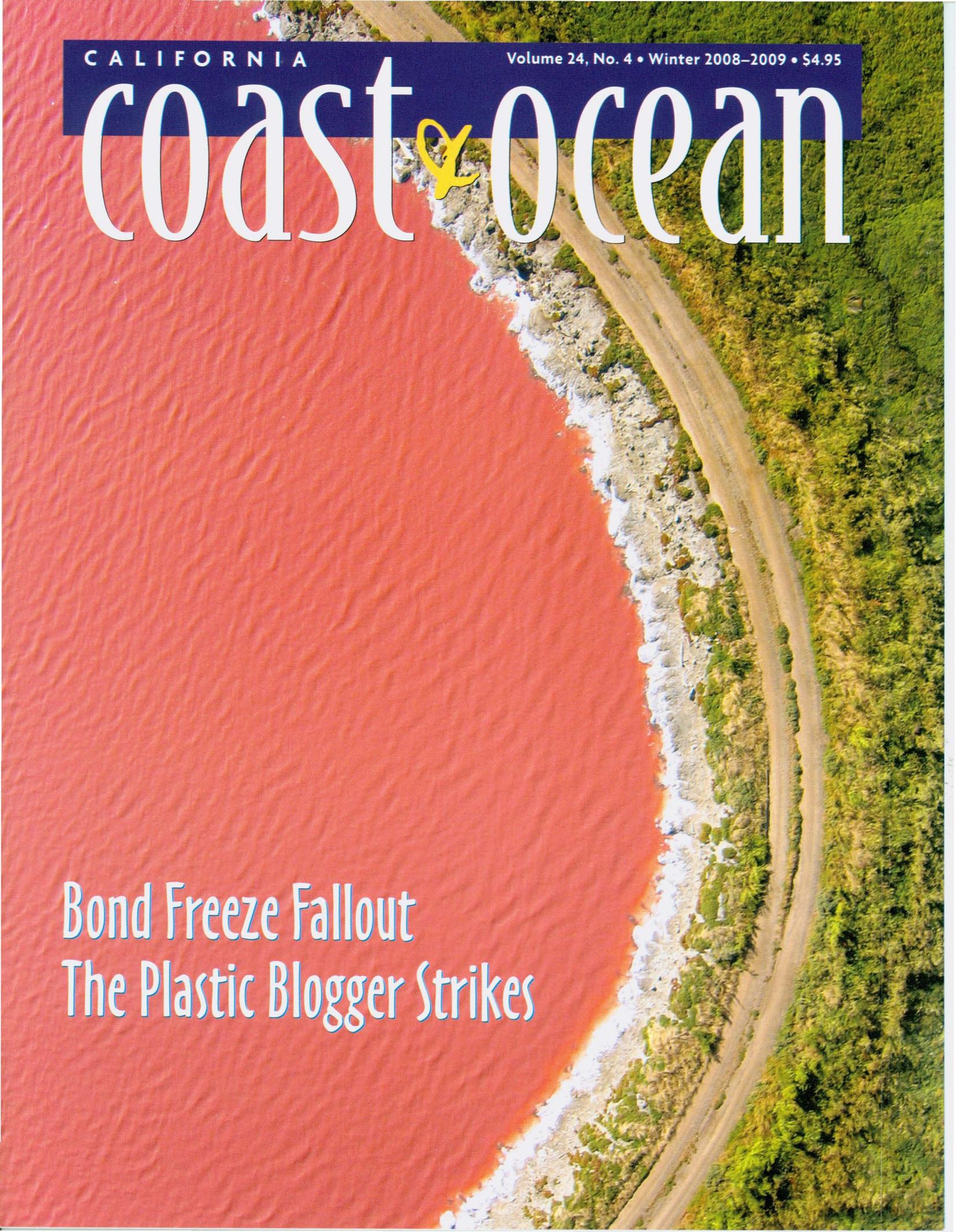


CALIFORNIA

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coast & ocean

An aerial photograph of a coastline. The water is a deep, vibrant red color, contrasting sharply with the white and grey rocky beach. A dirt road runs parallel to the shore, bordered by lush green vegetation. The title 'coast & ocean' is overlaid on the top half of the image, with a yellow bird icon replacing the ampersand.

Bond Freeze Fallout
The Plastic Blogger Strikes

Two special issues coming up soon, each with a gorgeous pull-out map painted by Mona Caron:

**The Great & Wondrous Pacific Ocean
The Big SF Bay Watershed (that's 40 percent of California)**

Don't miss these. They'll be collectors' items!

CHECK OUT OUR WEBSITE

The *Coast & Ocean* website, www.coastandocean.org, includes most articles from the current print edition (some abridged), many color images, back issues, and other information.

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Cover photo: A high-salinity pond near Mowry Slough in the South San Francisco Bay Salt Ponds, by Cris Benton, a professor of architecture at U.C. Berkeley who is a passionate practitioner of Kite Aerial Photography, using handmade equipment. His salt pond photos have been shown at museums, galleries, and conferences.

Inside Back Cover: Pelican and fishing boats, Monterey Bay, by Anne Canright.

Back Cover: Salt harvest in crystallization ponds near Newark, by Cris Benton. See more of his work at <http://steel.ced.berkeley.edu/cris/kap/gallery/SBSS08>. Look for an article about the South Bay Salt Pond Restoration Project in our Winter 2009–10 issue.

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The Coastal Conservancy is a state agency that works with the people of California to preserve, improve, and restore public access and natural resources along the coast and around San Francisco Bay.



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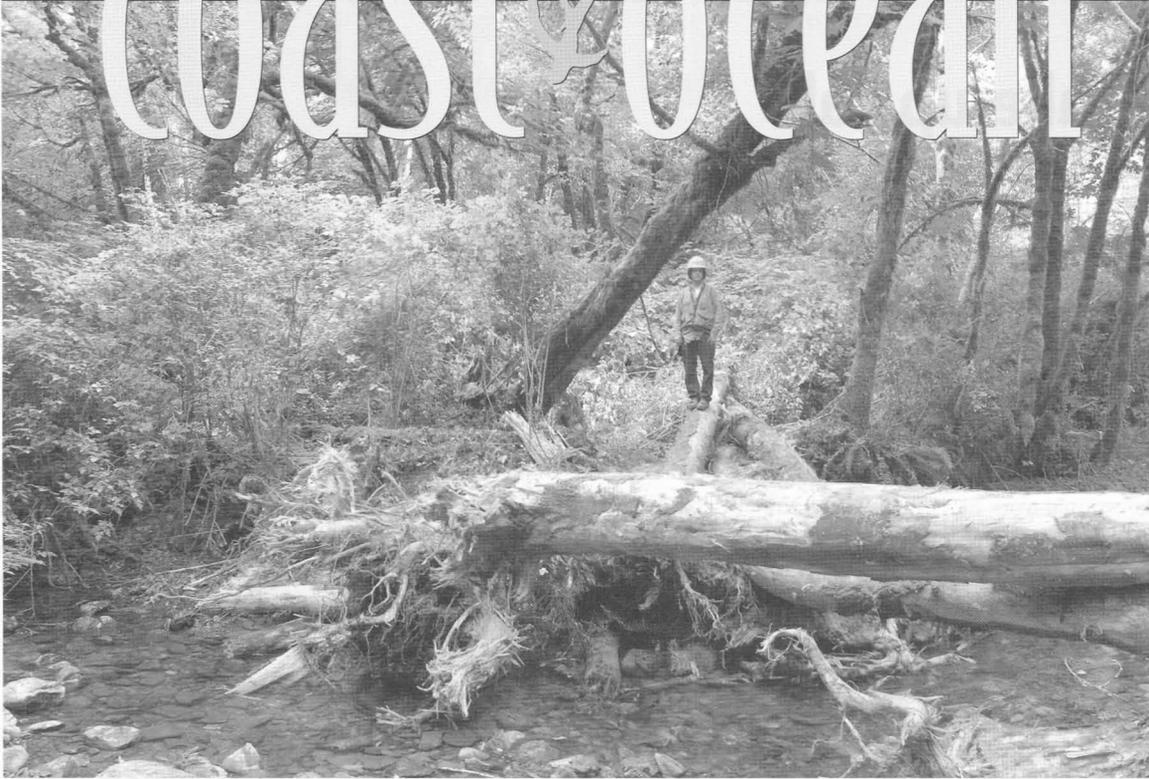
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coast & ocean



THOMAS B. DUNKLIN

On Mill Creek, in Del Norte County, erosion patrols and habitat restoration have been stopped by the bond freeze.

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Our Wake-up Call

A POLISH JOURNALIST WHO HAD experienced the turmoil of liberation in his country spoke to a group of American journalists some years ago about reporting the news despite censors and the ever-present threat of arrest. We listened, rapt, as he told stories about working with a small group of colleagues he trusted absolutely. His voice was alive as he recalled those intense times; but when he began to talk about his professional work here (he had emigrated), his voice went flat.

One of us asked whether there was anything he especially missed. He reflected for a moment—friends, family, language, and country, of course, no need even to mention—and said, yes, there was. In Poland, he and the others in that small group knew that each held the others' fate in his hands; they had to be creative and ever-alert, and their work was eagerly awaited. Here he was glad he could report and write freely, but sometimes he felt irrelevant.

What this Polish journalist said struck a chord in me, and stayed in my mind. Under the oppressive regime of that time, the longing for free speech was a powerful driver; here we enjoy free speech but many of us yearn to belong to some small circle of like-minded souls engaged intensely together in work that matters to society. We are taught to stand up for ourselves, to compete, to get ahead of others. Most of us don't need to fear that unless we forge powerful trust in each other, we might be pulled into an abyss. (This likely does not hold for people who lack the official papers required to call this country home, or for those young men most likely to be stopped by police because of their appearance.)

As our country's financial crisis keeps worsening, however, we are beginning to discover, out of necessity, that we can help each other out and enrich ourselves in the process. The presidential election led many

to believe that restoration of democracy is possible, and we are acting on that belief.

On March 15 the *New York Times* reported an enormous upsurge in volunteerism throughout the country. In California, where a vast number of people have lost homes and jobs, and where a State freeze on spending bond money approved by voters has interrupted and damaged hundreds of conservation projects, some people have quietly continued to work, even though they know they won't get paid. In my own neighborhood, a man on duty at a news and magazine shop said he was looking for a place where he could cook for people, free of charge. He likes to cook, he said.

Our unsustainable economy turned citizens into mere consumers, and in many ways people are now less self-reliant than they had to be in the past. A lot of once-common skills have become scarce. Many objects in daily use can't be repaired; even if you want to you can't fix them; they can only be thrown away or, at best, recycled. Now, out of necessity, sprouts of creativity are poking up, and some of them are improving our quality of life.

One morning, as I approached the BART station on my way to the office, my eyes were drawn to a little card table covered with a bright patterned tablecloth. Beside it stood a pleasant-faced tall blond man and a small dark-haired woman, both perhaps in their late 20s. Lemon muffins were on the table, and a large thermos stood at the man's feet. A hand-printed sign read: "Chai and muffin—\$1." Not one dollar for each, but for both. His accent sounded British to me. She was Turkish. He lifted the thermos, poured some fragrant spiced tea into a small paper cup, and set it in a heat shield made from a fragment of egg carton. He had made the tea, she the lemon muffins. Delicious! I told them I'd readily pay \$2, but he said \$1 was enough. They were here until they sold out what they had made that

morning, and if they came every working day they'd have enough for rent.

I began to look forward to this breakfast snack and was disappointed when they stopped coming. They had heard of another spot where the market for chai was better and they could sell their day's quota more quickly.

This bit of hand-crafted microbusiness allows for many variants, and they don't have to be so very small. Instead of sitting in a cubicle behind a computer, getting depressed and angry if a paycheck stops, it's possible to use newly available time to create new ways to make a living if we look around in our communities and use our wits.

Of course, this little chai and muffin enterprise would not work where people drive to shopping centers and offices rather than walking and taking public transit. The hope now is that the current infusion of money into efforts to get the economy up and running again will offer strong support to diverse small independent and collaborative enterprises within local communities.

As happened in Poland and the Soviet Union, an empire is crumbling now, and monolithic structures that once looked impregnable are turning out to be riddled with termites. They have become obsolete. Now, in the wreckage, there is an opportunity for new institutions to evolve.

A couple of days ago I attended a panel discussion about the future of newspapers, specifically the *San Francisco Chronicle*, which has been eviscerated and seems to be in terminal condition. Hometown newspapers are dying and democracy can't live without a healthy press. This is a very serious crisis. I think of that Polish journalist. We too now must fight to rebuild democracy, and this is our wake-up call. There's no telling how we'll come out of all this, but it's time for the ingenuity America is known for.

—Rasa Gustaitis

BOND FREEZE HUNDREDS OF PROJECTS SUSPENDED, GREEN JOBS LOST FALL OUT

RASA GUSTAITIS

EVEN AS PRESIDENT-ELECT BARACK Obama was preparing a giant financial aid package meant to provide green jobs and steer the nation toward a sustainable economy, a sledgehammer blow paralyzed a healthy sector of the growing green economy in California.

It happened on December 18, 2008. The State of California was in an unprecedented financial crisis, no longer able to borrow, which it does routinely to smooth out cash flow. The Legislature was in the sixth month of an impasse, unable to adopt a budget that would cover obligations. The Legislative Analyst predicted that the State would run out of cash in February unless the stalemate was resolved. Voter-approved bonds were not selling.

