

Baykeeper Opposes Oil Refinery Expansion on Bay's Shore *Risk of Oil Spills in Bay and Watershed Would Drastically Increase*



Photo by Roberto Soncin Gerometta

The oil industry has big plans to expand Bay Area oil refineries in order to bring millions more barrels of crude oil here for processing and export. This would increase the number of tankers on the Bay and the amount of oil shipped to the Bay Area by rail, raising the risk of oil spills in the Bay and its watershed.

The region's oil refineries have big plans for expansion along San Francisco Bay's shore. If the oil industry gets its way, millions more barrels of crude oil will be brought to the Bay Area for processing and export—drastically raising the risk of oil spills and the risk of massive harm to Bay habitat and wildlife.

The proposed expansions would increase both the number of tankers on the Bay and the amount of oil shipped to the Bay Area by rail. As more oil is produced in central United States and Canada, the oil industry has relied on shipment by train. This has led to an increase in the number of accidents and oil spills from tank cars.

Not only would more oil be processed here, but the oil would be dirtier. Crude oil would be shipped by train and pipeline to Bay Area refineries from sources that include the Canadian tar sands. This is the same dirty crude slated for the controversial Keystone XL pipeline. **(Continued on page 3)**

New Progress to Keep Industrial Contamination Out of the Bay

A Union City pipe manufacturer, **U.S. Pipe and Foundry**, was allowing storm water containing heavy metals and other toxic substances to flow off its property into Ward Creek, a tributary of Alameda Creek, which empties into San Francisco Bay. But now, as a result of Baykeeper's Clean Water Act lawsuit, the company will build a large retention pond to collect the site's storm water and keep polluted runoff from leaving the facility. The pond water will be used onsite or allowed to evaporate. Once the pond is installed, Baykeeper will inspect it to ensure that it adequately protects the Bay.

Many Bay Area industrial facilities are not doing what's required to keep pollution from being washed into San Francisco Bay by rain. Runoff from industrial facilities often contains high concentrations of pollutants such as toxic metals and petroleum hydrocarbons. These contaminants harm wildlife and people who spend time in and around the Bay. Baykeeper's Bay-Safe Industry Campaign targets the widespread problem of industrial runoff contamination.

Since our last

issue of *Baykeeper News*, we have secured legally binding agreements requiring cleanup by five major polluting industrial facilities, bringing our total to 18. In addition to U.S. Pipe and Foundry, our recent progress includes an agreement with **Pacific Galvanizing**, an Oakland metal coating company. **(Continued on page 3)**



Page 4: Celebrating 25 years of protecting San Francisco Bay



SAN FRANCISCO
BAYKEEPER®

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

785 Market Street, Suite 850
San Francisco, CA 94103
(415) 856-0444
info@baykeeper.org
www.baykeeper.org

BOARD OF DIRECTORS

Jeff Russell, JD, *Chair*
Brian Drue, *Treasurer*
Doreen Gounard, *Secretary*
Tim Eichenberg
Gary Groff
Diane Livia
Peter Molnar
Benjamin Patton
Tina Swanson

ADVISORY COUNCIL

Reverend Marc Andrus
Rob Dougherty
Thomas Hicks
Tim Kochis, JD
James A. Kuhns
Robert Reed
Kent Smith
Diane Walton
Special Advisors to the Board
Robert F. Kennedy Jr.
Michael Herz
Terry Tamminen

STAFF

Deb Self
Executive Director
Jason Flanders
Program Director
George Torgun
Managing Attorney
Sejal Choksi-Chugh
Senior Staff Attorney
Andrea Kopecky
Staff Attorney
Ian Wren
Staff Scientist
Eliet Henderson
Development Director
Judy MacLean
Communications Manager
Jenna McElroy
Development Associate
Jeremy Nelson
Finance & Administration Manager

Baykeeper News is a publication of
San Francisco Baykeeper,
a 501(c)(3) nonprofit organization.

Polluting Abandoned Boats, Piers, and Pilings Removed from Oakland Estuary

Thanks in part to Baykeeper’s advocacy, more than 40 polluting abandoned boats, plus dilapidated piers and pilings, were taken out of the Oakland Estuary between November 2013 and January 2014. Some of the boats, like the tug pictured here, were sunken and had to be raised before they could be removed and dismantled. Several of the sunken boats created navigation problems at low tide. Other abandoned boats were floating in the estuary and had become illegal collection sites for old paint and solvents. All carried a risk of leaking toxic substances into the estuary and Bay. The two-month boat removal was conducted by the U.S.



