YOUR SOURCE FOR BAY-DELTA NEWS & VIEWS

ESTUARY

WANTED:
A "TRIM TAB" FOR THE ESTUARY

Ships and airplanes have them—not a fat-burning pill but a tiny instrument that can change the course and orientation of an entire vessel. The brilliant and quirky scientist Buckminster Fuller often spoke of the "trim tab factor" in describing the difference one person could make to society. The Estuary Project is seeking your ideas for a "trim tab" for the Estuary—one critical action or idea for improving the health of the Estuary, one act that, however small, could have a ripple effect on the Bay, the Delta, or the entire watershed. Send ideas to lowensvi@sbcglobal.net.

The best ones will be published in ESTUARY, and the top winner will receive a ticket for the May 27 Creek Seekers Express train tour from Oakland to Martinez, along with the winners of our environmental art and poetry contest, as well as free attendance at all three days of the September 29-October 1, 2009 9th Biennial State of the Estuary conference.

ESTUARY 2100 GRANT TO BENEFIT BAY

Amid the bad news about frozen state bonds and out-of-balance budgets, we are excited to begin working with a wonderful group of partners on a set of projects that will lead directly to a healthier San Francisco Bay and Estuary. Work began in March that will restore streams and wetlands, encourage cleaner, "greener" stormwater, improve in-stream flows for fish, and lead to better water quality in the Estuary. The work is part of the vision behind a $5 million U.S. EPA grant to the San Francisco Estuary Project and a dozen non-profit and local agency partners.

The Estuary Project will work with its partners to demonstrate water quality improvements and measure the progress and success of each project, which include

- removing mercury from the Guadalupe watershed—a major contributor to mercury contamination of San Francisco Bay and its wetlands

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INSIDE

Tracking the Greenbacks

Depending on who's making the estimate, California is in line for anywhere from $64 to $79 billion—8 to 10%—of the total $787 billion to be disbursed under the American Recovery and Reinvestment Act of 2009. Of that, $31 billion will go directly into the state's general fund over the next two fiscal years. Much of the stimulus package is geared to the creation of green jobs; a Labor Department program, for example, allocates $500 million nationally for energy-efficiency and renewable-energy job training.

"We're hoping for 8,000 jobs, based on the assumption that every million generates 20.3 jobs."

How much will go to watershed-related projects in the Bay-Delta region is harder to determine. Estimates available so far are mostly state-level. Some federal agencies won't know exactly how much they have available until completion of a multi-level review process later this spring.

The California Bay-Delta Program (CALFED) was one of a handful of state-level programs targeted for stimulus funds in the Act, receiving $50 million through the Bureau of Reclamation. "We expect the vast majority of it, probably close to 90 percent, to go to removal of small dams and fish passage improvement on Battle Creek," says CALFED's Jeanie Esajian. The multiagency project in Shasta and Tehama counties aims to restore 48 miles of Chinook salmon and steelhead habitat. Esajian said the new federal funds would pay for Phase 1B and Phase 2 of the restoration effort. The balance of the $50 million is slated for Delta science projects and the Bay-Delta Conservation Plan process.

Another conduit for restoration funding, the National Oceanic and Atmospheric Administration, had just released its Federal Funding Opportunity announcement at press time. "We're expecting a deluge of applications," says Natalie Cosentino-Manning of the agency's Restoration Center. Nationwide, NOAA has $170 million for habit restoration; Cosentino-Manning says California may get $17-20 million "if we get good proposals." Grants will be available for wetland restoration, dam removal, and shellfish restoration—anything that benefits NOAA's trust resources, including marine mammals and endangered and commercially important fish species. Both non-governmental organizations and state agencies like the California Coastal Conservancy and the California Conservation Corps are eligible to apply. If the state bond funding freeze continues, NOAA funds may be a welcome recourse.

Projects proposed for funding must be ready to go and regionally significant in terms of job creation. "We're hoping for 8,000 jobs, based on the assumption that every million generates 20.3 jobs," Cosentino-Manning explains. (The multiplier comes from an Economic Policy Institute study.) After the closing date of April 6, applications will be reviewed region by region. "By the end of April we'll have a good idea of what kind of projects will make it to the top," she says. "There will be a really fast turnaround for recovery projects."

Alexandra Pitts, with the U.S. Fish and Wildlife Service, says her agency has already forwarded its recommended project list to the Interior Department for review. It is not clear

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PORTSIDE

BEYOND THE COSCO BUSAN

In a fitting end to a key courtroom drama surrounding the Cosco Busan spill, Pilot John Cota pleaded guilty to federal water pollution charges. About 18 months ago, Cota steered the Cosco Busan containership into one of the supports of the Bay Bridge, spilling 53,000 gallons of fuel oil into the San Francisco Bay.