Faced with this unprecedented emergency, the Pooled Money Investment Board, which consists of the State director of finance, controller, and treasurer, decided to put an immediate stop to all spending of voter-approved bond funds—a total of over \$3.8 billion committed to some 2,000 projects statewide. These were projects to improve schools, transportation, and environmental infrastructures. Agencies receiving bond money were notified that no invoices would be paid for work done after December 18.

Abruptly, millions of dollars' worth of "green" work was suspended, indefinitely. Many of the projects stopped along the coast and in the nine San Francisco Bay counties were funded by Coastal Conservancy grants to local governments and nonprofit organizations.

These funds had created jobs in local communities for restoring wetlands, streams, and wildlife habitat, protecting coastal farming and fisheries, improving water quality in streams and nearshore waters, reducing flood hazards and carbon emissions, building trails, and encouraging commuting by bicycle rather than by automobile. The funds also supported the purchase of scenic lands for public enjoyment, restoration of historic buildings for public use, and many other projects that were stimulating green economic benefits.

Among those idled were engineers, construction workers, equipment suppliers, hydrologists, and wildlife biologists. The ripple effects of the freeze jolted businesses already struggling in the national financial meltdown and jeopardized the survival of small nonprofit groups. The effects were felt with special intensity along the North Coast and in other areas with abundant natural resources but high unemployment.

When the stop-work order arrived at the Coastal Conservancy on December 18, the holiday party was about to start. It was immediately canceled and project managers spent the afternoon conveying the bad news to more than 200 contractors and grantees, to whom the Conservancy had committed \$143 million for projects under contract and owed \$11 million more for completed projects. Invoices that had been signed and approved by December 18 would be paid first, while payment for others would have to wait indefinitely. More than 90 percent of the Conservancy's projects are bond-funded.

One of the Conservancy's partners is the Santa Cruz County Resource Conservation District (RCD), which has been working with landowners, public agencies, and other organizations to restore fish habitat in coastal streams. "We sent out 26 stop-work orders December 18—to all the little guys," said Karen Christensen, executive director of the RCD, which had contracted with small construction firms to remove impediments to fish passage and to restore eroded banks. Suddenly there was no money to pay contractors. "We have submitted \$1.1 million in invoices [to the Conservancy] for work completed last fall, and have \$950,000 more not yet submitted," Christensen said.

The freeze stopped 41 of the RCD's projects in a critical period. On some creeks, restoration work had exposed banks to the hazards of erosion and failure if revegetation was not completed before heavy rains hit.

Good relationships that had taken much effort to build were seriously damaged.

In Shasta and Scott Valleys in Siskiyou County, some landowners who had signed on to remove flashboard dams for the sake of coho salmon now stand to lose their irrigation water, said Karen Gaffney, executive officer of West Coast Watershed. The dams are gone, but the fish-friendlier irrigation systems were not yet in place when work was stopped. "Can you imagine the catastrophe," Gaffney said, "not only for them personally, but for the long-term viability of the program, which is based on trust?"

On Clear Creek, southwest of Redding, the Western Shasta RCD was about to start replanting creek banks. "We have 3,500 tree cuttings in cold storage, 6,000 plants in our nursery, and 600 plants stored off site," project manager Jack Bramhall reported shortly after the order came. "The cuttings will mold and become useless unless we get them in the ground soon." The RCD could not afford to hire the people needed to do the job. Eventually, it gave the plants away.

In Los Angeles, Larry Smith of North East Trees wrote on a Stop Work Impact blog that soon materialized, "We have \$3.5 million worth of projects affected. We employ up to 35 mostly full-time staff when our Youth Environmental Stewards program is fully operational."

In San Mateo County, the Peninsula Open Space Trust, with almost \$3 million from the Conservancy, had completed a three-mile segment of Coastal Trail trail on the bluffs south of Half Moon Bay. It was to have opened in July, after three bridges, on order from a contractor, were installed. The stop-work order not only postponed the trail opening indefinitely, it also blasted a hole in the budgets of contractors.

"The worst is the uncertainty," said Judy Kelly, director of the San Francisco Estuary Project. To her, the "poster child" for the cascading effects of the freeze is the Invasive Spartina Project (ISP), because it illustrates how interrupting work on a long-range project can undermine many years of successful effort.

Over the past ten years, \$12 million has been expended on an attempt to stop invasive Spartina cordgrass from spreading along the edges of San Francisco Bay. The plant is considered a greater menace to the estuary than anything apart from development. It outcompetes native cordgrass, obliterates mudflats, and destroys endangered-species habitat. In Oregon it spread throughout Willapa Bay, but here the Conservancy started an eradication effort early. Whereas in 2004 the weed covered 3,000 acres,

now only 300 acres remain. Because it grows explosively, however, it could quickly come back to cleared areas, invade newly restored tidal wetlands, and keep on spreading.

Peggy Olofson left a secure job as water quality engineer at the San Francisco Regional Water Quality Control Board to direct the ISP as a private contractor to the Conservancy. "It was quite a risk, but it was exciting," she said. "Now I'm having to lay off 10 employees, and I personally have used up all my cushion money. I have no money for next month's mortgage, will have to cancel my health insurance—it's \$800 a month—and I'm not servicing my car. My daughter, who's in community college and was hoping to go to a four-year university next year, won't be able to without her mother's income."

There was also no more rent money for the office, and the landlord is under pressure. "His place is emptying out," Olofson said. Some funds were patched together to keep at least some of the Spartina Project going, but it's not enough to prevent damage to the eradication effort.

How did this disaster happen? The Conservancy's executive officer, Sam Schuchat, sighs and explains: Every three months, agencies tell the controller how much bond money they will need for the next three months, based on bills and commitments. The controller tells the treasurer, who goes to New York institutions that buy bonds. "They stopped buying them in September," said Schuchat. "The entire financial system was seizing up, the economy was in freefall. The institutions looked at California [at the budget impasse] and thought, they're not fixing this."

New York State had raised some taxes and wasn't in this quagmire, Schuchat said, but "in this state the desire for public services outstrips the willingness to pay. It's an adolescent view of public financing—that it should be done by someone else. Well, there's nobody but us."

If the freeze goes on for a long time, it will be hard to put back together what was carefully crafted over many years and suddenly blown apart. The only bright sign, Schuchat said, is that grantees and nonprofits have been forced to organize. "This is their moment to shine."

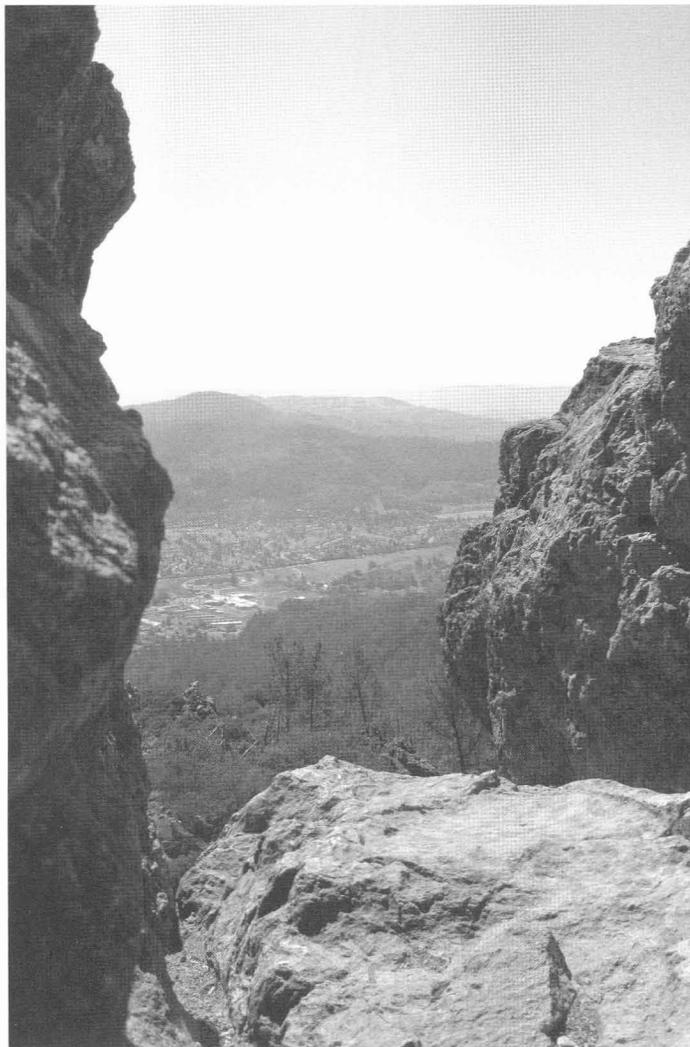
The scramble for federal stimulus money is now underway. But unless the State provides some matching funds, and unless projects are "shovel ready," opportunities to tap that source could be lost. If the bond freeze is not lifted soon, the delay will keep adding to project costs, and the fallout will continue to cascade. ■

MANY PEOPLE TRAVEL TO Sonoma County's Valley of the Moon, about an hour's drive north of San Francisco, to visit wineries or Jack London State Historic Park. Only a few make it to Hood Mountain Regional Park, though they may see the rocky face of Gunsight Point high on the mountain's southern face as they drive along Highway 12, east of Santa Rosa. At 2,730 feet, Hood Mountain is one of the highest peaks in the vicinity; it is also one of many around the San Francisco Bay Area being connected by the Bay Area Ridge Trail, a 550-mile work in progress. Ongoing improvements by Sonoma County Regional Parks, including new, more level stretches of trail, are making this rugged backcountry park more accessible to the public.

One morning in mid-March, I set out to hike up the mountain, following a recently opened stretch of the Ridge Trail along its southeastern slopes. My destination was Gunsight Rock Overlook, about a half-mile past the summit. No doubt about it: hiking up this mountain is a grunt. I know *I* grunted—and groaned—on a few stretches of old fire road in between the new trail sections. Climbing almost 2,000 feet over a distance of about three miles, this trail is not one I'd attempt on a hot summer afternoon.

But a bright, crisp, morning in early spring is another story. As I set out from the Pythian Road trailhead, my dog Sophie (properly leashed) trotting by my side, Hood Creek was gurgling and the chill in the air took the edge off the first climb, alongside a private road that leads to houses farther back in the woods. After leaving the paved road, the trail continued up through a pleasantly cool forest of oaks, firs, madrones, and other trees that shades much of the route and rustles with birds. Brilliant orange-and-black butterflies sipped from a mud puddle.

After about an hour, we turned onto the Valley View Trail, which dropped down past a pond, then leveled out. I had heard that this is a good trail to see wildflowers, and I wasn't disappointed. Emerging from the forest into a more



Gunsight Rock Overlook

open area where I could look out over Sonoma Valley, I saw brilliant red columbines, pale yellow star lilies, California lilacs. The air was heavy with Sonoma sage in full bloom, its columns of blue flowers swaying in the breeze. A red-tailed hawk cried out as it circled far above.

Then the trail turned inland and we climbed past rock faces thick with moss and ferns. Just past a second pond, I sat and ate my sandwich in a meadow near the remnants of an old homestead—a few shacks and a lone brick chimney, a scrawny palm tree, bits of an old stone wall—and wondered about the people who had lived on this land and worked it.

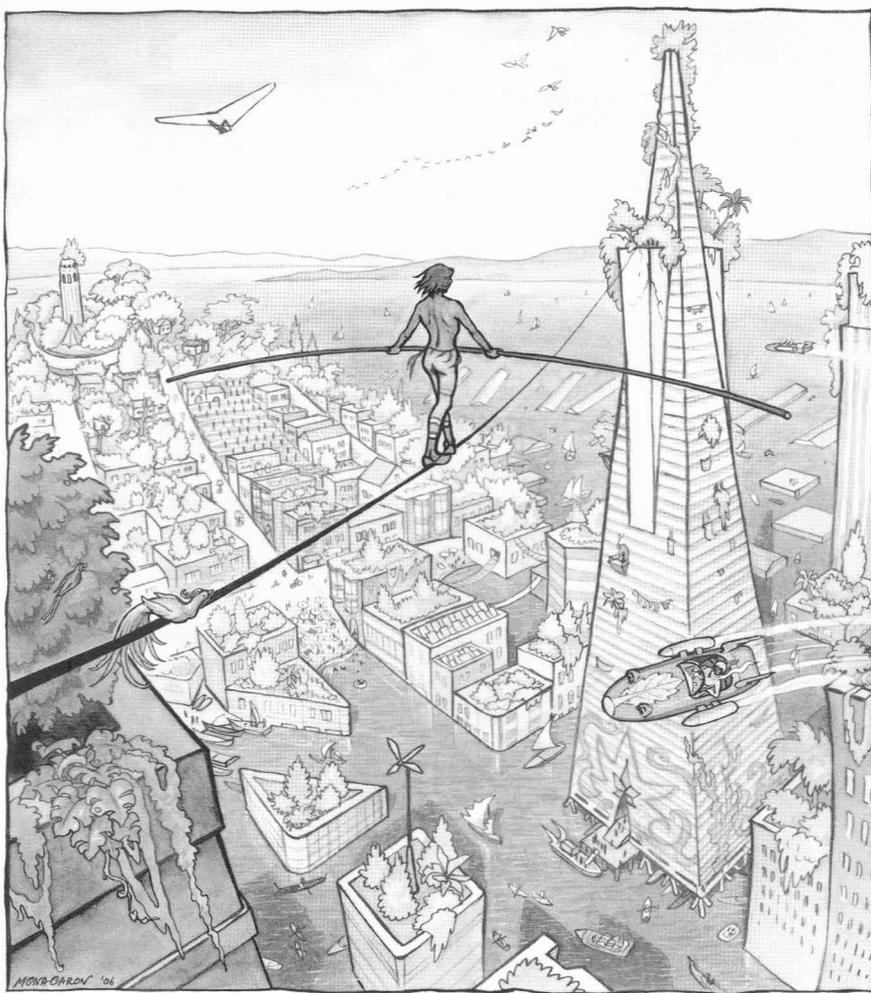
Rested, we set out again, rejoining the main route to ascend through forest and chaparral to the summit, where views are mostly blocked by ceanothus and manzanita shrubs. A short, steep descent brought us to Gunsight Rock Overlook.

continued on page 17

Hood Mountain Scramble

A climb in
Sonoma leads to
sweeping vistas

EILEEN ECKLUND



Coast & Ocean talked with Travis in his downtown San Francisco office, from which he overlooks the Ferry Building and Bay Bridge—and might someday look out over new buildings offshore, atop new levees installed to keep the sea out of the financial district.