Baykeeper successfully advocated for the funding that allowed government agencies to remove more than 40 abandoned boats that were polluting the Oakland Estuary, including this sunken tugboat. Photo by Brock de Lappe

Environmental Protection Agency (EPA), California Department of Resources and Recycling (CalRecycle), and the U.S. Army Corps of Engineers.

Some of the funding for this removal project came from penalty fees paid by owners of the *Cosco Busan*, the container ship that spilled 53,000 gallons of bunker fuel into the Bay in 2007. Baykeeper advocated for these penalty fees to go to key Bay protection projects like removing abandoned boats. We serve on a coalition working to devise solutions to the problem of polluting abandoned boats in the Bay, and will continue to work toward cleanup of this widespread source of pollution.

Defending the Bay From Excessive Sand Mining

Baykeeper’s lawsuit to protect San Francisco Bay from excessive sand mining is moving forward. In January, Baykeeper presented oral arguments at a state Superior Court hearing, and we expect a ruling in the next several months.

Sand miners dredge the Bay’s floor to extract sand for use in making concrete. Normally, sand washes down from the Sierra Nevada mountains and into the Bay, and some washes out the Golden Gate. But in recent years, more sand has been taken from the Bay than washes down from the mountains. This contributes to erosion of San Francisco’s Ocean Beach. Sand mining also threatens species that live on the floor of the Bay, like Dungeness crab.

Yet instead of limiting the amount of sand that can be removed, in 2012 the State Lands Commission approved a large increase. In

fact, the Commission has claimed that it could approve the removal of all the sand from the Bay, and still be within its mandate to protect this resource. In our lawsuit, Baykeeper is standing up for reasonable limits on sand mining.

We are also urging the Bay Conservation and Development Commission (BCDC) not to issue permits allowing excessive sand mining. Sand miners in the Bay must have both a lease from the State Lands Commission and a permit from BCDC.

Providing new support for Baykeeper’s advocacy, recent scientific research has confirmed the link between removing too much sand from the Bay’s floor and excessive erosion at Ocean Beach. Baykeeper will keep litigating and advocating for limits on sand mining that will protect the Bay and Ocean Beach.

Opposing the Expansion of Oil Refining Along the Bay's Shore

(Continued from page 1)

The XL Pipeline is being opposed by citizens across the United States and Canada.

And some oil would come from California, as the oil industry works to expand fracking and other environmentally harmful methods for oil extraction in the state. Oil companies aim to use fracking to extract a large underground deposit of oil from the Monterey shale, under the Central Valley. Making the Bay Area a hub for processing crude oil would provide a convenient export point for this new source of oil.

It's especially unwise to expand refineries along San Francisco Bay given the expectation of sea level rise in coming years. As global climate change causes the Bay's water level to rise, flooding of facilities that handle so many toxic substances would cause major pollution in the Bay. Additionally, a significant increase in local oil refining would also cause air, water, and ground pollution, leading to a greater public health threat for local residents.

In order to expand, the oil refineries need approval from the cities where they are located, and, in some cases, from regional

regulators. This is the public's chance to have a say, and Baykeeper is standing up for San Francisco Bay.

We've urged Pittsburg city officials not to approve plans for the WesPac Pittsburg Energy Infrastructure Project, which would reopen an old oil shipping facility on the Bay shoreline. The facility would take in crude oil via trains and pipelines, then transfer it to the region's expanded refineries.

Bolstering our advocacy, the office of California Attorney General Kamala Harris recently raised concerns about environmental damage to San Francisco Bay and shoreline communities that could result from the WesPac project. These objections echo those raised by Baykeeper and other community groups.

Baykeeper is also opposing the Valero refinery's plan to expand its Benicia rail yard to handle more petroleum being shipped to and from the Bay Area. We will continue to advocate for prevention of contamination of San Francisco Bay and shoreline communities from other planned expansions of Bay Area oil refineries. 

New Progress to Keep Industrial Contamination Out of the Bay

(Continued from page 1)

Pacific Galvanizing will keep contaminated runoff from flowing into storm drains that empty into the Bay, protecting the Bay from aluminum, iron, zinc, lead, oil, grease, fuel, sulfuric acid, and other toxic chemicals. In another recent agreement, **Marine Express, Inc.**, an Alameda company that repairs and services ships, agreed to install controls to keep toxic substances from running off its shoreline facility into San Francisco Bay. When Baykeeper filed a Clean Water Act lawsuit against Marine Express, the company immediately discussed the problems with us, and began implementing the necessary pollution controls even before finalizing the legally-binding agreement that requires them to protect the Bay from contaminated runoff.

