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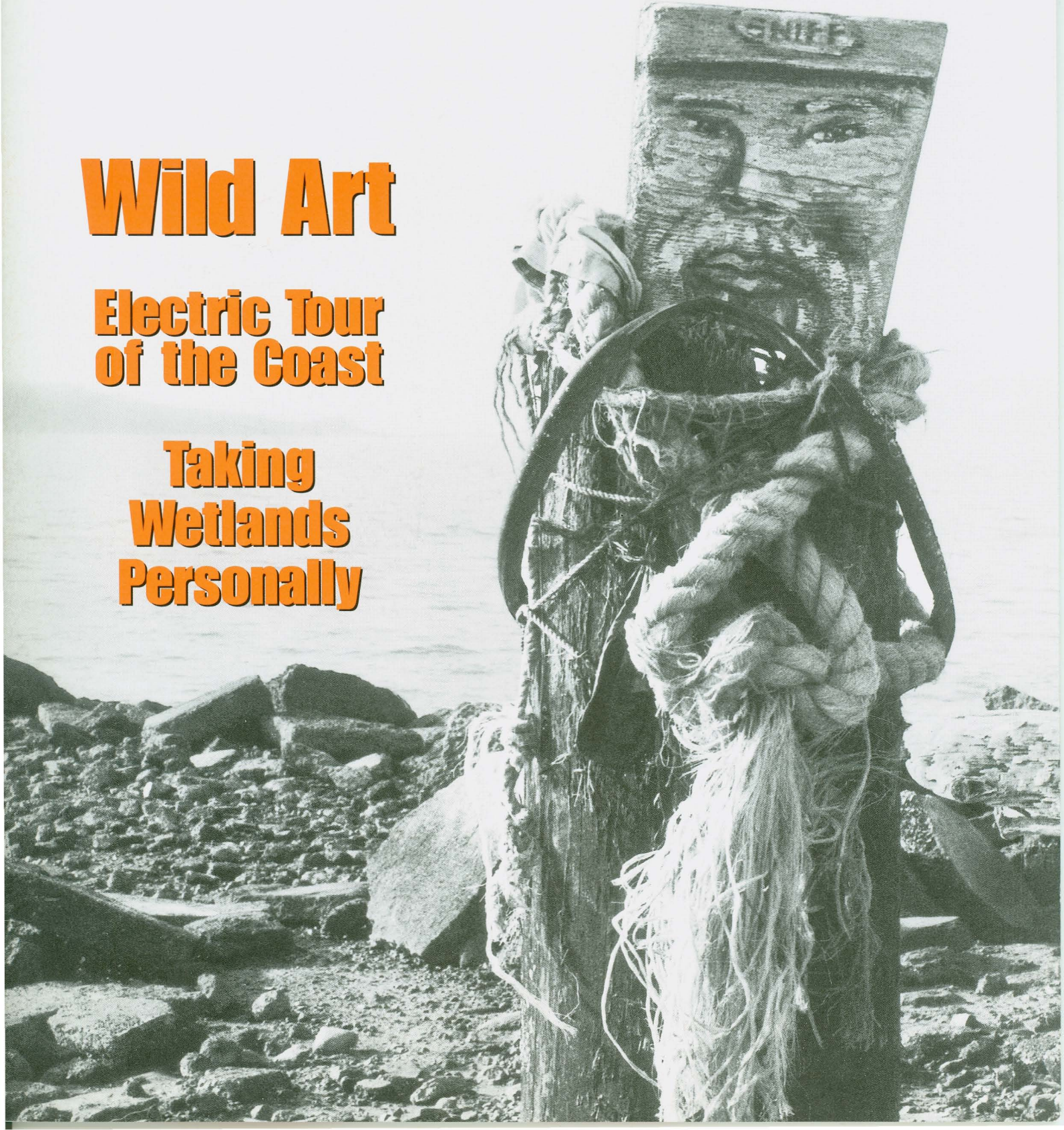

Wild Art

Electric Tour of the Coast

Taking Wetlands Personally

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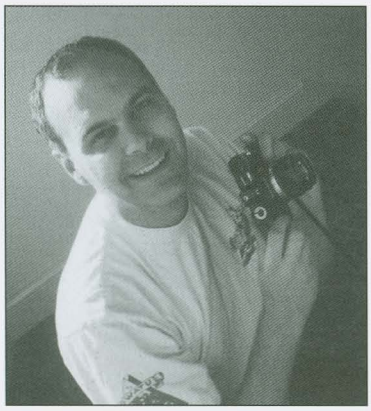

Anonymous art work on an abandoned San Francisco Bay landfill (see page 27).

Bob Giles specializes in toned photographs of sculptures in Victorian garden cemeteries. His work has been shown in coffeehouses and restaurants in the San Francisco Bay Area.

Back Cover photo:
Ron St. John, age 60, surfing off Tourmaline (see page 24). Photo: Dave Gnade

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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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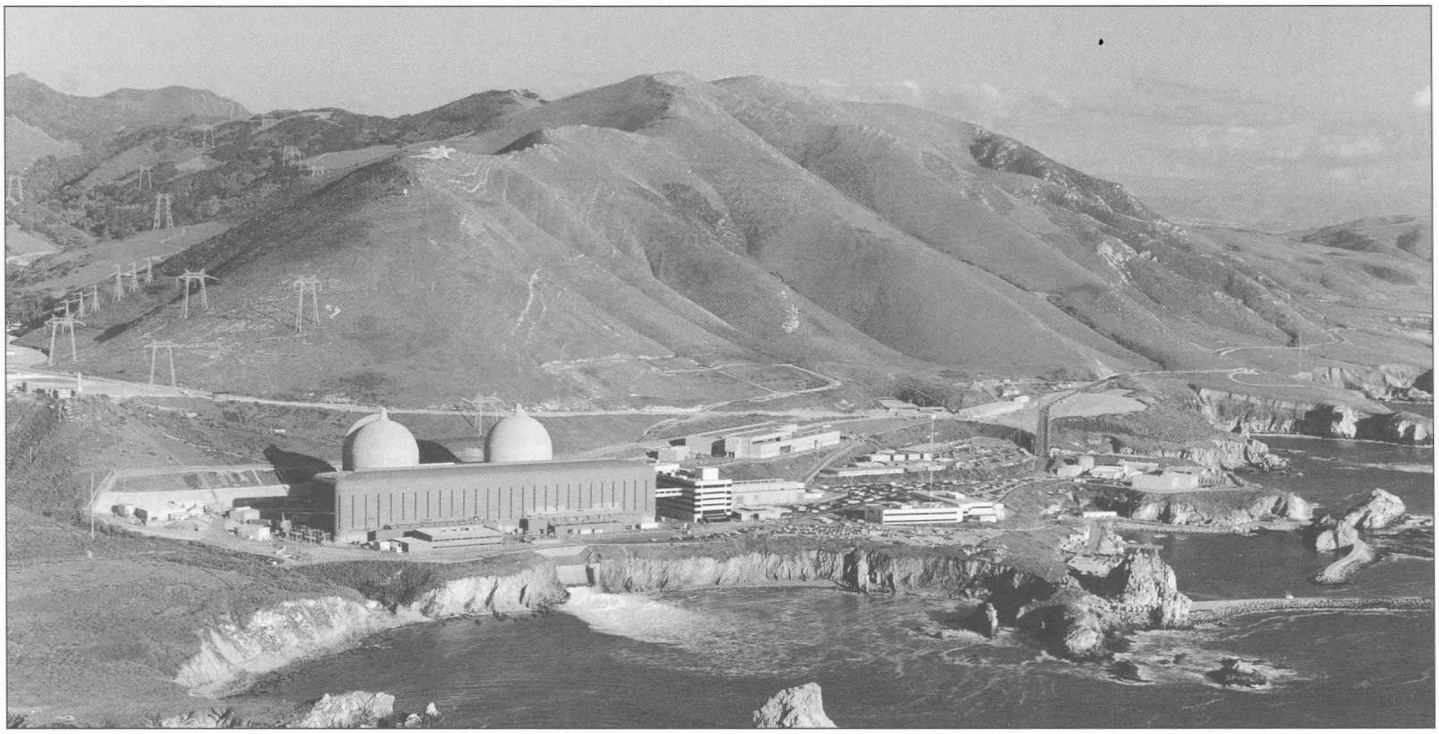

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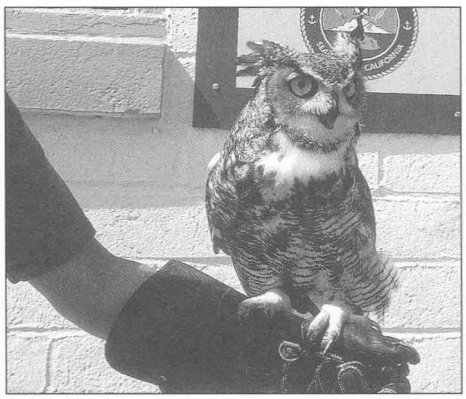
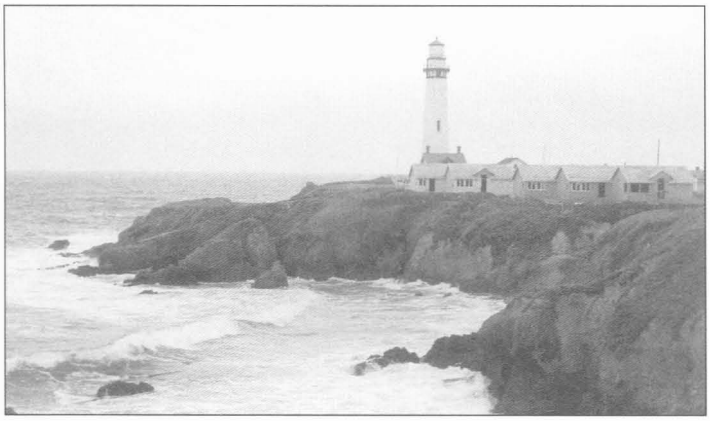


JOHN BRADLEY

FLASHES FROM PIGEON POINT

DRIVING ALONG THE RURAL STRETCH OF COAST between Santa Cruz and San Francisco, I have always loved coming upon the Pigeon Point Lighthouse, blinking friendly warning across rocky shores, ocean waters, and coastal terraces planted with Brussels sprouts. I've come to think of it as the perfect symbol for what Californians had in mind when they passed the 1972 Coastal Initiative.

The citizens decreed that farmland, open space, and the special character of coastal landscape be protected, that ocean views from the coastal highway be preserved, that the public have access to the shore, and that new development in the coastal zone be shaped and sited accordingly. On this stretch of the San Mateo coast, all this was accomplished, despite the fact that many people would gladly have spent vast sums of money to build private palaces or corporate developments.



USHA MOSS

Passing the lighthouse—the only prominent structure on the ocean side of the road between Santa Cruz and Half Moon Bay—I have been grateful to the people who established a hostel in the cluster of old cabins at the foot of the classic tower, a National Historic Landmark. Almost anyone can afford to stay there, including several thousand school children each year. These children have been walking down to the small wind-sheltered beach to learn about seashore life, then bedding down at the hostel to the sound of the waves crashing on rocks.

One recent blustery morning, I was startled to find some new buildings under construction right in front of the lighthouse, their rooflines slicing across my view. I learned that they were to be a nine-unit bed and breakfast, approved by local agencies and the Coastal Commission, despite unresolved water issues and other concerns. "This happened because we had a Commission that was hostile to the Coastal Act," said Peter Douglas, the Commission's executive director. "The most unfortunate part is the loss of access to the beach."

Before proposing the project, the landowner struck an agreement with the state that extinguished the only public access to the popular little beach below the hostel. The agreement recognized the beach as public, but excluded the public from crossing this property. Commission staff tried to claim prescriptive rights, on the ground that the public had used this route for years. But the Attorney General at the time, Dan Lungren, would not support that move. Now the trail is private, except that a limited number of people and groups of school children may pass if permits are obtained in advance.

With the access issue thus settled, the B&B won approval from county agencies—despite official concerns about the water supply and the septic system. There was vocal opposition, and an appeal to the Coastal Commission. But the Commission directed its staff to approve. "Commission appointees are political," explained Sara Wan, the current chair. "While the Commission is charged with protecting the coast, it won't do it unless you have the right Commission. It was inappropriate to have this go forward without having resolved the water issue."

The Commission's membership and attitudes changed after the 1998 election. The water issues had not yet been settled. The new Commission established conditions in response to concerns that the well water supply would prove inadequate and wastewater flows might cause erosion and contaminate the marine environment.

The property is a narrow 4.5-acre strip of coastal terrace. Extensive installations, mostly underground, were agreed upon. A reverse osmosis plant will extract salt from well water. The brine will flow into a leachfield, from which it will drain into an outfall at the top of an eroded gully. A curtain drain will be installed to prevent surface runoff of brine and treated wastewater. The landowner's expert assured the Commission that the project would not create a bluff erosion hazard. The Commission had no other expert to consult. Its permit states that no seawalls or other fortifications may be built. The impact this project will have on coastal resources remains to be seen. At least it's a visitor-serving development —a type preferred by the Coastal Act.

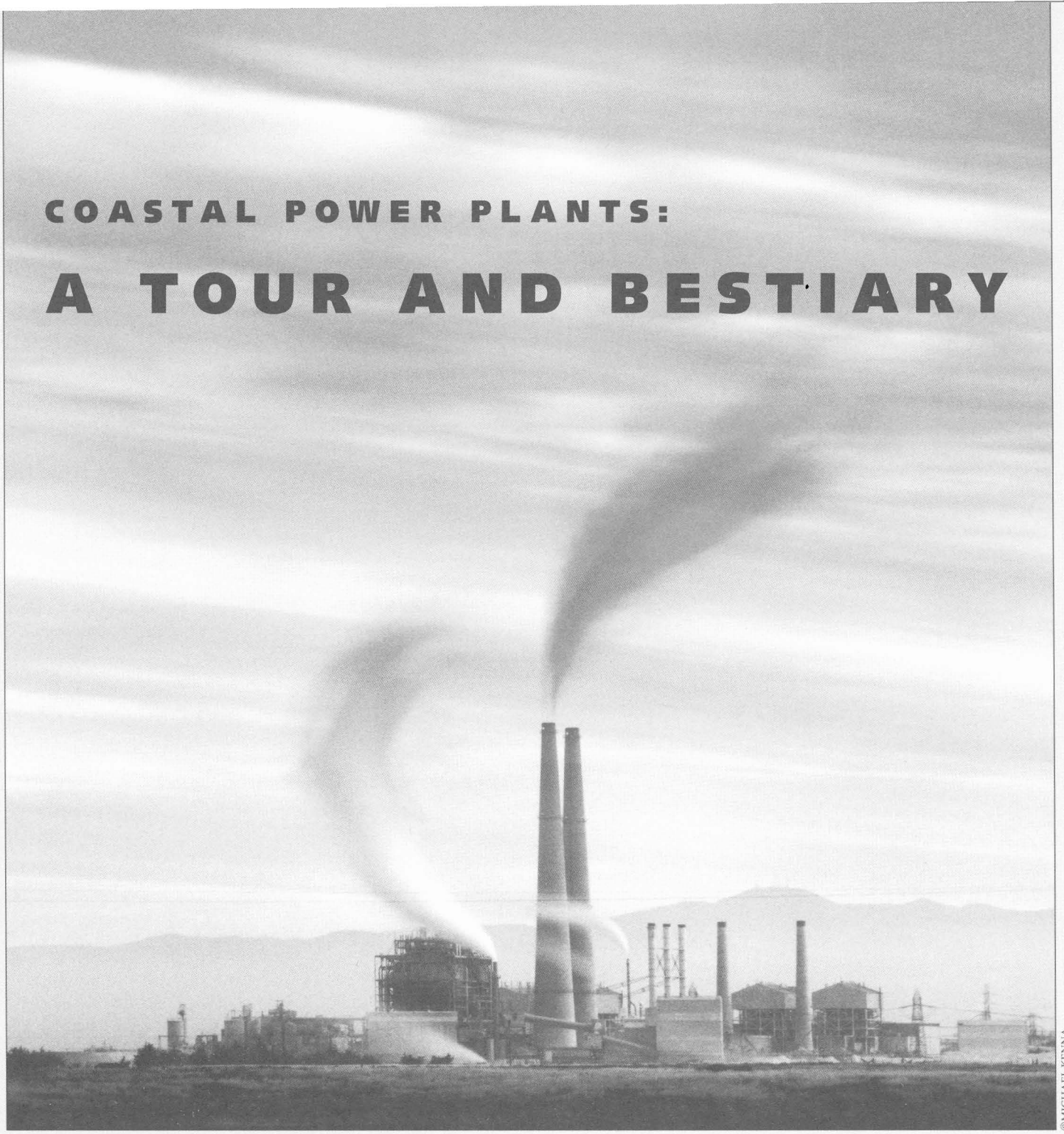
The stakes have been raised. With the stock market and Silicon Valley's economy booming, the pressures for coastal development have intensified. At the same time, opportunities now exist for public agencies and land trusts to acquire precious coastal acreage for parks, open space, and wildlife habitat. Should State Proposition 12, the park bond, pass in March, there will be more such opportunities.

The new Country Inn B&B in front of the Pigeon Point Lighthouse is no taller than the old cabins behind it, and it will probably blend in. But for me, this historic landmark now flashes this warning: no matter how strong the laws to protect our coast, it's up to us citizens to make sure that those in political office know we still want what we ordered with the Coastal Initiative of 1972.

—Rasa Gustaitis

COASTAL POWER PLANTS:

A TOUR AND BESTIARY



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WILLIAM AHERN

On a clear day, looking out from the

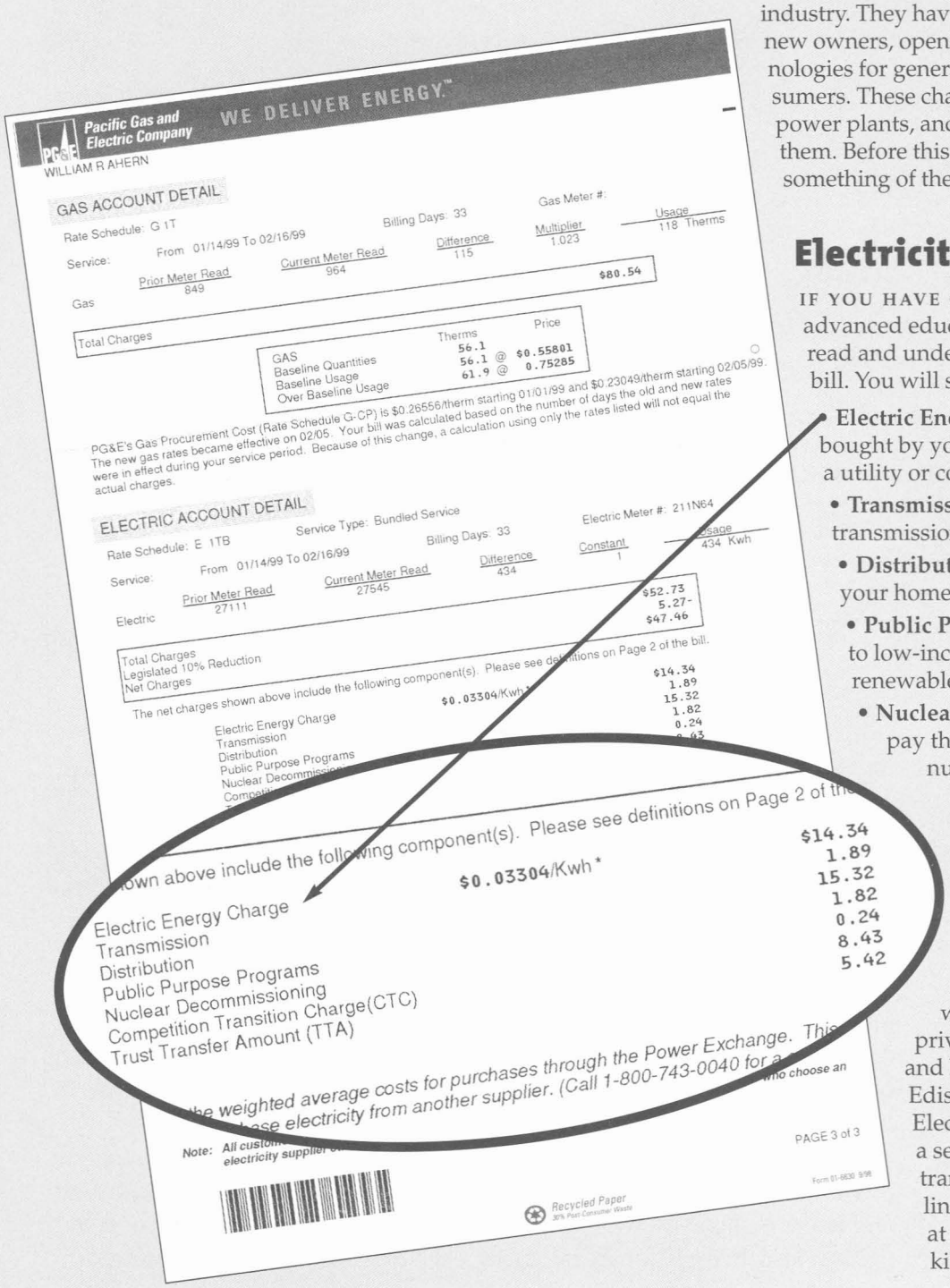
Santa Cruz Pier, or from Monterey's Cannery Row, I can see the Moss Landing Power Plant across Monterey Bay. Its huge smokestacks tower over the tiny town, sending long plumes of white smoke inland toward the Salinas Valley when it's operating at full throttle.

