

CALIFORNIA

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Wheelchair Pioneer

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BUD TURNER

3 Saving Willow Creek*Eileen Ecklund*

A model for conservation success

10 Watsonville Sloughs*Anne Canright*

Discover nature downtown

13 Bonnie Lewkowicz, Wheelchair Riding Pioneer*Shirley Skeel*

Guidebook author explored San Francisco Bay shore and nearby coast

18 Dorothy Green and the Power of Water*Interview by Rasa Gustaitis*

An activist's path to the source

22 A Fishy Story*Keith Howell*

Bamboozlement at the seafood counter

24 Sustainable Seafood Forum*Barbara Crane*

Toward a healthier future for the seafood market

28 The Border Fence Was No Barrier*Shara Fisler*

A cross-border restoration event

30 Fathead Minnows and EDCs*Belinda Martineau*

The rivers flowing through us

34 Dodder Danger

A new plant invasion

DEPARTMENTS**2 COASTAL VIEWPOINT**

Two Trees

35 EBB & FLOW

- Malibu Beach Access Recovered
- Coastal Conservancy News

40 LETTERS



TWO TREES

BLAZING HEAT HAD BEEN alternating with cold winds and fog in San Francisco. In Oakland, where it's usually warmer, birds flying past *Coast & Ocean's* 11th-floor window fanned the urge to be someplace moist, shady, and green. I crossed Broadway to Frank Ogawa Plaza, in front of City Hall, picked up a sandwich, and found a shady spot near the two big oaks.

I have a special feeling for those two coast live oaks. A few years ago they were about to be cut down to make way for plaza renovation. Their continued presence reminds me of what a few people, with a little effort, can accomplish when good sense is on their side. So those oaks make me feel good in more ways than one.

In 1996, an office worker bicycling through the plaza was surprised to see tags on most of the trees, giving notice that they were to be removed. He was shocked, as were others in his office. A little group of tree defenders formed, made inquiries, and was told that it was too late for public input. The planning process had been completed, and tree removal would proceed as scheduled.

Not accepting that answer, a member of the ad-hoc group called a city council member, who also was surprised and agreed to hold a hearing. That led to a series of meetings and, finally, a city council hearing. By that time support for the trees had grown, from the chamber of commerce, other organizations, and many city residents. In the end, the renovation happened without destroying the oaks or five tall sycamores in the plaza. Since then, I've noticed that whenever there is an event in the plaza, people gravitate to the shade of those two oaks. The lawn and pavement of the plaza are often too hot or too windy.

After lunch I walked to the nearby kiosk and asked the woman inside if she liked

working there. "Oh yes," she said. "I love those trees. I tell my friends—look at where I work, look at those trees!" When I told her the story, she said: "I'm so glad. I couldn't stand it here without them."

Whenever I see those oaks, my spirits rise. They stand for life and the kind of thinking that's essential if there's ever to be peace in the world. We need civic improvements that respect what exists in a place—trees, people, geographic features—rather than the kind that impose some concept, assuming that anything that stands in the way can be removed, usually in the name of cost efficiency.

The latter approach still dominates, as urban sprawl continues to chew through hills and valleys with little regard for nature except when public agencies or citizen protests require it. Even after Hurricane Katrina, homes are being built below sea level in the Sacramento–San Joaquin Delta, despite past levee failures and warnings of more to come.

Recent natural catastrophes, and the fear of even greater calamities with further climate change, however, have encouraged interest in designing with nature. It's happening on the Los Angeles River and in Napa County in regard to flood control. Other cities are recognizing the need for parks and trees. (The Port of Oakland, though, is now ready to sacrifice waterfront parkland for high-rise private development on public land.)

Trees not only provide shade, cleaner air, and soothing sounds, they also save energy by diminishing the need for air conditioning; their roots hold in place soil that otherwise would be washed downstream; and they absorb rainwater that could flood basements and streamside neighborhoods.

Among those who have long and successfully advocated for more urban trees and

green space, especially in the Los Angeles–San Gabriel River watershed, is Dorothy Green (see p. 18). Her story—like that of the Oakland oaks saved by a handful of downtown workers but on a much larger scale—inspires me and fends off passivity and despair.

