

Bay Lines

MARINE
SCIENCE
INSTITUTE

500 Discovery Parkway
Redwood City, CA 94063-4715



Jan—March
2008

www.sfbaymsi.org

Oil Spill on the Bay – MSI Assesses the Impact

Wrapping up two weeks of Discovery Voyages departing from the Richmond marina, the *R.V. Robert G. Brownlee* chugged across the bay for two weeks of school programs in San Francisco. The very next morning, the commercial container vessel *Costco Busan* crashed into the Bay Bridge, releasing 58,000 gallons of dirty bunker fuel into the waters, contaminating hundreds of square miles of the Bay and adjacent ocean. In shock, our programs took on new urgency and importance, as the shadowy threats of oil to the health of our beloved Bay were made all of the sudden very real and visible.

While many in the Bay Area were frustrated in their efforts to help address the catastrophe, MSI found a useful niche in focusing on collecting data on fish and plankton while using the oil spill as a learning experience. For all of us, we hoped it was a once-in-a-lifetime lesson.

With our 37-year long volunteer fish data program, MSI was in a unique position to document before and after impacts of the spill on the ecosystem. Building on our own observations, we were then able to add solid science to better understand what was happening. One thing became clear right away: with oil covering the thin microlayer at the surface of the water, there were virtually no plankton to be found. That in turn proved to be a problem for Pacific Herring, which feed on plankton. Further analysis might show how these impacts rippled through other fish populations as well.

A silver lining to the oil spill has been the new recognition for MSI and our Fish Data Program. Agencies in the federal government (the National Oceanic and Atmospheric Association), and the state (Department of Fish and Game Oil Spill Prevention and Response) have been anxious to examine our fish data to discern impacts on wildlife. The *San Francisco Chronicle* even showed up to do a story about us, resulting in even more volunteers signing up to become fish data volunteers.



Hayley Huffman gathers fish data aboard the *Brownlee*.

As wetland restoration efforts proceed in South San Francisco Bay, close attention will have to be paid to our beleaguered fish populations. Success can be measured, thanks to MSI's volunteer fish data program. An overview study of the data we've collected was created by Joe Diesel and is freely available on our [web site](#). It tells a fascinating story of how different fish species have fared over the decades. For most species, the story is not a happy one. The Bay was once an immense nursery for the oceans. If it is to be returned to its great potential, we'll have to keep counting the fish, and hope to see their populations soar in a positive direction.

Summer Marine
Camp sign-ups
start for members
Feb 1st @ 10am!

A Salute To Our Funders

The Marine Science Institute receives grant support from many different foundations and businesses. We would like to recognize those who helped MSI bring science to life in the past year.

\$100,000+

Robert Brownlee Foundation
Silicon Valley Community Foundation

\$50,000 — \$99,999

David & Lucile Packard Foundation
Contra Costa Water District

\$25,000 — \$49,999

Bothin Foundation
Motorola Foundation
Sidney S. Byers Charitable Trust

\$15,000 — \$24,999

Crescent Porter Hale Foundation
Dean & Margaret Leshar Foundation
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Danford Foundation
Redwood City Industrial Salt Works,
a Cargill / DMB Associates Venture
Sand Hill Foundation
Verizon Wireless
The Watershed Project

\$5,000 — \$9,999

A&B Foundation
Bernard Osher Foundation
California Casualty Group
City of San José
Dirk & Charlene Kabcenell Foundation
Dow Chemical Company Foundation
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Lockheed Martin Missiles & Space
Morris Stulsaft Foundation
Myrtle L. Atkinson Foundation
Pacific Gas & Electric Corporation
Scandling Family Foundation
Solano County Water Agency
South Bayside System Authority
Turner Designs

\$1000 — \$4,999

Corrigan-Walla Foundation
Dawson Family Fund
Doering Family Foundation
Jones & Stokes
Lyngso
Mt. View Sanitary District
West Marine

Does your company have a matching gifts program? Please contact your HR Department or MSI for more information.

Did you know you may make a charitable bequest to MSI? Please contact MSI for details.