This monumental structure is a landmark, as are the other great electric power plants that punctuate the California coast between Humboldt Bay and San Diego Bay. Although travel guides rarely mention them, and the natural resource guides ignore them, each dominates a regional coastal

landscape and triggers emotions—revulsion or admiration, or both—in the coastal traveler.

Stroll at sunset on the Redondo Beach Pier and look inland: your eyes will be drawn toward the bulky Redondo Beach Power Plant; on its south wall, a great blue whale mural glows in the slanting light. Drive south on Interstate 5 at night, just downcoast from San Clemente, and you may be startled by the exotic brightly lit twin domes of the San Onofre Nuclear Generating Station (SONGS) rising from the beach right next to the freeway. (These massive concrete structures are designed to confine any runaway nuclear reaction.)

This article offers a short tour of these familiar but unacknowledged landmarks, and also points out some coastal sites where nuclear power plants were planned but were never built. Vast changes, resulting in large part from deregulation, are now sweeping through the electric power industry. They have put power plants into the hands of new owners, opened the way for more efficient technologies for generating electricity, and confused consumers. These changes affect the future of our coastal power plants, and of the land and water surrounding them. Before this tour begins, it helps to understand something of these changes and their effects.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GAS ACCOUNT DETAIL
Rate Schedule: G 1T
Service: From 01/14/99 To 02/16/99
Billing Days: 33
Gas Meter #:
Prior Meter Read 849
Current Meter Read 964
Difference 115
Multiplier 1.023
Usage 118 Therms
Gas
Total Charges $80.54

GAS	Therms	Price
Baseline Quantities	56.1	
Baseline Usage	56.1 @	$0.55801
Over Baseline Usage	61.9 @	0.75285

PG&E's Gas Procurement Cost (Rate Schedule G-CP) is $0.26556/therm starting 01/01/99 and $0.23049/therm starting 02/05/99. The new gas rates became effective on 02/05. Your bill was calculated based on the number of days the old and new rates were in effect during your service period. Because of this change, a calculation using only the rates listed will not equal the actual charges.

ELECTRIC ACCOUNT DETAIL
Rate Schedule: E 1TB
Service Type: Bundled Service
Electric Meter #: 211N64
Service: From 01/14/99 To 02/16/99
Billing Days: 33
Prior Meter Read 27111
Current Meter Read 27545
Difference 434
Constant 1
Usage 434 Kwh
Electric
Total Charges $52.73
Legislated 10% Reduction 5.27-
Net Charges $47.46

The net charges shown above include the following component(s). Please see definitions on Page 2 of the bill.

Electric Energy Charge	$0.03304/Kwh*	$14.34
Transmission		1.89
Distribution		15.32
Public Purpose Programs		1.82
Nuclear Decommissioning		0.24
Competition Transition Charge(CTC)		8.43
Trust Transfer Amount (TTA)		5.42

*the weighted average costs for purchases through the Power Exchange. This ... who choose an ... electricity from another supplier. (Call 1-800-743-0040 for a...

Note: All custom... electricity supplier...

PAGE 3 of 3

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Electricity Deregulation

IF YOU HAVE CONFIDENCE, BOLDNESS, and advanced educational degrees, you may be able to read and understand your current utility electric bill. You will see the following charges:

- **Electric Energy Charge** (cost of your electricity bought by your chosen electric energy provider, a utility or competing company)
- **Transmission** (cost of long-distance electricity transmission)
- **Distribution** (cost of local poles and wires to your home)
- **Public Purpose Programs** (cost of subsidies to low-income users, energy conservation, and renewable energy programs)
- **Nuclear Decommissioning** (saving up to pay the future cost of restoring the sites of nuclear power plants such as SONGS)
- **Competition Transition Charge** (CTC) (pays off utilities for uneconomic facilities and contracts)
- **Trust Transfer Amount** (TTA) (the cost of bonds issued to give you a 10 percent rate cut).

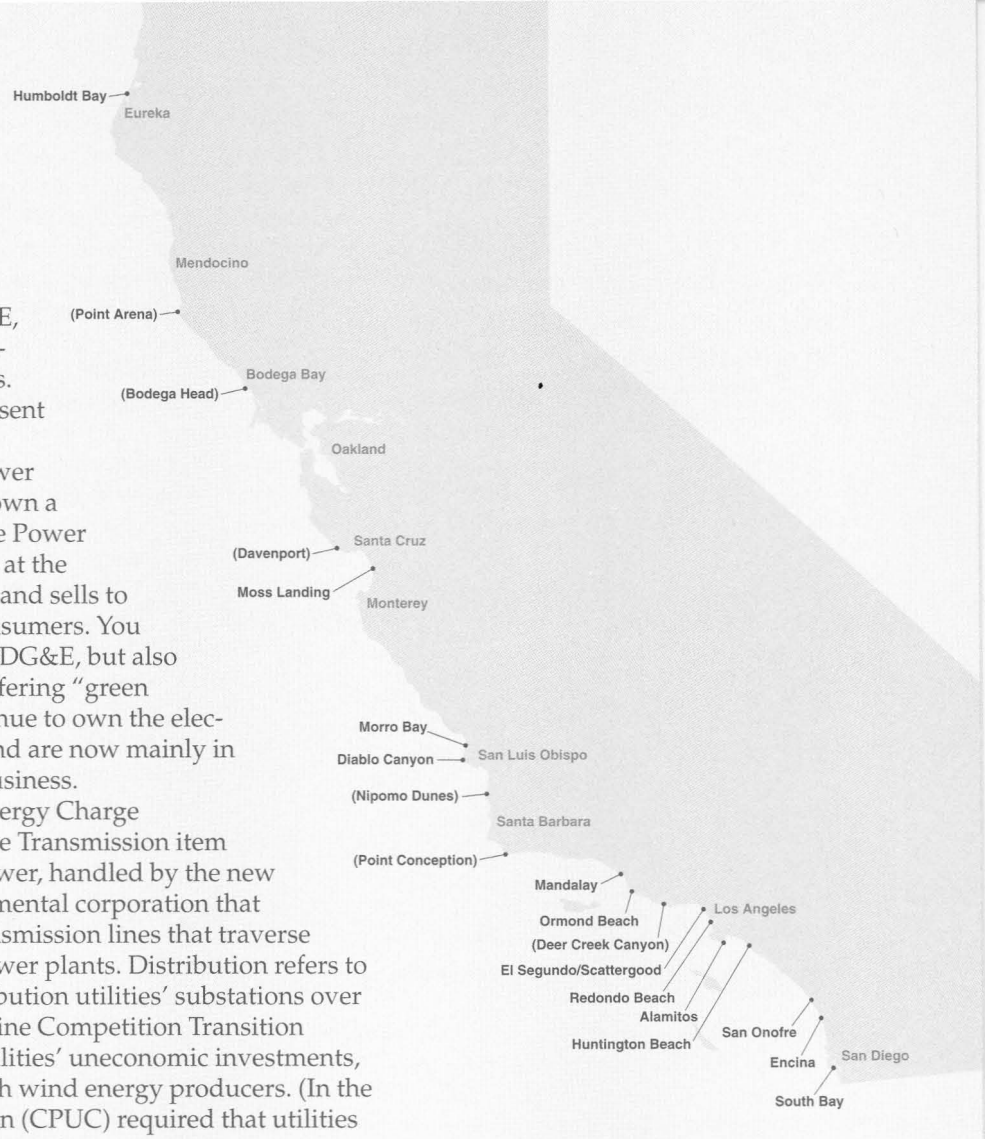
Before January 1, 1998, bills were much simpler. The state's major private electric utilities—Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E)—owned and operated a seamless system of power plants, transmission lines, and distribution lines, all bringing electricity to you at one charge of, say, 10 cents per kilowatt hour.

But in 1996 the California Legislature passed AB 1890, which essentially moved the private utilities out of the power-generating business. With the goals of increasing competition and lowering prices, the law broke private electric utilities into three categories: generation, transmission, and distribution. PG&E, SCE, and SDG&E were required to sell their non-nuclear power plants through an auction process. The nuclear plants are very uneconomic and present safety worries, so the utilities must keep them.

With AB 1890, generating electricity from power plants became competitive. Now anyone may own a plant and sell electricity to you directly or to the Power Exchange, also created by AB 1890, which buys at the lowest prices offered by power plant operators and sells to the utilities that distribute electric power to consumers. You can buy electric energy from PG&E, SCE, and SDG&E, but also directly from other companies, such as those offering "green power," for example. The private utilities continue to own the electricity transmission and distribution systems and are now mainly in the power distribution and customer service business.

So, back to your monthly bill. The Electric Energy Charge can involve different competing companies. The Transmission item refers to long-distance transmission of your power, handled by the new Independent System Operator, a quasi-governmental corporation that schedules power over the tall high-voltage transmission lines that traverse the state and stretch inland from the coastal power plants. Distribution refers to the cost of bringing your power from the distribution utilities' substations over local poles and lines to your house. The byzantine Competition Transition Charge on your monthly bill pays down the utilities' uneconomic investments, such as nuclear power plants and contracts with wind energy producers. (In the 1970s the California Public Utilities Commission (CPUC) required that utilities buy some energy produced from renewable sources.)

In this decentralized electric power market, Duke Energy Power Services of North Carolina, using the plant at Moss Landing, competes with coal-fired power plants in Wyoming, hydroelectricity from the Columbia River generated by the Bonneville Power Authority, and windmills in the Altamont Pass and out by Palm Springs. At the Power Exchange, price rules.



This map shows the locations of the major coastal power plants in the "Bestiary." Names in parentheses indicate sites where nuclear plants were proposed, then rejected. Other large power plants near the coast include several around San Francisco Bay and one on Terminal Island in Long Beach.

A Conservation Opportunity

THESE COASTAL PLANTS WERE BUILT SOME DECADES AGO on land that was cheap at the time, including dunes and wetlands. There were no laws protecting wetlands back then; their value to fish, birds, water quality, and flood protection was still not sufficiently recognized. The utilities acquired enough land around the plants for future expansion. The California Coastal Act of 1976 encouraged such expansion by essentially prohibiting development on new coastal sites while existing (already industrialized and blighted) sites can be used. The California Energy Commission can approve new units added at existing power plant sites without a Coastal Commission permit.

When they sold the coastal power plants, the utilities kept much of the land around them—land that is now appreciated for its natural resource values. Under the CPUC's policies, the utilities must sell these lands at their fair market price to benefit the ratepayers. The Coastal Conservancy, other resource agencies, and conservation organizations are highly interested.

For example, the Ormond Beach Power Plant in Oxnard sits in a now degraded wetland. For decades, utility ownership has prevented residential and commercial development, so this property, now up for sale, presents a rare

opportunity. The Conservancy has successfully negotiated with SCE to acquire and restore 600 acres and secure a protective grassland buffer around the wetland—a dream of wildlife biologists in heavily urbanized southern California.

Another major opportunity will arise whenever PG&E's Diablo Canyon Nuclear Power Plant is decommissioned. This plant, with two big domes, sits on a cove halfway between Montana de Oro State Park on Estero Bay and Port San Luis on San Luis Obispo Bay. It can only be seen from the air or from the sea. PG&E owns about 12,000 acres of beautiful undeveloped coastal terraces and hills—an area about 14 miles long and up to two miles wide. This land includes part of the Irish Hills, which embrace the rugged western stretch of the San Luis Range and abound with coastal scrub, coast live oak woodlands, and some of the only known undisturbed stands of coastal terrace prairie remaining in the state. The Nature Conservancy and the Land Trust for San Luis Obispo County highlight this area in their study *Conserving the Landscapes of San Luis Obispo County.*

It's an ironic twist: because they were considered so dangerous that they required a safety buffer, nuclear power plants have protected valuable open space and habitat lands from development. The Diablo Canyon plant is licensed till 2025 but could close earlier. When it does, those who want to protect this land will have to move quickly. In January, the San Luis Obispo County Board of Supervisors placed on the March ballot an advisory measure known as the DREAM initiative. It would encourage state and local officials to recognize these lands as "an exceptionally precious coastal resource," and to take steps necessary to preserve them.

Why Power Plants Are on the Coast

POWER PLANTS ARE ON THE COAST IN PART because that's where most of California's people live. Fewer costly high-voltage transmission lines are needed, and the power is more reliable. Another siting factor relates to oil transportation. The coastal fossil-fueled plants currently burn relatively clean natural gas. But in the 1960s and 1970s, when gas supplies were limited, oil tankers would bring fuel from refineries in Los Angeles and San Francisco Bay to marine oil terminals offshore from the power plants at Morro Bay, Moss Landing, and Carlsbad. The main reason for siting power plants on the ocean's edge, however, was the availability of water. Large power plants need huge amounts—rivers—of cooling water. Whereas California's freshwater river flows are fought over by cities, farmers, industries, and fish supporters, ocean water is abundant and free.

Generating electricity involves burning fuel in a boiler to turn water into superheated steam. The steam expands and rushes through a turbine, turning a shaft that spins a wire coil between the poles of a magnet. As the coil cuts through the lines of magnetic force, an electric current flows through the coil. The spent steam enters pipes surrounded by cool water, is condensed back to water, and returned to the boiler for another round, while the cooling water—now warmer with absorbed heat—is discharged. A gas-fired power plant may convert only 30–40 percent of the energy in the gas into electrical energy, with the rest expelled as waste heat into the air and water.

Coastal power plants have intake channels for ocean water, and outfalls or discharge pipes extending for miles into the ocean. The San Onofre plant pulls in 1.6 million gallons a minute. Along with cold water, the plants pull in vast numbers of fish, larvae, eggs, and other marine life. When discharged, this water is up to 20 degrees warmer. Marine life is affected by these rivers of warmed water, sometimes in unusual ways. Green sea turtles, for example, have learned to visit the outfall of the South Bay Power Plant in San Diego Bay for a more tropical experience. At the Hunters Point Power Plant in San Francisco Bay, sponges grow that are usually found much farther south.

(continued on page 9)

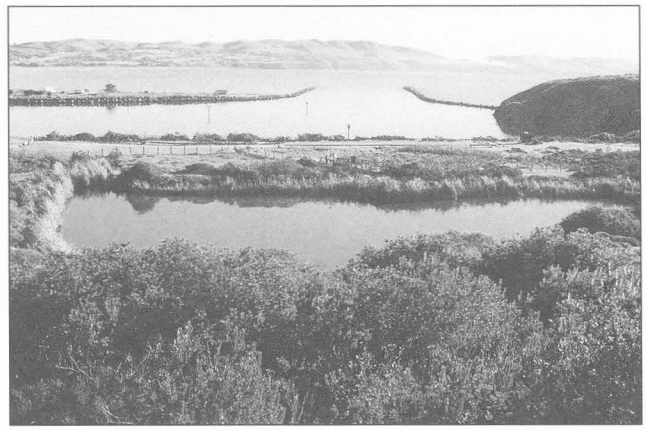
A Coastal Bestiary

A bestiary is a medieval collection of fables, usually religious or moralistic, about actual and mythical animals. Power plants do seem like living things, huge gray beasts that consume oil and gas and emit steam, warmed water, and, of course, electricity. We will be losing some of them before long, so take a look as you travel the shoreline highway.

HUMBOLDT BAY NUCLEAR POWER PLANT

Built in 1963 on Humboldt Bay, just south of Eureka, this is the oldest commercial nuclear power plant in the state. It was shut down after 13 years of fitful operation after an earthquake fault was discovered beneath it. The spent uranium fuel rods remain on site, but by 2005 PG&E hopes to have moved them to containers designed to withstand earthquakes. You can see this small nuclear plant on the bay side of Highway 101, off King Salmon Drive. PG&E dismantled its stack last year. (Unlike later nuclear plants, it had no containment chamber, but vented directly from the reactor room.) The stacks you see are of a small fossil-fuel unit, which is still operating.

LINDA SCHWEND



RICHARD NICHOLS

BODEGA'S "HOLE IN THE HEAD"

PG&E quietly chose Bodega Head as the site for a new nuclear power plant, acquired easements for power lines as far as Napa County and, in 1963, dug a huge hole here—right on an earthquake fault—to hold the containment vault of the reactor core. When some citizens got wind of what was coming they went to court and the news media. PG&E dropped the project and sold the site to the state for $1. The historic hole, known ever since as the "Hole in the Head," is now part of Sonoma Coast State Beaches. It filled with water and became a freshwater pond, much appreciated by birds and birders.

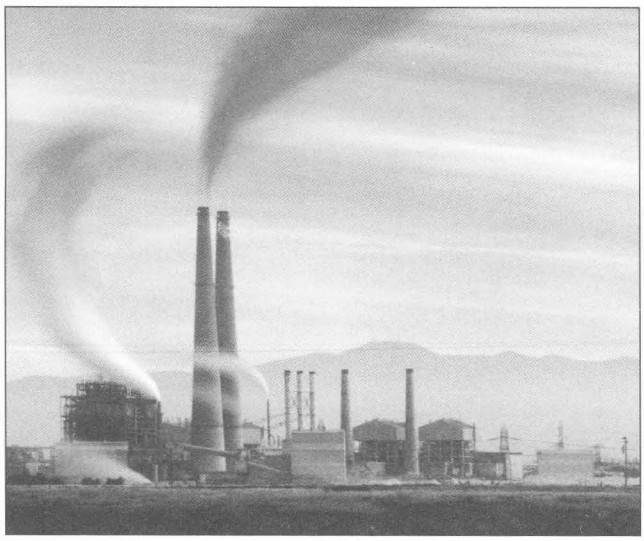
From Highway 101 north of Bodega, take West Side Drive to Campbell Cove and park. For a wide-angle view, continue to the uphill parking lot, walk to the bluff edge, and look down.

CANCELLED NUCLEAR PLANTS

The utilities also planned nuclear power plants at five other coastal sites: Point Arena, Davenport, Nipomo Dunes, Point Conception (Little Cojo Cove), and Malibu (Deer Creek Canyon). All were rejected because of citizen protest or proximity to earthquake faults. Southern California Edison sold the Point Conception site to the Southern California Gas Company, which proposed a liquified natural gas (LNG) terminal—sparking another great battle in the late 1970s. LNG tankers were to bring gas, frozen in huge tanks, from Indonesia. In the 1980s, when natural gas prices were deregulated and more of this clean-burning fuel became available, this proposal was also abandoned. The Gas Company's successor, Sempra Energy, recently sold the 975-acre site to a private buyer.

MOSS LANDING

The two 500-foot-high exhaust stacks of this power plant dominate the view of the Monterey Bay shoreline. The new owner, Duke Energy Power Services of North Carolina, plans to remove eight older, smaller stacks and 19 oil tanks. Duke has proposed to erect a smaller plant, with four shorter stacks and a more energy-efficient unit, which will recycle waste heat now emitted into the air. The two giant stacks are to remain.



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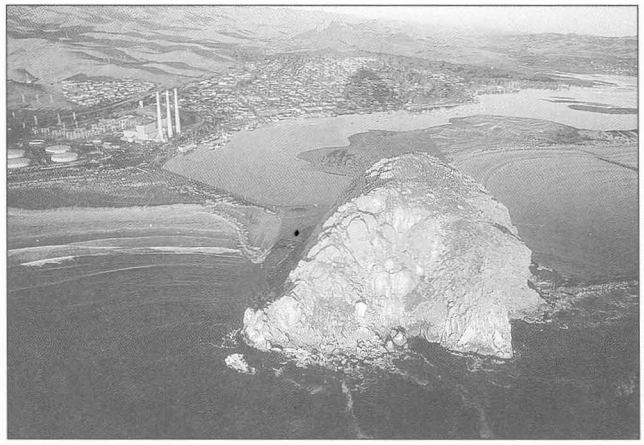


ROLAND AND KAREN MUSCHENETZ

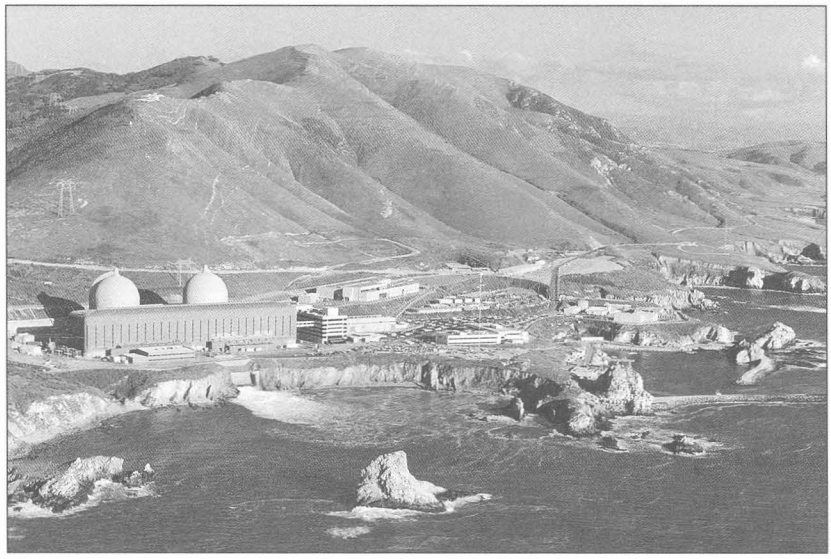
MORRO BAY

With its high stacks looming on the Morro Bay waterfront, this power plant rivals Morro Rock as a monumental landscape structure. Like the first units of the Moss Landing plant, it was built in the 1950s, and at first burned cheap heavy oil brought in by tanker. Since the 1970s, it has been fueled by natural gas, which became cheaper than oil after federal price controls were lifted. Duke Energy Power Services, which bought the plant from PG&E in July 1999, plans to remove some of the old equipment, and build new, more efficient units, which will use heat generated by turbines—heat that is now largely wasted—to produce steam that will drive another electric generator.