Seeds of conservation planted by a scattering of passionate citizens decades ago have borne fruit in many ways. Now not only radical artists and activists but powerful agencies are thinking watershed-wide. In the story of Willow Creek (p. 3) you can read how the range of possibilities can expand when people put aside personal power struggles and turf battles and collaborate. In "The Border Was No Barrier," you will see how the power of delight can overcome archaic, rigid expressions of dominance. Yes, that was just one day, and the fortification and militarization of the border with our friend Mexico continues, but in the long run, delight always overcomes fear. In this issue we give you some hopeful stories, as well as at least one scary one (see p. 30). We figure our readers will appreciate the mix.

To enjoy life, or to work for change in society, we first have to notice what's in front of our eyes. In downtown San Francisco, on a street corner passed daily by thousands of drivers, stands a lone tree. Few people would ever notice it were it not for a huge arrow, like a one-way-street sign, that points to it and reads: "One Tree." You can't help but laugh whenever you see it. The artist, Rigo 06, captures the attention with a sign every driver must heed, then subverts expectations: Hey, a tree! On another building he's painted one arrow that points down: "Cars," and one that points straight up: "Birds." How about that?

—Rasa Gustaitis



Saving Willow Creek

A MODEL FOR CONSERVATION SUCCESS

THE DRIVE FROM BODEGA BAY to the Russian River, about 12 miles on Highway 1, takes you along a gorgeous stretch of coastline that is almost entirely open to the public. Most of it is in state parks, but enough is still in ranchland to evoke Sonoma County's agricultural roots. You can stop in numerous places to walk down to sandy

beaches, perch on sea bluffs overlooking waves crashing on rocks, or pick up trails that wind along the shore or inland and upward into the hills.

You can hike 17 miles from the ocean's edge to the top of the watershed and down again, passing through several completely different landscapes, from coastal floodplains and meadows to narrow, steep-sloped, forested canyons to windswept coastal prairie. At least two more trails are expected to be built within the next few years, linking hilltops to the shore, and more land will be preserved and opened to the public.

At a time when lack of funding is a major obstacle to expansion of state parklands and of public access, in western Sonoma County several large properties that coastal advocates had coveted for decades have recently been purchased. The largest and most outstanding among them, the upper Willow Creek watershed, was acquired in 2005 to become part of Sonoma Coast State Beach, and promptly

opened to the public by means of an innovative partnership between the State Parks Department and a local nonprofit organization. Land-Paths has a four-year contract to provide access and other services until State Parks can take over. It does so by relying heavily on dedicated volunteers and relationships with other nonprofit organizations and public agencies.

This arrangement, as well as the acquisition of Willow Creek and several other recent conservation achievements in coastal Sonoma County, was made possible through the efforts of a unique collaboration among various entities working on coastal issues in the region, known as the West County/Coastal Working Group. It was formed in March 2001 to resolve conflicts that were interfering with the progress of some promising coastal projects. "People weren't talking with each other," said Richard Retecki, the Conservancy's North Coast project manager. "There's a tendency in this work to think project by project, losing sight of the bigger picture."

EILEEN ECKLUND



LANDPATHS

An "island in the sky" rises from high coastal meadows.

When representatives of these entities came together in one room, their discussions proved so useful that they decided to meet regularly. Not only did they discover they could establish common goals and join forces to achieve them, they found their goals expanding. "They've been phenomenal in setting a vision, saying 'We can do this,' then coming up with a way," said Retecki, who has chaired the working group from its inception. "They are probably creating a model for others to use."

"Absolutely," agreed Rick Royer, acting district section manager for State Parks' Russian River District, who has worked in the area for two decades and is a member of the group. "We get the opportunity to have open communication and work on issues before they become issues; and if issues do come up later, we can bring them up and resolve them," Royer said. "We get 15–20 people, all with different perspectives, around the table. Everyone can speak

openly. You can say, 'This would be good for State Parks,' or 'this would not be.' Everyone is a valued member. Richard Retecki has done a marvelous job."

The secret of the working group's success, according to Retecki, lies in its ability to focus on particular projects that have major regional significance and strong local support, and to stay focused until these projects are brought to fruition. The acquisition of the Willow Creek property is a good example.

That took three years. Authorities in Sacramento had to be persuaded of the 3,373-acre property's values, a deal with the landowner had to be negotiated, the \$21 million had to be raised to meet the purchase price, and an interim operation and management plan had to be devised. Only by working effectively together could those interested in protecting this land have done all this. "We spread the lead responsibilities around according to our strengths," Retecki said.