Under-prepared California agencies and spill cleanup firms mounted what has been widely considered an ineffective response, one that was overshadowed by the valiant efforts of ordinary citizens to rescue oiled birds and clean up beaches. Over 2,000 dead birds were ultimately recovered, which likely represents a small fraction of the actual casualties. Given the tremendous loss of life, the inadequate official response, and the better-organized citizen response, the Cosco Busan spill has been called "Katrina for birds." The cost of the damage and cleanup has been estimated to be in excess of $90 million. Yet, the Cosco Busan spill could have been 20 times worse—only 5% of the one million gallons in the ship's fuel tank was released into the Bay.

Almost a year after the spill, Governor Schwarzenegger signed into law 10 of the 13 oil spill bills that reached his desk (see "Spill Spurs Bills," December 2008 ESTUARY). While the reforms have reduced some of the risks, Mike Jacob of the Pacific Merchant Shipping Association says more still needs to be done to protect the Bay and its wildlife.

One factor that will reduce risk is the International Maritime Organization's (IMO) requirement that large ships built after 2010 have double hulls. Double hull ships have two complete layers of watertight hull surface: the ship's normal outer hull and an inner hull, providing a redundant barrier in case the outer hull is damaged. Double hulls were phased in for oil tankers using U.S. ports by the Oil Pollution Act of 1990 enacted in the wake of the Exxon Valdez spill. But the IMO double hull rule does not address the fleet of pre-2010 ships, the vast majority of which (on a tonnage basis) will be in operation for several decades.

In any case, double hulls are less effective in groundings, which constitute most of the catastrophic spills, says Mo Husain of MH Systems. While double hulls might have prevented the Cosco Busan spill, a Coast Guard study said they would only have reduced the magnitude of the Exxon Valdez spill. Since double hulls will be phased in over the next several decades and most accidents—like the Exxon Valdez and the Cosco Busan—are due to operator error, more needs to be done to prevent accidents in the first place.

From 2001 to 2006, the frequency and costs of serious navigational accidents doubled for large ships, including container ships. The boom in the shipping market had increased pressure on crews: while the experience level on board was decreasing due to poor retention and premature promotions, new technical solutions were being introduced, which may have increased the complexity of operations. "Avoiding accidents requires a good safety culture, something the maritime industry evidently needs to focus more on," says Dr. Torkel Soma, Principal Safety Consultant at Det Norske Veritas Maritime.

Larger ships, with ...larger fuel tanks, could mean bigger spills.

And ships are getting bigger, which could mean bigger spills. Prior to 1988, the largest containerships carried up to 5,000 20-foot containers and were small enough to fit through the Panama Canal. Huge new container ships like the Cosco Busan (5,550 containers) are known as post-Panamax, because they are too big for the canal. In February, the MSC Daniela completed its maiden run from Asia to Europe packed with the equivalent of 13,800 20-foot containers. Thirty-five ships of Daniela's scale are scheduled to be delivered this year. Meanwhile, STX Shipbuilding is designing a ship capable of transporting 22,000 20-foot containers. Larger ships, with their expanded capacity, improve economies of scale, providing greater shipping efficiency and reduced costs for businesses. But their larger fuel tanks could mean bigger spills.

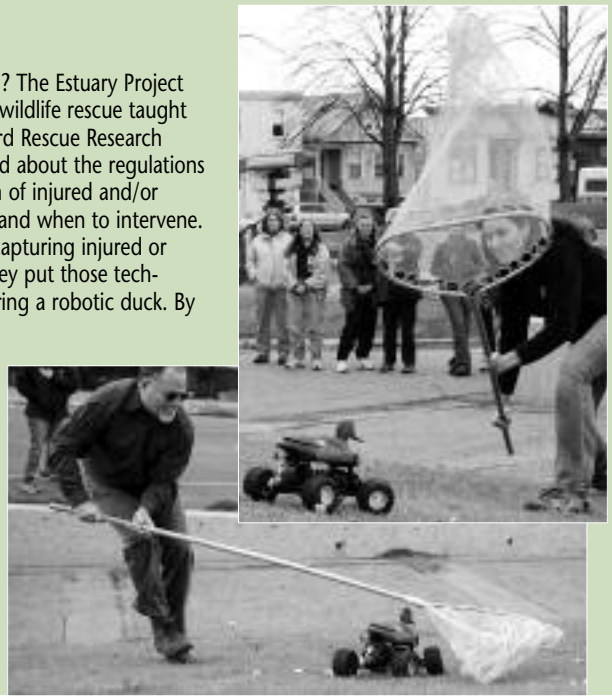
The Port of Oakland recently announced that it will receive $25 million in federal stimulus funds for completing a 50-foot dredging project so that it can accommodate bigger ships. The dredging is part of a port expansion that will almost double its capacity by 2016, and presumably increase the number of ships entering the Bay. In March, the port announced a public-private partnership that will invest hundreds of millions of dollars in the port over 50 years, build a new terminal, and create 6,000 jobs.