DIABLO CANYON

You cannot see this nuclear power plant from the highway, nor from a trail. PG&E owns 12,000 acres around it, including 14 miles of coastal terrace, extending up to two miles inland. Docent-led hikes, with magnificent coastal views, are offered on the seven-mile-loop Pecho Coast Trail. Otherwise there is no public access. The site PG&E first chose for this plant was in the Nipomo Dunes, but the Sierra Club and others objected. In a move that agonized and split the membership, the Sierra Club suggested the Diablo Canyon site as preferable.

The two units that PG&E planned to open in 1972 and 1974 actually began to operate in 1985 and 1986. The estimated construction cost of $320 million grew to an actual cost of $5.8 billion—over 17 times as much. When at the CPUC, I negotiated the agreement under which ratepayers pay PG&E a price for each kilowatt produced at Diablo Canyon, according to a system called performance-based pricing. Otherwise the CPUC would have had a many-year-long fight over how much of the plant's $5.8 billion cost was "reasonable" for ratepayers to pay for, and how much was "unreasonable," that stockholders would pay. PG&E has operated the plant well above the national average of efficiency and so has come out financially whole under the performance-based pricing formula.



PG&E

Rise and Fall of the Nuclear Dream

I CAME TO CALIFORNIA IN 1973 TO RESEARCH ENERGY ISSUES at the Rand Corporation in Santa Monica, just as the state's electric utilities were moving toward their dream of clean, cheap nuclear power. After WWII they had built huge plants such as the one at Moss Landing, using inexpensive oil and gas as fuel to meet the needs of California's rapidly growing population. The demand for electricity was increasing at seven percent a year, almost doubling every ten years.

Encouraged by the federal "Atoms for Peace" program, the utilities looked to nuclear power for future growth. The plants would cause no air pollution and would produce electricity "too cheap to meter" because nuclear fuel can create new nuclear fuel. A Rand report of the time projected nuclear plants every ten miles along the coast—a projection that helped galvanize the energy conservation movement. The dream of the utilities was to operate around the clock. At night, when electricity demand is low, the nuclear-produced electricity would pump water up behind dams. During the day the water would run back down through turbines producing clean electricity for daytime loads such as air conditioning. PG&E managed to build a first stage of this dream in the Diablo Canyon Nuclear Power Plant and the Helms Creek Pumped Storage Plant in the Sierras.

But the dream collided with major obstacles. One was earthquake faults. Opponents of nuclear power stopped PG&E's plans to build a plant at Bodega Head in Sonoma County, right next to the San Andreas fault. A large hole in the ground—now a pond—remains as a memorial to that battle.

In 1978, the Coastal Commission produced a set of maps placing most of the coast off-limits to new power plants. This put a halt to proposals for at least five more nuclear plants at coastal sites (see p. 7). I managed that mapping project, and there was actually little controversy regarding our proposals. At that time, the utilities were discouraged both by public opposition to new power plants and, more to the point, by the San Andreas Earthquake Fault Zone, which makes the coast a risky and costly place for nuclear plants. After the Coastal Act, the industry began to consider new sites in the Mojave Desert and in Stanislaus and San Joaquin Counties in the Central Valley, but none were built except Rancho Seco, by the Sacramento Municipal Utility District. So we have only three nuclear plants on the California coast instead of many.

Nuclear safety requirements grew more rigid, and the engineering needed to cope with the huge pressures and temperatures of nuclear fission caused massive cost increases. Diablo Canyon and San Onofre, planned as $500 million plants, cost $5 billion each to build. When I was at the Public Utilities Commission I had the unpleasant job of explaining to retired people living in all-electric homes—which they had been encouraged to buy because the electricity was going to be so cheap—why their bills were hundreds of dollars a month in the summer.

A mid-1970s state law prohibited new nuclear plants until a "safe and permanent" place was found and developed for spent nuclear fuel. The federal government has yet to do this, so the fuel rods have been accumulating at each plant site, a cause of worry and high cost. No more nuclear power plants are in the works in California now.

Renewable Resources

DURING THE NATIONAL PANIC ABOUT IMPORTED OIL SUPPLIES and after the Arab Oil Export Embargo of 1973, both federal and California governments encouraged and required electric utilities to purchase power using renewable sources such as biomass (walnut shells, wood waste), wind, solar, geothermal, and small hydro. Engineers toyed with the concepts of harnessing tides and ocean waves and even temperature gradients between warm surface water and deep cool water. None of those technologies is considered to be cost-effective at present. The continued low cost of oil and gas and coal makes renewable resources a relatively expensive way to generate electricity. This is why electricity

purchased from an energy company using "green" sources is likely to cost more than energy from the utilities bought on the Power Exchange.

Ratepayers continue to subsidize renewable resources in California through that Public Programs charge on your energy bill. The California Energy Commission recently awarded $162 million of your money collected from this charge to subsidize 55 new renewable energy projects, mainly wind farms in Kern and Riverside Counties, and some projects to recover gas from urban landfills.

What's in Store?

WE MAY NEVER SEE new power plants on California's coast. No electricity producer is likely to take on the issues that would be raised by any proposal for a new plant: earthquake faults, the Coastal Commission, the Energy Commission,

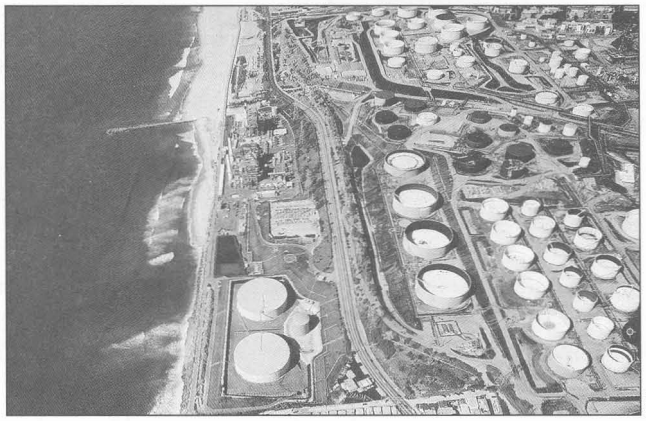
SCE

MANDALAY AND ORMOND BEACH

These plants in Oxnard are surrounded by dunes, wetlands, and former wetlands. The Coastal Conservancy has negotiated to buy these lands for conservation. SCE will remove the visually intrusive tank farms.

SCE has sold both the Mandalay plant (above) and the Ormond Beach plant to Reliant Energy.

MARY BETH CORRIGAN



SCE

L.A. DEPT. OF BEACHES AND HARBORS

EL SEGUNDO AND SCATTERGOOD

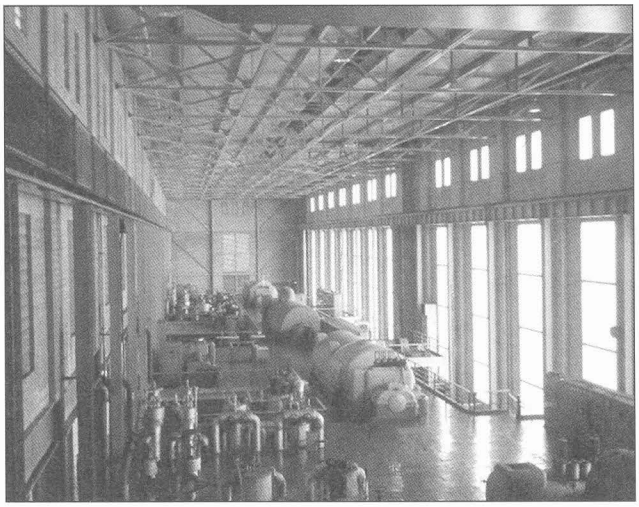
The El Segundo plant (top), next to Dockweiler State Beach, is part of an industrial complex that includes Chevron's oil refinery, the Hyperion Sewage Treatment Plant, and the Scattergood power plant owned by the Los Angeles Department of Water and Power, at Playa del Rey. Dockweiler Beach has many barbecue pits and is popular with families, despite the airplanes that roar overhead from Los Angeles International Airport. These plants burn natural gas, but can also use oil piped in from oil refineries, especially the adjacent Chevron refinery. The marine oil terminal offshore serves the refinery. SCE built the plant, and continues to operate it, but it is now owned by NRG/DESTEC Energy Co. of Houston.

air and water pollution control regulations, impacts on scenery, local opposition, and others. It is much easier and cheaper to build a new coal-fired plant in Wyoming, or some other distant and less populated state, to serve California.

The three existing coastal nuclear plants continue to face serious problems. The Coastal Commission has required SCE to spend many millions of dollars at San Onofre and will demand that it spend millions more. After a $46 million, 15-year study of environmental impacts completed in 1989 at SCE ratepayers' expense, the utility was required to take several actions. It has spent nearly $5 million on a white seabass hatchery in Carlsbad, is planning a restoration project in the San Dieguito wetlands near Del Mar, and has been experimenting with deterrents to keep fish out of the water intake system. To mitigate damage to kelp beds, fish, and other marine life, it is building a $50-million, 150-acre artificial reef, considered to be the largest such structure in the country, a half-mile

REDONDO BEACH

This massive 52-acre complex in Redondo Beach—a huge eight-unit power plant and large tank farm—was recently sold to the AES Corporation of Arlington, Virginia. The new owner will redevelop part of the site in ways that may make the city's waterfront east of Harbor Drive more people-friendly. The tanks will be removed, making room for housing, office space, related uses, and plant modernization. Power Plant 1, decommissioned some years ago, may be preserved as a "landmark," converted to live-work and commercial uses. Kathrin Moore, an urban designer working with SOM Architects, says "the building is architecturally interesting, vintage 1940s, almost an Art Deco–type building." In collaboration with the City, the design team has prepared a site design which will be considered in the near future. AES will continue to generate electricity at other units of this power plant, which has been designated a "must run" plant (see p. 13).



KATHRIN MOORE

LENNY ARKINSTALL

ALAMITOS POWER PLANT

This oil and gas-fired plant at the Los Cerritos wetlands in Long Beach was sold by SCE to the AES Corporation. The Conservancy has an option to buy part of the land. The Haynes plant, owned by the Los Angeles Department of Water and Power, is behind Alamitos Bay.

SCE

HUNTINGTON BEACH

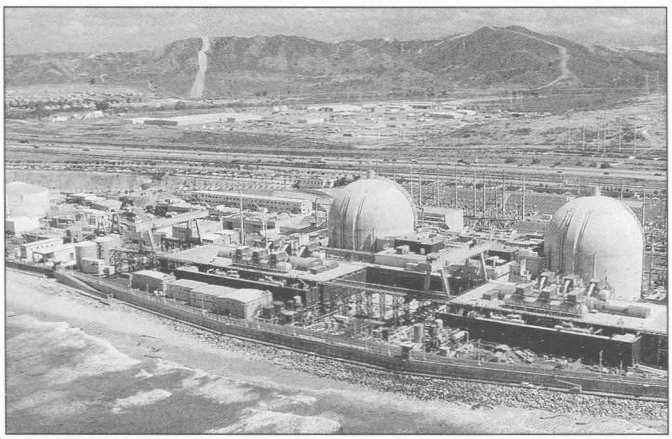
Across the Pacific Coast Highway from Huntington State Beach, this plant was also recently sold to AES. The Conservancy has negotiated to purchase about 20 acres of degraded wetlands as part of a package with wetlands at Ormond Beach and Mandalay Dunes.

offshore. On December 8, 1999, the Coastal Commission approved a $2.3 million two-year monitoring program for the mitigation projects.

Another intractable problem, which all nuclear power plants share, is storage of highly radioactive spent fuel. The U.S. Department of Energy has collected hundreds millions of dollars from utilities—and in effect from us—to develop a permanent storage site for this hazardous residue of "clean and cheap" nuclear power. But the chosen site at Yucca Mountain in Nevada is still uncertain, years overdue, after billions of dollars spent. So the fuel rods remain at the coastal plants, kept underwater in steel-lined concrete pools. Last fall, the CPUC authorized PG&E to spend $7 million of ratepayers' money to "temporarily" transfer the spent fuel rods at the Humboldt Bay plant—shut down 23 years ago—to "dry casks" in a separate structure that will be built to withstand earthquakes. The Redwood Alliance has been active at the CPUC and elsewhere in advocating that the Humboldt Bay plant be decommissioned and removed. No specific plans for doing so now exist.

How long Diablo Canyon and San Onofre will keep operating is as yet unknown. You are now paying down the high construction costs of these plants in the Competition Transition Charge on your bill. Maybe when the utilities have recovered most of these costs they will more comfortably consider decommissioning them earlier. San Onofre Unit 1 is shut down, and the much bigger Units 2 and 3 and Diablo Canyon Units 1 and 2 are getting old and highly uneconomic.

Federal regulators still have no preferred method for disposing of these plants once their use ends, although we have paid hundreds of millions of dollars—that Nuclear Decommissioning Charge on our electricity bills—toward the cost of decommissioning. One approach would involve burying the plants under tons of soil and guarding them for hundreds of years. Another would cut these plants up into pieces for transport to permanent safe storage somewhere. But the thousands of truckloads would go where? Over what routes? Stay tuned. But even shut down, the plants are likely to be at their coastal loca-



SCE

SAN ONOFRE NUCLEAR GENERATING STATION (SONGS)

The great nuclear containment domes at Southern California Edison's San Onofre plant stand right on the beach on a site carved from Camp Pendleton Marine Corps Base. In the early 1970s the Coastal Commission, newly created by voter initiative, faced a Waterloo trying to move the site inland off the beach. SCE was required to obtain the new Commission's approval of Units 2 and 3, which already had all the other necessary permits. In a "test by fire," the Commission denied SCE's application, but after what must have been intense pressure, reversed and approved the units on the beach. SCE (with 80 percent ownership) and SDG&E (20 percent) proposed building the two units at a cost of $437 million, by 1976. The cost escalated to $4.5 billion, and completion was eight years late. I was responsible for the CPUC staff assessment of the reasonableness of such costs and, in keeping with a two-year-long study by consultants, recommended a $762 million "disallowance." (At hearings, advocates for the plant wore buttons: "Not a nickel.") The CPUC disallowed about $300 million and decided to pass the bill for more than $4 billion on to ratepayers. Unit 1 has been shut down. Nuclear reactor Units 2 and 3 generate 2,254 megawatts at full power. They provide nearly 20 percent of the electrical energy used by 15 million people in Southern California.

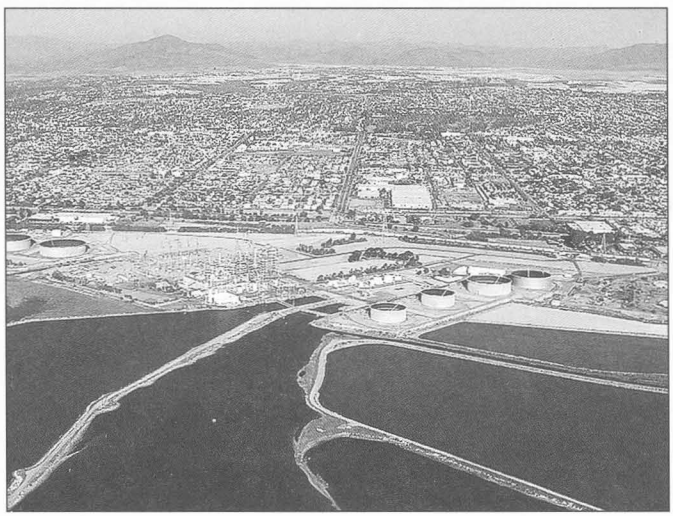
The Coastal Commission required public access in front of the plant. One of my jobs at the Commission was to make sure it was open. When the beach sand was gone in front of the massive structure, you had to climb a ladder up onto the wall and traverse between two chain link fences monitored by guards, dogs, and alarms to get from one side of the plant to the other parts of San Onofre State Beach. Now the public has it easier. There's a paved walkway between two seawalls connecting the surfing park north of the plant with the campground to the south.

tions for some time. The endgame of America's nuclear power program has not been determined.

As for the nonnuclear plants, most will continue to operate, at least for the next few decades. Most of those in urban areas have been designated as "must run" plants: needed to assure reliability and stabilize voltage. Power plants in downtown Redondo Beach and under the takeoff routes at Los Angeles Airport are needed to avoid brownouts and voltage surges that could destroy TVs and computers. Their new owners cannot shut them down unless new plants are built in the same service area. Some will change, become smaller and more efficient. In the long run, these "tea kettle" boiler-type electric power plants may become obsolete. We may have little photovoltaic cells on our roofs, hydrogen cells in our garages, or go "off the grid" as the renewable energy advocates dream. Or massive arrays of solar panels in orbit around the earth may beam rivers of microwave energy to us from space. Or we may return to storytelling—around Presto Logs—and forgo the benefits of electricity. Until then, the coastal electric power plants are likely to loom out of the fog along Pacific Coast Highway for our amazement and reflection. ■

In 20 years of California government work, Bill Ahern has dealt with power plants at the Legislature, Energy Commission, Coastal Commission, Public Utilities Commission, and now in his current capacity as executive officer of the Coastal Conservancy.

ENCINA POWER PLANT

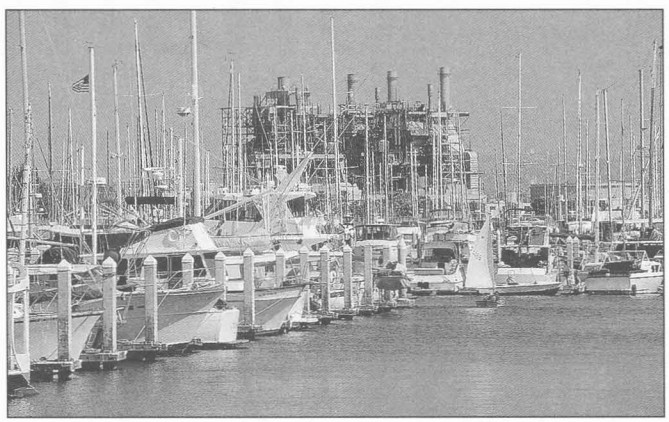


NRG ENERGY

Built in 1954 by SDG&E, this power plant at the mouth of Agua Hedionda Lagoon in Carlsbad was expanded in the 1970s. It now has five steam-generating units, which exhaust into one massive smokestack, plus a combustion turbine. Before this plant converted from oil to natural gas, emissions from the stack used to damage car paint in the surrounding area. Further air pollution controls are being installed by the new owner, Cabrillo Power I, a limited-liability corporation owned by Dynegy and NRG Energy. Bob Richards, director of the Agua Hegionda Lagoon Foundation, says the plant has been a good neighbor. SD&E's practice of dredging the lagoon to maintain strong tidal action has been "a great boon" to the ecosystem. Water quality is good enough to support a mussel farm. The plant's new owners, who also own parts of the lagoon, are working with the local community and pitching in $20,000 (to be added to $30,000 from the Coastal Conservancy) for a study of a recent rise of *E. coli* bacteria. Major suspects are seagulls that perch on the floats supporting bags of mussels. Steps will be taken to deter them.

SOUTH SAN DIEGO BAY

The San Diego Unified Port District bought this plant on the Chula Vista waterfront from SDG&E and leased it for two years to Duke Energy, which will modernize it. The purchase includes 165 acres. The plant stands on 116. Eventually, the Port hopes to shut this plant down. In anticipation of that possibility, biologists will study how to accommodate sea turtles that come to enjoy the warm water at the outfall. Because this is a "must run" plant, however, it is required to operate unless another plant replaces it.



PORT OF SAN DIEGO

JAMES R. GALLAGHER/SEA AND SAGE AUDUBON LIBRARY

Great blue herons build a nest on a tower at the Seal Beach National Wildlife Refuge.

Taking Wetlands Personally

Let Nature take its course
By letting each thing act in accordance with its own nature,
everything that needs to be done gets done
The best way to manage anything is to make use of its own nature
For a thing cannot function well
when its own nature has been disrupted.

—Tao Te Ching

HAL HUGHES

EARLY ON A RECENT MORNING, Tim Anderson rolled into the parking lot near the Los Angeles–Orange County border where he'd agreed to pick me up for a boat tour of the Seal Beach National Wildlife Refuge. On a trailer behind his car was *Le Bateau du Audubon*, a pirogue-like craft he had built for taking people out into wetlands.