—Rasa Gustaitis

C&O: So this is an odd predicament, isn't it? You've worked for 44 years to keep landfill out of the Bay so it wouldn't get smaller, but now we're all worried because it's getting bigger.

Will Travis: In 1965 the Bay was a third smaller than it was in 1850. A lot of it had been filled. Where we're sitting right now, we're on filled land. This was Yerba Buena Cove in the 1850s. This is where ships bringing miners to the Gold Country anchored.

So we're probably sitting on top of some ships right here, they're part of the fill.

Exactly, and around the Bay vast areas were diked off and filled. Then in 1959 the Army Corps of Engineers did a study of the plans to fill the Bay in the future, and they concluded that 60 percent of the remaining Bay was shallow enough to fill. Two-thirds of it was less than 12 feet deep.

In the study they had a map that showed the Bay where it was in 1849, in '59, and where it would likely be in 2020—that it would be reduced to little more than a wide river. When that map appeared in the newspapers it alarmed people, so they went to Sacramento and had this new agency created, the San Francisco Bay Conservation and Development Commission, BCDC. Our charge is largely to keep the Bay from getting smaller by regulating landfill projects. And we've done a pretty good job of that. As a result, the Bay is 22 square miles larger now than it was in 1965.

That includes all the wetland restoration now happening?

I'm not counting that. When you take everything else into account it's many square miles larger. And now we have data that as a result of global warming, the Bay waters have risen about seven inches since 1900. We know this because we have 155 years of data. The oldest continuously operating tide gauge is at the Golden Gate (see *Coast & Ocean*, Vol. 20, no. 4). And scientists tell us that in the next century, if we continue as usual,

Will Travis Faces a Rising Sea

Considering the problem of sea-level rise in the San Francisco Bay Area

MORE THAN 40 YEARS AGO, a citizens movement led the Legislature to establish the San Francisco Bay Conservation and Development Commission (BCDC) to keep the Bay shoreline from being turned into new waterfront real estate. Now, ironically, accelerating sea-level rise poses a new challenge: How to keep important places along the Bay shore from being inundated.

Will Travis has been watching the Bay change since he went to work for BCDC in 1970, when the newly created regulatory agency was looking to hire its first permanent staff; he arrived with freshly completed bachelor of architecture and master of regional planning degrees from Pennsylvania State University. It's been a solid and long-lasting match.

we will see the waters rise a meter to 1.4 meters, about 39 to 55 inches.

So here we have an agency that was created to deal with the Bay getting smaller and has the legal authority to deal with that problem. But the problem of the future is that the Bay is getting bigger, and BCDC had absolutely no responsibility or authority to deal with that. So we sponsored legislation that was passed last year to give BCDC the responsibility to address climate change and sea-level rise in our planning activities. It gives us no change in our regulatory authority. We have produced maps that show what the impact of a meter of sea-level rise would be. Downtown San Francisco, international airports at Oakland and San Francisco, Silicon Valley, and parts of the North Bay are all less than a meter [39.37 inches] above sea level.

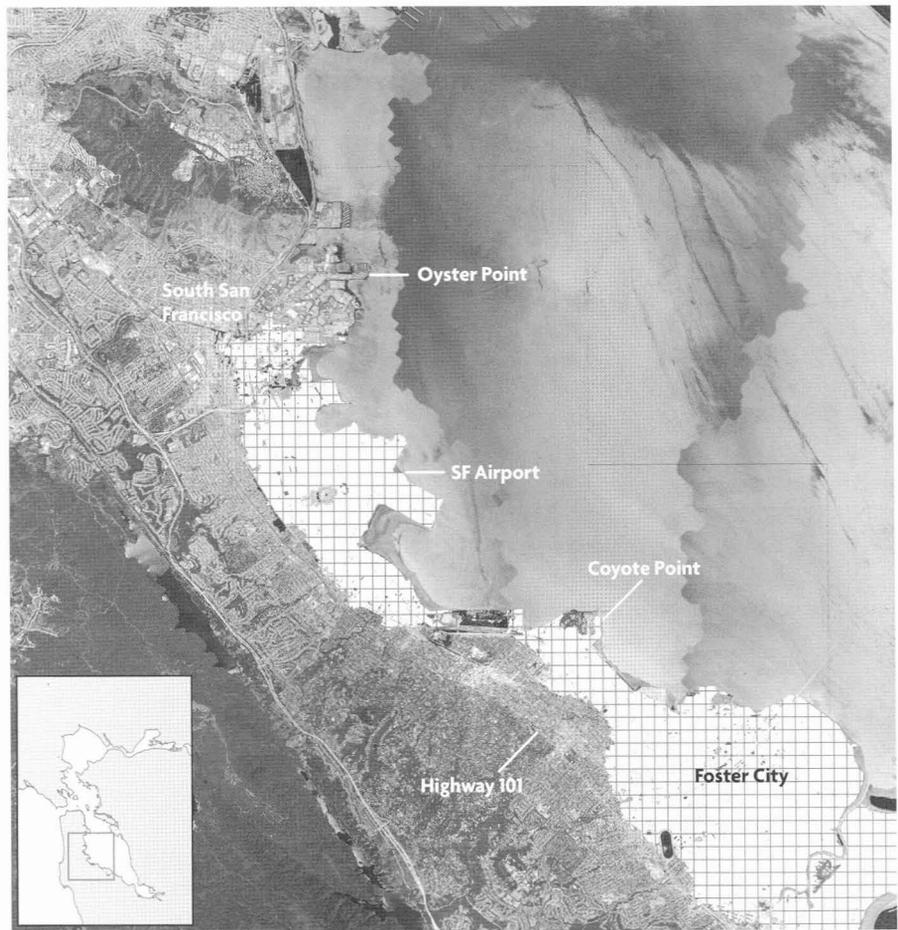
Thanks to fill.

Thanks to the fact that we filled 240 square miles of the Bay—but only high enough to get it above sea level, and that's fine as long as sea level stays where it's supposed to be. So now we're looking at how to deal with this new problem.

In 1965, when the Bay was getting smaller, the Legislature said, "Come up with a regional plan and bring it back to us." We think that a very similar approach should work for sea-level rise: Study the whole region and come up with a regional plan.

There is adaptation planning going on, led by the Ocean Protection Council, an ocean and coastal adaptation effort, and we are part of that [see p. 11]. But it's interesting, the difference between the coast and the Bay in terms of approaches and problems. Because we have this low-lying fill area around the Bay, we're going to have a lot of area inundated—area that's covered with very expensive development. On the coast, you're going to be hit with a lot more erosion; we don't have that problem.

Also, the Bay is the most urbanized estuary in the United States, and we always like to say that the most important word in the name of the agency is "and": we are both conservation and development. We measure our success, to a large degree, in the health of the estuarine system and the prosperity of the region around it. We are always trying to balance the two. So as we're looking ahead and looking at a regional strategy, we will have to look at those areas that are simply so valuable that we will have to protect them from sea-level rise, no matter what: downtown



San Francisco, the airports, Silicon Valley, other communities around the Bay.

There are other areas where, when you start to look at the costs of putting those protective devices in, you will find that they are so high and it's so difficult to do that you will approach that technique somewhat hesitantly and reluctantly.

Such as?

The salt ponds of the South Bay and the North Bay, where you have an area that can accommodate sea-level rise and allow wetlands to migrate. But the challenge will be in areas that don't easily fit into those two categories—low-lying areas that are not yet developed.

We can look out through your window and see—Treasure Island.

Treasure Island is 400 acres, created for the Golden Gate International Exposition of 1939–40 by building a big levee system and filling it with dredged material. Geologically it's incredibly unstable; it's terrible in an earthquake. So you look at it and say, we should abandon that. On the other hand, San Francisco and its development partners are coming up with a plan for Treasure Island which clusters the development around a ferry terminal, so you won't



Top: If sea level rises by 55 inches (1.4 meters), San Francisco International Airport, Foster City, and other low-lying areas on the western shore of San Francisco Bay would be under water. (Inundation data from Knowles, 2008 and salt pond elevation data by Siegel and Bachand, 2002)

Above: Bay waters would cover much of the Mission Bay and Embarcadero areas of downtown San Francisco.

Will Travis Told This Story

I VISITED KITTY HAWK, NORTH Carolina some years ago. Kitty Hawk is a barrier island, and under FEMA rules, when you're building on a barrier island that's subject to flooding, you have to build the base level of your house so it's above the floodplain. So you have what are essentially suburban houses built on posts that are 15 feet high. Four or five stories! You can see them three counties away, stretched along the beach. And when you get a flood the water comes in underneath and takes out all the crap, but your house—at least in theory—is left standing. But they are awful, just awful ugly! And I was talking to some guy in a bait shop or something, and I said, you've got to come up with another way of building. And he said, let me tell you the way we used to build.

People who wanted to come down to the beach in summertime, they would get a tent cabin. In the spring you hired a team of horses and you'd haul your tent cabin right

to the beach and spend summer there; and in the fall you hauled it away. In the winter, storms would come and toss everything around but you didn't care because in the spring you'd bring your cabin to wherever the beach happened to be.

But as these things got larger, people couldn't finance them without a loan. You can't get a loan for a tent cabin but you can for a cottage. And you can't get a mortgage unless it's tied to a specific piece of real estate on the face of the Earth. So the financial rules ended up dictating that we built these things on a permanent location on a barrier beach when, as Babe Schwartz, the Texas senator who wrote the Texas Open Beaches Act said, "God said the 11th Commandment was: Don't build on no barrier beach!" And we violated that natural law.

So we have to begin rewriting the laws of man so they are consistent with the laws of nature.

have to rely on the automobile. In fact, it will be difficult to get on and off the island by automobile; you'll have to pay a toll—but the ferry system will be going back and forth to SF. The lowest part of the built environment will be at least a meter above sea level, and the rest of the island will be low-lying farmland and restored wetlands.

Farmland?

Yes, farmland, wetlands. It's designed as a sustainable community. So both approaches—walk away, or design it in a way that's resilient—have validity. But if the sea levels rise higher than those elevations, then the areas behind them may flood. So it may make sense in some of those low-lying areas to design some development we call "no regrets planning": we know the waters are coming up, we don't know how fast and how far, but you design your project so it will accommodate whatever it is. And you design it in a way that would provide some protection to the areas behind it that would otherwise flood.

On stilts?

Perhaps on stilts, but also on massive flood-control levees. So it may be that a regional strategy

for the Bay will involve some protection, some wide area of protected wetlands, and some kinds of resilient development. But as I say, those low-lying areas that are not yet developed, or worse yet, that are developed but with low-value structures, you look at those and say—from a cost-benefit analysis standpoint—you've got a bunch of homes here, but they are not of a high quality and they're reaching the end of their design life and it will take a lot of money to protect them. They are the Bay Area equivalent of New Orleans' Lower Ninth Ward.

But people are living in them.

That's their community. So we're going to have some very difficult choices as we develop a regional strategy, but we think it has to be done. We've got 54 local governments around the Bay. You need a regional approach with some overarching policy guidelines.

Sounds like urban renewal of a different kind.

Along the Mississippi River, after it flooded for the third or fourth time in the memory of people living there, the Corps of Engineers said, "We've been telling you not to rebuild, we've built the best levees we can, it continues to overtop them, how about this time we just buy you out and you move?" And most people accepted that. So you will face resistance, but at some point society will just say, "This doesn't make sense anymore."

I heard you've invited the Dutch to come in as consultants. They certainly have experience with holding back the sea.

The Dutch have an initiative to climate-proof their country. In Holland that's a national policy. We're looking at a meter to a meter and a half of sea-level rise [39–55 inches], they're looking so far into the future they're talking about five to seven meters [16–23 feet].

They're below sea level now.