The new, bigger ships and port expansions, however, are arriving at a time when international trade is trending down and ports are laying off workers. Cargo shipments at the Port of Oakland declined 6.4% in 2008—the sharpest decline in eight years—after being flat in 2007. Meanwhile, the worldwide fleet of mothballed container tonnage grew by 50% in February, and industry experts estimate that freight income could plunge by $65 billion or more this year. Whether the drop in Oakland cargo shipments is just a short-term market correction or a long-term trend change will affect the amount of ships that can be expected to enter the Bay.

The amount of ships entering the Bay could also be affected by state and regional efforts to address climate change and oil dependence; those efforts could in turn change consumption and production patterns for the goods that govern the number of ships calling on Oakland's port. Aaron Lehmer of Bay Localize says while sea transport is more efficient than air and truck transport, and the regional economy clearly benefits from the port, "meeting our state's greenhouse gas reduction goals under AB 32 will require California and the Bay Area to produce much more of what it consumes." Of course, the entire notion of localization could be seen as being in direct conflict with the expansion plans of the port and the country's trade expansion strategy. "Only time will tell," Lehmer continues. "As a way of getting us off polluting fossil fuels and rebuilding our manufacturing base, localization would be a much better strategy." DR

HELPING BAY WILDLIFE

Are we ready for another oil spill? The Estuary Project recently sponsored a workshop on wildlife rescue taught by WildRescue and International Bird Rescue Research Center. Over 30 participants learned about the regulations governing rescue and rehabilitation of injured and/or oiled wildlife, as well as how, why, and when to intervene. The group learned techniques for capturing injured or oiled animals; in a field exercise, they put those techniques to work, stalking and capturing a robotic duck. By law anyone rescuing a wild animal must turn it over to an authorized care facility within 48 hours. So that they can take part in responding to the next spill or other disaster, participants should also volunteer at local wildlife rehab facilities that are part of the state's Oiled Wildlife Care Network, according to trainer Rebecca Dmytryk Titus. LOV



Photos by Adrienne Miller

PLANNING

RACE AGAINST RISE

An obscure but winsome Bay Area rodent had its 15 minutes of fame this winter as Congress debated President Obama's economic stimulus bill. The claim that $30 million of the stimulus package would be used to protect the salt marsh harvest mouse apparently originated with a spokesperson for House Minority Leader John Boehner (R-Ohio). In fact, the stimulus bill contained no mouse earmarks. Boehner's office eventually issued a disclaimer, but not before the hapless mouse, San Francisco, and House Speaker Nancy Pelosi (D-CA) had been pilloried on talk radio and in the rightwing blogosphere.

The $30 million figure—the grain of truth inside the pearl of rumor—came from a California Coastal Conservancy wish list. Steve Ritchie, executive project manager for the South Bay Salt Pond Restoration Project, explained that the state agency had recommended that amount in funding through the National Oceanic and Atmospheric Administration (NOAA) for several habitat restoration projects in the Bay, but they weren't just mouse pads: "These are real projects involving tidal marsh that would also benefit the California clapper rail and other bird and animal species, and preserve nursery areas for fish."

Salt marsh harvest mouse by Lisa Krieshok

Ritchie has more on his mind than apocryphal mouse funds. Six years after the former Cargill property was acquired, construction on Phase 1 of the ambitious restoration project is set to begin in April. The final permits came through in January, just after the state bond funding freeze. Fortunately, the South Bay project had other resources.

"We've got federal money lined up, as well as money from an old mitigation fund and CalTrans mitigation funds for public access," Ritchie says. "Every single project out here has multiple funding sources."

The Santa Clara Valley Water District's Beth Dyer says her agency is providing Habitat Enhancement Grant funds for work on Pond A8 near Alviso. Ritchie is also looking at stimulus funding through NOAA: "We have a large appetite here in the Bay Area for restoration funds. There's going to be tough competition."

The work will start first at the Ravenswood unit of the Don Edwards San Francisco Bay National Wildlife Refuge, at the west end of the Dumbarton Bridge. The project also covers the refuge's Alviso unit and Eden Landing near Hayward, managed by the California Department of Fish and Game. No work had been done at Ravenswood under the Initial Stewardship Plan. Most of Pond SF-2 will become shallow-water habitat dotted with islands where shorebirds can roost and nest. A portion will be managed for the endangered western snowy plover.

Later this year it will be Eden Landing's turn. "We'll be moving dirt among the levees in anticipation of breaching them next year," Ritchie says. "We expect to be able to restore a good chunk of acreage. Among other funds, we're hoping to get part of the fine from a leopard shark poaching case." The Alameda County Flood Control District will be a major partner here.

At Alviso, Pond A8 will be converted to muted tidal flow, with a series of gates to control tidal volume. Ritchie called it "a large-scale experiment"—part of Phase 1's emphasis on adaptive management. "We're trying to answer the question of whether it makes a big difference in mercury entering the food chain if we do a restoration," says Dyer. "If we learn it's headed toward a problem we can close the gates permanently. We're trying to be responsible in addressing things like mercury we don't know much about. We're still very much at the beginning of the learning curve." Ritchie noted that the existing seasonal pond, where algae growth promotes methylation, may make mercury more available than the planned muted tidal wetland would.

