mussels that range in size, from microscopic to the size of a fingernail. Because of their ability to reproduce quickly and in large quantities, and attach to both hard and soft surfaces, these mussels threaten recreational boating, fishing/fisheries, aquatic ecosystems, water delivery systems, and hydroelectric facilities.

Quagga mussels were first detected in California in 2007 in San Bernardino County and have since spread to waterways in surrounding counties including Riverside, Imperial, San Diego, Orange, Los Angeles, and Ventura Counties. Zebra mussels were first detected in San Benito County in 2008. Recreational activities, including boating and fishing, can spread these invasive species from infested waters to not infested waters.



*Camanche Reservoir's Northshore decontamination station.*

*Photo: Division of Boating & Waterways*

To prevent the further spread of these species, the California State Parks Division of Boating and Waterways (DBW) manages the [Quagga and Zebra Mussel Infestation Prevention Grant Program](#). The division provides grant funding for prevention programs to reservoir owners/managers throughout the state. Funding for this program comes from the \$16 fee collected every two years by the Department of Motor Vehicles which freshwater boaters must pay to purchase the mussel sticker. The funded prevention programs may consist of assessing a reservoir for the vulnerability of an infestation, creating a prevention program and plan that includes public outreach and education, and implementing inspection programs along with decontamination services and monitoring of the public. As of 2018, the statewide prevention measures of the funded reservoirs have been successful in keeping their reservoirs mussel free.

Thankfully, to date, no quagga or zebra mussels have been found in the Sacramento-San Joaquin Delta (Delta). Most research suggests that quagga and zebra mussels can tolerate salinity levels of up to 4 ppt and 6 ppt, respectively, but high infestations would require salinity levels <0.005 ppt. This suggests that a large portion of the Delta is vulnerable to the introduction and establishment of these mussels.

There are numerous resources for recreational boaters, fisherman, and other types of outdoor enthusiasts on quagga and zebra mussel prevention, including fact sheets, videos, a boat cleaning guide book, and more. Resources available from [Division of Boating and Waterways](#) and [California Department of Fish and Wildlife](#).

## *Destination Series:*

## VISIT CRESCENT CITY HARBOR

*Author: Charlie Helms, Crescent City Harbor District*

The Crescent City Harbor District (the District) is located where the Redwoods meet the sea in Del Norte County.

The Spanish were the first to anchor in the Bay at Crescent City but it wasn't until gold was discovered in 1848 on the Trinity River and the South Fork of Smith River that Crescent City became a popular place to offload miners and supplies.

The District was officially created by the state in 1931. The citizens of Del Norte all pitched in to build 'Citizens Dock' which was dedicated on March 18, 1950. This dock is where fish buyers have their hoists to offload crab, fish, and shrimp for the commercial fishing boats. That's a vast improvement over the old days when all the fishermen rowed their catch ashore.

The harbor was wiped out by the tsunami of March 2011 that originated in Japan. It took three years to build a new tsunami-resistant harbor which was dedicated in March of 2014. The current harbor is designed to resist a 50-year tsunami event. The wooden 14 inch pilings were replaced by 31 inch steel pilings, all of which were driven into bedrock.

A critical part of the new design was the construction of an 800-foot surge suppression dock at the entrance to the marina. During the 2011 tsunami, a clockwise flow of current and sediment combined to destroy the harbor. Following the water flow pattern studies, a surge suppressor dock, named H Dock, was designed to break up the flow of water entering the harbor.

Following the 8.3 magnitude earthquake off Chile in 2015, the small tsunami that hit the harbor showed the new design was a success. The flow entered the harbor and crashed into H Dock. The dock broke up the tidal flow and did not allow the damaging clockwise pattern to form.



*Crescent City Harbor*

*Photo: Rick Hiser*

The harbor provides great resources for visitors including restaurants, a marine supply store, a boatyard, water sports and bicycle rentals, art galleries, and access to the California Coastal Trail. Recreational boaters and commercial fisherman have access to a free sewage pump out station and free used oil recycling services. The harbor is also a partner of the [California Fishing Line Recycling Program](#), offering two recycling stations at the launch ramp and Inner Boat Basin Marina.

For more information on Crescent City Harbor visit: [www.ccharbor.com](http://www.ccharbor.com).



*People fishing for herring from Citizens Dock.*

*Photo: Michael Kozak, Crescent City Harbor District*

## Storms and Droughts Switch Up Invasive Species in San Francisco Bay

**Authors: Andrew L. Chang and Kristen Minogue, Smithsonian Environmental Research Center's Marine Invasions Research Lab**

California's recent weather is a study in extremes. Five years of historic drought gave way in early 2017 to record-breaking rainfall. For the underwater inhabitants of San Francisco Bay, the influx of rain meant a drastic change in their environment, turning large parts of the Bay fresh. Last winter may not have been a fluke; these extremes are already becoming more common as climate change accelerates. What does such drastic change mean for marine communities?

Since 2000, the Smithsonian Environmental Research Center's Marine Invasions Research Lab has run a remote laboratory at San Francisco State University's Estuary & Ocean Science Center. Part of the lab's long-term mission is to track invasive species and community change in California's bays.

San Francisco's fouling community have been examined over 13 years of wet, dry, and intermediate weather. During dry years, bay waters remained salty and one invader dominated: the invasive tunicate *Ciona robusta*. A translucent, vase-shaped filter feeder from Asia, it has a reputation for crowding out other species, and similar species have thrown a wrench into shellfish aquaculture elsewhere.

When the wetter winters of 2006 and 2011 hit, *Ciona* and others like it couldn't cope with the massive influxes of freshwater. In their place, mat-like colonial tunicates and encrusting bryozoans took over.