Beauty and History

WILLOW CREEK FLOWS into the Russian River one mile upstream from Jenner, a small coastal community at the river's mouth. To reach the upper Willow Creek watershed from Highway 1, you take Willow Creek Road, which runs inland just south of the river, follows the river for a bit, then twists upward through meadows and steep forested canyons.

You can enter upper Willow Creek at Freezeout Flat, park in the staging area, then hike for about two miles to a broad ridge with clusters of trees, mostly conifers, scattered here and there. These tree clusters are known locally as Islands in the Sky. They are all you will see from the ridge on some gray days, tall trees rising like islands out of a soft sea of fog. On clear days, however, you can have views south all the way to Bodega Bay, north to the Russian River Valley, and west to the ocean horizon. The entire 8.7-square-mile Willow Creek watershed lies around you.

When I was at Willow Creek in April with Jonathan Glass of LandPaths, purple Douglas iris and bright yellow buttercups blanketed tiny patches of meadow around trees. Water seemed to be burbling everywhere, up through seeps in the meadows and in fast-moving rivulets along an old fire road. Huge, thickly flowering California lilac bushes along the fire road were abuzz with clouds of bees.

I tried to track the 17-mile trail in the landscape but it was not visible. LandPaths volunteer Michael Murphy, who lives nearby, had told me: "There's one view where you can see the Russian River through your right eye and the Pacific Ocean through your left." Riding horseback alone, or with his fiancée or six-year-old daughter, he has seen golden eagles, osprey, bobcats, and once even caught a glimpse of a mountain lion. "It was the most magnificent animal on four legs that I've ever seen," he said, quickly adding, "besides my horse, of course."

About 2,200 acres of the lower Willow Creek watershed have been part of Sonoma Coast State Beach for more than 20 years. Like many other protected natural places, they were purchased as parkland in the wake of a battle that stopped proposed development. A huge subdivision, with golf course and shopping center, was planned in the 1960s, and a residential complex in the 1970s. The developers were roused by local residents who felt strongly that neither was needed.

The upper watershed had been in private ownership since early European settlement, most recently by Mendocino Redwood Company, which bought it in 1998 from Louisiana-Pacific Corporation, along with a total of about 235,000 acres on the north coast. Mendocino Redwood was founded by members of the Fisher family, founders of the Gap, with the goal of proving that timber harvests could be managed sustainably and still be profitable.

Back in Time

ALTHOUGH THE LAND HAD been logged repeatedly, as well as grazed by cattle and sheep, and despite being crisscrossed by a network of dirt roads, to my untrained eyes it looked largely untouched. I could easily imagine the Kashaya Pomo coming up here to hunt game and take shelter from winter floods. In the spring they went down to the river marshes and ocean shoreline to fish, gather shellfish, sea plants, and salt. They used reeds, willow, and sedge roots to make baskets, boats, and many other things.

In the early 1800s Russians came down this coast from the Bering Strait, hunting sea otters for fur. They built Fort Ross 15 miles upcoast, and established some ranches nearby. Smallpox devastated both Native American and Russian populations in 1836–38. By 1841 the otter population had been depleted.

Mexico controlled California at the time, having won independence from Spain in 1821. It started handing out land grants, and in 1844 a sea captain from New England, Stephen Smith, petitioned for and received 36,000 acres, including part of the Willow Creek watershed. In 1848 he leased the timber rights to Bethuel Phelps, who started a commercial logging operation, the first one recorded in the state, according to a cultural resources survey of the area prepared for State Parks in the 1980s. Since that time, the watershed has been logged by a succession of owners, most intensively from the 1950s through the 1970s.

Several land-preservation groups and agencies had kept their eyes on the upper Willow Creek property for many years. When Coastal Conservancy project managers Retecki and Don Coppock put together a list of potential Sonoma County acquisitions in 1987, Willow Creek was on it, but the owners weren't ready to sell.

Fourteen years later, the West County/Coastal Working Group agreed to study and plan for conservation measures within 330,000 acres,



PHOTOS THIS PAGE: LANDPATHS

Top: Volunteers carve a new path using weed-whackers.

Above: Hikers, bikers, and horseback riders are welcome.