Two South Bay facilities will also install controls to protect the Bay from runoff pollution. The **city of Sunnyvale's waste transfer facility**, which handles 1,500 tons per day of trash and recyclables from Sunnyvale, Mountain View, and Palo Alto, has been allowing toxic runoff from the site to drain into nearby Bay wetlands. Now, the facility is required to implement controls that include covering all materials stored outdoors, to keep toxic substances from coming in contact with rainwater.

Also cleaning up its runoff pollution of the South Bay is **Premier Recycle** in San Jose, which processes construction and demolition waste and debris. For five years, the company consistently polluted the Bay with heavy metals and other contaminants. Now, polluted storm water will be pumped to storage containers and reused onsite, and all storm drains will be closed off to prevent contaminated water from leaving the site and entering the Bay. Baykeeper is negotiating for cleanup with five additional polluting



Photo by Linda Meier

Marine Express, an Alameda company that repairs and services ships, will install controls to keep toxic substances from running off the facility into the Bay.

industrial facilities, and we have 25 open investigations. Our crew of **Volunteer Pollution Investigators** has been a big help in identifying industrial runoff polluters (to meet Helen Dickson, one of our Volunteer Pollution Investigators, see page 6). However, the drought that has gripped California this year has hampered our investigations. When it rains, we go to the perimeters of industrial facilities to collect our own samples of runoff from the sites, and have the water tested for pollutants at a certified lab. We use the test results as evidence in our lawsuits to compel industrial polluters to keep contaminants out of the Bay. Fewer storms mean fewer chances to collect evidence. Despite the obstacles posed by drought, Baykeeper is persevering, and we will continue to press forward to rein in industrial runoff pollution in the Bay. 



Baykeeper 25th Anniversary

Celebrating a Quarter-Century of Protecting San Francisco Bay From Pollution

Changing the Fate of San Francisco Bay

The Story of Baykeeper's Founding in 1989

In the late 1980s, Dr. Michael Herz, a research scientist who had been studying and advocating on behalf of San Francisco Bay for the previous decade, was becoming increasingly alarmed. Environmental laws that were supposed to protect the Bay were not being enforced, and the Bay's health was in serious decline.

Then Mike read an article about the Hudson Riverkeeper, at that time a relatively new organization. Hudson Riverkeeper patrolled New York's Hudson River by boat, using the citizen suit provision of the Clean Water act to bring legal cases against polluters, get

finances levied, and obtain court settlements that protected wetlands. "I was intrigued and excited," Mike later recalled. "A 'Keeper' seemed a wonderful solution to the problems affecting our Bay."

Mike tested the water by asking regulatory agencies, environmental organizations, and fish and wildlife groups whether a "Waterkeeper" program for San Francisco Bay made sense. As he expected, the advocacy groups were very supportive. "But the big surprise was that the enforcement agencies also thought a Baykeeper could be very helpful to them and the Bay," Mike said.

The groups and agencies Mike surveyed admitted that no one was out on the Bay looking for pollution. Polluters were free to dump waste in the Bay with no fear of detection. Since the agencies charged with enforcing the law didn't have the staff or budget to take formal action, they supported the idea of the future Baykeeper organization having the capacity to file lawsuits to compel polluters to stop contaminating the Bay.

Using this survey, Mike raised funds from foundations and founded San Francisco Baykeeper, the fourth Waterkeeper organization in the US and the first on the West Coast. He hired an assistant, opened an office, and in April 1989, launched the Baykeeper program with a 26-foot motorized patrol boat.

Baykeeper's founding was covered by local and national newspapers, radio, and television. Literally overnight, residents began reporting pollution and suspicious incidents to Baykeeper. Nearly 50 people enrolled in the first volunteer training program, including kayakers, attorneys, chemists, and government employees. "It was one of the most committed and motivated groups I ever had the good fortune to work with," Mike said.

Within a year, Baykeeper had logged over 150 pollution incidents and illegal activities, and recruited 250 more volunteers. "The agencies that initially supported our program became burdened by the many incident reports we brought them. Some started considering us a 'pain in the butt,'" Mike recalled.