That adaptive management will have to be nimble. "A lot of these [South Bay] areas are very low-lying," Ritchie says. "We need to construct some levees behind the ponds to make sure the tide doesn't get back into Silicon Valley, and get the tidal marsh established as soon as we can so it has a chance to keep up with sea level rise by capturing sediment." It will be a race between restoration and the rising waters.

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INVASIVE SPECIES

PICKING OFF PERIWINKLES

Anyone remember winklepickers? The pointy-toed shoes worn by British rock fans got their name from implements used to extract small edible marine snails called European periwinkles *(Littorina littorea)* from their shells after boiling them in salted water. They're also featured in Asian cuisines, and can be purchased live in some local Asian markets. And some of them are getting into San Francisco Bay.

Marine biologist Andrew Cohen says there's lively scientific debate over whether *L. littorea* is native to North America as well as Europe. Some have concluded it was introduced to Newfoundland by the Vikings, or by later waves of settlers. The genetic and fossil evidence is controversial.

Native or not, the small blackish snails have spread south along the Atlantic coast, where they've altered New England intertidal ecosystems by grazing on algae, and turned salt marshes into rock cobble shorelines. *L. littorea* is also a host for marine black spot disease, which has been transmitted to fish (including commercial species) and seabirds.

European periwinkles have turned up sporadically in the Bay over the years. With funding from the San Francisco Estuary Project, Cohen is about to launch an eradication program. He and Andrew Chang from UC Davis plan to search known sites and systematically remove the snails. The most recent reports were from the eastern end of the Dumbarton Bridge, the Ashby Spit in Emeryville, and the Foster City shore.

Both *L. littorea* and the closely related but smaller rough periwinkle *(L. saxatilis)* have been found in seaweed used to pack shipments of baitworms from New England. *Saxatilis* most often occurs near fishing piers and common fishing spots. Cohen suspects *littorea* has also been introduced intentionally as a food source.

Cohen considers *saxatilis* less of a threat, since it disperses more slowly and has not been reported to change tidal habitats like its relative. *Littorea*, with its mobile planktonic larvae and destructive history, is a real concern. If funding allowed, he'd like to use genetic analysis to determine where Bay populations originated so the mechanism of introduction could be managed. "Our biggest effort should be on prevention rather than eradication," he says.

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OUTREACH

CLEAN DELTA

For a member of a declining species, Stanley the Striped Bass looks remarkably cheerful. He's the mascot of the Keep the Delta Clean Program, and his toothy grin is all over the Delta, at sites where boaters can safely drop off oil-absorbent bilge pillows, used oil and filters, marine batteries, and monofilament fishing line.

The program was launched in 2003 with a Proposition 13 grant from the State Water Resources Control Board and the California Bay-Delta Authority. Initially a partnership among Contra Costa County, the California Department of Boating and Waterways (DBW), and the California Coastal Commission, it was expanded in 2007 to include Solano, Yolo, Sacramento, and San Joaquin Counties and the City of Stockton.

Funded through September 2009, Keep the Delta Clean provides 25 participating marinas with waste collection infrastructure and information kiosks. "This program works to prevent pollution at its source by providing access to free and convenient environmental services, while empowering the boating community with useful resources that make it easy to do the right thing," explains Vivian Matuk, Environmental Boating Program Coordinator for DBW and the Coastal Commission.

Along with keeping oil out of the water, the program aims to keep fishing line away from wildlife by providing 13 recycling sites. Ospreys, herons, and river otters (among others) can become entangled in monofilament line, often with fatal consequences.

Chris Lauritzen owns Lauritzen Yacht Harbor in Oakley, one of the first Keep the Delta Clean partners. "People who are green understand what it's all about," he says. "We're always educating everybody," says Larry Nash of the Antioch Public Marina. "I still get asked, 'Where can I get this or that?'"

As of last year, the program has collected over 8,638 gallons of motor oil, 5,490 pounds of used oil filters, and 1,251 marine batteries; distributed 25,000 free recreational boater kits containing maps, safety flags, and bilge pillows; and trained 80 volunteer Delta Dockwalkers who hang out at the marinas, talk to boaters, and distribute boater kits with educational materials. Stanley, at least, has a lot to smile about.

CONTACT: Vivian Matuk: vmatuk@coastal.ca.gov. www.keepthedelta-clean.com. JE

RECREATION

PADDLING WITHOUT FLUSHING

Slipping across the chop in a kayak, even the tallest and most gawky of human beings can keep a low profile. "In a kayak, you can get closer to birds than in any other kind of watercraft," says veteran paddler and sailboarder Jim McGrath. "But we all know that if you head straight for a raft of ducks, they're going to startle and fly."