Floating through wetlands and estuaries, observing, is one of Anderson's passions; teaching others about them is a primary vocation, I learned as we drove through seemingly endless low stucco urban sprawl.

"I got the inspiration for these tours while kayaking in Tomales Bay in Marin County," he told me. "I saw an osprey catch and eat a fish right in front of me. It reminded me of when my father took me to see the few surviving whooping cranes. He made sure that my brothers and I understood and appreciated the ways of nature and their importance." His family lived near Galveston, Texas, at the time, surrounded by marshes, boats, and birds. When he was 13 or 14 they moved to Orange County.

Years later on Tomales Bay, "I realized how that early experience shaped my life, and that I could provide the same kind of experience for others, especially for kids who otherwise wouldn't have the opportunity. I decided to build a boat that could take people up close to wetlands wildlife without disturbing the creatures."

Building boats is a thing that comes naturally to Anderson. He was only eight years old when he built his first, a 10-foot kayak, using a sheet of Douglas fir plywood his father gave him for Christmas. He has lived or worked on boats most of his life. As a teenager he ran away from home, worked aboard a tuna seiner out of San Pedro, and then returned to the Gulf Coast, where he became a shrimper. Later, seeing wetlands disappearing, and realizing their importance to fisheries, he helped form the Gulf Coast Wetlands Association. He knew what kind of boat he needed to move through wetlands without disturbing anything.

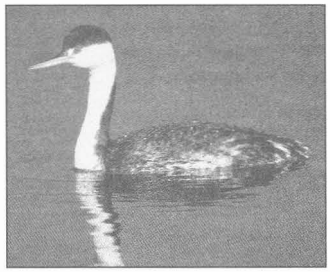
"I wanted to get close to the birds, so I needed a safe, stable flat-bottomed boat with oars, so it would be silent. Water birds are used to predators coming from above or from land; when you approach from the water, they do not feel threatened." He crafted *Le Bateau* in the style of a traditional Cajun rice-harvesting boat. "I knew immediately that this was the right boat—I built it in 40 hours, without any plans. It just flowed off my fingers." Orange County artist B. J. Spoon painted the sides of the boat (and the overalls Anderson wears on board) with wetland scenes and birds. Since 1996 he has made over three hundred trips into California coastal marshes, in support of the U.S. Fish and Wildlife Service, the California Department of Fish and Game, and environmental organizations, and to give people a close-up experience of the wonders of wetlands.

Protected, Not Safe

THE 911-ACRE SEAL BEACH Refuge lies entirely within the Seal Beach Naval Weapons Station, so public access is strictly limited, but Anderson has a pass as a volunteer for the Wildlife Service, which manages the refuge. He spends a lot of time here, not only on the water but also helping with tasks such as counting barn owls that live in abandoned military buildings. As we approached the Station's entrance, he pointed out kestrels perched on telephone lines. "Mike Mitchell (the former refuge manager) rescued some kestrel chicks and fed them chopped mice," he said, "but they weren't interested in catching live mice, which they had to do to survive in the wild. So we didn't feed them for a day and a half, then left them in a room with some live mice. They figured out how to catch their dinner pretty quickly then."

Top: Looking across the Seal Beach Refuge toward the Pacific Ocean

Birds below, top to bottom: Caspian tern; Clapper rail; Western grebe; Snowy egret



PHOTOS THIS PAGE: SEAL BEACH NWR/USFWS

COURTESY TIM ANDERSON

There are public tours of the Seal Beach National Wildlife Refuge the last Saturday of each month. Other tours must be arranged three weeks in advance. Contact John Bradley: (562) 598-1024; FAX: (562) 626-7127; e-mail: john_bradley@fws.gov.

Tours aboard *Le Bateau du Audubon* may be arranged for Tomales Bay, Elkhorn Slough, Morro Bay, Upper Newport Bay, or South San Diego Bay by contacting Tim Anderson: (714) 894-4875; e-mail: lebateautim@birdingbyboat.org. For a suggested tax-deductible donation of at least $100, up to five people can take part. See www.BirdingByBoat.org for more information, photos, videos, and links to other coastal activists.

Top: Tim Anderson gives passengers close-up views of wetlands.

Bottom: A great horned owl from the Orange County Birds of Prey Center visited the Seal Beach Nature Center at its birthday celebration.

JOHN BRADLEY

We passed the Station's checkpoint and headed to the Refuge's visitor center in the old Navy post office building. There we met wildlife biologist John Bradley, the genial refuge manager, and soon were joined by the others on today's tour: Warren Iliff, president of the Long Beach Aquarium of the Pacific, and Gloria Zinno and Michele Nachum of the Aquarium staff, here to prepare for an upcoming work expedition. Amid wetland exhibits and stuffed birds, Bradley told us a bit about how the wetland we would be visiting has been used and protected by the Navy. He and Anderson pointed out several other parts of the Station that could be restored.

We examined an experimental nesting shelter built for the endangered light-footed clapper rail—a sort of tipi woven from strands of tule and coated with fiberglass, with entry holes, to be mounted on a floating plywood platform. Since 1987, 125 artificial shelters have been placed in the Seal Beach Refuge. The secretive clapper rails build nests of cordgrass, loosely attaching them to the tall surrounding stems so they can rise and fall with the tides. The artificial rafts, covered with grass or tumbleweed, have been installed because much of the cordgrass in the Refuge is not tall enough. Clapper rail habitat has been so drastically reduced, and these birds are so vulnerable to predation and extreme weather, that they need all the help they can get.

Despite these efforts, the clapper rail population in the Refuge has fallen dramatically in the past two years. In 1994 over 130 rails were counted; this year's total could be as low as ten. An ongoing mammalian predator management program has greatly reduced threats from red foxes, striped skunks, opossums, and feral cats. Avian predators are harder to stop. At least a dozen predatory bird species have been sighted at the Refuge. "More juvenile red-tailed hawks overwinter here than anywhere in southern California," said Bradley. "Over 200 individuals have been tagged here in one day."

The California least tern also gets assistance. On a large aerial photo of the Station Bradley pointed out a round area surrounded by electric fence: "Tern Island," designated least tern nesting habitat. These birds are endangered in part because they nest on open beaches and in sparsely vegetated areas, where they are extremely vulnerable. They rely on the camouflage patterns of their eggs and chicks for concealment. In 1997 there were over 175 least tern nesting attempts, with 250 chicks fledged; this year 74 attempts yielded zero chicks fledged. "Crows came in early one morning this last season and destroyed the eggs in 50 of our nests," said Bradley. Volunteer monitors watch for avian predators, but attacks often happen too swiftly to stop. The tern site is also invaded by Bermuda grass and other alien plants. The Long Beach Aquarium plans to bring a crew of volunteers to remove them.

We piled back into the cars and headed out around the Weapons Station to a boat launch on County land. Anderson quickly and single-handedly launched *Le Bateau,* and we climbed aboard. He stood at the stern, manning long oars attached to

upright poles. The steep, rocky banks of the County channel—covered with iceplant, pampas grass, and other invasive plants—soon gave way to stands of native cordgrass and pickleweed, eelgrass beds, and expanses of calm water broken only by surfacing fish and diving birds.

Birds! There were birds everywhere, and their names rang out as Anderson and Bradley rapidly pointed out and identified them, Anderson deftly bringing the boat about for better views. Within minutes we'd seen ospreys, northern harriers, and brown pelicans perched on concrete pilings, with Forster's terns on the ropes between; the first surf scoters of the season; great egrets and snowy egrets; western grebes and willets. A flock of black brandt settled on the water to rest and feed on its migration from Alaska to Mexico.

A northern harrier reminded Bradley of when he'd seen one catch a mouse that was clinging to a stick. The harrier carried the mouse, still holding the stick, to a clapper rail shelter, which sent the rails scurrying out to swim in circles until the raptor finished its meal. Floating through beds of eelgrass near Tern Island, we could see about a dozen of the clapper rail shelters, but did not spot any rails.

Anderson told us of the many creatures that live beneath the surface—crabs, shellfish, and fish fry abound. Mullet swim in circles in the calm water, creating water columns into which they release sperm and eggs to mingle—impossible in the turbulent ocean. More than 200 types of worms live in the narrow zone (averaging about four feet) between high and low tide levels, ranging in length from one-half inch to 60 feet. Yes, the proboscis worm, with hard boring plates on its head, can grow that long. It's not more than an eighth of an inch thick though, and rarely seen.

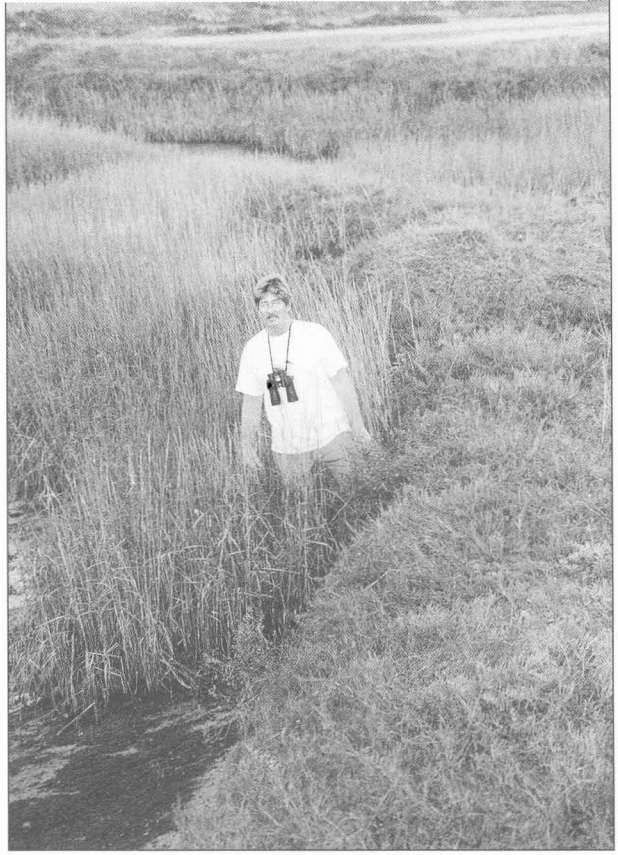
As we headed back toward the dock, a horned grebe swam by, then eared grebes, then a loon. Probe feeders—willets, dowitchers, whimbrels, and marbled godwits—clustered on a narrow spit waiting for the tide to ebb. *Le Bateau* moved silently across the smooth surface, and the birds calmly went about their lives around us. The boat's shallow draw allowed us to pull up almost aground to look at wormholes in the mud.

A lone fisherman standing in the shallows near the road reminded us that we were still in urban Orange County. The military buildings surrounding the Refuge had been easy to ignore, but as we floated back into civilization our conversation turned to political concerns and the problems of wetland restoration. Most of the nearby wetlands are under constant threat of destruction.

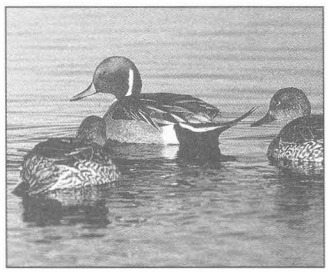
He Just Cleaned It Up

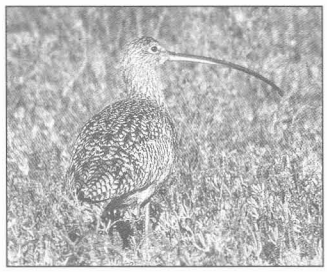
ANDERSON DROVE me to Bahia Cerritos Marina to meet Lenny Arkinstall, a self-appointed steward of the nearby Los Cerritos Wetlands. Arkinstall, Anderson said, had been a car salesman—"not an environmentalist, just a regular guy"—who, while living on his boat, had seen a nearby wetland clogged with trash and decided to do something about it. Working from an inflatable boat, he started hauling away garbage. While picking up plastic bags, tires, and other detritus, he became curious about the plants, creatures, and processes he saw in the water and mudflats, and went to Anderson to learn about them. Now, two years later, Arkinstall has cleaned up about 25 acres of tidal marsh. With permission from the U.S. Army Corps of Engineers, he has installed a boom made of PVC pipe across the inlet to keep more trash from washing in from Los Cerritos Channel. He has permits to build a larger boom upstream, and will construct it when he has adequate funds.

The three of us crossed the channel in Arkinstall's inflatable and clambered ashore. The view was astonishing—immaculate marshlands and clear water, dozens of species of native salt marsh plants mingled through their natural habitat zones, and birds flying, perching, wading, swimming, and diving. We soon saw several endangered Belding's savannah sparrows. A green heron perched on an old culvert grate. Arkinstall excitedly pointed out his favorite plant find to date, *Mesembryanthemem crystalinum,* or crystal iceplant. The only parts of this red and gray-green beauty not covered in tiny translucent spherules were the little white blossoms; it glistened in the sun as



TIM ANDERSON





SEAL BEACH NWR/USFWS

Top: Lenny Arkinstall in the wetland he cleaned up

Above: Northern pin-tails

Bottom: Long-billed curlew

though crusted with sugar. Unfortunately, this iceplant is not a California native, and may have to be removed. I love succulents, so it piqued my interest, as did the yellow-green saltwort *(Batis maritima)*, which resembled some of the sedums in my garden.

Anderson and Arkinstall's enthusiasm was contagious as they pointed out tiny blossoms on the orange strands of dodder, autumn growth of algae among the drying, retreating cordgrass, or sang out the names of birds on the wing. It was easy to see how you could devote your life to making sure these precious places will survive and thrive. After watching a barn owl soar high to evade the assaults of a growing squadron of crows, we headed back to the boat.

"Oh, no! There's been a spill!" Arkinstall cried as he saw a whitish swath flowing along the channel. He scooped up a sample in a bottle, and we jumped into the inflatable and zoomed back to his boat to report it to the Harbor Patrol. While Arkinstall radioed the bad news, Anderson and I examined their "Fouling Species Study Station"—a six-foot pole with a float on one end and a weight on the other, suspended from the dock. It was covered with hundreds of the plants and animals that attach themselves to pilings and boat bottoms—easily viewed by swinging the pole up horizontally to the surface. Sea squirts, bryozoans, algae, tube worms, and barnacles piled layer on layer, clinging to the pole or each other. And what's that? A nudibranch *(Hermissenda crassinoris)*, the first they'd seen there, crept along, pale filaments tipped with bright orange and blue rippling in the currents. Yellowish spirals of egg casings on the algae belonged to this delicate visitor, which feeds on the bryozoan *Thalamaporella californica.*

Then Anderson exclaimed: "Look here, this is it!" He had noticed that the mussels on the pier pilings were exuding milky clouds and ropy swirls. "They're spewing out sperm and eggs!" The mystery of the "spill" was solved—millions of mussels along the shores were spawning at once, pouring out clouds of gametes seemingly without end.

When the Harbor Patrol arrived, Anderson and Arkinstall explained the white currents—the patrol had noticed the same milkiness around their dock, where millions more mussels lived. No one we spoke to had seen this phenomenon before—this was clearly the climactic event of the day.

After a late lunch, we left Arkinstall, and Anderson dropped off *Le Bateau* at his house, then drove me to the airport. Along the way we visited the wetland refuge at Upper Newport Bay, mostly in quiet contemplation. I'd absorbed about all the wetland information I could in one day, and seen how big a difference one or two people can make. I felt a new connection to wetlands and their stewards, and carried with me an inspired curiosity—just the sort of feeling that had led Tim Anderson and Lenny Arkinstall to create their small but significant niches in the wilds of L.A. and Orange Counties. ■

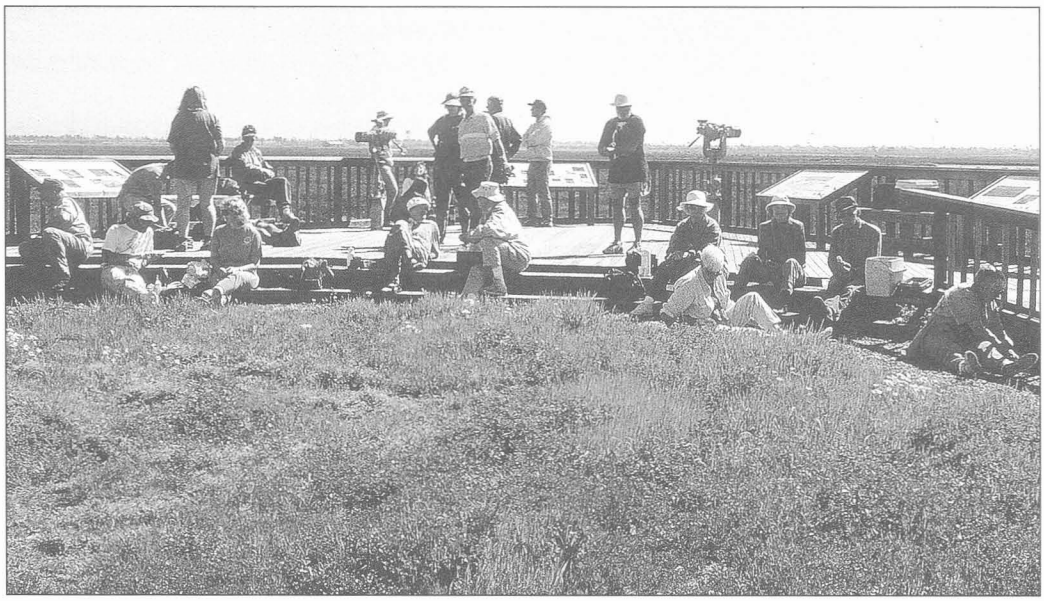
Hal Hughes, associate editor of Coast & Ocean, *also plays the fiddle. He lives in San Francisco.*

PHOTOS THIS PAGE: SEAL BEACH NWR/USFWS

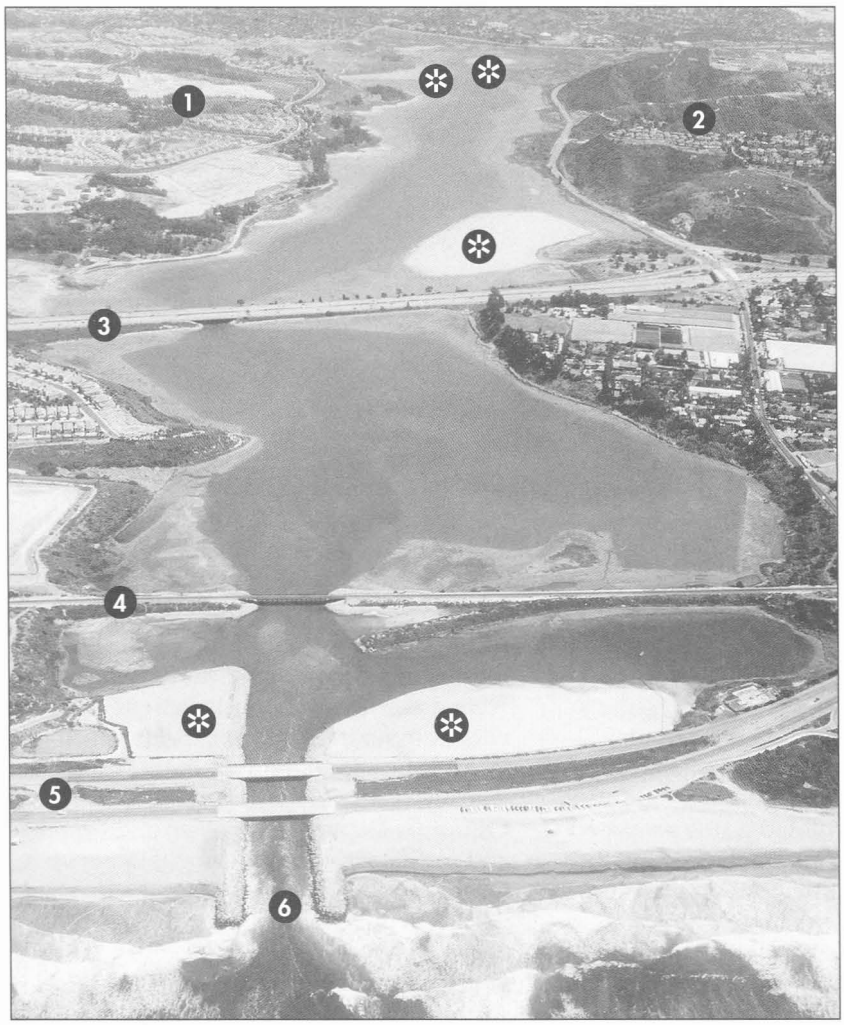
Top: Black-necked stilt and chick

Above: Surf scoters

Bottom: Visitors at a vista point in the Seal Beach Refuge



Reflections on a Hazardous Road



RALPH APPY

Batiquitos Lagoon

Looking east, after restoration:

✻ Least tern and snowy plover nesting islands

1) Carlsbad 2) Encinitas 3) Interstate 5 4) Railroad 5) Pacific Coast Highway 6) Tidal Inlet

MARGARET AZEVEDO

OUR FOREBEARS regarded wetlands as something to be put to good use. Fill them, dredge them, drain them, build levees around them. Prepare them for worthwhile enterprises.