So they've initiated a series of partnerships with deltas around the world—San Francisco Bay, Mississippi, Nile, Mekong, and Yangtze. They have expertise, engineering knowhow, and they want to export these. From our perspective, we want to capture that expertise, learn from them, and then export what we learn in the Bay Area to other parts of the world. We have developed a partnership with the Dutch. And we're going to have a symposium in San Francisco this summer. The Dutch will bring their experts, we will



Will Travis caught this 23-pound salmon at Duxbury Reef in 2007.

bring some of the engineers and designers in the Bay Area, and we'll talk about what we can learn from each other.

For example, they have a low-lying area that is already protected by a dike, and they wanted to build a community behind it. The dike is not high enough to deal with sea-level rise, so they could have put in a very expensive higher dike. Instead they decided to build a secondary levee at the back side of that dike, much as will be done at the South Bay salt ponds to protect Silicon Valley.

At the back?

Inland. So you have a vast low-lying area that is now below sea level but dry and will end up being below sea level and wet if they let the levee overtop. So they built a whole community back there but designed it so it floats, and then they partly breached the levee. They let the water in now and it doesn't matter how high the water gets.

Fantastic!

I looked at it and said, this is just marvelous. And they said, "We got the idea from Sausalito." That was never designed to be a houseboat community, it was designed as a series of marinas that were supposed to accommodate the boats anchored out in Richardson Bay. They were polluting the Bay, they were fire hazards. We thought we'd approve these marinas, and the live-aboard boats would move into them and we'd connect them to sewer and water and electricity.

Well, what happened was that the people in the boats didn't move in, and a whole industry sprang up where they poured these huge concrete hulls—essentially concrete basements that float—and they put those in the marina berths and built suburban houses on them. BCDC approved marinas for hippies and ended up with marinas for yuppies! But the Dutch looked at it and said, "What a perfect solution for a low-lying area, let's put in a community that floats."

So we're trying to stimulate people to be innovative, to deal with these low-lying areas. There are a whole lot of ways we can think about this.

So you come up with these ideas, then look for an opportunity to put them to work?

We're going to have an international design competition. We'll say, here's the problem, architects, planners, students, innovators, thinkers, people who grow bamboo, Dutch—how do you



think we should deal with this? Hopefully we'll get a lot of ideas, select the best, advance maybe five of those to greater detail. It's not to come up with a conclusion—it's to stimulate people to think about the problem differently. And what we think will emerge are some techniques that will probably be incorporated not only in what we're doing around the Bay but in low-lying areas around the world.

And then we'll have to change some rules—just as we changed the rules because the Bay was getting smaller. In 1965 the State of California said, "Each local government has up to now had control of the Bay, and each has been allowing the Bay to be filled." Each would have been nuts to stop because they were getting rid of their garbage without hauling it long distances, they were creating areas for their communities to expand, areas where businesses and industries could locate—they were creating taxable real estate—but it was the classic tragedy of the commons: the regional resource was being destroyed. So the State said, "We're changing the rules."

Mona Caron's illustrations first appeared in the *San Francisco Bay Guardian* in 2006.

And now it's time for another round of rules?

It will be hard to change. BCDC was designed to stop the treatment of the Bay as ordinary real estate. Now, the financial district is subject to flooding. The financial district is ringed by a series of piers that were built to accommodate the shipping technology of the 19th century, the clipper ships. It's a historic district, and we're preserving it, finding different ways to use it. But how are we protected from sea-level rise?

Well, I guess we could build a sea wall between the piers and downtown. That would be as ugly as the Embarcadero Freeway that got torn town. So maybe the solution is to go outboard of the piers and build a system of levees and dikes out there, so that downtown would be protected and the piers would retain their historic and architectural appearance, but they would open to, in essence, a lagoon.

Well, that's awful deep water out there. That would be expensive as a public works project. The Dutch turned to the private sector, said you can build it wide enough so you can have something on top. In essence you can have a one-street village. You put development on it. So in essence you're creating real estate. But just maybe that would be one component in a regional strategy for San Francisco Bay. We would treat the Bay as ordinary real estate to be sold to the private sector who could fill it so they could build development on it that would be sufficient to build the public works structure we want. In other words, exactly the problem that BCDC was created to solve in the 20th century may be the solution for a different problem in the 21st century.

Let me be perfectly clear: that's not what I'm proposing. But we've got to open our minds to considering every possible solution to this problem.

Whew! What would be a better solution?

Frankly, I haven't come up with a good one. You either abandon San Francisco and the piers, you lose the piers and isolate them, you tear the piers down and build a levee system along there, or you go out into the Bay. I can't come up with another solution.

How much time is there? Climate change is moving faster than had been expected.

We already have winter storms that flood parts of the San Francisco waterfront; they've been doing that for years. And sea-level rise is not like a slowly filling bathtub, because another component of climate change is that we'll have more severe storm surges.

I can't imagine public support for an outer levee with development on top. But this is an interesting time to think about these things, with massive public works projects coming up.

I agree. And we're working with our colleagues at the Metropolitan Transportation Commission because the Bay is ringed by roads, railroads, BART, airports. We're doing an analysis of which of those are vulnerable to sea-level rise. How do you retrofit a freeway so that it protects itself? And how do you approve development outboard of the freeway so it too is resilient to sea-level rise and it too provides protection for the freeway? So you have new types of structures that are multi-purpose. They are flood-protective, resilient, and they provide protection for other low-lying areas. And interestingly, wetlands are probably the best example of resilient structures because the wider the wetland, the lower the level has to be behind it because wetlands are like enormous sponges. And of course tidal wetlands are doubly beneficial because they sequester carbon.

This is major adaptive management you're talking about.

Proactive management we like to call it. You put the conditions in place that you hope will bring the reaction you want when the changes that are inevitable come about.

What kind of response are you getting to these ideas?

A good response, because I think we have connected the dots. It's not conservation and development anymore, it's not protection and restoration; it's thinking about this systematically in a new way. We are getting good receptivity because we are not saying we have the answers. We say, here are the questions. ■

Little action thus far at local and regional levels

State Climate Change Strategy Is in the Works



CALIFORNIA'S PLAN TO reduce the state's greenhouse gas emissions significantly has captured attention worldwide. Less well known is the effort by State agencies, coordinated by the Natural Resources Agency, to hammer out a comprehensive Climate Adaptation Strategy to help California prepare for the unavoidable changes. Strategies are being developed for six sectors: biodiversity and habitat, infrastructure, oceans and coastal resources, public health, water, and forests and agriculture. Early drafts of each of the strategies are online at www.climatechange.ca.gov/adaptation; a draft for public comment is expected in April. The strategies will guide state policy-makers and resource managers to incorporate climate change impacts into their policies and planning. Some State agencies have already begun

this process; the Coastal Conservancy, for example, is developing criteria to help staff evaluate proposed projects both for their greenhouse gas emissions and their vulnerability to climate change impacts.

Most land-use decisions are made by local or county agencies, but few so far have devoted much attention to preparing for global warming, sea-level rise, and other extreme effects of climate change, according to a November 2008 survey by the Public Policy Institute of California (PPIC). Two exceptions are the San Francisco Bay Area and the City of Arcata, in Humboldt County. "The Bay Area is very vulnerable to sea-level rise," said Ellen Hanak, director of research for PPIC. The Bay Conservation and Development Commission (BCDC) helped raise awareness about this issue, she said, by creating and publicizing maps that show what areas are expected to be

EILEEN ECKLUND

Rising seas and more frequent severe storms will put even more coastal residents at risk due to bluff erosion, according to a new report from the Pacific Institute (see next page).

Major Sea-Level-Rise Study Released

IN THE FIRST COMPREHENSIVE analysis of California's vulnerability to sea-level rise along the coast and in San Francisco Bay, the Pacific Institute (www.pacinst.org) has found that 480,000 Californians live in areas at risk for major flooding, and another 14,000 live in coastal areas threatened by bluff erosion caused by higher tides and storm surges. Released March 11, the study estimates that 3,500 miles of roads and highways, 280 miles of railways, 140 schools, 34 police and fire stations, 330 hazardous waste sites, 30 power plants, and 29 wastewater treatment plants would be threatened with inundation. If no action is taken to protect vulnerable regions, property losses could amount to almost \$100 billion.

The report, which includes recommendations for helping the state adapt to rising seas, was funded by the Ocean Protection Council, California Energy Commission, and Caltrans.

inundated. Of the 80 (out of a total of 109) Bay Area cities and counties that responded to the PPIC survey, 60 percent reported some level of analysis or discussion of expected impacts, compared to only 36 percent of the 310 jurisdictions (out of a total of 535) responding statewide.

In the San Francisco Bay Area, Marin County and San Francisco are among jurisdictions beginning to incorporate adaptation to sea-level rise into their planning. Marin's 2007 countywide plan contains provisions for mapping areas at risk for flooding, monitoring ocean and bay levels, and incorporating sea-level rise into planning for future development. In San Francisco, the Public Utilities Commission is studying measures to protect its wastewater system from increased flooding.

The U.S. Army Corps of Engineers is conducting a major flood-control and habitat-restoration study for southern San Francisco Bay, in collaboration with the Coastal Conservancy and the Santa Clara Valley Water District. Sea-level rise projections are being factored into the Corps' assessment of flood risks and protection strategies for that low-lying region. Meanwhile, BCDC is working with the San Francisco Estuary Institute and several agencies to develop a regional sea-level rise adaptation plan for San Francisco Bay.

Along the North Coast, Arcata has been a leader in proactive planning for sea-level rise. In 2002, after witnessing increasing impacts from storms for several years, "we realized we couldn't be putting our heads in the sand," explained Mark André, the City's director of environmental services. The City's general plan now requires that potential sea-level rise be considered for all future development in coastal areas.

Arcata's city planners created inundation maps, using various sea-level rise scenarios, to assess which areas were most vulnerable. They discovered that one key piece of infrastructure threatened was the City's wastewater treatment plant at Arcata Marsh, so the levees protecting the buildings and treatment pond will be raised. Arcata has also been buying and restoring diked former salt marsh around Humboldt Bay to alleviate flooding, with the help of the Coastal Conservancy and others. "We were lucky to have bought out agricultural lands around the bay in the last decade," André said.

In San Diego County, the San Diego Foundation's Focus 2050 Study, published in November

2008, laid the groundwork for a comprehensive countywide response to expected climate change impacts, Hanak said. Using models and maps developed by researchers at the Scripps Research Institute in La Jolla, the study found that some of the region's most popular beaches and surrounding neighborhoods could be flooded, including portions of La Jolla Shores and Mission, Coronado, and Imperial Beaches. The study also analyzed the impacts on the San Diego region of higher temperatures, water and energy shortages, increased wildfires, public health risks, and species loss.

In future studies, the Foundation will take a more detailed look at expected impacts to coastal infrastructure, from roads and railroads to San Diego's port and airport, and military installations. "I think we've only begun to scratch the surface" of vulnerabilities, said Emily Young, the Foundation's environment director. The Foundation is also funding technical assistance to local governments for climate change planning through the nonprofit ICLEI-Local Governments for Sustainability.

The City of Santa Cruz is just beginning work on a plan for adapting to the effects of climate change, including sea-level rise. Researchers at the University of California, Santa Cruz, will assess the city's vulnerabilities, including potential economic impacts, and propose adaptation strategies. In the future, the City may collaborate with Santa Cruz and Monterey Counties on a regional approach for Monterey Bay, with the help of local universities and research centers, said Ross Clark, the City's climate change action coordinator. "It would be really great if we could get some guidance from the state," Clark said.

In response to the need for site-specific information and guidelines, the Ocean Protection Council (OPC), Coastal Commission, and California Energy Commission have been working to develop some. A new report by the Pacific Institute, funded by the OPC, Caltrans, and the Energy Commission, identifies areas that are most at risk for flooding and bluff erosion along the entire coastline and around San Francisco Bay (see sidebar).

"This information will help decision-makers and the public understand and explore the potential risks over the coming decades, the scope and extent of the problem, and how and where to allocate funds for responding to climate change," said Christine Blackburn, OPC program manager. ■

BEFORE JUNE 2007, Beth Terry was, by her own account, “one of those people who bought and threw away hundreds of plastic water bottles, chose plastic bags over paper (and doubled them on purpose), and stocked up on frozen foods in their cute little plastic containers.” She had been an activist for environmental and other causes during her 20s, but burned out and, as she wrote in her blog, www.fakeplasticfish.com, “kind of stopped giving a crap.”

Twenty years later, Terry was working as an accountant three days a week and looking for meaningful ways to occupy the rest of her time. In June 2007, she heard a radio interview with “No Impact Man,” Colin Beavan, a New Yorker who decided in 2006 to see if he could reduce his family’s environmental impact to zero for one year. (A documentary about his project premiered at the Sundance Festival in January 2009.) Through his website (www.noimpactman.com), she discovered an article in *BestLife* magazine about the huge masses of plastic accumulating in the North Pacific (see *Coast & Ocean*, Winter 2005–6).

Terry was horrified, particularly by a photo of an albatross carcass filled with bottle caps and other bits of plastic. “That image is now burned into my brain,” she later wrote. “Until that particular day, I must have seen hundreds of terrible environmental images and simply ignored them or chose not to see.”