Biologists confirm that ducks are among the most "flushy" of birds, and that big flocks (rafts) are more likely to flush than pairs and individuals. Just how many times ducks and other Bay birds can be flushed and not burn precious migratory calorie stores, and just how many kayakers and other small human-powered craft may be out there flushing them, are questions to be addressed in the final stages of planning for a new water trail around the Bay.

The idea for a water trail surfaced in 2001, championed by a group called Bay Access. They got the trail approved by the California State Legislature in 2005, and the S.F. Bay Conservation and Development Commission (BCDC) held public hearings and came up with a trail plan in 2007.

The trail is not a line in the water. As journalist Paul McHugh described it in a July 2008 article *New York Times* article, "A water trail is a frame for travel, more than an actual pathway. When a system is created, paddlers, rowers or sailors can connect the dots in any manner or order they like. Or, in whatever way wind and tide demand." Over 400 water trails already ply coastal and inland waters elsewhere on the continent.

Implementation of BCDC's trail plan fell to the State Coastal Conservancy, which released a draft programmatic environmental impact report (EIR) in June 2008. Project manager Ann Buell says the report was designed to address impacts at a lot of sites, so every marina wanting to add a new ramp or toilet wouldn't have to do their own EIR. But public comment on the draft report suggested that its conclusions and alternatives were too confused, and officials decided to withdraw and rewrite it.

The plan and EIR examine 112 proposed water trailhead sites, and suggest almost immediate designation of 57 "High Opportunity Sites" (HOS) where only minimal improvements are needed and few, if any, environmental impacts anticipated.

Most of the HOS lie along the Central Bay's more urban eastern and western waterfronts. The least accessible areas for those wanting to park and slip their kiteboards, windsurfers, and kayaks into the water are San Pablo Bay and the South Bay.

In San Pablo Bay, kayakers would like to see new campsites to facilitate overnight trips to more rural shores. In the South Bay, and especially in San Leandro Bay, wildlife advocates like Arthur Feinstein of the Citizens Committee to Complete the Refuge don't want to see more access to areas where refuges, marshes, and sensitive endangered species habitats abound.

To minimize disturbance from water trail use, Feinstein says "We need mechanisms to

notify launch sites of seasonal sensitivities, and direct education on where to go and where not to go in order to protect birds. If you don't require it, it's not mitigation, it's just a nice thought."

McGrath, who serves on a half dozen official waterfront planning bodies, feels that dock and ramp owners along the shore shouldn't be saddled with expensive environmental stewardship mandates on top of mandates to ensure water safety and provide bathrooms.

Buell says a strong state-funded program will offset these costs, and even improve current safety and behavior on the water. "People have been using the Bay willy-nilly for decades, and boating in the same areas where wildlife are foraging, nesting, and resting," she says. "What we're really bringing, by enhancing launch sites and offering systematic education about good stewardship, is a new level of knowledge about where and how to get on the Bay, and how to enjoy it safely and 'leave no trace.'"

All sides seem unsure just how much the promotion of this trail will motivate more people to get out on the Bay. Nobody seems to know exactly how many people are out on the Bay in small human-powered craft annually, but state boating surveys suggest there may be as many as 100,000 users—many of whom may or may not be active—in the Bay region.

"I'm nervous that instead of infrequent, intermittent kayaking we will see increased and sustained usage in some areas, which will drive birds away," says Feinstein. Bay waterfowl populations have taken a 60-70% dive in the last few decades, so every new disturbance, however little, counts, he says.

For McGrath, the "how little" is the crux of the issue in a Bay with over 250,000 acres of open water, in which the footprint of a kayak is about one or two acres, and in which on most trips he says he only disturbs the occasional bird. "The issue becomes what level of disturbance do you need for it to matter, to have ecological significance, and how does it compare to existing commercial and recreational use, and to use by motorized craft, for example? A cigarette boat disturbs every bird around for miles," says McGrath. He points out that kayaking any distance on our less-than-placid Bay is a physically demanding activity that limits the audience.

All sides will get a chance to voice their opinions again when the revised EIR comes out in late 2009. In the meantime, many feel that even if more people paddle and parasail out on the Bay to enjoy the new trail, it will only result in stronger sentiment for Bay protection, and in an ethic that may save more birds than startle them.

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OUTREACH

CLEAN BAY

The Bay waters are sparkling blue-green in Jim Walter's South Beach Harbor marina at San Francisco's Pier 40. Not one piece of trash litters the docks or floats in the water; no oily film glazes the surface. What is Walter's secret? "There are multiple things we do. We have an oil recycling facility, we hand out free oil booms and pads for changing oil—we'll come right to your boat," says Walter. Free, 24-hour sewage pumpout stations—well-used—are conveniently located at the end of each of his guest docks. For a minimal fee, his staff will recycle bilge oil and other contaminated oil as well as small amounts of gasoline; next year, he hopes to install an oily bilge pumpout system. Walter also offers free recycling of used batteries, oil filters, and bilge pads.