Now we know better. Scientists have taught us that healthy wetlands are among nature's most productive works. They're loaded with proteins, vitamins, minerals, plant life, microscopic organisms, insect larvae, and worms—including one known as the fat innkeeper—and with birds and fish who make delicious meals of the above.

"Wetland" is a general term covering various types of land that are submerged at least some of the time—tidal marshes, freshwater ponds, vernal pools, and almost any depression that holds water from time to time. Tidal marshes are our subject here. Local, state, and federal laws now protect those that remain.

But there's a complication. Some important developments must be built in wetlands: harbors, marinas, ferry terminals, and bridges, for example. Laws provide for such public developments and for some private ones as well.

Wetlands thus used are lost. In their place, other wetlands that have been disturbed by man can be restored—if not to a pristine state, at least to a healthier one. Those who are permitted to build on wetlands, even for a good purpose, are required to mitigate the damage through restoration projects. The restored wetland is expected to be as productive as what is lost, or more so.

Wetland mitigation is a process that has been controversial since it began in the early 1970s. Who should do it, how it should be done, who should pay for it, whether it is or can be

MARK WHEETLEY

Bracut Marsh

Above: Looking west across the levee breach that allows the tide to move in and out of the restored marsh

successful, and whether it should be done at all are all subjects of fierce and continuing debate. Some environmentalists have been sharply critical, both of the concept of mitigation and of the process by which it is put into effect.

"The best thing is to keep wetlands where they are," says Barbara Salzman, president of the Marin Audubon Society. "Mitigation is warranted if [the proposed development] is to the public benefit. But once you go this route [issuing permits in return for mitigation], there's no way out of it. It leaves all wetlands vulnerable. It encourages development not for the public good." To those who argue that some marshes are too small to be worth saving, she responds: "Why not keep them? They provide resting places for migrating birds. If they're working at all, they're wetlands." Salzman and other critics of mitigation also contend that some restoration projects fail.

If these criticisms are well founded, what have the multitudinous agencies in charge of managing wetland mitigation been doing? We are speaking here of some eminent bodies.

THE U.S. ARMY CORPS of Engineers, California Coastal Commission, and San Francisco Bay Conservation and Development Commission (BCDC) grant the permits for filling, dredging, and diking wetlands within their jurisdictions. They elicit comments from the U.S. Fish and Wildlife Service, Environmental Protection Agency, National Marine Fisheries, and California Department of Fish and Game, and certification from Regional Water Quality Control Boards.

The permit-granting process is a civil engagement involving the applicant, wetland agency officials, and Mother Nature. Among the main points of contention: whether the proposed development could be relocated or modified so as to avoid affecting the wetland; whether the wetland to be restored as mitigation will be in the vicinity of the original wetland and create the same kind of habitat as the one to be lost.

If these questions are answered to the satisfaction of all involved in the process, a restoration design is drawn up and examined. Will it support the species of plants and animals, and the tidal action, that sci-

entists seek to preserve? If there are doubts, the design will be amended before a permit is granted. But alas, however well intentioned the approved design may be, Mother Nature's intentions may be otherwise. (The art and science of wetland restoration is still young.) And those responsible for executing the permit may not be diligent in detecting and dealing with the resulting difficulties. The road to wetland mitigation should be posted with a big sign: "Hazards Ahead."

Does the mitigation process work as intended? Does it truly compensate for unavoidable losses of wetland habitat? It may take years of watching restoration progress to answer these questions, but we can gain some insights by looking at three restoration projects serving as mitigation: Bracut Marsh in Humboldt County, Muzzi Marsh in Marin County, and Batiquitos Lagoon in San Diego County. The first two were early efforts that turned out to be learning laboratories. The third benefited from advances in scientific knowledge.

Bracut Marsh

BRACUT MARSH IS A SIX-ACRE restoration on the edge of Arcata Bay in Humboldt County, five miles north of Eureka. It is bounded by a highway, railroad tracks, and the Humboldt Bay National Wildlife Refuge.

This restoration, begun in 1981, was to compensate for the filling of four little marshes that were a nuisance to quite a few people. They were scattered along an industrial waterfront, impeding certain notions of progress.

The private owners of the land containing these "pocket" marshes were pressing the City for permission to develop or sell. The City fathers and mothers had public uses in mind for the sites. But the Coastal Act prohibited the filling of wetlands. Stalemate.

Then the Coastal Conservancy concocted a novel solution. The Coastal Commission would adopt guidelines to allow filling the pocket marshes if the owners would compensate by funding the restoration—to be undertaken by the Conservancy—of one larger, potentially more productive marsh.

The owners and the City agreed. Restoration of Bracut Marsh began, but not auspiciously. Everything that could go wrong went wrong: site selection, project design, monitoring performance. Wetland people sigh when they speak of it.

"The site had serious physical constraints. It was cut off from tidal influence. It was covered with compacted river gravel and, beneath that, wood debris left from an old sawmill operation," wrote Liza Riddle in a case study done for the Army Corps of Engineers in 1992. Riddle was the Conservancy staff member in charge of the Bracut Marsh project in its later phases. She is now director of projects for the Western Region at the Trust for Public Land.

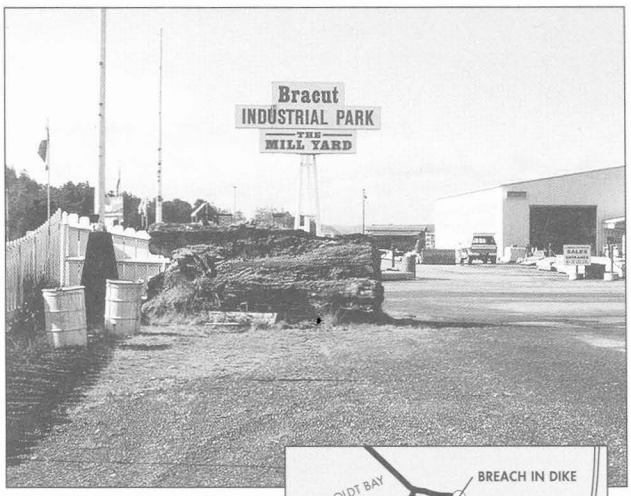
The marsh restoration design was flawed as well. It called for breaching a dike, creating channels for tidal circulation, and depositing bay mud over the debris. Unfortunately, the tidal action was miscalculated. It did not bring in the sediment required to keep the debris covered and to nourish wetland vegetation. "The result was a poor marsh habitat," Riddle wrote.

For years Bracut Marsh languished. The costs of monitoring—so essential to detecting and correcting unanticipated failures—had not been covered in the original contract, so nobody watched what was happening. At last in 1987 someone noticed that the marsh seemed in poor health, and the Coastal Conservancy retained wetland biologist Mike Josselyn and hydrologist Philip Williams to prescribe remedies.

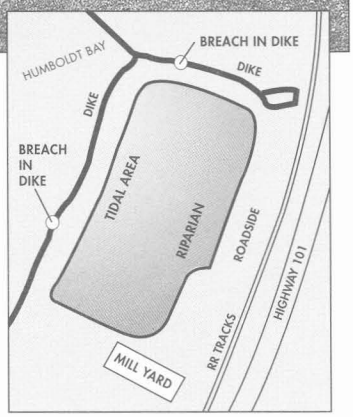
Josselyn found the soil quality poor, vegetation sparse, bird use not as anticipated, and wood debris clogging up the breach. He also noticed a strange phenomenon: methane gas bubbles and long white filaments drifting about. They were created by a sulfur bacterium called *Beggiatoa*, which was oxidizing hydrogen sulfide to sulfur and, in the process, emitting an odor reminiscent of rotten eggs. The cause of this unpleasantness was the decomposition of the errant wood debris.

Josselyn and Williams recommended that the debris be removed and that the clogged breach be cleared, allowing the bubbles, filaments, and *Beggiatoa* all to be flushed out to sea. They also proposed other measures that might increase the low marsh habitat called for in the restoration design.

Earnest efforts at these improvements



MARK WHEETLEY



Top: Bracut Marsh is beyond the Mill Yard, to the right.

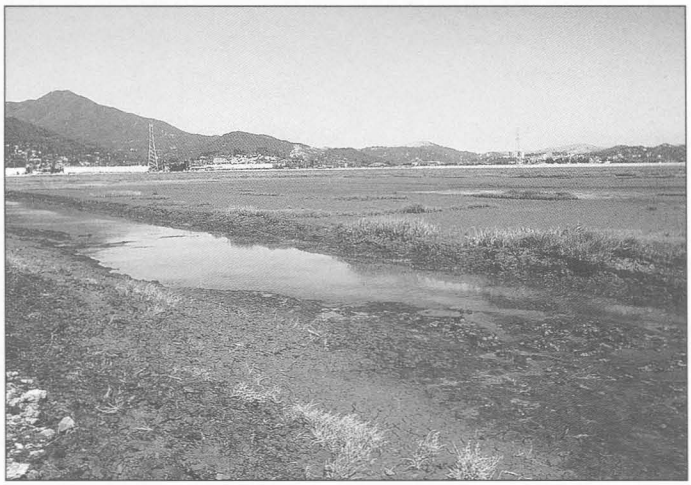
Bottom: To see Bracut Marsh (daylight hours only) turn into the Mill Yard and head north. Park at the informal lot near the pilings.

have followed, but Bracut stoutly refuses to be a low marsh. Instead it is a high marsh. "High marsh is no less valuable," said Riddle. "It just has higher elevations and supports different species."

Instead of cordgrass and pickleweed, today Bracut supports three rare plant species—Humboldt Bay owl's clover, Point Reyes bird's beak, and Humboldt Bay gum plant—and nine other native plant species. "Most of these are high marsh plants," said Anni Eicher, a botanist and local consultant who is monitoring Bracut's progress. Along with these there is a profusion of Chilean cordgrass, which has invaded Humboldt Bay. "No way we can get rid of it," said Eicher, tromping through it with a visitor.

The high marsh also attracts shorebirds moving in from the mud flats at high tide. "Thousands of them congregate on Bracut Marsh for the high ground," said Chad Roberts, a wetland scientist in Eureka.

Standing above the old dike breach, Mark Wheetley, projects manager for the



Muzzi Marsh

Left: Muzzi Marsh looking landward in 1981, five years after dikes were breached, one year after channel work Right: Looking bayward in 1995 Bottom: Monitoring vegetation and marsh elevations in July 1999.

PHOTOS THIS PAGE: PHYLLIS FABER

Conservancy on the north coast, sniffs the air. He leans down and sniffs again. "Rotten eggs," he says. *Beggiatoa* lives. The tidal flush isn't all it should be.

Muzzi Marsh

MUZZI MARSH IS ONE of the earliest marsh restorations on San Francisco Bay. It was begun in 1974 on 130 acres in Corte Madera, Marin County, between Highway 101 and the Bay, with commercial development beside it and residential neighborhoods overlooking it. It was undertaken to mitigate wetland damage from the dredging of Corte Madera Creek to make a channel for the Golden Gate Bridge District's ferry terminal in the adjacent town of Larkspur.

Muzzi had hard beginnings. Two opposing techniques were applied: one favored nature's way, the other, engineering's way. To complicate things, the Bridge District decided to dispose of dredge spoils on the new site, and that caused trouble later.

The first technique was simple. "Our idea was to breach the dike to bring the tide in, and then let nature take its course," explained botanist Phyllis Faber, an environmental consultant to the Bridge District. Nature tried hard—wetland plants were sprouting on what had been a barren wasteland—but not hard enough for some observers. Among these were homeowners who looked down on the site and did not see the lush wetland they had expected to see.

The District received complaints, and the upshot, of course, was a committee. "We formed a committee of all the regulatory agencies plus the City and the Marin Conservation League," said Gene Rexrode, then project engineer for the District, now retired. "Fifteen people. It took an enormous amount of time to get them to agree on what to do. We knew there was a problem—portions of the land (where the dredged materials had been put) were too high. The tide wasn't getting there, and vegetation wouldn't grow." Finally, the committee decided to try engineering. New breaches and channels were dredged to increase tidal flow.

Now, 25 years after restoration began, how is Muzzi doing? "Stupendous!" Faber said, as she surveyed acres of pickleweed and native cordgrass with gum plant scattered throughout. The marsh is frequented by many birds, among them 15 nesting pairs of endangered clapper rail, as well as the salt marsh harvest mouse (whether it's nesting is not known).

Did the engineering help speed the marsh's recovery? Faber, who is monitoring progress for BCDC, said, "The new channels have improved tidal flow, but they were inappropriate in size. Now natural meandering channels are forming within them and correcting them." Chalk one up for Mother Nature.

Would these results have been achieved had the first plan been let be? "Oh yes," said Faber, "though more slowly. People don't realize how much time it takes for a marsh to restore."

Fred Botti, associate wildlife biologist with the Department of Fish and Game in the Bay Region, said, "Muzzi Marsh is coming along very well. Even though a restoration may not meet full expectations, that doesn't mean it's a failure. It's arrogant to think we can go in and do a certain kind of marsh. We should just let it develop naturally."

So the lesson here is that marsh restoration requires patience and a willingness to accept results that might differ from those intended.

Batiquitos Lagoon

BATIQUITOS LAGOON, a 160-acre tidal marsh restoration in Carlsbad, San Diego County, was begun in 1994 as mitigation for an expansion of Los Angeles Harbor that required extensive dredging and filling.

The lagoon lies between low bluffs, farm

(continued on page 32)

WANT TO SEE THESE MARSHES?

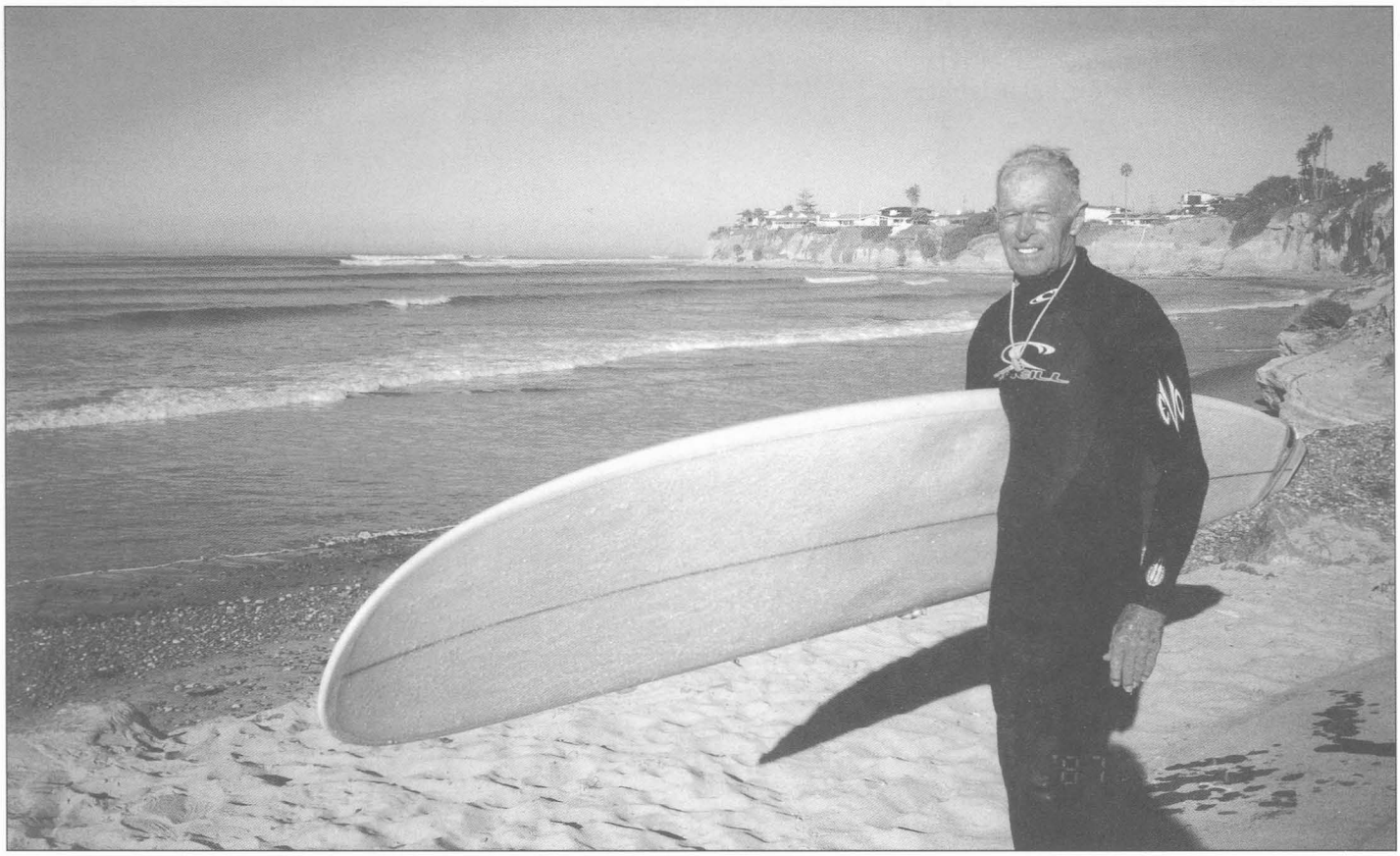
BATIQUITOS LAGOON: From I-5, exit at Poinsettia Lane in Carlsbad and go east to Batiquitos Drive. Turn right, then right again onto Gabbiano Lane. The Information Center is at 7380 Gabbiano Lane; the only public trail starts nearby and runs along the north shore of the lagoon. There are other parking lots with trail access along Batiquitos Drive.

The Batiquitos Lagoon Foundation offers nature talks and guided trail walks. For schedules and information contact the Foundation at P.O. Box 130491, Carlsbad, CA 92013; (760) 943-7583 or (760) 845-3501; or see their web site: sdcc12.ucsd.edu/~xm16/index.html.

MUZZI MARSH: From Highway 101 at Corte Madera, take the Paradise Drive exit, go east to Frontage Road. Park in the first parking area you see, walk across the street. You can walk on the dike. No dogs are allowed.

BRACUT MARSH: See drawing on p. 21.

Senior Surfers Ride the Waves of Youth



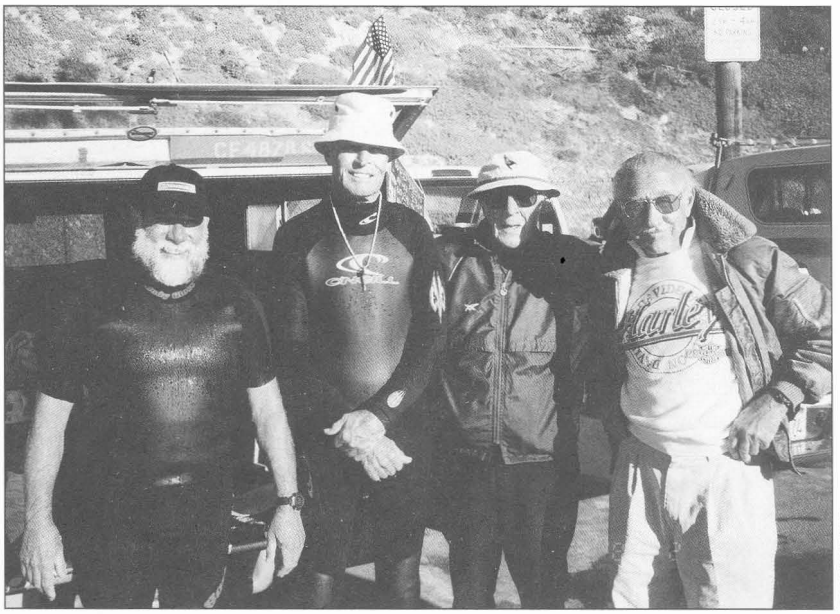
GARY TAYLOR

"It's not planned, it's just something that happens. It's a lifestyle."

DAVE GNADE

Above: Goldy on the beach
Below: Goldy and Hadji catch a break.

GARY TAYLOR



GARY TAYLOR

Left to right: Ron St. John (60), Bill "Goldy" Goldsmith (75), "Capt. Dan" O'Connell (84), Bill "Hadji" Heit (81)

EVERY MORNING at seven, the parking lot at Tourmaline Surfing Park in San Diego's Pacific Beach wakens to an invigorating phenomenon known to surfers as the "dawn patrol." This daily ritual is surfing's version of coffee and donuts at the local breakfast joint, with wetsuits and surfboards replacing office wear and briefcases.

Most of the 40 or more surfers who congregate in the chilly shadows here are career types in their 30s, 40s, and 50s: contractors, real estate agents, scientists, even a lawyer or two. The dawn patrol is their wake-up call, a cherished routine before work, and the talk is of yesterday's waves and what nature has in store for today and tomorrow.

Similar dawn patrols occur elsewhere along the California coast. What sets Tourmaline's apart from others, however, is the small clan of wet-suited old-timers, gentlemen well into their 70s and 80s, who move easily amid the camaraderie of the parking lot this crisp winter morning. This may be the largest single daily gathering of such elderly men still practicing what has long been considered a young man's sport. If you didn't know, you might not even notice their seniority, for they hold their own out on the water.

With his strong stocky frame, suntanned face, and sparkling eyes, 81-year-old Bill Heit looks healthier and happier than many 50-year-olds. This morning he passes on the surf because he's nursing a sore shoulder (a temporary setback), so there's an opportunity to talk.