A few days later, Terry’s “plastic project” was born. She began to look closely at her use of plastic and try to use less. To keep herself on track, and perhaps make her own effort ripple out to help others, she created a blog to report on her progress. “I am not making a vow to give up all plastic,” she wrote in her first post, on June 20, 2007. “I’m looking at this as more of a learning experience, for me and for anyone who cares to follow this blog. I want to see what the possibilities are, for eliminating plastic waste, sure, but also for alternative uses for plastic that already exists, for ways of recycling and reusing, and for non-plastic substitutions.”

She didn’t realize that the project would become a major enterprise. She read about the plastic industry and its products, about packaging, waste disposal, and recycling, and added what she found to the blog. She visited local natural foods stores, chain supermarkets, and

An Oakland accountant tallies her trash to help save marine life from the plastic plague

Blogging for Fishes’ Sake

EILEEN ECKLUND



More than 16,000 people signed a petition and more than 600 sent Beth Terry their Brita filters as part of the “Take Back the Filter” campaign she organized in 2008. In November 2008, the company announced it would begin collecting filters to be recycled into household products. On January 30, Terry turned the filters over to Brita representatives at a Whole Foods market in Oakland.

pharmacies, and posted reports about the relative amounts of plastic packaging of the products they carried, as well as the non-plastic options available. Some of what she found was predictable—“Plastic at Costco. Plastic galore”—but there were surprises as well, such as the mountains of plastic at her local farmers’ market. She made phone calls and wrote letters and e-mails—to cable company Comcast, to complain about the plastic-encased advertisement hung on her doorknob (a representative called the next day promising it wouldn’t happen again—in Oakland, anyway); to Zipcar, asking that they put reusable bags in each of their cars for members to use when shopping (they said they’d think about it)—and returned excess packaging from mail-order products.

She learned how to make things herself—chocolate syrup, mayonnaise, hand lotion, tooth powder—in order to avoid the plastic packaging the commercial versions come in. All of it went on the blog, including an ill-fated attempt to make liquid soap by dissolving a solid block in boiling water (the conclusion: “Bar soap does not make great liquid soap”).

Terry’s campaign to get Clorox to recycle the disposable filters on its popular Brita water pitchers was covered by the *New York Times* and other newspapers, and she was interviewed on American Public Media’s *Marketplace* as part of the radio program’s “trash challenge.” By the end of 2008, the number of daily hits on her site had grown exponentially, and she had inspired others to start similar blogs and write their own letters and e-mails. She had changed her shopping and eating habits, and had successfully tested the blog as an effective citizen action tool in the effort to cut plastic consumption.

On a rainy winter morning, *Coast & Ocean* met with Terry over coffee at the Crepevine restaurant in Oakland’s Rockridge District. A small, athletic woman with short dark hair and glasses, she sparkled with energy and enthusiasm for her subject.

C&O: When you started your blog, *Fake Plastic Fish*, did you find that you were generating a lot of plastic trash?

Beth Terry: Yeah, in the beginning. But you know, I was eating a lot of frozen convenience

foods. I wasn’t a huge bottled water person or soda drinker, so there weren’t that many bottles, but there were a lot of frozen food and convenience food containers and energy bar wrappers and things like that.

So taking the picture of the trash each week showed you what to target first?

Yes, but I didn’t have to figure out everything right off the bat, because I was still using up the products I had. I only had to figure out what to replace them with once they were gone. Some things I just didn’t replace. Like I tried really, really hard to find a frozen food alternative, because I just was not happy about giving up that convenience, and I finally realized that there wasn’t one. Even the frozen meals that come in a cardboard tray—a lot of them come in plastic, but there are some organic ones that come in a cardboard tray instead—well, they have a plastic film over the top, but also they’re lined with plastic, which I didn’t realize.

Oh, so you can’t recycle the cardboard, even?

No, they’re not recyclable and they’re not plastic-free. I guess here in Oakland we could stick them in the compost bin, but the plastic is still there. I still do buy plastic-coated cardboard with dairy products, because the choice is either that or a glass bottle with a plastic cap. There’s no plastic-free choice for dairy at all, unless you own a cow. And soy milk is the same.

But we can still compost those wax-covered cardboard cartons, right?

It’s not wax, it’s polyethylene. Most people assume that it’s wax because in the old days it was. But actually it hasn’t been wax since the ’50s.

I didn’t know that! Where do you find that kind of information? Google?

Pretty much. I found a whole article that was a history of gable-topped cartons, which is what those are called.

Did you have an immediate audience?

What I did first was that I spammed all my friends and relatives and subscribed them to my blog without asking; I didn’t think they’d report me as a spammer. What got me an audience of people I didn’t already know was getting linked

All this organic food . . . these natural products are packaged in plastic.

on No Impact Man's blog. I just e-mailed him and asked, and he was nice enough to put me on there. That was what really, really got my audience started.

Has the number of people blogging about plastic grown much since you started?

Not as much as I would like. The number of green bloggers has just skyrocketed; there are thousands of green blogs, I think. But the number of people focusing on plastic is very small. And you know, that shouldn't be that surprising, because when you go into a Whole Foods or any kind of natural foods store, it's full of plastic. All this organic food is packaged in plastic, these natural products are packaged in plastic. My husband was saying the other day that packaging should be part of organic certification, and I feel like it should too. I don't know where to go with that, but I feel like there's a campaign in there.

Some things just don't make sense in terms of organic. I guess if the difference is between an organic version and a non-organic version, then the organic version is better, but a lot of this convenience stuff is not as high-quality anyway, not as fresh. For me, I feel that it's not something I need anymore. It doesn't take that long to cook real food. Of course, it's mostly my husband that does it!

So what are your goals for the blog? Do you have an end date?

Nope. I don't know if it will always be the same format, and I don't know if I'll always tally up my plastic each week, although it keeps me on track and it keeps me honest, and I feel that it's an important thing for me to do personally. Because sometimes I wonder—if I wasn't publicly showing my plastic waste, would I relax?

How have you done?

Well, this last week I had, let's see, I think I had four things. One was a broken plastic slotted spoon that I had forever and it broke. I didn't get rid of all my plastic utensils and things when I started this. But if something breaks, then I add it to the tally, if it's not usable any more. I think I had a medicine bottle on there from my cat.

In the 1980s you worked as a canvasser for environmental nonprofits. How does that compare, as activism, with what you're doing now?

I think this is more empowering because it's getting people to make personal changes. When I was canvassing, I was mostly collecting money



On Jan. 14, 2008, Terry posted this photo of herself surrounded by all the non-recyclable plastic she had used since starting the project on June 17, 2007.

for an organization that was doing the work. Then the organization would send newsletters to the members letting them know what lobbying and campaigning it was doing, but the members of the organization weren't really doing anything personally, necessarily—we weren't getting them to make changes in their personal lives. Some people argue that small changes that we make in our own lives don't make a big difference overall, that we need government regulation—and I think that's true. But the government is us. We're the ones who put people into office and vote, and the small personal changes that we make change us, and give us an investment in seeing that our leaders create those regulations.

Barack Obama made some offhand remark about how we can't just be changing lightbulbs, this is much bigger than changing lightbulbs, and I thought well, he's right, but changing lightbulbs

is like a gateway for people to get interested in making changes. And carrying your reusable bag, it's an effort—you have to remember to do it. And once you make that effort, you're going to be more likely to take the next step.

I've had almost zero negative comments on my blog, and I think part of that is because I

don't tell anyone else what they have to do; I'm just using myself as an example. And the people that come to my blog, they want to do it—if they don't, they'll leave without saying anything.

Do you think that with this kind of blogging you can build a broader community, or is it always going to be about change on a personal level, sort of one-to-one?

Well, the Brita campaign is an example of something that's affecting a huge national corporation. People already wanted this to happen, and I knew that people wanted it because I had sort of ranted on my blog about how Brita filters were recyclable in Europe but they weren't recyclable here in North America, and when I was analyzing my site statistics I saw that many, many people had come to my blog by Googling "Brita recycle," or "recycle Brita," or "recycle Brita USA," trying to figure out how to recycle their Brita filter and finding my site as the only place talking about it. So I knew that there was a lot of will for that to happen, and I just wanted to concentrate it.

I could never have reached all those people without the Internet. And organizers that are organizing for political change—well, look at Obama. Look what he did with the Internet. There's so much potential. I'm just learning what it's capable of and what I can do with it. The action that I'm working on right now is to get more people blogging about plastic, trying to give it up and blogging about that experience, because my blog is based on me, and I'm not like a lot of people.

You went to City Hall in Oakland to support the City's plastic bag ban. What kind of other "real-world" activities have you taken part in?

Well, one thing is that I belong to—I'm actually on the board now of an organization called Green Sangha, which is a spiritually based local environmental group. One of the things that Green Sangha has done, and that I've partici-

pated in, is handing out reusable bags at farmers' markets and educating people about reusable bags. We write letters, and we also have a "Rethinking Plastics" PowerPoint presentation that we give to community groups, and schools and companies. I did that for Wells Fargo's Green Team a while back, because somebody who reads my blog thought that it would be a good idea.

I've wondered how much of our "recycling" actually gets recycled. San Francisco accepts just about every kind of plastic in its recycling bins, but how much of it is really recycled?

There was an article recently—I think it was in the *New York Times*—about how a lot of our recyclables are piling up and getting landfilled because the market has just died. Most of our recycling is shipped to China—just about all of our plastic recycling is—so when we were doing the Brita campaign, we stressed that to Clorox. They told us that they were trying to get the Waste Management company to figure out a way to recycle the filters. And Waste Management, they don't recycle anything, they just collect it and sell it, and everything goes to China. And we were, like, "No, no, no, that's not the way!" So this is why we're happy with what they came up with, because Preserve is a U.S. company, and all the recycling and all the manufacturing happens in the United States.

That's great. People feel so good about recycling, but we don't really want to think about what's going on downstream.

I know—I'm so beyond recycling at this point. I pushed on the Brita recycling only because I felt like water filters are something people turn to in order to give up something worse, which is bottled water. And some people need to filter their water. And at that point, there was no alternative; all the water filters were made from plastic and would be thrown away. There wasn't a recyclable option, and there isn't a non-plastic option, as far as I know. But otherwise my answer is to cut what needs to be recycled as much as I'm cutting what gets thrown away. My garbage is almost nothing; I'm trying to get my recycling down to almost nothing, too.

Are you looking at the world differently since you started Fake Plastic Fish?

I'm so beyond recycling at this point.

I see plastic when I walk down the street. In the beginning, I was getting later and later and later for work, because I was compulsively picking everything up. Finally I just went, you know, I can't pick up all the plastic in Oakland. So if it's right there and it's one of the worst things—like a plastic bag or a bottle cap or one of those little things that gets washed out [into the ocean]—I'll pick it up. That's a tangible thing; at least that bottle cap didn't go into a bird. And then the cigarette butts, oh my god! It took me a while—I didn't even think about cigarette butts, and then somebody pointed out to me that those are made from plastic and are the biggest source of litter on the beaches.

I don't expect anyone else to be as compulsive and as extreme as I am. I look at myself as an example for what's possible, but not for what everybody has to do. If people can just start with the biggest, most obvious things, which are bags and bottles. . . . I'll just tell you one story. My friend Jen and I were at Rainbow [Grocery, in San Francisco] the other day, and we watched a woman in front of us with her canvas bags, and she had put every piece of produce in a separate plastic bag. She had filled up these canvas bags with plastic bags, and we just looked at each other with our mouths open.

Some people even put their bananas inside plastic bags.

COURTESY BETH TERRY



You know, bananas have a wrapper! That's the thing about fruit—it comes with a natural wrapper. . . . So anyway, if people can just think about what would be the easiest thing to give up, and just give it up, that would make a huge difference. ■

Terry and friends brought the Brita campaign to San Francisco's Bay to Breakers crosstown race in May 2008.

Hood Mountain continued from page 5

The vista was exhilarating: Beneath me spread the Valley of the Moon, fresh and vividly green from winter rains, Sonoma Mountain rising beyond it to the south. The skies were a little hazy, but I could just make out San Francisco's skyline, far away to the southeast. On clear days it's possible to see the ocean in the west and the Sierra Nevada in the east. As I sat perched on the rocks, savoring the view and the warm sun on my face, a peregrine falcon swooped down the mountainside.

This mountain is mostly encompassed by Sonoma County's 1,750-acre Hood Mountain Regional Park, which has picnic areas and miles of trails that pass through forested slopes (including groves of serpentine pygmy cypress), deep canyons, grasslands, and stands of native azaleas. The park's 307-acre southern section, where I hiked, was acquired by the County in 2003 and opened to the public in October 2006.

A new trailhead and facilities at the upper end of Pythian Road, just off Highway 12, and more than four miles of new trail were constructed with the help of \$235,000 from the Coastal Conservancy. Opening this land to the public has eased access to the central and eastern portions of the park, as well. The new trails are open to bicyclists and equestrians as well as hikers, and connect to a network of multi-use trails in the Hood Mountain and Sugarloaf Ridge parks.

I had a hard time tearing myself away from Gunsight Rock, but eventually the shadows grew longer and it was time to head back. As we hiked back along the ridge through dense groves of manzanita in flower, hummingbirds darted from blossom to blossom. Then it was down, down, down, past the ponds, where pacific tree frogs were chiming their evening chorus, and through the woods, jays scolding and owls hooting me all the way to my car. ■

The park is open daily from 8 a.m. to sunset. To reach the Pythian Road trailhead, take Highway 12 east from Santa Rosa and turn left on Pythian Road, then drive 1.3 miles to the trailhead. Parking is \$5 per vehicle. At the trailhead are water, restrooms, and picnic tables. See www.sonoma-county.org/parks/Pk_hood.htm.