San Francisco Baykeeper soon became recognized for effectiveness in stopping pollution and creating preventive strategies. And so the young organization set out—on a mission to change the fate of San Francisco Bay and restore the Bay's health for generations to come.

Tell Us About You and the Bay

Have you had an important, memorable, or moving experience with San Francisco Bay in the past 25 years? To help celebrate our 25th anniversary year, Baykeeper invites you to share your experience with us.

Here's Alexis Strauss' story:

San Francisco Bay is beautiful, it draws us in. I've been rowing on the Bay in the early mornings, and appreciate it yet more, lit by the moon. We row on the Oakland Estuary, passing the extraordinary effort to raise and remove over 40 wrecks from the Bay, taking out the oil, asbestos, sediments and other debris that has fouled this valued waterway. I note anew the volume of trash washed from shore to water, and wish that with each oar stroke, I could scoop it up. Let's keep working together to protect our Bay in all ways, small and large.



Photo by Dawn Nakashima

Send your San Francisco Bay story by mail to 785 Market St., Suite 850, San Francisco, CA 94103, or send by email to news@baykeeper.org.

A Crucial Moment in Baykeeper History: The First Jail Terms for Bay Polluters

By Mike Herz,
Baykeeper Founder

Just a few months after Baykeeper's founding in 1989, we received an anonymous tip about illegal dredging that led to a covert investigation, media scandal, retaliatory damage to the Baykeeper boat, a criminal investigation, and finally, jail time for the offenders.



Photo by Sejal Choksi-Chugh

An anonymous phone caller first reported to Baykeeper that Donco Industries, a small local shipyard, was secretly and illegally dredging sediment that was polluted with toxic paint residue from the bottom of the Bay. The company intended to deepen their entrance channel so they could work on larger vessels. We would later learn from a whistle-blowing former Donco employee that the illegal dredging was done to obtain lucrative contracts with the U.S. Navy.

The work was taking place at night with a specially disguised dredge. The company instructed operators to stop work whenever Coast Guard or Baykeeper patrol vessels appeared. The dredged mud was then being dumped just outside the shipyard, instead of being barged to the designated site for toxic materials. Tests showed the deposited sediment had high levels of copper, zinc, lead, and a chemical toxic to shellfish, tributyl tin.

Such activities, especially when they involve sediment heavily polluted with metal-tainted vessel bottom paint, were and are strictly prohibited without dredging and water quality permits.

Baykeeper's investigation revealed that the shipyard had none of the required permits, and we swung into action. One of our volunteer kayakers who loved dangerous assignments agreed to undertake the necessary night surveillance. After observing the clearly illegal dredging and disposal over several nights, we reported our findings to the Bay Conservation and Development Commission (BCDC), the agency charged with issuing dredging permits and enforcing permit violations.

Much to our dismay, BCDC proposed to issue Donco an after-the-fact permit and a \$100 fine. Baykeeper protested BCDC's slap-on-the-wrist response, resulting in their upping the fine to a \$6,000 tax-deductible payment to a charity of Donco's choice, plus a promise to remove some of the toxic mud.

Baykeeper contacted the media, first briefing reporters on federal guidelines suggesting potential fines 10 to 20 times higher than those proposed by BCDC, then taking them to visit the site in the Baykeeper patrol boat. Several newspaper and television stories appeared describing the clearly illegal activities, as well as the weak response by regulators.

Less than a week later, the Baykeeper boat was broken into, several expensive pieces of electronic navigational gear were taken, and all of our patrol records were dumped overboard. Although we had no proof, we suspected this was retaliation for our having discovered and reported the shipyard's illegal activities. We contacted both the police and the media, who once again publicized the story.

Distressed by BCDC's weak action, we also reported our findings to the federal Environmental Protection Agency's Criminal Investigation Service. Following a lengthy investigation, the case was turned over to the US Department of Justice for prosecution. On August 31, 1993, Donco president Donald Manning was sentenced to serve two years in prison, perform 100 hours of community service, and pay a \$5,000 fine. Another officer in the company also received a prison sentence. It was one of the first times a conviction for an environmental crime against San Francisco Bay resulted in jail time. 



Photo by Tracy Corbin

**You're invited to Baykeeper's
25th Anniversary Party.**

**THURSDAY, MAY 15, 2014 • 6PM-8PM
THE MARITIME MUSEUM AT AQUATIC PARK
SAN FRANCISCO**

**Enjoy a hosted bar, local and sustainable fare,
and silent auction.**

Tickets \$75, \$125, or \$250.