110,000 south of the Russian River and 220,000 acres north of it. Willow Creek rated high among the group's priorities.

This property was not only rich in natural diversity, containing four completely different landscapes, but also was an unusually large chunk of contiguous wildland. Its protection would maximize wildlife habitat by linking up several other properties already protected either as parkland or by conservation easement, including the Myers, Colliss, and Carrington ranches to the south and Sonoma Coast State Beach and the Red Hill property to the west. Mountain lions, black bears, deer, bobcats, and other creatures would be able to roam over an expanse of more than 13,500 acres. "Just the sheer size of Willow Creek makes it important,"

said Kathleen Brennan-Hunter, conservation program manager for the Sonoma County Agricultural Preservation and Open Space District. "It makes so many more recreational opportunities possible, and from a wildlife perspective, it really adds to the connectivity." And, she added, "the views are pretty epic."

Past a Roadblock

THE FIRST PERSON TO TALK with Mendocino Redwood Company about donating or selling Willow Creek to the State was Caryl Hart, a State Parks commissioner who lives in the county, serves on a citizen advisory board of the Open Space District, and is also a founding board member of LandPaths.

"We were approached initially by Caryl Hart a couple of times, encouraging us that this would make a great addition to the state park system in Sonoma County," said Mendocino Redwood's chair Sandy Dean. In 2001, those conversations expanded to include the working group, and negotiations began in earnest.

Funding was pieced together from a variety of agencies and nonprofit groups, including the Open Space District, Trust for Public Land, Coastal Conservancy, California Wildlife Conservation Board, and State Parks. But then, in 2004, the talks hit a roadblock when it became clear that the State would not agree to buy the property for a park unless funding and a plan to open it to the public were in place. The State Parks budget was severely stressed, and there was no way the agency could meet the requirements in the time window available for the sale to go through.

Fortunately, Willow Creek was already open to the public, thanks to an unusual arrangement that Hart and a friend had developed with Mendocino Redwood soon after the company bought the property. Under this system, anyone interested in visiting Willow Creek could obtain a free permit; in return, permit holders would keep an eye on the property and report any abuses. In 2002, the company turned the permit system over to LandPaths, which Hart and others had formed in 1996 to manage another property in the county for State Parks (the McCormick Ranch addition to Sugarloaf Ridge State Park) when State Parks didn't have the money to take it on. Retecki suggested that this arrangement be continued. Acceptance of that idea removed the roadblock and in May 2005 the property was purchased for \$20,785,000. More than 500 adjacent acres were protected by conservation easements.

“This acquisition took a tremendous amount of cooperation and coordination from the funders and all of those involved,” said Retecki. “It’s a wonderful example of everyone pulling together,” said Mendocino Redwood’s Dean. “[Willow Creek] is one of the more beautiful pieces of property we purchased, and it’s great that we were able to work out a way to preserve it and allow public access.”

Loving the Land

LANDPATHS OPENED WILLOW CREEK one month after the sale went through. Anyone can visit, either as part of a guided hike or by obtaining a permit. Permits are free, but applicants must attend an orientation to get to know the staff and to learn more about the property, including such things as how to work the combination lock on the gate to the staging area at Freezeout Flat. (After a year of use and more than 800 permits issued, the lock has been left open only twice.) Permit holders are asked to submit outing reports every time they visit, to help keep LandPaths staff informed of conditions on the property.

“We want to make every opportunity for people who live in the area to get excited about getting to know Willow Creek,” said LandPaths’ executive director Craig Anderson. “We want people to be in love with this place.”

There’s no question that the people who volunteer on this land love it, to the point of putting in some hard labor when it’s needed. Before LandPaths invited the public in, some 60 volunteers came out to clean up an old trash heap, and when I talked to volunteer road and trail crew leader Steve Harper early in May, he had just been out to pick up a refrigerator that someone had dumped. Volunteers have helped build a manure bunker (to collect horse manure for composting), installed signage, mowed trails through deep grass, and improved roads, trails, and the staging area.

The LandPaths Trail Watch program currently has more than 30 volunteers who patrol on foot, bicycle, and horseback. They report on trail conditions, help hikers in various ways, and “look for anything out of the ordinary,” said volunteer Melinda McCutcheon, who lives in Petaluma and said she hikes somewhere in the county every weekend. “One winter there were big mud walls that had obviously been made by ATVs—people out there doing wheelies or something.” She and her friends also take note of how many people they pass on the trails, how many cars are

in the parking lot, and what wildflowers they see. “I’ve been e-mailing wildflower pictures to LandPaths all spring,” she said.