One of his most effective outreach tools is a monthly newsletter sent to all marina tenants in their bills, with clean boating and greenhouse gas-reducing tips. Used zinc anodes (attached to boats to absorb electrical charges in sea water that can lead to corrosion) should not be discarded into the Bay where they can harm marine life, writes Walter: instead, they can be recycled. By keeping propeller blades clean and in good condition, boaters can avoid drag and wasting fuel; by keeping boat weight lighter, less horsepower is required and less fuel used; checking the tides and avoiding boating against them is another way to use less fuel. And as with any other motor vehicle, traveling at slower speeds with a properly tuned engine will reduce fuel use and emissions.

Photo by Lisa Owens Viani

About 75% of the South Beach Harbor tenants are sailboat and private yacht owners, who, "being in San Francisco tend to be environmentally aware," says Walter. That said, he walks the docks with an eagle eye for anyone violating what he calls "best boating/management practices." Anyone not cooperating is politely requested to berth their boat elsewhere.

CONTACT: james.walter@sfgov.org LOV

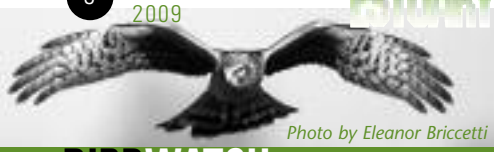


Photo by Eleanor Briccetti

BIRDWATCH

HELPING HARRIERS

Birds don't read restoration plans or schedules; therefore, the East Bay Regional Park District has rescheduled part of its large-scale Berkeley Meadow Habitat Restoration Project. The work in question, actually more creation than restoration, will make habitat for a number of plant and animal species along the East Bay shoreline by capping a former landfill and creating uplands planted with natives, and seasonal wetlands.

Workers had begun clearing brush in February—mostly invasive fennel, poison hemlock, and wild radish—to make way for native plants in the northwest corner of the project area when Corinne Greenberg, who has birded the site for years, noticed that the cleared space included a nesting spot for northern harriers, a state-designated species of special concern. "They've exhibited site fidelity since 1994," says Greenberg. She believed the hawks were about to nest again, although February would be early for the species.

Greenberg reported what she'd seen on the East Bay Birders listserv, and from there the email flew in all directions, including to EBRPD's Doug Bell. Within a week, an informal stakeholders' meeting convened.

EBRPD's Brad Olson explained that the grant to fund this part of the meadow restoration would run out a year from mid-March, and that there are tight time constraints on work, between breeding seasons (Bell says that "the absolute no-work window of March 15th to July 15th avoids impacting nesting birds"), and the Regional Water Quality Control Board's early-winter deadline to avoid washing exposed soil into the Bay.

But rather than waiting for incontrovertible evidence that harriers were nesting (rather than just hunting or courting), Olson declared the northwest corner of the meadow a "harrier habitat management area." It's been roped off and no further clearing will happen there this season.

"We don't want to destroy habitat in order to restore habitat," Olson told the group. "We're managing a mosaic of habitat. There's no reason we can't manage for harrier habitat."

CONTACT: Brad Olson, bolson@ebparks.org; Doug Bell, dbell@ebparks.org; Corinne Greenberg, corinnelouisedesign@yahoo.com. RS