Ocean Trash Control

THE OCEAN PROTECTION Council (OPC) has proposed a far-reaching strategy for reducing the volume of junk that now flows from the state's shores and watersheds into the ocean. In a report adopted on November 20, 2008, the OPC makes 16 recommendations aimed at changing how California generates, handles, and disposes of items that frequently become marine debris and damage ocean health.

The Implementation Strategy to Reduce and Prevent Ocean Litter singles out three recommendations for priority action: creating a producer take-back program for convenience food packaging, adopting a ban on polystyrene (Styrofoam) take-out food containers, and imposing fees on single-use plastic and paper grocery bags and on products that are not suitable for take-back or a ban, but are often found in litter.

Take-back programs, also known as extended producer responsibility (EPR), have reduced waste in Europe by motivating manufacturers and distributors to use less packaging and more recyclable materials. Bans on polystyrene take-out containers, already adopted by some California local jurisdictions, including San Francisco, Santa Monica, and Monterey, have been shown to reduce the volume of such waste. In San Francisco, a 2008 litter audit showed a 36 percent drop in polystyrene litter since the containers were banned in 2007. A fee on products, paid by the consumer, is expected to give an incentive to buy less damaging products and provide a source of funding for new anti-litter programs.

If the recommendations are adopted, the OPC strategy would affect all Californians. "We're going to have to recognize we're all in this together in terms of protecting our ocean environment," OPC chair and Secretary for Natural Resources Mike Chrisman said at the November OPC hearing in San Pedro.

Marine debris, or ocean litter, is the assortment of discarded or lost material

that accumulates in the ocean. It includes millions of polystyrene cups, cigarette filters, and lost or abandoned fishing lines and nets that do not disintegrate in the ocean but continue to entangle and kill marine life. Research shows that 60 to 80 percent of the debris floating in the open ocean is plastic. Marine debris also transports invasive species and toxic pollutants.

Dumping any plastics into the oceans has been illegal worldwide since 1988 under the international MARPOL Annex V treaty, yet marine debris has steadily increased in volume. During the last decade, a five-fold increase has been observed in the North Pacific Gyre (see *Coast & Ocean*, Vol. 21, no. 4). According to the National Oceanic and Atmospheric Administration, some 80 percent of the debris comes from land-based sources, including urban runoff.

Industry groups and companies contend that the fees and bans could send shockwaves through manufacturing and lead to job cuts during the current economic downturn. But cities, eager to keep residents employed, have thrown resources at keeping businesses open. "We really put emphasis on helping Santa Monica businesses," said Josephine Miller, environmental analyst for the City of Santa Monica. In preparing for a citywide ban on polystyrene and non-recyclable plastic food containers in February 2008, Miller helped educate businesses on acceptable paper products from Depression-era days that many of us have forgotten: cone-shaped paper cups for beverages or paper boats for burritos. Some retailers already have begun to offer new plastic-free products in a similar price range. The discount chain Target, for example, sells packages of 54 compostable drinking cups for \$2.24 next to packages of 50 polystyrene drinking cups for \$1.99, a price difference of one cent less per compostable cup.

In Malibu, where single-use plastic bags were banned starting December 27, 2008, the City has staged "Day Without A Bag"

to help people adopt more sustainable habits. "Our big concern is the behavioral change—we want our residents and visitors to take part in better stewardship," said Jennifer Voccola, the City's environmental programs coordinator. She said no local business opposed the bag ban, and the grocery chain Ralph's was an especially great partner in "Day Without A Bag" the store gave 25,000 reusable canvas bags for free to customers over a three-week period, according to front-end manager Daniel Scott. Other stores and chains are also moving away from plastic bags: Walmart expects to eliminate 135 million pounds of plastic bags worldwide by reducing bag use by an average of 33 percent per store (25 percent in the United States and 50 percent overseas) by 2013.

If and when all or parts of the OPC strategy are adopted by the Legislature and State agencies, less debris—especially less plastic—will enter the ocean. Still, what accumulates on beaches (some of it washing ashore from far away) and in watersheds will continue to make its way into the ocean. Beach cleanups are held to keep some of that out of the water. The Coastal Commission organizes Beach Cleanup Day every September, with volunteers working along beaches and up streams. In Santa Cruz County, the nonprofit Save Our Shores (SOS) rallies thousands of volunteers for these clean-ups—3,000 people participated in last year's event. "It's invigorating and intense," said SOS executive director Laura Kasa. "The massive problem is the rivers, though." On January 10, 2009, when SOS partnered with a Santa Cruz climbing gym, volunteers rappelled into Aptos Creek and collected 1,200 pounds of debris in four hours.

Getting rid of plastics in daily life won't be easy. The OPC expects parts of the implementation strategy to be embodied in state law in the next year or two. Until then, reusable bags and cups are easy to find. Said Voccola, "This is really a stewardship issue—people need to stop generating so much waste." ■

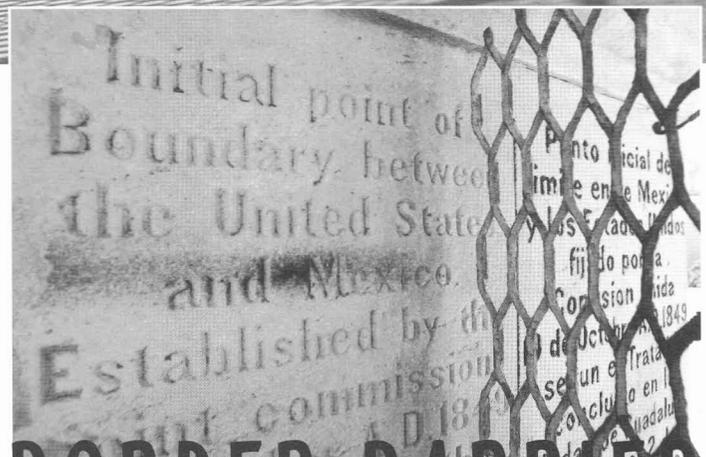
OPC implementation strategy:
[www.resources.ca.gov/copc/docs/
opc_ocean_litter_final_strategy.pdf](http://www.resources.ca.gov/copc/docs/opc_ocean_litter_final_strategy.pdf)



In January 2009, the U.S. Border Patrol announced that access to the Friendship Monument will no longer be permitted.

AFTER FIRST LADY PAT NIXON DEDICATED the Friendship Monument at Borderfield State Park in 1971, an aide cut through the barbed wire that marked the international boundary. She stepped through into Mexico, and said she hoped there wouldn't be a fence there much longer. Since then, however, the opposite has happened: ever more barriers have been erected. A fence of close-set vertical railroad rails now extends into the surf, and a second fence will soon slice across the park, cutting off access to the monument. A road is being constructed between the fences, and canyons in the Border Highlands are being filled with soil from erosive hills that were habitat for endangered species. Congress granted the Secretary of Homeland Security the authority to waive any law "necessary to insure expeditious construction" of the border barriers, and former Secretary Michael Chertoff used that authority.

David Maung has lived on the San Diego–Tijuana border for 13 years, and has been documenting the human story as it unfolds on both sides of the barrier.



BORDER BARRIER

PHOTOGRAPHS AND
CAPTIONS BY DAVID MAUNG



Beach Cleanup Day happens all along the California coast. Families come out and pick up trash that's washed ashore or been left by careless visitors, as a fresh salty wind blows and the sun glitters on the waves. Here volunteers from both sides of the border work at Borderfield State Park on September 17, 2008. Though separated by the fence, made of railroad rails driven into the sand, they joined in this common effort. The second fence now being built on the U.S. side will further separate these neighbors.



Mario Crespo visits with his wife and four daughters through the international border fence on Father's Day, June 17, 2007. His family members have no visas to enter the U.S.; he is working on his immigration papers and would not be able to return to the U.S. if he left the country now.

At one moment he passes a few dollars through the fence to his youngest daughter. She skips off and returns quickly from a nearby vendor with a cup of corn soaking in a thick mix of butter, red hot sauce, and grated cheese, which she slips through a gap in the fence to her father.

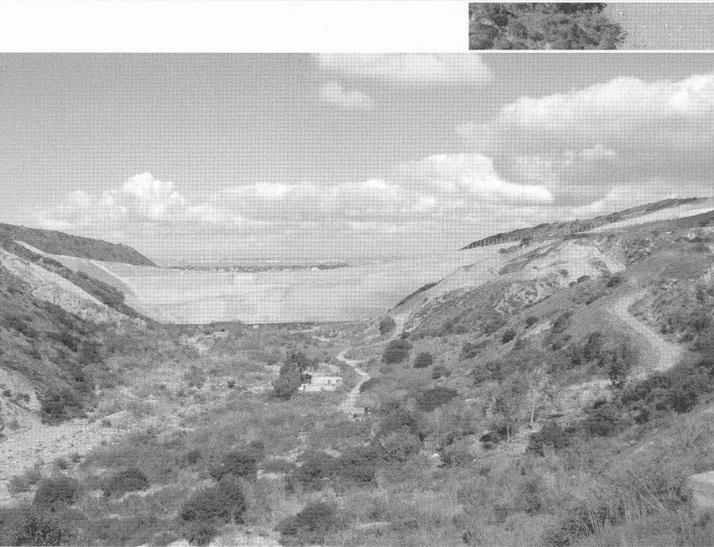
Intertwining fingers and kissing through the fence, they say goodbye. A half-dozen families met across the barrier here on this day.



Workers from the Nebraska-based Kiewit Corporation set metal poles into the ground in preparation for the pouring of a cement foundation. The poles will later be covered with steel mesh. A U.S. Border Patrol spokesman said the agency will consider topping the 15-foot fence with concertina wire. October 16, 2008.



Top: Looking across Smuggler's Gulch toward Maxico before construction



Above: Smuggler's Gulch after it was filled



A Border Patrol truck sits above Smuggler's Gulch, which is being filled in to accommodate the new border fence, access road, and high intensity lighting system. Almost two million tons of earth will be moved into the canyon. A second smaller canyon nearby is also being filled. The \$57-million project will complete the last 3.5 miles of a 14-mile stretch of secondary fence between San Diego and Tijuana. The fill is being taken from the Border Highlands, which have been habitat for endangered species and also contained archeological sites. October 16, 2008

TOP LEFT: JIM KING

Mireya Leal shares a picnic lunch on the beach through the U.S.–Mexico border fence with her husband Raymundo Orozco, who reaches through for a snack. Married for six years, the two have been meeting every weekend for seven months, while working on immigration papers. This section is the westernmost end of the existing fence separating San Diego from Tijuana; it splits the beach and runs into the Pacific Ocean. October 28, 2006.



During a Saturday family visit, Mario Chavez shares a quiet moment with his wife Lizeth Chavez, who is on the Mexico side of the fence. He is a U.S. citizen, but cannot not leave the U.S. because of legal restrictions. She is a Mexican citizen and does not have a visa to go to the United States.

Border visits like these once were common, but after the U.S. closes access to the fence at Border Field State Park these reunions will end. A new fence being built 90 feet north of this fence will create a no-man's-land between the two fences, and between people. Visitors will only be able to wave, and perhaps lip-read, if they bring binoculars.

A VOLUNTEER'S FIRST CALL AS A MEMBER OF MONTEREY COUNTY'S SAR TEAM

Search and Rescue



STORY AND PHOTOGRAPHS BY ANNE CANRIGHT

T'S 7 P.M. THE DAY AFTER Columbus Day, and I'm on my first call-out on the Monterey County Sheriff's Search and Rescue team. An hour ago, the car of a suicidal subject, reported missing by his family two days before,

was located at Veterans Memorial Park, an oasis of campsites and picnic tables in the middle of the city of Monterey, surrounded by wild ravines, oak-pine forest, and deer trails. A call for assistance was immediately issued, causing pagers to beep countywide. I phoned Sgt. Moses to say I'd be at the substation in ten, jumped into my uniform, and headed out.

My first mission. I am nervous and excited both.

When we pull up at the staging area in our big yellow truck, over a dozen people are already assembled: two Monterey City police officers, who found the car; five sheriff's deputies and a like number of volunteers; and SAR volunteer Miranda with her search dog in training, Izzy. Most of us wear screaming yellow shirts with our purpose silkscreened on the back—just like on TV: SEARCH AND RESCUE.

The missing man's car, a dark blue late-model BMW hatchback, hunkers in the middle of this scene. A policeman and two deputies peer inside with flashlights.

"There's his jacket," one says. Another, on the passenger side, comments: "There's a piece of paper on the seat. I sure would like to see what it says." They try the doors. "I suppose that little red light on the dash means if we break a

window, the alarm will sound." "Yeah, and keep on sounding until the battery dies," responds the other.