"I'm not an enthusiast like 99 percent of the guys who come down here, I do it as a form of exercise and for the social life," he says, scanning the horizon. "This is a group of people that I love down here. I spend every morning till about 11 o'clock exchanging jokes and laughs, going in the water and battling for waves for an hour or two. . . . It's not planned, it's just something that happens. It's a lifestyle."

His story is not dissimilar to those of most Tourmaline senior citizen regulars: Bill "Goldy" Goldsmith, "Capt. Dan" O'Connell, "Black Mac" McClendan, Ron St. John, John Blankenship, Joe Gann, Bud Caldwell. Each is a vital link to surfing's past. Heit, who's better known as "Hadji" because of the way he used to wear a towel around his head after surfing, retains an uncanny memory for names, places, and adventures.

He arrived on the shores of San Diego in 1936, driving a Ford Model A to escape his home and the snow drifts of Buffalo, New York. Inspired by lifeguards on Mission Beach, he and his friends began building paddleboards to ride waves. "In those days they called them 'kuk boxes' (it was the Hawaiian word for 'shit')," he says. "We learned to surf on the waves off Mission Beach. Later we began ordering balsa-wood blanks from Long Beach and got fancy with strips of pine and redwood. Those boards would weigh anywhere from 65 to 85 pounds." (A typical surfboard today weighs around 10 pounds or less.)

World War II brought these surfing exploits to an abrupt end. Heit joined the Army Air Corps and became an engineer, then, after the war, settled into a successful career with NASA, and retired in 1971. He did not pick up a surfboard again until the mid-1980s. "I was working, I had a family, so I had responsibilities," he says. "I couldn't just hang out on the beach like I did in the '30s. I did get into skiff fishing on the weekends. . . . We used to fish everything, from bottom fish to marlin."

It was Skeeter Malcolm, a legendary local waterman and longtime friend, who persuaded the retiree to pick up where he had left off some 45 years before. Unlike Hadji and other old-timers, Malcolm had continued surfing throughout the war and throughout his life until shortly before his death in 1993, at age 70. In his later years he presided over a group of fellow surfing old-timers at Sunset Cliffs, a few miles south of here.

When, by the mid-1980s, it became increasingly difficult for some of the older surfers to negotiate the steep

stairway to the beach at the Cliffs, the group moved to Tourmaline. "Skeeter kept needling me to get back into it down at Tourmaline, which by then had a nice parking lot, bathrooms, and showers," says Heit. "I used to surf down here when it was just an old muddy canyon, it was only about 20 yards wide. There was a trail we used to walk down, and if it was too wet, we'd drive here on the beach if the tide was low enough. There were a lot less restrictions back then."

Although Tourmaline was not considered a prime surfing break, especially compared to Windansea and other spots just a few minutes north in La Jolla, it became popular with recreational surfers and sailboarders soon after its parking lot and facilities were built in the late '60s. With gentle waves, a non-aggressive atmosphere, and only a short concrete ramp separating the parking lot from a wide sandy beach, Tourmaline is user-friendly, especially for the old-timers.

Malcolm's memory lives on; a concrete bench overlooking the waves bears his name and a bronze plaque with his picture. His friends sold T-shirts with that picture to pay for the bench. "Skeeter was the total athlete," says Heit, holding court on that bench now. "He lettered in four or five sports in high school, became a school principal, and everybody knew and respected him. He was a real likable guy."

Tourmaline local John Bishop joins in the talk with the story of how he learned to surf at age seven from Skeeter Malcolm. The two would meet at Malcolm's dad's barber shop and surf the pristine waves of Sunset Cliffs by themselves. When Malcolm and the old-timers moved to Tourmaline, Bishop followed.

"These guys are the last of the true watermen," explains Bishop, who's only 55 and a mere pup in this crowd. "They dived, they surfed, they fished, they boated, they built their lives and enjoyment around the water. You don't see that nowadays. It didn't matter to them if the waves were good or bad. . . . Skeeter used to drive me nuts by forcing me into the water no matter what.

"In the old days there was a fellowship among surfers because they were so few," muses Bishop. "Traveling the coast, a surfer you didn't know would become your best friend because you were happy to have someone to share the waves with. They built relationships that span the entire coast of California, and Hawaii. These were people who lived for the ocean, and that has been largely lost today."

"These guys are the last of the true watermen," explains Bishop, who's 55 and a mere pup in this crowd.

Heit returned to surfing because he had a lot of time on his hands after retirement. Mornings at Tourmaline became a daily priority after he began to experience heart problems and had quadruple bypass surgery. "Hadji's life has been extended because of his surfing," says Bishop. "How long would he have lived after all that surgery if he just sat on the couch and watched TV?

"When [the old-timers] do start dying, there will be nobody to replace them," Bishop went on. "The rules have changed. Today, surfers have all comfortable accessories: wet suits, leashes, hats and gloves, lightweight boards. Surfing has become much less of a challenge."

Soon, "Capt. Dan" O'Connell approaches Skeeter's bench to exchange greetings with Hadji and Bishop. "Danny and I are the oldest ones down here," says Hadji. "Danny, you're what, 84? I'm going to be 82 in June. You're in June also, aren't you Danny?"

O'Connell was one of the earliest surfers on the East Coast, using lifeguard skiffs at Jones Beach on Long Island, New York. In the 1930s he joined the Navy and was stationed in San Diego for a while. He went on to serve in Korea and Vietnam, and retired as a Navy commander. "I surfed when I had a chance, but your duty comes first," he says.

Although Heit and O'Connell had hung around the same beaches before the war, they did not meet until the old-timers moved to Tourmaline in the 1980s. O'Connell had returned to surfing on a regular basis while serving a stint in Hawaii in the '60s. He retired there, but after four years "island fever" set in, so he and his wife moved back to San Diego. He heard about "a bunch of old guys" who frequented Tourmaline Surfing Park, and became a regular.

As Hadji sits on Skeeter's bench reminiscing about the old days, Capt. Dan and Goldy continue the dawn patrol ritual, donning their wet suits and joining the younger surfers already bobbing in the surf line.

The old-timers surf right alongside other surfers, standing up. Many times they will catch the same wave and ride in twos or threes, an uncommon practice among today's possessive, performance-minded surfers. They are given the utmost respect in the water, and their well-being is monitored by the younger guys. At Tourmaline the atmosphere is uncompetitive.

As the sun begins trickling into Tourmaline Canyon on this cold morning, Hadji, Capt. Dan, and Goldy gather after surfing as usual, at the tailgate of Ron St. John's truck, parked in the space closest to the sand. Still invigorated by the 56-degree water, they enjoy some fresh fruit and muffins baked by Goldy the night before. To surfing historians, it would be a precious moment to freeze in time. For the old-timers themselves, it's just another good morning at the beach. They were here yesterday, they'll be here tomorrow. ■

Gary Taylor is a freelance writer and lifelong surfer who lives in Encinitas.

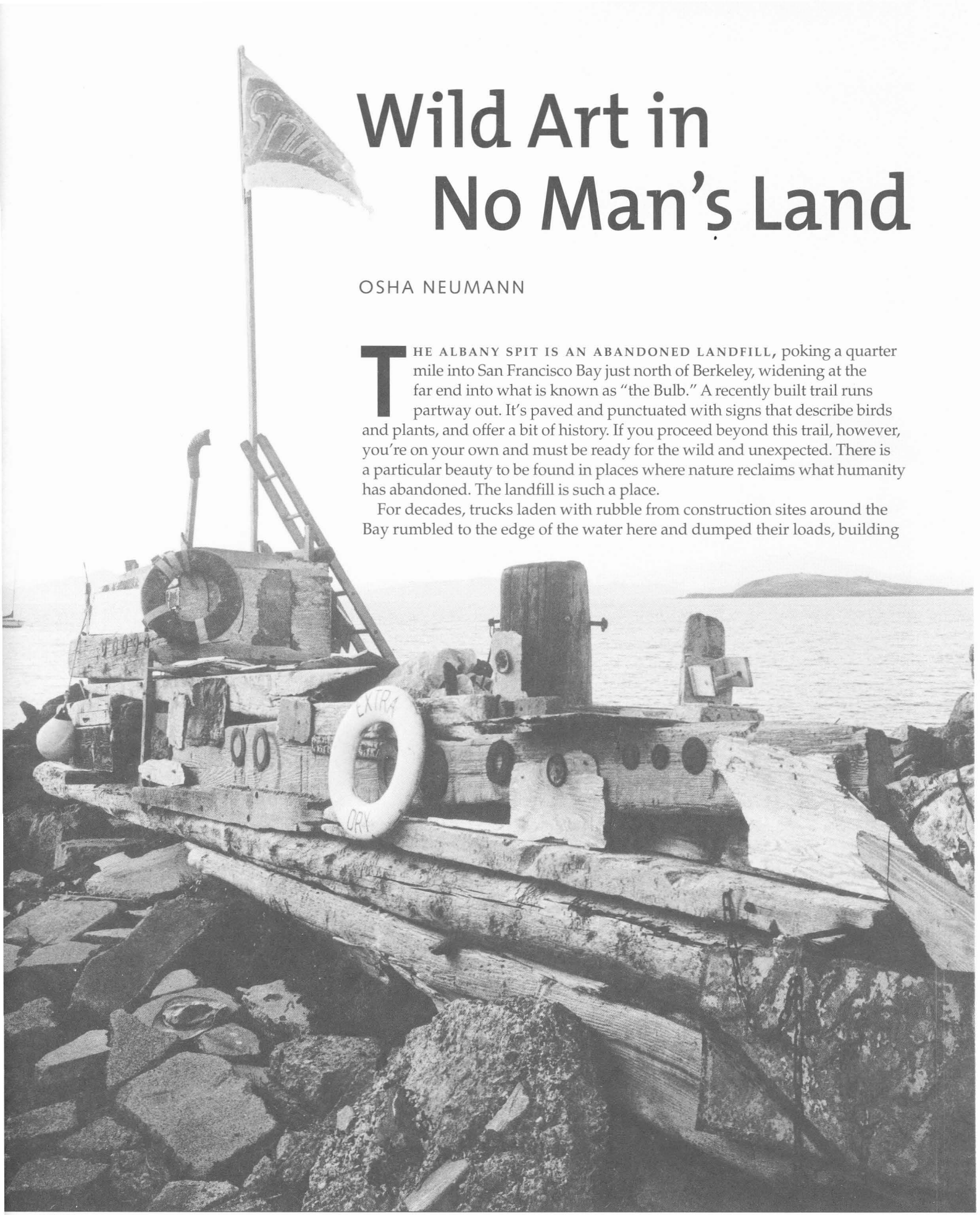
"SURFING FOR LIFE," a new 68-minute documentary film, profiles ten extraordinary older surfers. It will be shown in California coastal communities throughout 2000 and is also available on video cassette. For more information, contact co-producer and director David L. Brown: (415) 468-7469; email: docmaker1@aol.com.

Wild Art in No Man's Land

OSHA NEUMANN

THE ALBANY SPIT IS AN ABANDONED LANDFILL, poking a quarter mile into San Francisco Bay just north of Berkeley, widening at the far end into what is known as "the Bulb." A recently built trail runs partway out. It's paved and punctuated with signs that describe birds and plants, and offer a bit of history. If you proceed beyond this trail, however, you're on your own and must be ready for the wild and unexpected. There is a particular beauty to be found in places where nature reclaims what humanity has abandoned. The landfill is such a place.

For decades, trucks laden with rubble from construction sites around the Bay rumbled to the edge of the water here and dumped their loads, building



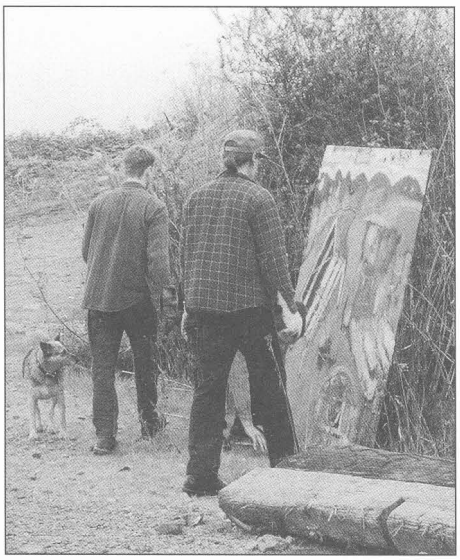
BOB GILES

BOB GILES

what was envisioned as future waterfront real estate. In 1984, after citizens won legislation to protect their Bay, winds and birds took over. Seeds sprouted, plants took root in crevices. Wild grasses sprouted. California poppies, coyote bush, fennel, thistle, succulents, pine, palm, blackberry, and pampas grass spread over the wreckage. Lizards darted over rocks. Garter snakes slid through the grass. Snails clung to the stalks of fennel and swallow-tail butterflies flitted among its yellow flowers. Wrens swooped through laurel and Canada geese stopped by en route to distant places.

This thickening green blanket did not fully hide what lay below. Mounds of concrete and rusted rebar poked through, like Mayan temples in the Yucatan. An accidental sculpture garden of twisted metal rose above the weeds.

The Sniff artists prefer to stay anonymous.



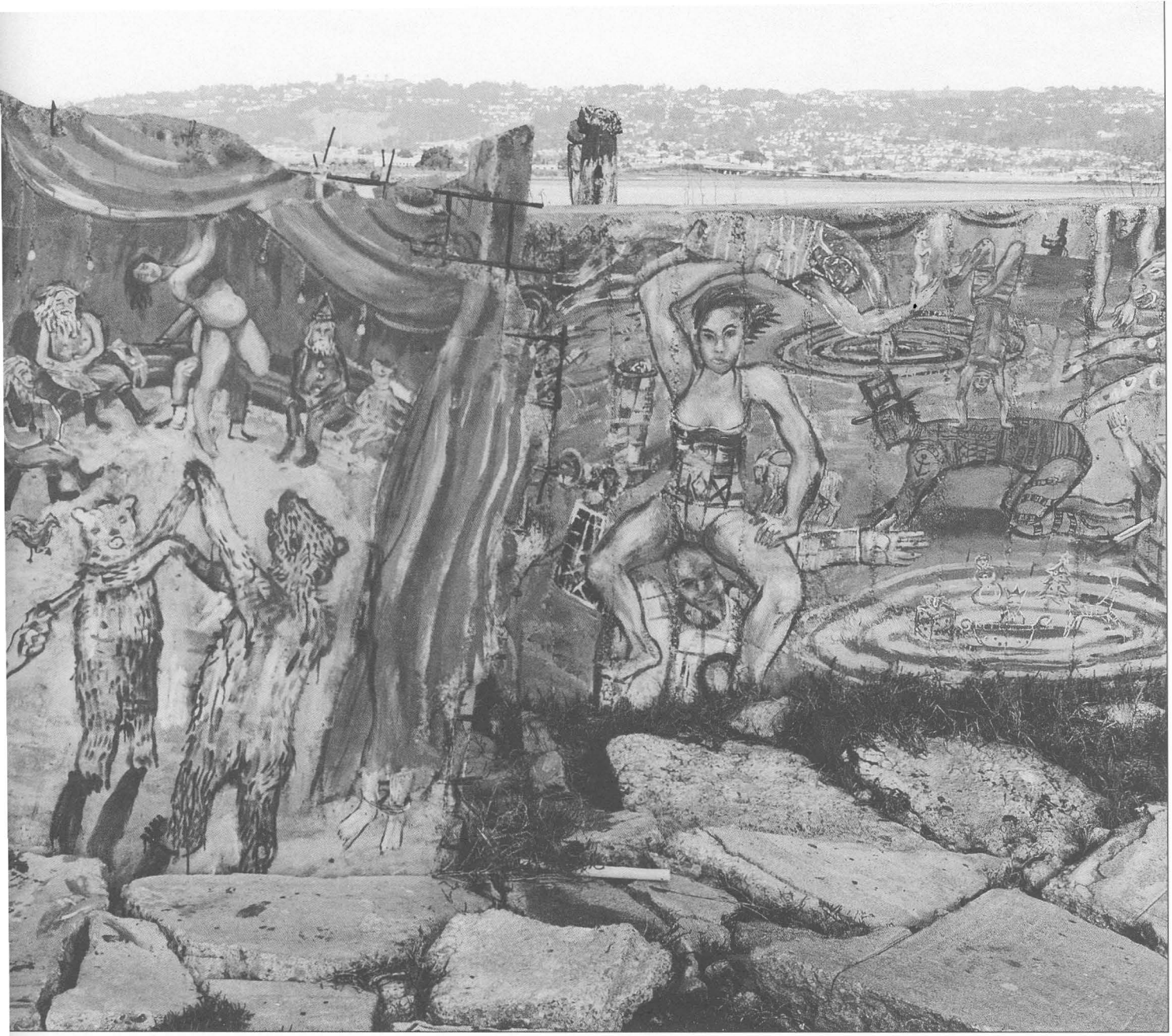
DAN ROBBIN

Over the years a variety of urban explorers, fishermen, and dog walkers found their way to the place. Eventually—inevitably—it was discovered by those we have come to call the homeless. They hauled in their belongings, food, and water with shopping carts. They slung tarps over the rebar and built shacks with million-dollar views, hidden in the scrub. Middens of cans, bottles, discarded clothing and other spoils of dumpster diving formed around their campsites. They shat in the bushes. They brought dogs and cats who had puppies and kittens. The landfill became a refuge for people who absolutely did not fit in. Here they lived for a while without being rousted at night, without demands for repentance and reform, without bed checks or urine tests.

A community of sixty or seventy persons was so well concealed in the landscape that you could walk from one end of the spit to the other and barely notice a sign of it. At night they lay wrapped in thin gray blankets and dirty sleeping bags. In the daylight they were sometimes groggy and disoriented. They indulged in the forbidden pleasures of the contraband anesthesia of the street.

Albany prides itself on being a quiet residential community, in contrast to neighboring Berkeley. But as the landfill squatters kept to themselves and caused no significant problems, the city turned a blind eye to their presence for a time. Local police, rousting homeless encampments along the railroad tracks, would suggest the Bulb as an alternative.

It was inevitable, however, that as the spit's population grew, murmurs of concern would arise in City Hall and the police station next door. An ordinance prohibiting camping was passed and, in June 1999, eviction signs went up. Police tramped through the maze of footpaths handing out warnings and then citations, then photographed and catalogued campsites. "Operation Dignity" set up an emergency shelter the parking lot of nearby Golden Gate Fields race-



BOB GILES

track. Most of the landfill people shunned it.

The mass eviction caught the media's attention. Bulb residents became celebrities. Their words were noted down, their street names dutifully recorded: Caveman, Animal, Rabbit, Racetrack Robert. Hitherto they had operated on the principle that it was best to be invisible. Now they bicycled to the 7-11 to buy newspapers with their pictures in them. The snout of the world poked under their tent. Cameras clicked. Microphones were clipped to their tattered lapels. Improbably well-dressed TV reporters did stand-up in front of their shanties.

It was in the days after the reporters had gone and before the final eviction that Jimbow the Hobo, who had lived on the landfill, off and on, for seven years, led me along the dirt road that cuts through the center of the Bulb to a stretch of waterfront where, for the first time, I saw a wild gallery of anonymous artwork. I felt as if I had stumbled into a cave and discovered paintings of bison, reindeer, and saber tooth tiger.

Jimbow looked on in amusement as I rushed about, exclaiming. Here's a driftwood boat, large enough to sail away on, with a plywood horsehead bow. A flag flies from the mast. It reads: SNIFF. A few feet away is a 20-foot concrete sewer valve housing, rectangular in shape, about five feet wide and tall, and pierced at one end by an iron pipe. It has been painted inside and out. On the wall facing the water, an ambulance rushes toward a circus ring where a fallen acrobat lies on the floor. A Chinese juggler has dropped his juggling balls. A donkey in a yellow polka-dotted clown suit sits at the ringside, watching impassively. On the inland wall, two mermaids reach to scoop up a sailor who has fallen overboard as passengers watch from a ship in the background.

I clambered onto the housing to find a bearded Chinese fisherman reaching to touch a naked woman who was holding a gigantic red fish; more red fish were in a net at their feet. To see what was inside the housing I had to get down on my hands and knees and

DAN ROBBIN

crawl beyond the reach of sunlight. The giant valve that once controlled the flow of sewage is painted silver. The walls are covered with a phantasmagoric Last Judgment. Drunks and lovers drown in a red sea, demon donkeys spear the damned with tridents and grab the coattails of those who try to escape. On the ceiling, this hell gives way to a garden of earthly delights, where, among nude picnickers, a Christ-like figure with arms outstretched is crowned with flowers as a gull flies overhead.

There is much more. Behind the boat, extending into the bay, chunks of concrete have become the severed heads of bearded men, horses, a turtle, a fish, and various unidentifiable beasts, as if washed up by tides. Nearby, hunks of broken telephone pole stand upright, transformed into totemic figures with driftwood arms and concrete heads. A sea captain with a rope slung over his shoulder wears a cap with "Sniff" painted on the front.

