



## Baykeeper Patrols Take to the Sky

For 29 years, Baykeeper has used on-the-water boat patrols to monitor San Francisco Bay and look for pollution threats. This year, we're expanding our patrols to the sky, to find and stop more Bay pollution.

Baykeeper is partnering with volunteer pilots to patrol in small planes and with volunteer drone operators to patrol with drones. We're already finding new sources of contamination and collecting evidence to get more pollution stopped.

***With patrols by air, Baykeeper is finding new sources of contamination and collecting evidence to stop more Bay pollution.***

Almost immediately after launching our aerial patrols, Baykeeper's partners at Autonomous Imagery captured remarkable drone footage of a pier on the Oakland shoreline that had collapsed into the Bay (see photo, right).

The loose debris had already been reported by media outlets, but the drone imagery clearly showed an oil slick in the water. With this footage in hand, Baykeeper mobilized local oil spill response agencies to take action to clean up the spill.

Our drone patrols are also helping track another major pollution threat, the proposed Phillips 66 oil refinery expansion.


Phillips 66 is proposing to more than double their fleet of oil tankers traversing the Bay.

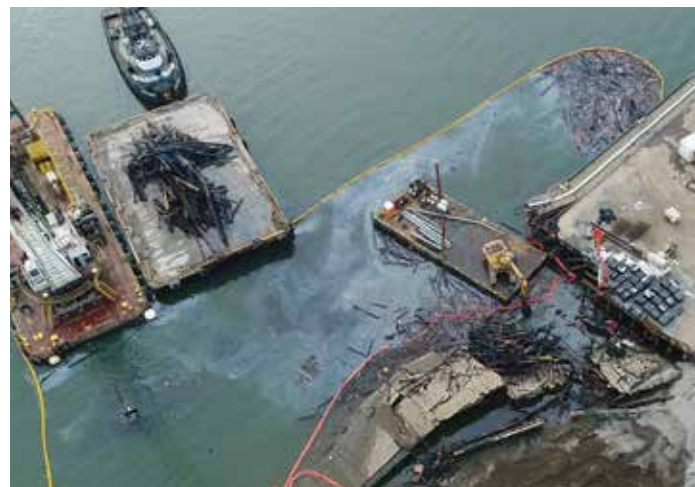
These tankers will likely be carrying tar sands oil, a heavy oil that is almost impossible to clean up if spilled.

Using drone footage, we're documenting the oil tankers' path to accurately assess the risks to the Bay's wildlife and sensitive shorelines.

And with volunteer pilots at LightHawk Conservation Flying, Baykeeper took to the skies during the annual high tides known as King Tides.

Baykeeper documented areas of the Bay's shoreline that are flooded during King Tides. This can help predict where Bay Area shorelines will be inundated by sea level rise.

Your gifts are helping Baykeeper add to our on-the-water patrols with patrols by air. Thank you for boosting our ability to detect pollution and stop harm to San Francisco Bay. 



***With footage from a drone patrol, Baykeeper identified this oil slick from a collapsed pier on the Oakland shoreline. We then mobilized response agencies to clean up the spill.***



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***Safeguarding San Francisco Bay from pollution since 1989.***

***Spring/Summer 2018***

# Letter From the Executive Director



After more than a year of rollbacks of federal environmental protections, beloved San Francisco Bay is still thriving—thanks to you! You've stood with Baykeeper as we defended the Bay, using strong local and state laws to fight for clean water and protect habitat. And we're continuing to keep our focus on ensuring a healthy future for San Francisco Bay.

Most recently, Baykeeper won a new legal agreement to stop pollution from a toxic landfill. Under our Bay-Safe Industry Campaign, we've now required 41 of the Bay's most significant industrial polluters to keep their contaminated runoff out of the Bay. Twenty-six of these

facilities have completed their cleanups and are no longer illegally harming the Bay. We're monitoring the other 15 as they take required steps to reduce pollution.

In this issue of *Baykeeper News*, you can read more about the ways your support is making the Bay healthier. Baykeeper is patrolling the Bay for pollution by boat—and now by air. We're standing up for the survival of sturgeon, the Bay's largest fish. And we're working to make the Bay more sustainable in the face of sea level rise.

Thank you for sharing our love for San Francisco Bay—and for your commitment to protect this place we all call home.

Sejal Choksi-Chugh, *Executive Director*

## Sturgeon: The Bay's Quiet Giants Are Under Threat

It's rare to catch a glimpse in the wild of a San Francisco Bay sturgeon, a giant fish that can grow even larger than a sea lion, the Bay's biggest mammal. But sturgeon have swum in the northern parts of the Bay for over 2 million years.

The white sturgeon can grow up to 1,500 pounds, live up to 100 years, and remains in the Bay its whole life. Green sturgeon, which can grow up to 350 pounds, spend their first three years in the Bay and then swim to the Pacific Ocean, where they live for up to 60 years, returning only to spawn. Both species spawn upstream from the Bay in the Sacramento River. Instead of sporting scales like most fish, sturgeon have rows of bony plated armor that protect them from predators.