Experiments confirmed that wet years reset the system—a situation that could help some invaders. A new invader arriving to San Francisco Bay, for example, could take advantage of a wet winter that has recently killed off many potential competitors. Many species that eventually return after wet winters, like colonial tunicates and encrusting bryozoans, are non-native. But a few native species did better in wetter years too. This suggests with the right strategy, managers could use the changing situation to help native species.

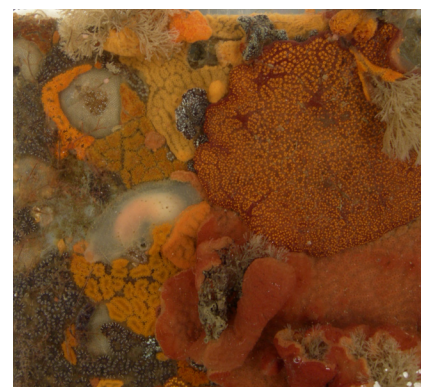
Boaters and facilities operators can help by carrying out regular maintenance and keeping hulls clean to reduce the risk of transporting invaders to new places. Such maintenance is particularly important before transiting between bays, or between water bodies. In addition, coordinated efforts by agencies and other groups to remove invaders and improve native habitats may benefit from being timed to take advantage of wet winters. For more information visit: <https://serc.si.edu/tiburon-research-branch>.



**Dry Years:  
Solitary Tunicates**



**Moderate Years:  
Mixed Organisms**



**Wet Years:  
Colonial Tunicates**

**Fouling communities grow on experimental panels.**

**Photo: Andrew L. Chang, Ecologist,  
Smithsonian Environmental  
Research Center**



## Check Our 2018 Educational Events Calendar and Join Us!

Please join us in some for the following free trainings and workshops:

### Dockwalker Training

#### **Flyer/Registration Form:**

[Northern California](#) and  
[Southern California](#)

#### **Friday, March 30 - Oxnard**

1 pm to 3:30 pm  
USCG Recruiting Center  
Channel Island Harbor  
4202 S. Victoria; Oxnard 93035

#### **Saturday, March 31 - Marina Del Rey**

10 am to 12:45 pm  
Del Rey Yacht Club  
13900 Palawan Way  
Marina Del Rey, CA 90292

#### **Thursday, April 5 - Alameda**

7:00 pm to 8:30 pm  
Oakland Yacht Club (Regatta Room)  
1101 Pacific Marina  
Alameda, CA 94501

#### **Saturday, April 7 - Bodega Bay**

10 am to 12:45 pm  
UC Davis-Bodega Marine Laboratory  
2099 Westshore Road  
Bodega Bay, CA 94923

#### **Saturday, April 14 - San Diego**

10 am to 12:45 pm  
Silver Gate Yacht Club  
(Banquet Room, 1st Floor)  
2091 Shelter Island Dr  
San Diego, CA 92106

#### **Saturday, April 28 - Newport Beach**

10 am to 12:45 pm  
Newport Sea Base (Room Foxtrot)  
1931 West Coast HWY  
Newport Beach, CA 92663

#### **Saturday, May 5 - Sacramento**

10 am to 12:45 pm  
Sacramento Marina  
2710 Ramp Way  
Sacramento, CA 95818

#### **Saturday, May 12 - San Pedro**

10 am to 12:45 pm  
Holiday Harbor Marina  
241 Watchorn Walk, Berth 34  
San Pedro, CA 90731

### Aquatic Invasive Species Prevention Workshops [Download Flyer](#)

#### **Wednesday, April 4 - Morgan Hill**

8:45 am to 2:45 pm  
Anderson Lake County Park  
19245 Malaguerra Ave  
Morgan Hill, CA 95037

#### **Registration Deadline:**

Monday, March 30

#### **Workshop Partner:**

Santa Clara County Parks

#### **Thursday, April 12 - Sacramento**

8:45 am to 2:45 pm  
Sacramento Yacht Club  
3365 S River Rd  
West Sacramento, CA 95691

#### **Registration Deadline:** Friday, April 6

#### **Workshop Partner:**

Sacramento Yacht Club

#### **Wednesday, June 13 - Sausalito**

8:45 am to 2:45 pm  
Bay Model Visitor Center  
(Multi-Purpose Room)  
2100 Bridgeway; Sausalito, CA 94965

#### **Registration Deadline:** Friday, June 8

#### **Workshop Partner:**

US Army Corps of Engineers Bay Model

### Marinas and Yacht Clubs Spill Response Communication Workshops [Download Flyer](#)

#### **Thursday, May 8 - Vallejo**

9:30 am to 12:30 pm  
Vallejo Yacht Club  
485 Mare Island Way  
Vallejo, CA 94590

#### **Registration Deadline:** May 4, 2018

#### **Tuesday, May 22 - Sacramento**

9:30 am to 12:30 pm  
McClellan Training Center  
4940 Lang Ave; McClellan, CA 95652  
**Registration Deadline:** May 8, 2018

### Oil/Hazardous Substance Emergency Response Hazwoper First Responder Awareness Training for Southern CA Marina and Yacht Clubs

#### **Wednesday, June 6 - Playa Del Rey**

8 am to 12:30 pm  
Dockweiler Youth Center  
12505 Vista del Mar  
Playa del Rey, CA 90293

#### **Registration Deadline:** June 1, 2018

### California Coastal Cleanup Day

Be part of the state's largest annual volunteer event, California Coastal Cleanup Day! Save the date - **September 15, 2018** Check out [www.CoastalCleanupDay.org](http://www.CoastalCleanupDay.org) for further details.

To register and for more information about any of these trainings and events, please contact Vivian Matuk at [vmatuk@coastal.ca.gov](mailto:vmatuk@coastal.ca.gov) or (415) 904-6905.