What is Sniff? Jimbow says he has seen four or five young men painting on weekends. The only clue I find is in the depths of the concrete valve housing. On the ceiling is a quick sketch of four skeletons, one holding a "Sniff" flag. They are labeled "Dave, Scott, Bruce, Scott." Whoever they might be, they are attuned to this place. Like the people who have moved in among the bushes, they are exploiting the freedom afforded by wastelands and dumps, where everything is permitted because no one cares. Up the road society's misfits and discards are indulging in forbidden and self-destructive vices. Here these artists have taken possession of construction industry waste, painting hallucinations.

I come back repeatedly, talking with the homeless who are still here and visiting the art works, which are expanding. I snap photographs and scribble notes. I consider writing about Sniff's work, blowing their cover, interpreting. I worry that I would destroy for others the surprise that had been a significant part of my pleasure, but I have an excuse—in time, words and photographs may be all that remain of Sniff.

A few weeks after my first visit, colors have begun to fade. Decapitated heads have been knocked about. The head of a monster is partly obliterated by black gunk. Then one day Sniff's flag disappears, along with the mast from which it flew.

The evictions are proceeding. The City tacks a yellow "Abate and Vacate" order to the valve housing, warning that on August 5 it will remove the structures from what they call "Site 213." if their owner does not do so first. Sniff responds with a "Save Site 213" sign painted on a chunk of concrete. It gives the phone number of the City Attorney.

I call him and tell him that I am a lawyer and an artist, and offer him an opportunity to avoid being enrolled in the annals of infamy where the names of those who replaced beauty with ugliness are inscribed. He laughs, listens to my assurances that "Site 213" is not a housing project for the homeless, and assures me in turn that if what I say is true, he will recommend that the City leave the work alone.

On my next visit the yellow notice is gone, and new images have appeared. A once-bare slab of concrete has a painted checkered tablecloth and the

DAN ROBBIN

DAN ROBBIN

remains of a banquet: a fish, bananas, a raw steak, a glove, paintbrush, pink bikinis with black polka dots, a pack of SNIFF cigarettes, a bottle of booze with a skull and crossbones label, and a pornographic magazine. A new stone skull sits at the base of the mermaid wall. The valve housing has been repainted. The fallen acrobat, the ambulance, the donkey are gone. Now a drunk takes a swig from a bottle, and a scroll proclaiming "Sniff 213" emerges from his mouth. A new circus covers the old. A simple bench has been built, facing the wall. It seems that the City's cease and desist order has unleashed an urge to test whether art can save itself by its own unaided energy. Sniff's only concession to political expedience is the "Save Site 213" sign painted on a hunk of concrete.

In late August, as blackberries ripen, the Sniff boat sails nowhere, its mast gone, its stoic captain unperturbed. The sky is gray. Geese fly in formation. The homeless are gone. Wildness has been tamed. For the moment I'm the sole tourist in this temple to the unfamiliar, the only recipient of this gift of strangeness. ■

Osha Neumann is an attorney who specializes in civil rights, the rights of the homeless, and police misconduct. He is also a muralist. I met him on the Bulb one Sunday morning. Dozens of blocks of orange styrofoam that once floated a dock moored offshore had washed up on the beach. He was carving a big mermaid from one of them. Some distance away, beyond a recently built styrofoam archway, the four Sniff artists were working on a new painting. One of them came up to offer encouraging comment and ask Neumann if he wanted to join the group for lunch. —RG

BOB GILES

Wetland Mitigation

continued from page 23

land, grasslands, and the ocean. A subdivision of luxurious homes views it from above. Two highway bridges and a railroad line span it at the ocean inlet.

The site was chosen by a team of wetland regulators and advisors, and they took some brickbats: Batiquitos is 50 miles from Los Angeles Harbor because an assiduous search failed to turn up a suitable site nearby. Also, it is a different habitat from what the harbor work destroyed.

Joy Zedler, then a professor of biology at San Diego State University, deplored the loss of 400 acres of shallow bay habitat that Batiquitos would not replace. "The effect upon the region is a net loss," she wrote in the winter 1987 edition of this magazine.

"There was no net loss of in-kind habitat values," countered Jack Fancher, a coastal restoration specialist with the U.S. Fish and Wildlife Service, which played a major role in preparing the restoration plan. "Eelgrass and pickleweed are going gangbusters. And snowy plover and least tern are nesting on five islands." The goal of the project was not to replace the shallow bay habitat, but to provide habitat for the same species. This was done.

Restoring tidal flow to Batiquitos was a daunting task. The ocean inlet, long sealed off, had to be recreated. The highway bridges and the railroad right-of-way had to be reconstructed to let the tide in. "The engineers used state-of-the-art models, but they don't always work," said Fancher. "A sand bar has appeared at the inlet. We may have to dredge more often."

To this writer, a recent visitor, the lagoon looked very good. It exhibited a sequence of mud flat, salt marsh, shallow ponds, nesting islands. Tides are flowing, and there are many birds—avocets, egrets, blue herons, terns, widgeons, pintails, ruddy ducks, and others. Merkel and Associates, the firm monitoring restoration progress, reported in 1997 that the count of bird species had jumped from 94 before construction to 127. Fish species, particularly ocean species, were also increasing. Clearly, Batiquitos has profited from the increasing store of scientific knowledge about wetlands.

Baylands Ecosystem Habitat Goals may be ordered from San Francisco Estuary Project, c/o San Francisco Bay Regional Water Quality Control Board, 1515 Clay Street, Suite 1400, Oakland, CA 94612; phone: (510) 622-2465. News updates about this report will be posted online at www.sfei.org.

Revelations

WERE BRACUT MARSH and Muzzi Marsh and Batiquitos Lagoon successes or failures? "That is in the eye of the beholder," said Josselyn. "Environmentalists are inclined to say if every function is not performed perfectly, it's a failure." Josselyn measures success function by function. Is vegetation cover ample? Are birds nesting? Is tidal action adequate? Do the results meet the goals set forth in the project design? "If 60 percent perform, that's success," he said. "If 35 percent, partial success. If five percent, failure."

By this measure Bracut and Muzzi and Batiquitos are not failures. They have not sunk to that dreadful five percent. They're not perfect recreations of nature—that doesn't happen—but they're functioning wetlands.

But the process needs considerable improvement, particularly as regards monitoring and enforcement of permit requirements. These are all too often absent, said Paul Jones, San Francisco North Bay coordinator for the EPA: "The agencies only do the front end—the permits. [For want of staff], the back end—monitoring for compliance with permit requirements—gets shortchanged."

Jones, in collaboration with others, has devised a monitoring program for north San Francisco Bay, which could become a model for elsewhere. It will assess wetland failures and successes, and seek ways to improve the science of wetland restoration. That effort may ease some of the wetland controversies, but not all. There remains the question of whether wetlands that retain habitat values should *ever* be destroyed. Some environmentalists say no, never. Others accept public but not private developments. In practice, that distinction is hard to make. The Coastal Commission allows private industries that are "coastal-dependent"; BCDC allows private businesses that are water-oriented and serve the public. It's a matter of interpretation on both sides.

Will Travis, executive director of BCDC, offered this comment: "There are two ways to look at mitigation. One, there are vast areas in the Bay Area with a potential to be restored. It would take 50 years to buy them all. Bringing in private capital makes it faster. Two, the loss of even a square inch of wetland is a defeat. So hold them all in reserve until there's enough money to restore them all."

It's unrealistic to expect that all remaining degraded wetlands in the Bay Area can be restored. The San Francisco Bay Area Wetlands Ecosystem Goals Project, authors of the impressive *Baylands Ecosystem Habitat Goals*, acknowledges that such a visionary goal may be beyond reach. "Certain considerations—economic constraints, landowner desires, zoning, and societal interests—might make it difficult or impossible to implement [all the goals set in the report]," they wrote. Add to these the high cost of restoration, which, for a hypothetical "medium-sized" wetland with "moderate site constraints," was estimated at $7 million.

It seems inevitable that some wetlands will be lost to development. And what of those remaining? For want of funding, many could languish, unrestored and unproductive, for years. Or they could be restored as compensation for those lost, thus providing more healthy marshes than would otherwise be realized. That is what mitigation is meant to do. A wetland restored as mitigation is, so to speak, a wetland bird in the hand. ■

Margaret Azevedo served on the North Central Coast Regional Coastal Commission from 1972 to 1976 and has been a member of the Coastal Conservancy since it was established in 1976.

CALIFORNIA WILL CREATE HAVENS FOR FISH RECOVERY.

Wilderness Waters

ANNE CANRIGHT

I DON'T KNOW ABOUT YOU, but I like a nice fillet of snapper. In a lime-cilantro-tomatillo sauce, poached, is my favorite.

Though "snapper" in these parts, as you may well know, is a code name for rockfish. And rockfish have me worried. I'm afraid there just aren't enough of them for all us Safeway shoppers —much less for West Coast and Asian live-fish delicacy markets.

Let's face it, it's not only swordfish and Patagonian toothfish (a.k.a. Chilean seabass) and some of the higher-profile fisheries that are in trouble. The lowly rockfish, a group of less than a dozen commercially important species and 50-plus lesser species, is seeing serious declines as well. For example, losses in stocks of bocaccio, a rockfish that flourished off the coast in the 1960s, today approach 90 percent.

Overfishing is one important reason, exacerbated now by the live-fish fishery, which mines nearshore waters for small (plate-size) reef fish—rockfish, cabezon, sculpin, lingcod. These fish tend to be extremely slow-growing, long-lived, and residential; that is, they don't move around much and are easily caught. According to Department of Fish and Game data, live-fish landings increased 513 percent in Monterey County alone between 1997 and 1998. [More on that in the next *Coast & Ocean—Ed.]*

But I'm not about to advise you to give up that snapper dinner. I'm here to tell you that there's hope for the rockfish—and, I would argue, for the

Point Lobos Marine Reserve as seen from shore

KIP EVANS

rest of us as well. And that hope, believe it or not, lies in governmental actions that are taking place even as I write. People who are genuinely worried about the ecological integrity of our long and varied coast—and so about rockfish and lots of other critters, even ones we don't (and wouldn't!) eat—are working to make changes. Their intent is to protect the unique values of the underwater world that, in part, makes California what it is.

Whether as a fisher's means of making a living or enjoying some recreation, a sea kayaker's way of finding a few hours of bobbing bliss, a diver's entree into a world that few of us land dwellers can fully appreciate—or simply the three-dimensional world in which the rockfish lives, grows to maturity, and reproduces—this watery margin of our coast is, we all agree, a special place. We need to manage our behavior there.

Several recent and ongoing initiatives bear on this problem. Two are at the state level, a third is a federal-state undertaking. All will have profound consequences for California's nearshore waters.

In October 1999, Governor Gray Davis signed AB 993 (Shelley), the Marine Life Protection Act, one goal of which is to halt the decline of fish stocks by preserving critical undersea habitat. The Department of Fish and Game is to convene an expert panel and devise a plan—due by April 2002—for revamping marine protected areas, focusing on habitats and species most in need of safeguarding.

One important provision of AB 993 would establish marine reserves of a kind known as no-take refuges: waters strictly closed to fishing and other extractive uses. The goals of these reserves would be to protect or restore rare, threatened, or endangered plants and animals; representative marine species, communities, habitats, and ecosystems; and marine gene pools. In addition, these marine no-take zones are to contribute to the understanding and management of marine resources and ecosystems through scientific study.

Fishers are worried but cautiously supportive. "There are mixed feelings," says Vern Goehring, consultant for the 400-member Sea Urchin Harvesters Association, but notes that fishing organizations "are intrigued by the science that shows in some cases [no-take zones] might be beneficial to fishing."

California's 15 no-take areas encompass only about 0.2 percent of the state's ocean waters, which extend three miles out from the mainland coast, says marine biologist Paul Reilly at Fish and Game. "We've created wilderness areas and parks on land for decades: that kind of protection is long overdue in our oceans," commented Karen Garrison, senior policy analyst for the Natural Resources Defense Council. "There is ample evidence that wilderness waters will protect the diversity of ocean life and provide safe havens where depleted fisheries can rebuild."

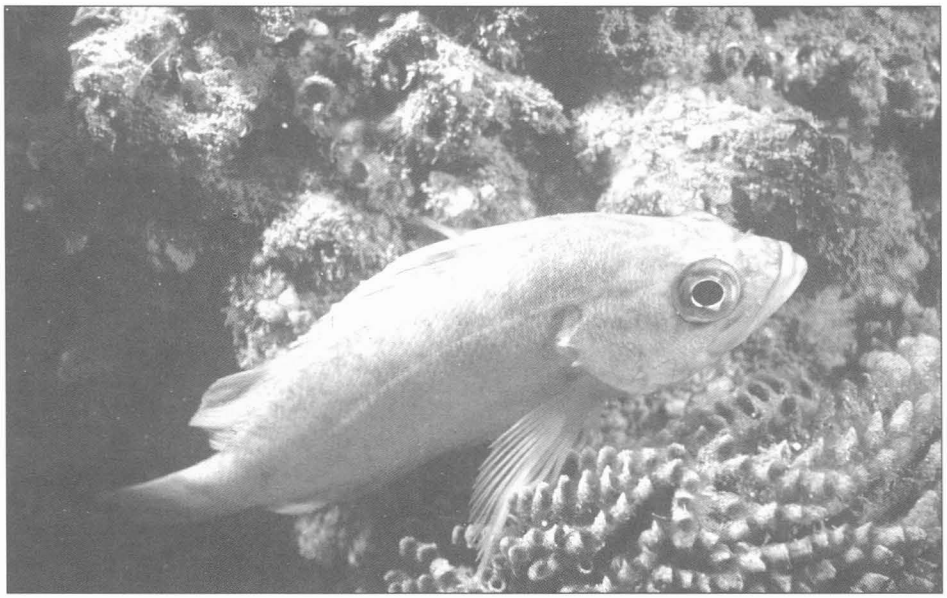
Ron Fujita, a marine ecologist with the Environmental Defense Fund, explains it this way: "Having a diversity of ages and sizes, including plenty of older, larger fish, appears to be critically important for many fish species. Big fish produce many more eggs than small fish; for example, it takes about 200 small adult snappers (typical of a heavily fished population) to produce as many eggs as one large snapper. Well-designed marine reserves should enhance fisheries in adjacent waters by exporting both baby fish and larger fish."

California's fishermen can agree on the concept, but they worry that environmental advocates may shut them out. "We propose looking at different types of reserves," said Zeke Grader, executive director of the Pacific Coast Federation of Fishermen's Associations. "In some areas, reserves where all human activity is restricted can be extremely beneficial. In others you might ban certain types of fishing gear, maybe, or oil development." In still others, resident fish would be protected but migratory fish might be legal to take, Grader suggested. "We're open-minded," he told the *Los Angeles Times*, "but we're not willing to jump in with these people who want to lock up the ocean without some good science behind them."

Scientists who advocate no-take reserves maintain that they allow good science to take place. Such wild areas can help us to understand the natural variability of marine ecosystems, both with and without extractive uses; they can help us to understand population biology, biodiversity, the effects of pollution, the effectiveness of various management techniques. There is so much we *don't* know, it only makes sense to take a step back, preserve some areas from exploitation of any

Kelp rockfish

KIP EVANS



kind, and observe and learn from the workings of nature, argues Fujita.

Significantly, the Marine Life Protection Act does not prescribe a minimum size for wilderness waters, anticipate specific locations for refuges, or use a "one-size-fits-all" approach. What evolves from it "will depend on how much value is put on biodiversity, aesthetics, recreation, fisheries," says Fujita.

COMPLEMENTING THE MARINE Life Protection Act, in mid-January 2000 the California Resources Agency sent to the Legislature a report entitled *Improving California's System of Marine Managed Areas.* This report reflects three years of scientific analysis, public hearings, and study of California laws pertaining to ocean resources along our coast. Prepared by a team headed by Brian Baird, California Ocean Program manager, it proposes that the confusing mix of park and reserve classifications along the California coast be streamlined.

"The current system is a regulatory crazy-quilt," created ad hoc over five decades, explains Secretary of Resources Mary Nichols. "We are suggesting the conversion of 18 different classifications into a more easily understandable system of six classifications that everyone can use to help protect and manage our ocean and coastal resources."

One of the new categories, Marine Reserve, will subsume the state's marine reserves and refuges, and will no doubt take in any new marine protected areas proposed under AB 993. The only activities permitted in these new reserves will be research, restoration, and monitoring. All living and nonliving marine resources will be fully protected.

IN THE CHANNEL ISLANDS, meanwhile, these same goals are being actively pursued by means of "a very structured, user-oriented process," says Ed Cassano, manager of the Channel Island National Marine Sanctuary (CINMS). This effort, directed jointly by the Marine Sanctuary and Department of Fish and Game, will lead to decisions in the next few months that should, Cassano suggests, provide a "model for how the State ultimately will deal with similar issues."

The foundation of the Channel Islands process is a Marine Reserves Working Group and its support teams, the Science Panel and the Socioeconomic Team. The working group was created to represent the full range of community perspectives, including the public-at-large, commercial and recreational fishing and diving interests, and nonconsumptive interests. It will eventually provide a consensus recommendation to the CINMS Advisory Council regarding the establishment of marine reserves within the sanctuary. As the working group evaluates potential reserve scenarios, the science panel and socioeconomic team will provide comment on the relevant impacts of each scenario, and on its ability to meet the objectives established by the working group. As of mid-January, meetings were being held to set overall goals and objectives, with all-day monthly meetings scheduled through June, when conclusions will be summarized.

One outcome, almost certainly, will be the establishment of no-take zones within the Channel Islands Sanctuary—to join the small (37-acre) reserve that already exists at Anacapa Island's north shore. Issues to be resolved will include where they will be located, what particular habitats and species they will protect, how large and how interconnected they will be. If as much as 20 percent of the islands' waters—or 25,000 acres—is placed off limits to fishing, the area that receives such protection throughout California will quadruple.

The critical factor in all this decision-making, as Cassano emphasizes, is community. Scientists and commercial fishers, coastal residents and recreational divers alike must make themselves heard. It is easy to let emotions carry the day, and that pitfall needs to be avoided. Grader and Glen Spain of the Federation of Fishermen's Associations, in a statement prepared for *Fishermen's News,* point out that "there is no reason we cannot find a common agenda on this issue, nor any reason on land or sea why fishermen of all people should not be taking the lead in making marine protected areas a useful tool for the protection of the ecosystem we depend upon for our livelihoods."

There is a growing consensus that new initiatives are needed. "Traditional fishery management tools haven't prevented fish declines. We need a new mindset and an expanded set of tools," says Mia Tegner of Scripps Institute of Oceanography. "No-take reserves, in my view, are one of the most promising tools available to keep ocean ecosystems healthy." Fujita adds that although fishery management is critically important to marine conservation, "models and catch limits protect 'paper' fish. Marine reserves protect real fish."

The measures I've just outlined seem to be heading us in a promising direction. In the state's coastal waters, where the prevailing management approach has been multiple-use ("something for everyone"), some areas will be set aside for the native denizens: abalone and urchin and, yes, the lowly rockfish, who might just be able to grow to a size that allows her to lay her two-plus million eggs per year, which will then hatch and in turn grow to a productive size. While we humans might not receive direct practical benefit from such areas (in the form of "private reserve" snapper fillets, say), we will surely gain much in understanding, aesthetic pleasure, and—let's trust—healthier fisheries. ■

Anne Canright guiltlessly loves a good calamari steak and will walk miles for wild-caught Alaska salmon (but don't get her started on farm-raised Atlantic salmon).

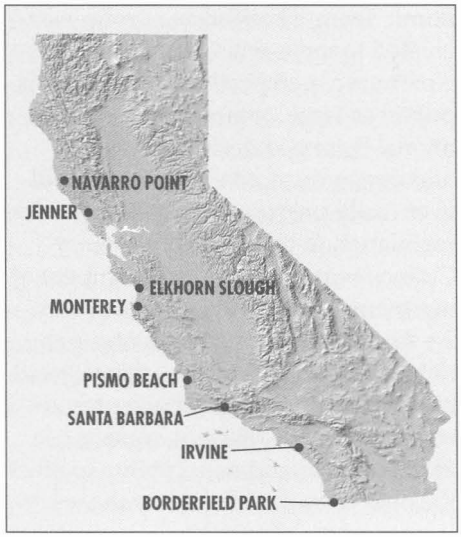
For additional information on CINMS marine reserves, including meeting dates, agendas, and minutes, see: www.cinms.nos.noaa.gov/nmpreserves.html. *Improving California's System of Marine Managed Areas* can be found at: ceres.ca.gov/cra/ocean/Final_MMAS/index.html.

COASTAL CONSERVANCY NEWS

RACE AGAINST TIME

THE DEADLINE WAS EXTREMELY tight. On Feburary 15, the official start of the breeding season for several rare and endangered bird species, all construction would have to cease on the Model Marsh in Border Field State Park, just north of the Mexican border. Before then, thousands of truckloads of mud and sand had to be hauled from the 20-acre site to an abandoned gravel quarry at the base of the Border Highlands. With years of planning, hard-won permits, and uncounted hours of deliberation behind them, the Coastal Conservancy and its grantee, the Southwest Wetlands Interpretive Association (SWIA), dreaded having the project go on hold for another year.