Volunteer/Public Interest Tickets \$50.

**Your ticket purchase supports our work to
create a healthy San Francisco Bay!**

Sponsorships also available.

**Purchase tickets at www.baykeeper.org
or by phone at 415-856-0444 Ext. 112**

Volunteer Investigator Helen Dickson Helps Track Down Industrial Polluters



Helen Dickson sometimes gets up in the middle of the night to go to an industrial site and collect a sample of runoff water as evidence of pollution.

When Helen Dickson moved to the Bay Area a year ago, one of the first things she did was to contact Baykeeper and offer to be a Volunteer Pollution Investigator. Since then, she has not only tracked down potential industrial polluters, she's also helped Baykeeper coordinate our volunteer investigation program.

As a Baykeeper volunteer, she says, "One of the hardest things I've done is also the most fun: picking out the right moment when rain is falling to go out to an industrial site and collect a sample of runoff water." Volunteer

Pollution Investigators collect samples that are tested at a lab, and if pollutants are present, the lab reports become evidence in a Baykeeper Clean Water Act lawsuit aimed at stopping the pollution. Sometimes, collecting water samples has meant Helen has to get up in the middle of the night. "I don't look forward to that, but I always enjoy it," she says.

In addition to going out in the rain to collect water samples, Helen and our other Volunteer Pollution Investigators conduct advance surveys of Bay Area industrial facilities in dry weather to identify possible sources of runoff pollution. Helen has also administered the volunteer coordination website and managed communications with other Volunteer Pollution Investigators.

A recent university graduate, Helen previously worked in a UC Santa Barbara research lab on water quality investigations. She loved working on water quality, but wanted to do more work outdoors and shift from academia to the nonprofit sector. Now she works part-time for the San Pablo Watershed Neighbors Education & Restoration Society (SPAWNERS). She's also a part-time dog walker, "which lets me keep volunteering," she says. In addition to her work with Baykeeper, Helen volunteers with Friends of Five Creeks in the Berkeley-El Cerrito area.

Helen chose to work with our organization because "I really admire what Baykeeper is doing. I don't think anyone else in the Bay Area is enforcing the Clean Water Act, and I think it's really cool that citizens can get involved in enforcement."

Baykeeper extends a big thanks to Helen and all our Volunteer Pollution Investigators. 🐾

Sunny-Weather Tips for a Healthy Bay and a Healthy You

As the spring and summer outdoor recreation season gets underway, Baykeeper presents tips to protect both your health and the health of San Francisco Bay.

Use mineral sunscreens, but avoid nanoparticles. Most chemical sunscreens contain dangerous compounds like oxybenzone and retinol that can cause cancer and disrupt hormones. Instead, use mineral sunscreens with zinc oxide or titanium oxide, because they don't break down in sunlight and pose a lower health risk. However, zinc and titanium sunscreens can contain nanoparticles—extremely tiny particles of these minerals that are harmful to humans and wildlife. Nanoparticles are too small to be removed by wastewater treatment, so when you wash them off your skin and down the drain, they end up in the Bay. To avoid nanoparticles, choose a sunscreen labeled nano-free.

Clean up outdoor litter. Trash in streets and along the shore can get blown into the Bay, or eventually washed into the Bay when it rains. Pick up any trash from your outdoor outings and always put it in a trash bin. Smokers shouldn't discard cigarette butts on the street or along the Bay—cigarette butts are one of the most common types of trash found on our shorelines.

Working in the garden? Avoid weed killers and fertilizers. Herbicides marketed to kill weeds poison pets, kids, and creeks. When fertilizers get washed into creeks and the Bay, it can rob the Bay of oxygen fish need. Just say no to weed killers and fertilizers in your yard.

Consider taking out your lawn. Lawns require lots of water that isn't available in the Bay Area during dry years. Consider converting your lawn to drought-resistant native plantings that provide needed habitat for birds, butterflies, and other wildlife.

Avoid planting trees and shrubs near the sewer line that connects your home to the sewer system. Plant roots are one of the most common causes of sewer line problems that can cause sewage to be washed or spilled into storm drains or creeks that lead to the Bay.

If you're a boater, always pump out boat sewage. Salt water does not sterilize the bacteria and other pathogens in sewage. Empty marine sanitation devices at designated facilities designed to take human waste to sewage treatment plants, or use a mobile pump-out service.