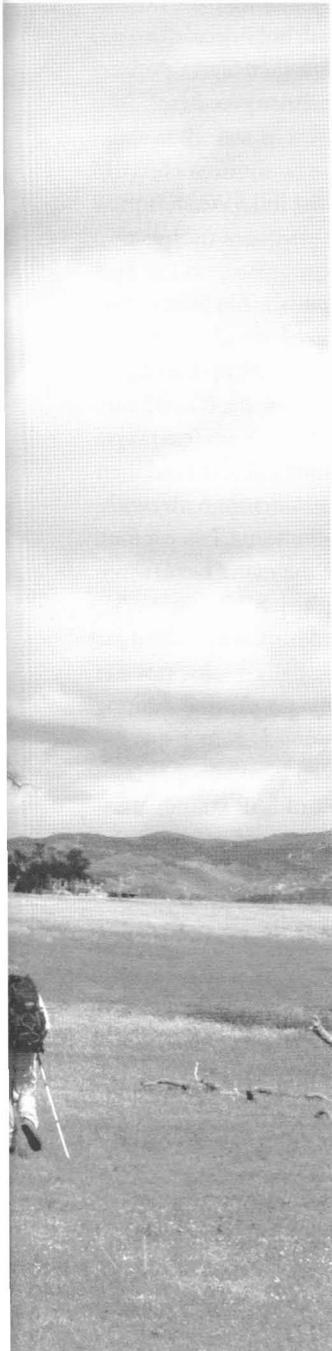
Sgt. Joe Moses appears out of the dark, says to Miranda: "You probably won't get much scent; the site has obviously been compromised." He jerks his head toward the men with flashlights circling the car. "But I want you and Brandon to head up that path"—he gestures toward a gap in the darkness—"with the dog, see if anything comes up." She nods, then gets busy fitting Izzy, a barrel-shaped Queensland heeler, in a bright orange vest with a neon-green light-stick. A few minutes later the threesome heads into the night.

As I watch them take off, I sense motion to my left and turn. A short, stocky man with prominent cheekbones and a sturdy jaw veers toward me from across the street. He's carrying two high-power flashlights with handles, one in each hand. "When are you going to go down into the canyon?" he asks, jerking his chin to indicate the darkness out of which he emerged. "What?" I say. He repeats his question, edgily. He isn't one of us. I say, "We haven't gotten any orders yet," and turn away, not sure whether I should have said even that. He turns and goes back across the street, disappears back into the dark.

A policeman approaches the BMW with a fingerprinting kit and pulls out a soft, squirrely brush that he dips into a metal canister. He swishes the brush over the driver's window, over the handle, over the edge of the door.

Soon Sgt. Moses comes over and points at me, Todd, Sierra, and Jesse: "You four, head that way." He jerks his head to the right, indicating the direction Miranda and the deputy had gone. "Two of you stay on one side of the path, the other two on the other side. Look all around you. Look down. Look up. Jesse"—he singles out the deputy—"you're team leader."

We switch on our headlamps and set off. The four beams of light float through the darkness, picking out branches and bushes, a sandstone outcropping up a steep ravine, slippery slopes of pine needles. A slight trail heads up to the right. Todd follows it, and I trail behind. Nothing. Back to the path. We walk slowly, searching for a clue. Jesse peels off to the left, then reappears. We don't speak. We just peer as deeply as we can into the dark forest—the big stage, unlit tonight except by our headlamps, a dance of shifting images. Though eventually, perhaps, one of these feeble lights will become the spotlight that reveals the main act.



On the ride over, Brandon had joked with Sgt. Moses, betting five dollars we wouldn't find the subject. Moses bet we would. In this rough terrain in the dark, I am siding with Brandon. My hopes go in that direction too, because if we do find him, I'm expecting the worst. I'd heard muttered remarks from the officers in charge: "back doing drugs;" "feelings of hopelessness." He told his family twice, on Friday and again on Saturday, "This is no way to live." Then on Sunday he was gone. And a rope was missing from the garage.

A brief detour takes us up a long flight of wooden steps to a quiet neighborhood. Nothing there, so we drop back down and head across a slope, through a network of shrubbery with bedding-down spots for transients—empty now, save for discarded food tins and scraps of cloth, a wadded-up plastic tarp. Again nothing; we return to the path. Todd points at a chain-link fence that marks the boundary between Monterey and the U.S. Army's Defense Language Institute. "I'll see if there are breaks in the fence, any way through," he says. As we watch him scramble up the hill, pairs of shining green lights punctuate the night's blackness: raccoons; they've stopped their nighttime rambling to watch. Perhaps they know the secret we seek the answer to.

While Todd moves along the fenceline above us, I move onto what looks like a deer path, a slight ribbon of dirt between a tangle of blackberry vines on my left, the start of the slope up to the DLI on my right. "Does that keep going?" Jesse asks. I proceed a few yards farther, past a clot of fallen limbs. "Yeah, it even opens up." I step into the small clearing, listening as Jesse and Sierra follow me. To my right is a steep hill that, flattening out a ways up, is topped by the DLI fence; oak trees give the scene texture. To my left is a short rise.

I choose left, climb, then drop into a ravine clogged with fallen branches. Downstream, I see the lights of a car on the road a couple hundred feet off. I stand enjoying the silence, the moment alone. Do I know what I've gotten myself into, volunteering for Search and Rescue? Not really. But that's part of the allure. Life is uncertain. I'm glad to be able to do *something*. I watch as another car shines its lights my way, then turns and moves up the hill, the drivers unaware of the drama being played out so close by. I look up the ravine. The going gets more tangled, but I decide to check it out and start off. Just then Sierra's voice comes wafting down: "Anne? Are you there?"

"Yeah."

"You can come back."

I slip and slide back up the hill. "What's up? Did we get recalled?"

"No. We found him."

Dropping down to the path, I join Sierra and Jesse. "Where?"

"Up there." Jesse shines his light up the opposite slope, illuminates a yellow rope. It's all I can see: a taut rope moving in the still air. Jesse says, "It was the only straight thing around. And then I saw his shoulders." Jesse is taller than me, with a different perspective on the scene. I step a foot to the right, and then I see the man's head, wavy brown hair. I step back to the left.

That's enough. We found him. It has taken just under half an hour.

For another 20 minutes I stay planted, waiting to direct whoever comes along next to inspect the scene. Eventually the two Monterey policemen show up, and a couple of SAR volunteers. They clamber up the steep slope, slipping on the dirt, reconnoiter a flattened wire fence. I watch as their lights paint the trees, listen to them as they talk softly, unintelligibly. One has brought a digital camera, and occasionally a sharp flash of light reminds me that this is a crime scene. Just like on TV.

Miranda arrives. "We were right here," she says, "but Izzy didn't scent it." Izzy hasn't been working on cadavers for long—just a couple of months—though she has mastered the art of finding live subjects, at least on trainings. Miranda is upset, disappointed. She wanted her dog to find him.

It turns out the brother—the guy with the two flashlights—stood right here too, in this same spot, and shined those big lights around. Maybe he stood in not quite the right spot; maybe he was a little too short to catch a glimpse of what

A squad member ready to be lowered over a cliff on the Big Sur coast



he was seeking. Maybe he didn't really want to see that anomalous straight line slicing through the organic oaks. One thing I'm sure of: he wasn't disappointed not to find him. He still had hope at that point. He had hope right up until Jesse radioed to the command center, "We found him," and that message was relayed to the family, who were standing close by.

Back at the staging area, I step from light into shadow and again into light, alternately watching the family from the darkness—a voyeur of grief—and chatting lightly with my team members. Someone mentions a silly comment Joe made at the last training, and we chuckle. Miranda reminds us not to laugh too loud. I want the levity, but I also feel respect for the tremendous loss these people are experiencing. And so I keep stepping away from my team and back into the shadows, where I can watch them hug each other, hold one another.

Jesse is standing next to the truck, also in the darkness. "So, Anne, is this what you were expecting when you joined up?"

"I don't know what I was expecting. But I've gotten the impression that Search and Rescue isn't quite right. Search and Recovery may be more like it."

"Almost all I've had is recoveries," Jesse remarked. "You think you're going to help . . ." His soft voice trailed off.

"Well, I think it is a help. No matter what."

We both stand and watch the family. The mother, I assume—a tiny Asian woman, not five feet tall—has just arrived. Her children shroud her in their arms. They form a tightly clumped tableau.

A while later, as, back in the glare of light at the truck's rear, I stand with a couple of other volunteers, one of the family—a sister?—comes to us. "Are you the people who looked for him?"

We nod.

"I just want to thank you for my family, for all you did." She looks each of us in the eyes. Her face is fractured with pain. "Thank you." She pauses, searches our faces. "Thank you."

I don't know what to say, so I just nod again, the bill of my black SAR cap covering my eyes. Miranda says, "You're welcome." The woman returns to her small group.

Sgt. Moses appears and says, "Anne, I want you to rig the litter in a four-point low-angle carry." We'd just finished a three-day training, and we'd covered this. I know I know what he wants, and



search my memory. That's right: four long pieces of webbing, tied into loops, half-hitched through the hard-plastic orange litter through openings at foot and head—the loops long enough to drape over a shoulder and then hold with an outside

Top: Squad members work with mapping software.

Bottom: Search dog Marcy is trained to help locate and lead searchers to quarry.

The Work Is Worthwhile

THE MONTEREY COUNTY SEARCH and Rescue (SAR) team is made up of 15 sheriff's deputies and some 20 volunteers, both men and women ranging in age from the late 20s to over 60. Our team also includes search dogs and their handlers and a mounted unit.

The volunteers come from all walks of life: we have the director of rehabilitation services at Community Hospital of the Monterey Peninsula, a fine woodworker, a bookkeeper, an owner of a high-end clothing store. We are all certified first responders, trained regularly in both medical care and rescue procedures.

To join, all that's required is the ability, when a page comes, to drop everything and respond by heading to the sheriff's substation. Monthly training is mandatory. Missions range from searches for missing backpackers to body recoveries, very often from cars that have driven off Big Sur cliffs. We carry injured hikers out of the Ventana Wilderness; we search for

Alzheimer's patients who have wandered, missing children, and even downed aircraft; we perform white-water rescues. (See www.montereysar.org.)

A subgroup of our team is currently seeking certification in the national Mountain Rescue Association (www.mra.org). That training has taken us to the Sierra, for a taste of different scenarios than we get on the Central Coast. In March we took the snow and ice test, the third and final exam. If we pass and are admitted to full membership, we will be called for mutual aid searches and rescues throughout the western region.

Most counties in California have a SAR team, and most team members are civilian volunteers. If you are interested in finding out more, contact your county sheriff's department. The work is worthwhile, it gets you outdoors, and the team spirit can't be beat.

—AC

Only tremulous shadow twists in my hands.

Oh farther than everything. Oh farther than everything.

It is the hour of departure. Oh abandoned one!

This is what I see: His feet dangle a foot and a half, two feet above the ground. He wears clean brown work boots, leather with metal eyelets, laced firmly with thin cord. The ground is littered with rust-colored pine needles, pine cones, oak duff, twigs. The boots spin slowly. Headlamps and flashlights flicker over the scene; tree trunks glow dimly in the background. The coroner, a tall, lanky man with white hair, wearing a checkered flannel shirt, steps up and begins to inspect the body. Every so often a camera strobe flashes, sharp, like lightning. Gathering evidence.

Alain, standing next to me, says, "How do you think he got that rope up there?" It's fastened about 15 feet high, to a smooth, gently curving young oak. He seems to have tossed an end repeatedly over the high branch, winding it around until there was enough friction to hold. I wonder if he tested it, and how. I am glad for him that, however he managed to get up high enough and then jump, he did the job he set out to do. A botched suicide would have been even worse. Wouldn't it?

The coroner touches him gently, slowly spinning him around. The man's shirt cuffs are rolled above the elbows; his arms hang straight down, relaxed—though his hands are clenched, as if he'd been trying to fit them into the mouths of jars. Soft dark blue shirt, almost new, well-fitting blue jeans. I avoid looking at his face, which has been distorted by the violence he's done to himself. His body, though, is pleasant to look at, long and lean; at rest. It spins and spins.

After 20 minutes, half an hour, the coroner has finished his examination. Two team members lift the white body bag up over the dangling figure and zip it closed. Our tallest reaches with a sharp knife and cuts the rope. The body slumps into the men's arms, and they carefully lay him in the litter, strap him in.

I stand on the wire fence to keep it flat. The six men surround the litter and lift it, slinging the webbing over their shoulders for support. They head down the incline, and I follow. Glancing back, I see the coroner's flashlight shining on the dangling rope.

At the clot of tree limbs, the men slow, lower their burden to the ground, inch it under and through. The blackberry thorns grasp at their

hand at waist level. I move toward the truck compartment where webbing is stored, glad to have a task. "Rig it up," he continues, "and then we have to wait for the coroner. When he comes, I want you to escort him to the site. All right?"

Once the coroner arrives in his unmarked car, a clot of us heads back to the site. On the deer path, it gets too difficult to carry the litter from the sides, so I take the front and Brandon takes the rear. The team on site directs us to an easy uphill access.

I look up now, and there's the body. Five or six SAR team members stand in a semicircle around the man—not close, but somehow sheltering. Someone tells me where to drop the litter. I let go and step back, taking my place at the end of the silent line of workers in glowing yellow shirts. Angels of mercy, hallowing this lost soul.

I hear the words of Pablo Neruda:

*It is the hour of departure, the hard cold hour
which the night fastens to all the timetables.*

*The rustling belt of the sea girdles the shore.
Cold stars heave up, black birds migrate.*

Deserted like the wharves at dawn.