For decades, the Bay's sturgeon population has been under threat from habitat loss and upstream dams that block access to former spawning locations. Recent scientific studies have shown that pollution is also significantly harming Bay sturgeon. These large fish live in parts of the Bay that are hotspots for one particularly dangerous pollutant, selenium. High levels of

selenium can cause deformities, interfere with reproduction, and even kill fish.

***Baykeeper is working to stop pollution from oil refineries that harms sturgeon.***

While some of the Bay's selenium pollution comes from agricultural drainage from the Delta, a significant amount comes from the Bay Area's five oil refineries, which daily discharge treated wastewater containing selenium into the Bay. Baykeeper is advocating for better monitoring of this pollution source, and for tighter limits on the amount of selenium that refineries are allowed to release.

Less selenium pollution from refineries would lead to cleaner water and a healthier home for all the Bay's wildlife—and especially for sturgeon, these giant neighbors who have swum in the Bay for millennia. 🐟

## Keep Baykeeper On The Water & On Patrol



**Make a gift today to defend San Francisco Bay from pollution.  
Use the attached envelope or donate online at [baykeeper.org/donate](https://baykeeper.org/donate).**

# Water-Wise Planning for the Future of the Bay

Climate change is a global problem that's already having an impact in and around San Francisco Bay. One of the most important things the Bay Area can do to prepare for sea level rise, flooding, droughts, and other extreme weather is to upgrade the local infrastructure that handles waste water and storm water.

Baykeeper is advocating for the Bay Area to move forward with infrastructure plans that are Bay-friendly and water-wise, to protect the Bay, wildlife, and communities.

A region-wide planning effort is currently underway to invest in major upgrades to waste water treatment in the Bay Area. The goal is to make sure sewer pipes and waste water treatment plants reduce pollution and make the best use of limited freshwater.



Photo: TJ Gehling, Flickr/CC

*An example of green infrastructure, rain gardens like this one in El Cerrito help filter pollutants and provide a buffer for flooding.*

Baykeeper's staff scientist has played a critical role in the planning process as the voice for the Bay. We're advocating for adoption of recycled waste water for household re-use, and for building up wetlands to filter waste water discharges and better keep pollution out of the Bay.

Baykeeper is also advocating for stronger requirements for cities to reduce pollution in storm water. Storm water is rainwater that runs across our cities, homes, and roadways, picking up pollution along the way before it washes into storm drains and then the Bay—without any treatment or significant filtering first. (San Francisco, the exception, treats storm water runoff with waste water in an unusual combined system.)

We're encouraging cities around the Bay to adopt green and Bay-friendly storm water infrastructure. This approach slows and captures storm water before it runs off, retaining it for the landscape, filtering it, and reducing pollution.

Baykeeper secured a legally-binding agreement with the city of San Jose to reduce pollution to the Bay. We're now working with the city to implement a \$100 million upgrade of its storm water system to control pollution, improve drought resilience, and increase green space.

Your support is helping Baykeeper advocate for wise investments in healthy waste water systems and green infrastructure throughout the Bay Area. Thank you for helping to make the Bay better protected for the future. ♻️

## Bay Tip: Avoid Microbeads

Microbeads are small plastic particles found in some personal care products like toothpaste and face wash. When rinsed down the drain, microbeads are too small to be removed by waste water treatment. Instead, they get released into the Bay, where they absorb toxins, then are ingested by fish, wildlife, and even swimmers.

A statewide ban on microbeads comes into effect in 2020.

Until then, make sure to read the labels of your cosmetics and personal care products to avoid Polyethylene (PE), Polypropylene (PP), Polyethylene Terephthalate (PET), Polymethyl methacrylate (PMMA), and nylon.



Photo: MPCA Photos, Flickr/CC



**BAY PARADE 2018**

**Join us on Sunday, July 15**

**Swim | SUP | Kayak | Boat**

**Show your love for the Bay at the 5th annual Bay Parade!**

**[baykeeper.org/bayparade](http://baykeeper.org/bayparade)**

Photo: Drew Bird / www.drewbirdphoto.com



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1736 Franklin Street., Suite 800  
Oakland, CA 94612

## Spring/Summer 2018 Baykeeper News

# Science, patrols & advocacy for a healthy Bay



(Clockwise from left) **Baykeeper collected water samples to test for microplastics in the Bay** from aboard the Baykeeper boat, along with our partners at the San Francisco Estuary Institute and 5Gyres. The sampling data will be used to determine the level of microplastics in the Bay so we can better advocate for regulations to prevent this pollution.  At the 2018 Baykeeper Dinner, we presented Blue Rivet Awards for environmental leadership to **New Resource Bank** and **The Rose Foundation for Communities & the Environment**. We also honored **Geoff Potter**, pictured, for his two decades of volunteer service as Head Skipper of the Baykeeper pollution patrol boat. Thanks to everyone who helped make the event a big success for the Bay!  Giant sturgeon have swum along the Bay floor for millennia—but **they're highly vulnerable to selenium pollution**. Read more about Baykeeper's work to protect sturgeon from selenium on page 2. 



Photos, from left, by SF Baykeeper, Robb Most & Geoff Parsons, Flickr/CC



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