Meet the Staff



Gail Broderick has a B.A. in Natural Science from San Jose State University, as well as a multiple-subject with supplemental science teaching credential. She started working for MSI in 2000. Gail works with teachers and educators to schedule all of our land and ship programs, supports the Marine Camp program, and works on various other special projects at the Institute. She is also very proud of her first grandchild Pia!

EARTH DAY ON THE BAY!

is set for April 19th, 2008! A full day of fun is planned, and it's a great way to introduce your friends to MSI. Check our web site for updates. If you are interested in volunteering to help plan, or are able to find corporate sponsors (starting at \$500), contact us! aaron@sfbaymsi.org

Bay Lines

Aaron Tinker, Producer & Editor

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New Funds for MSI

MSI's vision, 'Inspiring respect and stewardship for the marine environment through experiential learning', could not be realized without support from a broad array of sources. This year brought a few new friends into our family that deserve special recognition for their contributions.

Pacific Gas and Electric Company chose MSI as one of the winners of their sixth annual Richard A. Clarke Annual Environmental Leadership Awards, which honor examples of environmental leadership among the company's 20,000 employees. Rex Bell, Environmental Field Services Manager, led PG&E's drive to become the first utility to join the state's Department of Toxic Substances Control—which promotes recycling of Compact Fluorescent Lightbulbs (CFLs). This is very important to San Francisco Bay, as the mercury in CFLs could otherwise get into the water, adding to already high contamination levels. Rex picked MSI to receive \$5,000 because his mother, a retired San Francisco school teacher who participated in many MSI voyages, declared us 'the best educational field trip ever!'



Motorola Foundation's Innovation Generation Grant program awarded \$40,000 to MSI this year. This program seeks to support pioneering education initiatives that use integrated approaches to build interest in science, technology, education and math-related fields, particularly for girls and the underserved. Our *Innovation Generation Grant* will support 85 Discover Our Bay education programs for 3,000 students in the greater Bay Area. It will also allow us to provide additional sponsorship for classes from low income communities so that underserved students can participate in Discovery Voyages, Shoreside Programs, Tidepool Excursions, and Inland Voyages.

The recently reorganized **Silicon Valley Community Foundation**, created by the merger of Peninsula Community Foundation and Community Foundation of Silicon Valley, has chosen to stand with MSI in our efforts to foster better stewardship for San Francisco Bay. The Foundation responded to our request for \$20k with an award of \$65k, to be paid out over 2-years in support of programs for low income schools in San Mateo County and Mountain View.

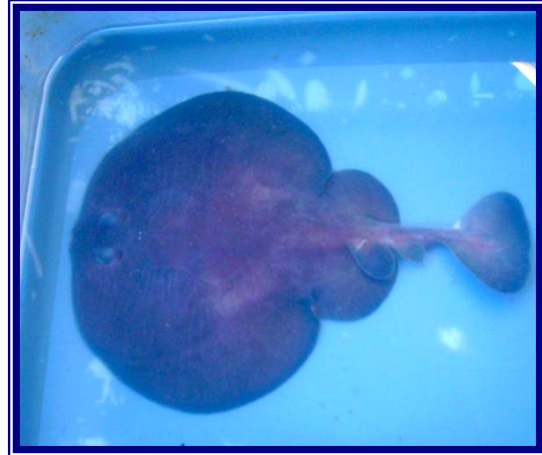
We are absolutely thrilled to have this very generous support and we look forward to sharing the results of these grants with you.

TRANSFER MONEY FROM YOUR IRA TAX-FREE

A new federal law allows donors ages 70 ½ and older to transfer up to \$100,000 tax-free from an IRA to the Marine Science Institute. You can use this transfer toward your required minimum distribution without a tax penalty. The law is in effect only through 2007, so take advantage of this opportunity – there is no better way to make the most of your IRA income and support science education! Please call us at (650)364-2760 x14 for more information.

Life In the Bay!