Had it rained, the task of digging out and hauling 135,000 cubic yards of heavy soil over wet ground before the construction window closed would surely have proved impossible. But because San Diego was having a historic drought, the job was on schedule, even with a significant and unexpected find: prehistoric shell mounds thought to have been created by people from the La Jollan culture, dating from about 1000 B.C.–A.D. 1000. Dry weather allowed the careful archeological investigation to proceed. At press time it appears that the the challenging project will be completed on schedule in a single construction season. SWIA is planning a springtime celebration.



JIM KING

This new marsh plain with tidal channels is under construction in the Tijuana Estuary.

PISMO BEACH DINOSAUR CAVES ACCESS

THE CITY OF PISMO BEACH will plan and design public access improvements for Dinosaur Caves Park, with the help of $100,000 from the Coastal Conservancy. The 11-acre blufftop property has spectacular ocean vistas, rock reefs, and a "blow hole." Sea lions, otters, dolphins, and pelicans can be seen offshore. Planned improvements include a parking lot, playground, restrooms, picnic areas, viewing platforms, and wheelchair-accessible paths. Construction will begin later this year, once additional funds are obtained by the City.

A MARSH RESTORED IN IRVINE

RESTORATION WORK has been completed on 45 acres of degraded wetlands at the University of California's 200-acre San Joaquin Freshwater Marsh Reserve, on the Irvine campus. The project is just upstream from the salt marshes of Upper Newport Bay. Agricultural and urban development during the last century turned wetlands here to uplands, and allowed exotic plants and animals to become established.

In August 1999, the Huntington Beach Wetlands Conservancy and the University's Natural Reserve System began restoration work with funding from the Coastal Conservancy, the League for Coastal Protection, the Irvine and Clarke Foundation, and the Southern California Wetlands Recovery Project. By early January 2000 a pump station and water intake structure were installed to enable the reserve manager to bring in water from San Diego Creek; a water distribution system of pipes and slide gates was laid; and ponds choked by sediment and plants were excavated, contoured, and replanted with native marsh species. Water levels will be managed

San Joaquin Freshwater Marsh Reserve

UC NATURAL RESERVE SYSTEM

to maintain diverse marsh habitats and prevent invasive plants from reestablishing and sediment from accumulating. In addition, a three-acre riparian corridor was planted and the first phase of a five-year effort to restore 20 acres of coastal sage scrub on the Reserve margins was completed.

SCENIC RANCH ON SONOMA COAST

IN LATE JANUARY, the Conservancy, Sonoma Land Trust, and Sonoma County Agricultural Preservation and Open Space District were completing the acquisition of the 910-acre Red Hill Ranch, one mile south of Jenner. The owners, brother and sister George and Celeste Sequeira, have managed the ranch for grazing for 40 years. The land trust approached them after learning they had filed a timber harvest plan to meet operating expenses.

In December the Conservancy approved $1 million toward the $2.37 million purchase price. The Open Space District will provide the rest of the needed funds. A conservation easement will be placed on the property, and title will be transferred to California State Parks.

The purchase will protect a 50-acre redwood grove, canyons, and ridges with sweeping views. Trail connections will be built to the Coastal Trail and to Willow Creek State Park, to the north. Environmental campsites will be created. Public ownership of Red Hill will also reduce trespass by visitors in search of coastal access and views.

NAVARRO POINT ACQUIRED

THE MENDOCINO LAND TRUST acquired 56 acres at Navarro Point, just north of the Navarro River along Highway 1, in December. The Conservancy approved over $1.1 million for the acquisition, and an additional $85,000 to plan, open, and maintain access to other coastal sites in Mendocino County.

Navarro Point has splendid ocean views across grasslands long used for grazing. The land trust will develop public uses that will protect scenic and natural resources, and will establish a $300,000 trust for long-term management.

RICHARD RETECKI

Looking north from Red Hill to Jenner and the mouth of the Russian River

CHALLENGE GRANTS

THE FOLLOWING THREE PROJECTS were partly funded by the Conservancy under the Governor's Challenge Grant Program, established to acquire and improve coastal wetlands and provide public access. The program requires at least an equal match of non-state funds. The Triangle Marsh acquisition (p. 39) is also a Challenge Grant project.

WATERSHED RESOURCE CENTER IN SANTA BARBARA COUNTY

THE COMMUNITY Environmental Council of Santa Barbara will establish the South Coast Watershed Resource Center at Arroyo Burro Beach County Park with the help of $450,000 from the Coastal Conservancy. The center will seek to educate the community about watershed issues, and to serve the needs and interests of school groups and visitors to one of the most popular beaches in southern Santa Barbara County. The center will be located in a former park ranger residence leased from the County.

FARMLAND ABOVE ELKHORN SLOUGH PROTECTED

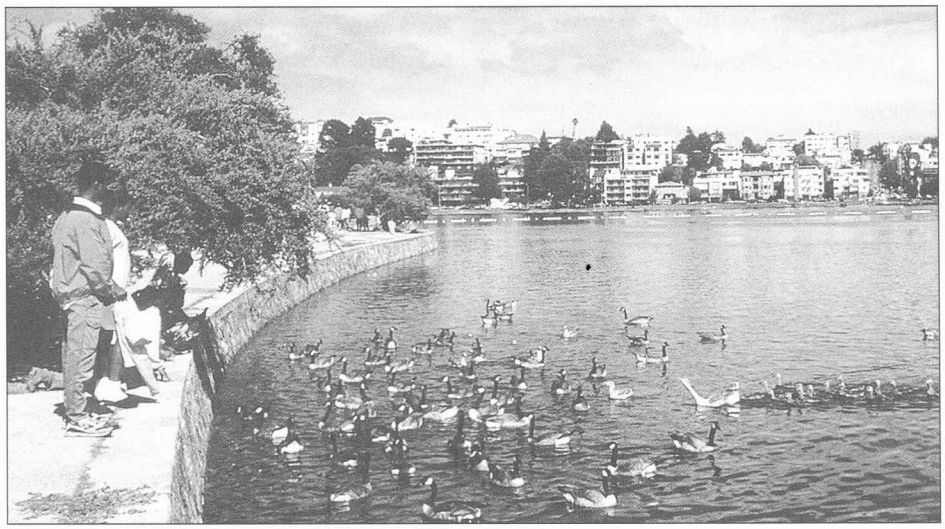
THE ELKHORN SLOUGH Foundation will acquire a conservation easement over the 195-acre Triple M Ranch, northeast of Moss Landing in Monterey County, and will develop a management plan for this property with the help of $530,000 from the Conservancy. The easement will prevent subdivision of the ranch, thus protecting wildlife habitat as well as steep slopes and creekside fields. Cultivation of such fields can cause erosion and add to contamination of downstream marshes.

The farm will be a training center for the nonprofit Rural Development Center, to promote sustainable agricultural practices for mostly Hispanic farmers in the Salinas Valley. The Center will contribute $200,000 for acquisition of fee title to the property subject to the easement. The David and Lucile Packard Foundation will provide $500,000 in matching funds for the easement. The Packard Foundation funded preparation of the Elkhorn Slough Conserva-

tion Plan, which recommends that the environmental resources of Triple M Ranch be protected.

WINDOW-ON-THE-BAY PURCHASES

TO ENABLE THE CITY OF Monterey to reclaim public access to Monterey Bay and open some obstructed coastal views, the Conservancy approved $2 million. The funds will be used to help purchase four commercial properties on Del Monte Avenue between Monterey's northern border and Wharf No. 2. The City's Window-on-the-Bay project aims to create a continuous stretch of parks and open space along the Bay shoreline.



LIZA RIDDLE

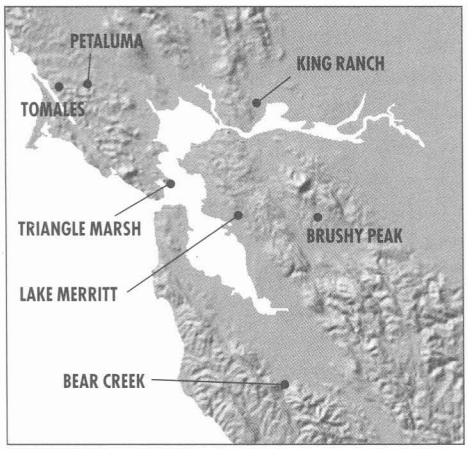
Lake Merritt is to Oakland what Central Park is to New York.

S.F. BAY CONSERVANCY

THE SAN FRANCISCO BAY AREA Conservancy Program, established in 1999 within the Coastal Conservancy, undertakes projects to protect wildlife habitat, farmland, and parkland throughout the greater Bay Area. The legislature and governor allocated $10 million for this fiscal year under this new program. Projects approved and partly funded so far include:

NEW MARSHES FOR OAKLAND'S LAKE MERRITT

THE CITY OF OAKLAND WILL plan and design new marshes in Lake Merritt with the help of $90,000 from the Coastal Conservancy. The lake's marshes have been destroyed by dredging, tidal flow restrictions, and bulkheads. The creation of new marsh habitat will benefit birds, fish, and thousands of people who visit the lake daily to walk, jog, bicycle, take small craft out on the water, and watch the birds.



Flocks of wild geese, pelicans, herons, and other birds find shelter in the bird sanctuary on the lake's five islands. Construction of new marsh habitat, expected to begin in autumn, will provide new roosting, feeding, and nesting habitat, help to filter pollution, and stop erosion that is toppling trees in Lakeside Park and undermining a roadway.

KING RANCH HABITAT PROTECTION

THE SOLANO COUNTY Farmlands and Open Space Foundation, a nonprofit land trust, will receive $1 million from the Coastal Conservancy to acquire 500 acres of the King Ranch near Suisun Marsh from the Pacific Gas and Electric Company (PG&E). The King Ranch and nearby PG&E properties consist of highly scenic open space in an area bounded by highways I-80, I-680, and I-780. The land is habitat for a variety of wildlife, including the California red-legged frog, the giant garter snake, and the Calliope silverspot butterfly, all listed as endangered or threatened species.

The properties also offer sites for extending the Bay Area Ridge Trail and constructing a trail system that would provide views of San Pablo and Suisun Bays and the Sacramento–San Joaquin River Delta. In 1994 the Cities of Benecia, Vallejo, and Fairfield and Solano County adopted the Tri-City and County Cooperative Plan for Agriculture and Open Space Preservation, which covers 10,000 acres that include the King Ranch. The goals of the plan are to protect open space, promote existing agricultural uses, offer recreational opportunities, and provide for habitat protection and restoration.

BRUSHY PEAK PRESERVE TO EXPAND

THE COASTAL CONSERVANCY approved $300,000 to help the East Bay Regional Park District buy 395 acres of land, mostly rolling grassy hills, southeast of Los Vaqueros Reservoir. The Park District will provide the rest of the $1.1 million needed to purchase this property, which will be added to the Brushy Peak Regional Reserve near Livermore. The acquisition will expand contiguous wildlife habitat between the reservoir and Brushy Peak to over 20,000 acres.

PROTECTION FOR MARIN COUNTY FARMS

THE MARIN AGRICULTURAL Land Trust (MALT) will purchase conservation easements on two cattle ranches totaling over 900 acres, with the help of $330,000 from the Coastal Conservancy. The easements will permanently protect agricultural land, scenic open space, and wildlife habitat. One of the ranches is in the Chileno Valley, west of

Petaluma, and is contiguous with eight other MALT easements. The other is near Tomales, and adjoins three other MALT-protected farms. Both ranches contain habitat for fish, resident and migratory birds, and other wildlife. Additional funds for the purchase will be contributed by the Marin County Open Space District, National Fish and Wildlife Foundation, and private donors to MALT.

AUDUBON TO ACQUIRE TRIANGLE MARSH

WITH THE HELP OF $375,000 from the Coastal Conservancy, the Marin Audubon Society will acquire 31-acre Triangle Marsh, which lies between the Ring Mountain Nature Preserve and the Corte Madera Ecological Reserve, at the north end of the Tiburon Peninsula.

The current owner of this tidal marsh has made several attempts to develop the site over the last 16 years, but has not been able to obtain the necessary permits. The Marin Audubon Society has sought to acquire the property for the last 25 years. Most of the Conservancy's funds for the purchase will come from the Governor's Challenge Grant Program. The remaining $510,000 needed is expected to come from the Marin Baylands Fund, Marin Community Foundation, Baykeeper, Cape Mohican Oil Spill Settlement, the U.S. Fish and Wildlife S.F. Bay Program, State Lands Commission, and Wildlife Conservation Board.

Pampas Grass: Managing an Invasive Alien Species, *videotape by Leif Joslyn, Xenobiota Xposures, 1999. 23 minutes, $20.*

THIS VIDEO DOES A VERY GOOD JOB OF SHOWING HOW to organize a successful volunteer effort to wage war on an alien plant, even down to what to wear for comfort and safety. The recommended tools are all available in hardware stores. The basic biology of the two species of pampas grass is reviewed, including why jubatagrass, a self pollinator, is more invasive. The agenda presented by this video would be useful in other weed eradication projects. Order from Leif Joslyn, 62 Stratford Road, Kensington, CA 94907; (415) 897-9577; e-mail: leifjoslyn@earthlink.net, or www.xenob.com.

—Phyllis Faber

BEAR CREEK REDWOODS PURCHASE

A $3 MILLION GRANT AND a $3 million no-interest loan from the Coastal Conservancy are helping the Peninsula Open Space Trust (POST) to buy land in Bear Creek Redwoods Regional Open Space Preserve, south of Los Gatos in Santa Clara County. The Conservancy's funds enabled POST to repay most of a $10 million commercial loan used to buy 805 acres of the preserve in March 1999. POST intends to transfer title to the property to the Midpeninsula Open Space District, which paid $15 million for an additional 260 acres of the preserve at the time of POST's acquisition.

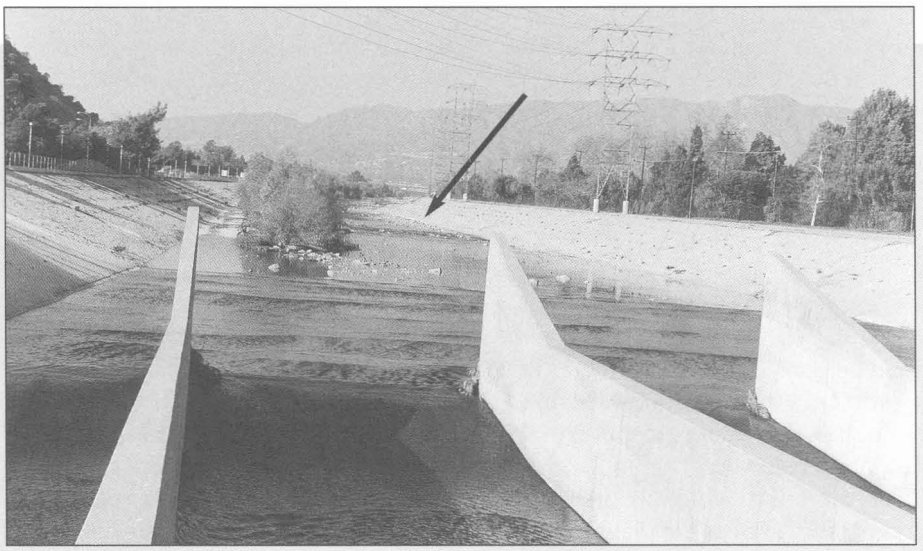
Only a 20-minute drive from downtown San Jose, the preserve contains 14.5 miles of trails, including stretches of the San Francisco Bay Area Ridge Trail and the Los Gatos Creek Trail. These trails connect to Lexington Reservoir County Park and three other open space preserves. Bear Creek Preserve is home to at least 90 species of birds, 32 species of mammals, and 22 species of reptiles and amphibians. Mountain lions and golden eagles are among animals that depend on habitat there.

To pay back its loans, POST will seek contributions of $5 million from private donors and $2 million from the State Wildlife Conservation Board.

WATER MONITORING CONFERENCE

THE SIXTH NATIONAL VOLUNTEER Monitoring Conference, April 26–29 in Austin, Texas, will emphasize information sharing and ways to move volunteer programs into the mainstream monitoring community. It will interact with the National Water Quality Monitoring Council's conference, also in Austin, April 25–27. For information contact Mary Crowe: (703) 385-6000; e-mail: crowema@tetratech-ffx.com.

Here's another view of the Los Angeles River, at Los Feliz Bridge, by Sean Woods, who also took the photograph on the inside back cover of this issue. For that very different shot he was standing at the spot shown by the arrow. Many other perspectives on the classic "built" river will be found in the Coastal Conservancy's upcoming report: ***Wetlands of the Los Angeles River Watershed: Profiles and Restoration Opportunities.*** It's all part of the effort now underway to restore more of the Los Angeles River's life and beauty.



Editor:
I greatly enjoyed the articles on California's islands in the latest issue. The writing was breezy and the information accurate. I and my students have been doing research on the islands for over 20 years and it is wonderful to get another perspective on these phenomenal wild lands.

I have just one criticism of the issue. Maybe it is my professional bias coming through, but I was startled to find that Santa Barbara has now been moved to San Luis Obispo (map, p. 35). Does this mean that I can now afford to live there?

I also thoroughly enjoyed the short article on Kent Bien's run along the Coastal Trail. Keep up the good work.

Elliott McIntire
Department of Geography
California State University, Northridge

Oops! Our proofreaders apologize, but point out that Santa Barbara was spelled correctly.—Ed.

Editor:
With all due respect to any industry which has earned a niche in the economy, I would like to submit that the native plant movement has in many instances gotten out of hand. What began as an analogy extended from definitely undesirable foreign animal life to non-native vs. native plant life has emerged in some respects as a cult-like irrational vendetta.

Fact is, desirability should not depend on whether it is a native or not. Each plant needs to be judged on its own merits at the time and place where it is found. Is it doing good or bad where it exists? This is a judgment where well-intentioned or grant-motivated persons may easily err. One need only attend a clan function to realize the shallow depth of perception possible among believers.

Considerations which are often ignored are: (1) Does the plant prevent erosion where it lives? (2) Will any other plant be able to live and thrive there? (3) Is the appearance or fragrance an amenity to be considered before awarding the death sentence? (4) Where a "takeover" is claimed, how far will it go, and what is the exact harm it will do? (5) Exactly what is the harm done or created at the given time and place where extermination is advocated?

Above all, native plant people do not seem to be aware of or honor Mother Nature's admonition: Green is Life.

H. C. Rockey
Carmel

Editor:
I was a bit taken aback when I saw the title of Gregg Elliott's article, "Shunning the Tarbaby," in the Autumn 1999 edition of *Coast & Ocean.* The term "tarbaby," popularized in American culture with the Uncle Rhemus [sic] Briar [sic] Rabbit stories, in most usage has racist connotations. While I am not in particular a fan of political correctness nor do I advocate censorship, I do think that government publications should avoid the use [of] terms that no matter how innocent it seems can be insulting to a segment of the citizens of the state.

Jim Lima
by e-mail

Thanks for writing. We searched the Internet for "tarbaby" and found, among more than 800 entries, the name of a DJ and rap artist, a liquid industrial product, race horse and dog names, Richard Wright's unpublished novel Tarbaby Dawn, *and an Ayurvedic symbol for the body as "the passive raw material for creating energy and life."*

Then we took an informal survey in downtown Oakland and made a stunning discovery. To white people this was a metaphor for a sticky trap: hit it and you can't let go. But African-Americans unanimously agreed it was a racist slur. Some comments: "It means a black person . . . ugly." "That's what they yelled at me across the field when I played ball in the South." "Yes it's racist. A black person calling another person black." Now we ask ourselves: How is it that we can spend time together, think we know each other reasonably well, and not know that a metaphor that means one thing to a white person means something entirely different to an African-American person?—Ed.

LIABILITY PROTECTION EXPANDED

THE STATE OF CALIFORNIA has extended liability protection for those who operate public accessways. SB 243 (McPherson), signed by Governor Gray Davis in October 1999, expands Civil Code Section 846.1, which since 1997 has provided a process for State reimbursement of reasonable attorney fees paid in the successful defense of personal injury lawsuits relating to public access. The new amendment permits the State to also cover attorney fees incurred when defending actions that seek to restrict or prevent public recreational use of property.

MONTEREY BAY WATERSHED "SNAPSHOT"

ON EARTH DAY, APRIL 22, throughout the watersheds of the Monterey Bay National Marine Sanctuary volunteers will wade into streams, rivers, and breakers to test the waters. The two-hour event, "Snapshot Day 2K," is designed to educate and involve water quality monitors while "snapping" a picture of water quality.

For more information contact Coastal Watershed Council: (831) 426-9012; e-mail: cwc_office@yahoo.com; Center for Marine Conservation: (831) 375-4509; e-mail: kgaffney@psinet.com; Monterey Bay National Marine Sanctuary: (831) 647-4256; e-mail: susan.pufahl@noaa.gov.

SEAN WOODS

Imagine this river, flowing across a California landscape toward the Pacific Ocean. Where was this photograph taken? We don't expect you to guess, really, only someone intimately familiar with the place would find the clues. But try, then look at page 39 for the answer.

What's Coming Up: Trails are extending into natural areas while wildlife habitat shrinks. Who gets the right of way? . . . The fast-growing live fish market and what it means to California species . . . Is it true that a Central Coast beach town was destroyed in the name of oil spill cleanup ? . . . and much more.

Coastal Conservancy

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