Excerpt from "The Song of Despair" from Twenty Love Poems and a Song of Despair, by Pablo Neruda, translated by W.S. Merwin, published by Chronicle Books. Copyright © 1969 by W.S. Merwin. Reprinted by permission of W.S. Merwin. All rights reserved.

clothes. They struggle along the narrow path, then emerge onto the asphalt trail. One by one they switch their headlamps off as their eyes adjust to the overcast night, to the contrast the trail makes as it flows between soft mounds of pine duff.

We walk slowly, reverently. It is very quiet. No wind to clatter leaves. No talk. Just our soft footfalls.

But then, from behind us, a melody rises. A trumpet, muted. Two slow notes and a longer one, two more and a long—floating upward, soberly, hauntingly, to dissipate into the darkness. *Day is done, gone the sun, from the hills, from the lake, from the sky. All is well, safely rest. God is nigh.*

“Taps.” As it plays, we slow to match the pace of the lone bugle. It is spooky, eerie. Beautiful.

There is an easy explanation for this haunting bit of serendipity: every evening at ten, someone at the Defense Language Institute punches a button and sends the tune wafting through loudspeakers—a farewell to the day just past, perhaps an acknowledgment of the conflicts around the world where American soldiers are at risk, and are dying. It’s one of the local sounds, along with the barking of sea lions and the chatter of gulls; a reminder of this town’s history.

Tonight, though, the explanation doesn’t matter. Tonight, we have all—all of us—been blessed with a solemn, and affirming, moment of grace. *It is the hour of departure, oh abandoned one.* For those of us who remain as well, it is an hour, if not of departure, then of reckoning. Yes, of reckoning. We are all touched by this grace. ■

Since this first call, Anne Canright has been on the Monterey County Search and Rescue team for two and a half years. There have been more recoveries, but also many rescues. The work and the team camaraderie continue to be satisfying and stimulating, and to teach ever new lessons in life.

Top: In SAR training, a rescuer and “victim” in a litter are hauled up a cliff on the Big Sur coast.

Bottom: SAR trainees wait for their evaluation. The author sits third from right.





Stop Work Order Undermines State's Economy, Ecosystems

In this issue and the one coming up, *Coast & Ocean* covers some of the ways that coastal activism has changed over the years, viewed through the lens of various activists. One great shift that has happened largely unremarked has been the rise of the restoration economy (see *Coast & Ocean*, Autumn 2004).

In the beginning, activists struggled to save special places from destruction. It soon became apparent that many saved places were in fact quite damaged ecologically, and needed some tender loving care. Although debates continue to rage regarding what "restoration" means, what state of nature we are trying to restore to, and whether a restored landscape can function in a completely "natural" manner, California has made major investments in bringing degraded ecosystems back to health, with highly satisfying results, both ecologically and economically. In San Francisco Bay over 40,000 acres of wetlands are being restored, with another 5,000 in Southern California. Major dam-removal projects are under way all over California, and scores of watershed restoration projects and groups are active throughout the state.

It takes a lot of people and a lot of work to restore a wetland, or to repair any other seriously degraded natural resource. We estimate about 100 jobs per million dollars of restoration funding, which pays to hire everyone from accountants, botanists, biologists, engineers, foresters, heavy equipment operators, and hydrologists, to laborers, nurserymen, social scientists, truck drivers, writers, and zoologists. Dollar for dollar, restoration employs just as many

people as any other kind of infrastructure work, and may well require a wider variety of jobs and professions than many other sorts of spending.

This is why the shutdown of bond-funded projects in California came at the worst possible time. On December 18, the Coastal Conservancy was compelled to order 435 projects stopped, worth a total of \$300,000,000. As of this writing, it does not appear that much of this work will be able to go forward for months, maybe longer.

Even the budget adopted two months later, on February 18, may not restore con-

Dollar for dollar, restoration employs just as many people as any other kind of infrastructure work, and may well require a wider variety of jobs and professions than many other sorts of spending.

fidence in California's status in the bond markets. Just when our economy may be spiraling down into the deepest recession since 1932, we have done our share to send it down even faster.

Hundreds if not thousands of people have lost jobs because of the bond freeze, and many smaller nonprofit organizations are heading toward bankruptcy. In addition, there are penalties to be paid for stopping and restarting projects. Contractors must remove all their equipment, tidy up, and in many cases fence off the area before they leave. This is called demobilization, and if the project resumes, there is remobilization; both of these cost money. Over all, stopping and restarting Coastal Conservancy projects (which are only part of the

big picture) will undoubtedly add tens of millions of dollars in new costs.

Even worse, some of our work will be delayed for years, or maybe forever. Many restoration projects have relatively narrow windows when work can happen, dictated by weather, the presence of endangered species, breeding seasons, or all three. Missing even a few months of work now may mean losing years of time in the field. As

a result of the bond freeze we have probably already lost forever the opportunity to remove the San Clemente Dam on the Carmel River in Monterey County. Work on the dam can only happen during the summer, but because of the bond freeze we will miss our first summer of work, delaying the project for at least a year. Unfortunately, the company that owns the dam, and the regula-

tory agency involved, are unwilling to wait any longer and have told us they are abandoning this removal effort.

All in all, it has been a dreary four months since my last column . . . which bemoaned the lack of a timely State budget. As it turned out, no sooner had our Legislature passed a budget (September 23, 2008, a mere two and one half months late) than we were in deep fiscal trouble again, to the tune of a \$42-billion deficit.

Not to mention the fact that we are in year three of the worst drought in decades. I hope I will have better news to report in my next column. But for now, at least it is raining.

Sam Schuchat is the executive officer of the Coastal Conservancy.



COASTAL CONSERVANCY NEWS

ALTHOUGH THE CONSERVANCY approved 20 projects in December 2008, 15 of them were put on hold when Governor Schwarzenegger froze bond fund expenditures as of December 18, pending resolution of the State's budget deficit. One acquisition was successfully completed before the funding freeze: the purchase of Sonoma Mountain Ranch. Funding for other approved projects cannot be spent until the freeze is lifted. These include continuing restoration work on Santa Cruz Island in Channel Islands National Park; watershed restoration and fish passage projects on the Central and North Coasts; further work on the San Francisco Bay Trail; and planning for wetlands restoration on the South Coast.

Two acquisitions approved in September—Chaparral Springs and Moore Creek (see last issue)—were completed just before the bond freeze went into effect.

LONG-SOUGHT PURCHASE: SONOMA MOUNTAIN RANCH

The Sonoma County Agricultural Preservation and Open Space District completed the purchase of the 283-acre Sonoma Mountain Ranch just before the unanticipated bond freeze, to the great relief of many who had worked for the protection of this invaluable property for decades. The check for the purchase was issued by the State Controller on December 16, the last day bond funds were available.

The ranch is at the summit of Sonoma Mountain, which rises to 2,463 feet and is one of the most prominent landscape features in the North Bay. It offers views of San Francisco Bay, the Pacific Ocean, the Coast Range, and the Sierra Nevada. The property adjoins Jack London State Historic Park to the east, and is almost completely surrounded by other protected lands.

The purchase assures that contiguous habitats and public access on more than 5,500 acres will be protected in perpetuity.

The Conservancy's grant of \$1.5 million in Proposition 84 funds was added to District funds to meet the \$9.95-million purchase price. The sale was under time pressure from potential private buyers, so it was expedited, and thereby saved before the bond freeze.

As development approaches the mountain from most directions, it has become an island of refuge for wildlife, with oak woodlands, grassland savannah, streams, redwood forests, and even wetland habitats in the form of ponds and streams. These habitats support a rich diversity of flora and fauna, including nine species of oaks and more than 80 species of birds.

In the Miwok people's creation story, Coyote-man perched on top of *Oon'-nah-pi* (Sonoma Mountain) while he made the plants and animals of the region, before

creating the people. Surveys have located at least one Miwok archaeological site on the property.

Much of the ranch has been used for grazing, which degraded water quality and allowed non-native plants to spread. This acquisition will help the District to work on these problems, as well as that of Sudden Oak Death, which threatens the property. The acquisition will also make it possible to extend and complete connections in the local trail network, including a trail to the summit.

WILDLIFE AND TRAIL CORRIDOR IN LIVERMORE VALLEY MAY YET BE SAVED

The purchase of the 74-acre Bobba property in South Livermore Valley, just outside the city limits of Livermore in Alameda County, has been delayed because the



Looking south from Sonoma Mountain



A lone hiker on Sonoma Mountain

request for payment reached the State Controller's office ten hours after the bond freeze deadline. The Tri-Valley Conservancy would have met the \$1.5-million purchase price by combining \$600,000 of Proposition 84 funds approved by the Coastal Conservancy with contributions from the Livermore Area Regional Park District, the East Bay Regional Parks District, and its own funds. Instead the grantee has been forced into an option agreement to make the purchase by the end of 2009, in hope that Coastal Conservancy funds can be restored.

This acquisition will provide linkage to public access trails in parks that surround the property: Del Valle State Park, Sycamore Grove Regional Park, Camp Arroyo, and Veteran's Park. The trails include the Ohlone Wilderness Trail, Heron Bay Trail, Sycamore Grove Trail, and the Shadow Cliffs to Del Valle Regional Trail. It is expected that trails will eventually connect the Ohlone Wilderness to the Shadow Cliffs Regional Recreation Area in South Pleasanton, connecting with the Bay Area Ridge Trail.

This land has been used for grazing and will remain available for agricultural use until 2018. The upper portion of the prop-

erty is open grassland—mostly non-native annual grasses—and some eucalyptus. Steep slopes may be restorable, for remnants of native grasses have survived. The property's low-lying acreage includes grasslands, oak woodlands, and a riparian area along a seasonal creek fringed by oaks, buckeyes, and willows that provide habitat for raptors. No biological surveys have been done on the property, but it is likely habitat for two protected amphibians, California tiger salamanders and California red-legged frogs. Deer, bobcats, foxes, and coyotes have often been seen using the property as a wildlife corridor.

LAKE MERRITT IMPROVEMENTS ON HOLD

Once a marshy tidal slough where four creeks drained into San Francisco Bay. In 1869, Oakland Mayor Samuel Merritt personally funded the building of a dam at 12th Street, which turned the slough into a 150-acre lake (around which he owned considerable land). A year later he persuaded the State Legislature to declare the lake a game refuge—the first wildlife refuge in the nation. The dam impeded tidal flow, a problem later aggravated by

the construction of culverts, a pump station, and more dams.

Now the lake and surrounding parkland are to Oakland what Central Park is to New York. They are valued and enjoyed by the city's residents, home to many birds and mammals, and the lake is an important stopover for migratory birds traveling the Pacific Flyway. Heavy use and stormwater runoff have long degraded the water quality of the lake, however, so a number of groups and agencies have made efforts to solve these problems.

In 2002, Oakland voters passed Measure DD to provide bond funding for habitat and access improvements at the lake and elsewhere in the city. In 2006, the Conservancy contributed \$1 million toward restoring bird habitat on the lake's five islands. In December 2008, the Conservancy approved \$9 million of Proposition 50 funds from the Wildlife Conservation Board to the City of Oakland for an \$83,187,900 project to widen the channel between the lake and estuary, create a demonstration tidal marsh and upland habitat along the channel, improve tidal flows, and do work to improve water quality, but these funds have been frozen since December 18, 2008. The City hoped that an expected federal grant would allow the project to proceed on schedule by using those funds first, but that grant will likely not come until the end of the year, so the project start will have to be postponed.

WET CUSHION TO WARD OFF SEA-LEVEL RISE

All permits are in place and construction work has begun on the 15,100-acre South Bay Salt Ponds Restoration Project, the largest tidal marsh restoration project on the West Coast, and a major component of a 40,000-acre wetland recovery effort on San Francisco Bay. Restoration of these industrial salt ponds to marshland will not only expand wildlife habitat and provide wildlife-oriented recreation opportunities, it will also serve to protect shoreline roads, highways, and other nearby structures against the expected sea-level rise. Look for a progress report in our Winter 2009 issue. Also see www.coastalconservancy.ca.gov.



IT'S GOOD TO SEE THE WIND. The hell with feeling it. But to see it rake over the ocean and run along the new grass of a west-facing hill, there's a power and nostalgia and a certainty to it, even if any certainty of what it will bring for the fisherman was lost some years ago. Maybe an upwelling of the sea? Maybe the final days of the Humboldt squid in any water within 200 miles of here, which wouldn't break more than one heart, if any at all.

Maybe krill by the trillions, miles and miles of tiny bodies in rafted mass, so red it's almost frightening, like some glorious murder on the sea. And maybe then the salmon, living and eating and growing and, months from now, swimming the bays and rivers to forward the whole thing again.

There still are a few party boats and there are some private boats, too. There's that. There are boats at dry dock making repairs for fishing seasons that might or might not happen, which, in its own way, is a kind of hope. There's a skipper at the dock with four decades on the ocean, and he'll look right into you and say, "You don't know what'll happen. None of us do. But I know there are fish out there."

And you can drive home thinking about the ocean and the god in charge, while the northwest takes hold, while you watch for something, whispering, *blow wind blow*.

Brian Hoffman's weekly column, "The Fishing Report," appears in the *San Francisco Chronicle* on Thursdays (www.sfgate.com/columnists/hoffman).

The California salmon fishery will almost certainly be closed again this year, as it was in 2008.



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