ESTUARY 2100 CONTINUED

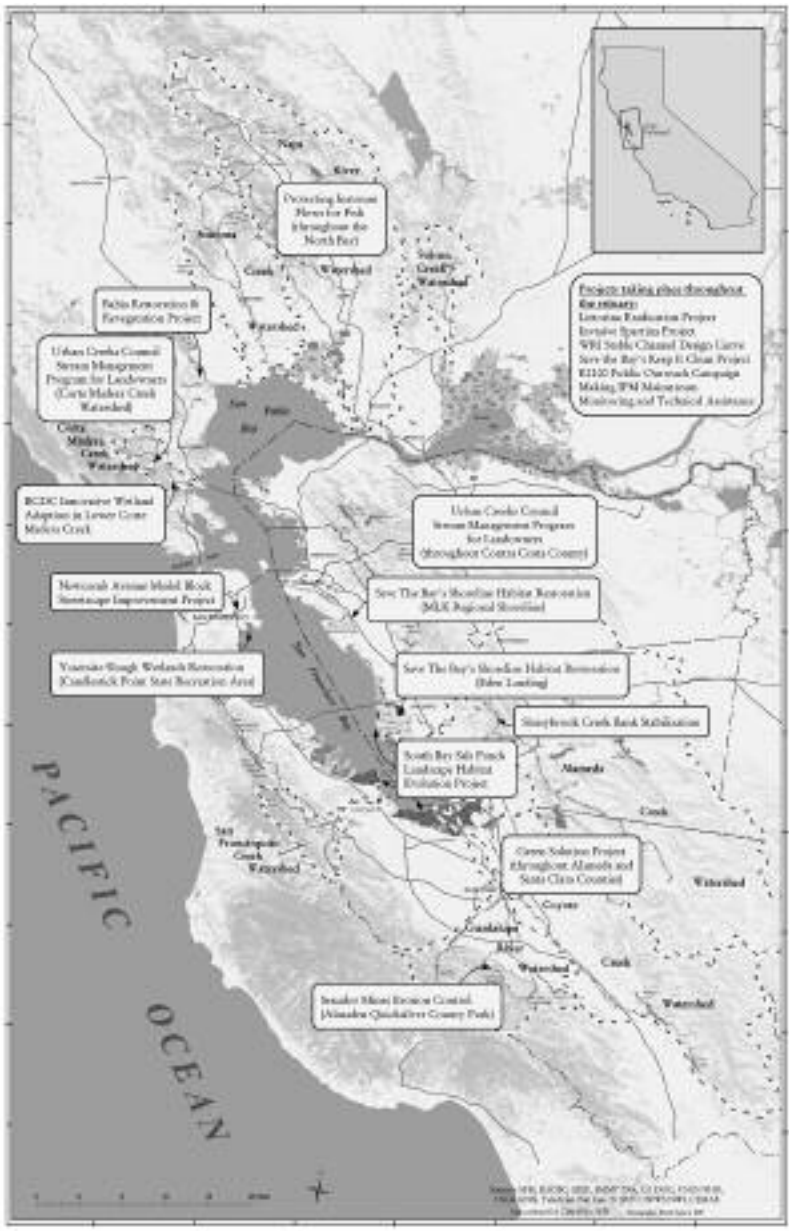
- developing plans for adjusting wetland restoration projects that may be affected by climate change impacts such as sea level rise
- improving urban runoff water quality in low-income neighborhoods
- constructing "green" stormwater infrastructure in San Francisco's Bayview neighborhood
- reducing stream bank erosion on private lands
- reducing water diversions by North Bay vineyard owners
- improving native fish habitat

Through these projects, we expect to improve the health of the Bay and make it more resilient to sea level rise and severe storm events. We'll also be doing extensive outreach to engage the public in our restoration efforts.

Over a dozen partners will receive funding to complete projects. They include Save the Bay, Urban Creeks Council, San Francisco Estuary Institute, California Coastal Conservancy, California Land Stewardship Institute, Waterways Restoration Institute, the Bay Conservation and Development Commission, Community Conservancy International, Alameda County Flood Control District, California State Parks Foundation, Center for Research on Bioinvasions, the city and county of San Francisco, Santa Clara County, and Marin Audubon Society.

—Judy Kelly, SFEP Director

ESTUARY 2100 PROJECTS



CONFERENCES, WORKSHOPS EXHIBITS, & TOURS

APRIL 14 TUESDAY

CALIFORNIA COLLOQUIUM ON WATER

TOPIC: Lecture by Mitch Avalon, Deputy Public Works Director, Contra Costa County
LOCATION: Goldman School of Public Policy, UC Berkeley
SPONSOR: Water Resources Center Archives
www.lib.berkeley.edu/WRCA/ccow.html

APRIL 15-17 WEDS-FRI

CENTRAL VALLEY WATER TOUR

TOPIC: San Joaquin Valley water issues
LOCATION: Bakersfield
SPONSOR: Water Education Foundation
(916)444-6240; www.watereducation.org/doc.asp?id=1070

APRIL 16 THURSDAY

URBAN DROUGHT WORKSHOP

TOPIC: Managing the crisis: essential tools for urban water managers
LOCATION: San Francisco Airport Marriott, Burlingame
SPONSORS: Water Education Foundation and Association of California Water Agencies
(916) 444-6240; www.watereducation.org/doc.asp?id=1070

APRIL 18 SATURDAY

EARTH DAY ON THE BAY

TOPIC: Boat trips, shark feeding, Environmental Vaudeville and more
LOCATION: 500 Discovery Parkway, Redwood City
SPONSOR: Marine Science Institute
www. sfbaymsi.org/earthday; (650)364-2760

APRIL 21-24 TUES-FRI

WATER MANAGEMENT SHORT COURSES

TOPIC: Sustainable landscapes: wetland creation and restoration
LOCATION: San Francisco
SPONSOR: Water Resources Center Archives
www.unex.berkeley.edu/gogreen/

APRIL 24-25 FRI-SAT

TOPIC: Aquatic pollution in the San Francisco Estuary
LOCATION: Berkeley
SPONSOR: Water Resources Center Archives
www.unex.berkeley.edu/gogreen/

MAY 1-2 FRI-SAT

TOPIC: Sustainable urban surface and stormwater treatment
LOCATION: Berkeley
SPONSOR: Water Resources Center Archives
www.unex.berkeley.edu/gogreen/

MAY 15-JUNE 7

PADDLE TO THE SEA

TOPIC: Three-week festival celebrating the Tuolumne River
LOCATION: Groveland to SF Bay
SPONSOR: Tuolumne River Trust
www.tuolumne.org/content/article.php/paddle2009