Report pollution to Baykeeper. If you see something that might be polluting the Bay or a local creek, let us know. Report pollution online at www.baykeeper.org, by email to hotline@baykeeper.org, or call 1-800-KEEP-BAY.

"Think about what the San Francisco Bay means to you, and what it would be if there were no protection for this amazing resource. If the water were polluted, unsuitable for fishing, swimming or boating, San Francisco would not be what it is today. The Bay remains a magical place, largely thanks to Baykeeper, a small, tremendously effective organization. Let's get them the funding they need to do this great work!"

--Rachel Elgin Smith, San Francisco Bay swimmer



Photo by Susanne Friedrich

Help Defend San Francisco Bay From Pollution With Your Gift to Baykeeper
Take a moment to send your donation using the enclosed envelope, or donate online at www.baykeeper.org

Thanks, Baykeeper Volunteer Skippers and Crew

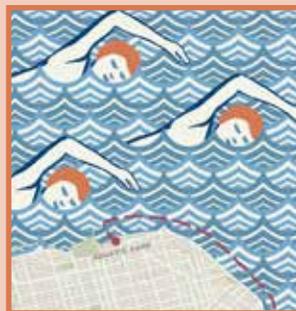


Photo by Bart Quigley

The Baykeeper boat is regularly out on the Bay patrolling for pollution, thanks to the devoted service of our volunteer skippers. Head Skipper Geoff Potter also handles all the boat's maintenance and repairs. A big thanks to:

Geoff Potter,
Head Skipper
Ed Essick
Robert Fairbank
Phil Kipper

Robert Philkill
Adam Simmonds
Jeff Wasserman
Bob Wertz
Linda Meier, Crew



Join the
BAY PARADE
Saturday, June 14
SWIM, ROW, KAYAK, SUP,
OR SAIL FOR THE BAY

Launch: Aquatic Park or Pier 14
Parade ends: McCovey Cove at 1 PM
Finale on the Jumbotron at AT&T Park at the start of the Giants game!
Then join the post-parade party

Registration \$100 or \$200, plus raising funds to benefit Baykeeper's work to protect San Francisco Bay.

Information, registration, and party tickets:
www.baykeeper.org/bayparade



Spring/Summer 2014 Baykeeper News

Bay Species Spotlight: Dungeness Crab (*Metacarcinus magister*)

Dungeness crabs make an amazing journey. They start in the Pacific Ocean, migrate at least 20 miles to San Pablo Bay, and later walk back along the San Francisco Bay bottom all the way out the Golden Gate.

In December and January, tiny crab larvae hatch from eggs offshore in the Pacific. They float on ocean currents, eating plankton. At night, they rise toward the surface, where they find more food. During the day, they stay 75 feet below, where they are less likely to be eaten. The larvae develop through seven stages. In the later stages, they shed their shells and grow new ones to accommodate their larger bodies. They look like small crabs by May.

Some of these crabs stay in the ocean, but many more ride the tides or hitchhike on the tentacles of jellyfish into San Francisco Bay. Jellyfish are especially good transportation, because the crabs get protection from predators like salmon and octopus.

After Dungeness crab youngsters swarm in the Golden Gate, they migrate all the way to San Pablo Bay. They spend the summer crawling along its soft, shallow bottom, or in nearby tidal marshes, where they usually find plenty of littler fish and shellfish to eat. If there's not enough food, they will also eat smaller Dungeness crabs. The little crabs shed their shells and form new shells about twelve times, until they grow to the equivalent of teenagers.

In the fall, these "teenage" crabs crawl along the bay's bottom to the deeper channels of central San Francisco Bay and out the Golden Gate. By then, they are about four inches wide. A human traveling on foot the same distance in proportion to size would walk from San Francisco to San Diego. Once they've returned to the cold waters of the ocean, Dungeness crabs grow to their full adult size. Crabs that mature in the



Photo by Dan Hershman

rich waters of San Francisco Bay grow faster than anywhere else along the Pacific Coast. A Dungeness crab that grows up in the Bay is usually large enough to be legally caught and eaten by the time it's three years old. Crabs that grow up in the ocean need at least four years.

Dungeness crabs have made their journey for generations. Now, however, a new threat looms—excessive sand mining in the central Bay. Miners may be scooping up sand right in the middle of the pathway of teenage crabs trying to crawl out of the Bay, on the way to fattening up in the ocean. That's one reason Baykeeper is suing the state of California to prevent excessive sand mining in San Francisco Bay (see page 2). 



Follow us on Facebook, Twitter and Google+