Torpedo californica, the Pacific Electric Ray



No one wanted to hold this fish up for a photograph, as it was immediately recognized as a Pacific Electric Ray. Capable of producing 50 Volts with its specialized organs, it hunts down and zaps bony fish at night. Common from British Columbia to Baja, they are still only rarely seen in San Francisco Bay. The species only appears once in our Fish Database, a large one caught in 1992. They are ovoviviparous, bearing live young from eggs protected within the female's body.

Membership is Sweet!

The Lunn family decorates a gingerbread R.V.
Robert G. Brownlee at our recent member event.



Decorating sea-shaped gingerbread, exploring tide pools at sunset, zooming around Elkhorn Slough, tracking bobcats on the beach, riding aboard the *Brownlee*... these were just some of the exciting days MSI Members shared with us in 2007. Thanks to all the families that make our community so sweet!

W i n t e r E v e n t s 2 0 0 8

SEASIDE STORY HOUR Third Saturday of Each Month, 11am ~ noon

Join MSI naturalists for stories, live ocean animals & amazing artifacts from the seas. This FREE event is held on the third Saturday of every month at the Redwood City Library's Main Branch on 1044 Middlefield Road in downtown Redwood City. On January 19th, we'll be bringing along everyone's favorite tidepool critter—**Seastars!** February 16th we bring all manner of **Mollusks**, you know, all those cute soft-bodied animals like moon snails, mussels, and more! March 15th we focus on **Sharks** on the Bay region. April we're hoping you'll join us for Earth Day on the Bay! And May 17th keep your eyes peeled for ten-legged crabs, shrimp & other **Crustaceans!**



California Academy of Science: *From the Depths, Inspiring Science & Art* Saturday, January 5th 10am ~ noon

This is the Academy's first art & science exhibit, featuring the work of MSI member and Academy invertebrate expert Richard Mooi and collaborating artist Tiffany Bozic. This special event comes just **one day** before the Academy closes until the Fall of 2008, when they return to their new and vastly improved home in Golden Gate Park. Afterwards, explore the rest of the museum, and see their new guests, a Leatherback Sea Turtle and a black-tipped shark! Cost is 10\$ / person, contact Aaron to RSVP (contact information below).

Plankton Day Saturday, January 26th 1pm~3pm

Copepods, Diatoms & Rotifers – it's everything Plankton at MSI! Come and see the wonderful and weird world of plankton like you have never seen it before. With microscopes hooked up to our 25 foot screen in our Marine Science Center, we can bring to life all those little creatures drifting in the Bay that we take for granted every day. This is a FREE event, but donations are warmly welcomed. Space is limited. Contact Aaron to RSVP (contact information below).

Año Nuevo State Reserve Elephant Seal Walk

Sunday, February 10th Walk #1 @ 9am ; Walk #2 @ 12pm

Año Nuevo State Reserve is the site of the largest mainland breeding colony in the world for the northern elephant seal. Docents from the State Reserve and MSI will lead a fun and entertaining 2.5-hour interpretive hike. See this once-a-year spectacle as the males battle for mates on the beaches and the females give birth to their pups on the dunes. Hikes will cover 3 miles of rolling sand dunes and are considered to be moderately strenuous. [Online Registration Required](#), SPACE IS EXTREMELY LIMITED. Cost: \$10/person, kids 3 and under are FREE.

BAIR ISLAND RESTORATION Saturdays: January 12, February 23, & March 8

Located directly across from Marine Science Institute is one of the largest intact estuary islands in San Francisco Bay. On this canoe and restoration trip led by **Save The Bay**, in partnership with the U.S. Fish & Wildlife Service, you will explore the important wetland habitats of Bair Island. The island is home to many species of birds, harbor seals, native oysters, and provides critical nursery habitat for fish. We will be planting natives like gumplant, alkali health and jaumea, and remove non-native species like iceplant and litter. Minimum age is 10 years old. RSVP required. Please go to <http://www.savesfbay.org/bayevents>, and fill out "MSI member" in the "How did you hear about us?" box to receive the membership rate of \$25 per person.

Find out more about our programs and sign-up information at www.sfbaymsi.org
Contact Aaron for reservations (650) 364-2760 x16, or email aaron@sfbaymsi.org