HANDS ON

APRIL 18 SATURDAY

EARTH DAY EVENTS

Oakland Earth Day Cleanup, 9 am-noon
LOCATION: Lake Merritt, Sausal Creek, other locations
SPONSOR: City of Oakland Public Works Agency
www.oaklandearthday.com; (510)238-7611

Earth Day Weeding, 9 am-noon
LOCATION: Eden Landing, Hayward
SPONSOR: Save the Bay
www.safesfbay.org; (510)452-9261

Albany Earth Day Celebration and Clean-up
LOCATION: Albany Waterfront
SPONSOR: City of Albany
www.thewatershedproject.org/events; (510)665-3689

APRIL 25 SATURDAY

West Contra Costa County Earth Day Creeks and Shoreline Challenge
LOCATION: Wildcat, Baxter, San Pablo and Rheem Creeks and South Richmond Shoreline
SPONSOR: The Watershed Project, SPAWNERS, Urban Creeks Council and others
www.thewatershedproject.org/events; (510)665-3597

Earth Day Restoration and Cleanup
LOCATION: Multiple Bay Area locations
SPONSOR: California State Parks Foundation
www.calparks.org/programs/earthday; (415)262-4400

MAY 2 SATURDAY

SPRING WEEDING

LOCATION: Martin Luther King Jr. Shoreline, Oakland; 9 am-noon
SPONSOR: Save the Bay
www.safesfbay.org; (510)452-9261

NOW IN PRINT & ON LINE

The Impacts of Sea-Level Rise on the California Coast by Matthew Heberger, Heather Cooley, Pablo Herrera, Peter H. Gleick, and Eli Moore. March 2009, Pacific Institute.
www.pacinst.org/reports/sea_level_rise/index.htm

Introduction to Water in California by David Carle. February 2009 (updated edition), University of California Press.
www.ucpress.edu/books/pages/9854001.php

Water in the 21st Century West: A High Country News Reader, edited by Char Miller. 2008 (revised and updated edition), Oregon University Press.
oregonstate.edu/dept/press/uw/Water21stWest.html

Vegetation Management in Terrestrial Edges of Tidal Marshes, Western San Francisco Estuary, California by Peter R. Baye. October 2008, Marin Audubon Society.
www.sfbayjv.org/pdfs/MAStidemarshecotonevegmgmtfinal2008-3.pdf

SAVE THE DATE

SEPTEMBER 29-30, OCTOBER 1
TUESDAY-THURSDAY

STATE OF THE ESTUARY CONFERENCE

TOPIC: Ninth biennial conference; "Our Actions, Our Estuary" focuses on current and upcoming challenges to the Estuary and its wildlife and water quality; emphasis on how cities around the Bay can build healthy resilient watersheds in light of changing climate and precipitation patterns, and sea level rise.

LOCATION: Downtown Oakland Marriott

SPONSOR: San Francisco Estuary Project, California Coastal Conservancy, and others

CALL FOR POSTERS

DEADLINE: July 17, 2009

Posters can address the conference theme or other Bay-Delta topics, including habitat restoration and protection, water supply, water and/or sediment quality, public outreach, policy and management, socioeconomic issues, and environmental education programs related to the Estuary.

www.sfestuary.org

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APRIL 2009 VOLUME 18, NO. 2

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ESTUARY is your news source on Bay-Delta water issues, estuarine restoration efforts, and the many programs, actions, voices, and viewpoints that contribute to implementation of the S.F. Estuary Project's Comprehensive Conservation and Management Plan (CCMP). Views expressed may not always reflect those of Estuary Project staff, advisors, or CCMP committee members. ESTUARY is published bimonthly.

ESTUARY is funded by the San Francisco Estuary Project.

San Francisco Estuary Project

TRACKING THE GREENBACKS CONTINUED

whether habitat restoration in San Francisco Bay is included. Although Fish & Wildlife has $165 million in federal dollars for "high priority restoration projects" and other uses, Pitts had no estimate of California's share. The Office of Management and Budget has final say, with a decision expected by May 1.

With $4 billion available for Clean Water State Revolving Funds capitalization grants, the U.S. Environmental Protection Agency will be a major player. California can expect $280 million from this source, at least half of which must be distributed as grants and other subsidies. The State Water Resources Control Board will allocate $175 million to wastewater infrastructure projects for disadvantaged communities and frozen bond projects with the balance available for nonpoint source pollution control, and watershed and estuary management. Twenty percent of State Revolving Fund grants must go to projects for green infrastructure, water or energy efficiency, innovative water quality improvements, decentralized wastewater treatment, stormwater runoff mitigation, and water conservation. Priority will go to projects that are ready to start construction within 12 months after passage of the stimulus act. According to the Water Board, stimulus funding is expected to be available for habitat restoration projects implemented by nonprofits.

The Obama administration has promised transparency in the funding process, and there are recovery pages on most agency web sites, although the level of detail varies widely. California has its own recovery site. To follow the money, visit www.recovery.gov, with links to state and agency sites.

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