LandPaths is also collaborating with the non-profit Stewards of the Coast and Redwoods, established in 1985 to support state parks in Sonoma County, in putting together a trail crew for the whole Sonoma coast and to train volunteer crew leaders who can supervise trail work without requiring State Parks staff time.

Volunteers from both LandPaths and the Stewards lead day hikes on Willow Creek for people who don’t have permits, and for people who do but want to learn more about the land’s natural and cultural history. They work with groups of schoolchildren in environmental education and stewardship programs, including In Our Own Backyard, LandPaths’ program for students from second grade through high school. Each class in the program adopts an open space in the county for the school year and completes a project associated with it, such as helping to restore a creek and planting native plants. Each student also chooses a special “sit spot” that he or she will visit repeatedly throughout the year, to foster a sense of connection, and often adopts a particular tree in the spot, naming it and measuring its growth during the year against his or her own. “The more people learn, the more they’ll be able to take an ownership role and be stewards of the land,” said Michele Luna, the Stewards’ executive director.

“At Willow Creek, we can offer both solitude and community,” said Anderson. “This place is also about connecting people to each other again.” At age 44, with two young children, Anderson is energetic and connects easily with a wide variety of people. He played guitar, banjo, and dobro with The Modern Hicks for seven years, including two gigs backing up Mickey Hart, and often bikes or skateboards the mile and a half from his home to the LandPaths office in Santa Rosa.

Planning with Community

THERE’S MUCH TO LEARN about wildlife at Willow Creek. Nearly a dozen species that are threatened, endangered, or of concern live here. You can find California red-legged frogs in streams and wetlands, and in the forests old conifer trees shelter marbled murrelets, the small, threatened birds that build their nests far inland and may fly 40 miles or more to the ocean every day to feed. The highest density of



Volunteers haul out trash.

endangered northern spotted owls in the north coast region has been recorded on the Willow Creek property, Retecki said. Streams are being restored for salmon and steelhead, and the Department of Fish and Game is funding work to remove barriers to fish passage.

Willow Creek is among the few public spaces in Sonoma County where horseback riders can ride for miles, and where the trails aren't too busy to accommodate them comfortably. Mountain bikers have used the extensive network of dirt roads and trails for many years, exploring way out into the backcountry. Hikers can choose a short outing or longer trek. "Part of why I love the place is that I can start out walking on Willow Creek, hike up to Red Hill, then down to Shell Beach, and it's all on public land," said Steve Harper. "It's part of a bigger picture." One element of that larger picture, according to the Open Space District's Brennan-Hunter, is a plan to link the Carrington Ranch to Bodega Bay by trail; connections to Occidental and Camp Meeker have also been discussed.

State Parks is developing a general plan for the future of Sonoma Coast State Beach that includes Willow Creek, and LandPaths, Stewards of the Coast and Redwoods, and all others who are interested are welcome to be part of the process, said Rick Royer. As of now, there seems to be a consensus that first and foremost, the land's natural resources need to be preserved, and that only minimal visitor accommodations should be provided. Certainly trails will be built, and possibly more environmental campsites. Two already exist

nearby: Willow Creek Environmental Camp, about a half-mile east of Highway 1 on Willow Creek Road, and Pomo Environmental Camp, another two miles up the road.

LandPaths will manage Willow Creek for another three years under the current agreement. In 2009, if the general plan has been completed (it is expected to be by early next year) and adopted, and if the funds are available, State Parks will take over. After that, the roles of the two nonprofit groups will change. Stewards of the Coast and Redwoods, which recruits, trains, and handles administrative details for about 350 State Parks volunteers in the Russian River area, will likely expand its volunteer operations at Willow Creek. Whether or not LandPaths stays on "depends on whether there's a role for us to play," said Craig Anderson. "I have the feeling we'll be needed elsewhere by then."

LandPaths has many other projects. It manages Carrington Ranch for the Open Space District and owns and stewards two preserves, one an old-growth stand near Occidental that was purchased in part with Coastal Conservancy funds, the other a 400-acre ranch above Healdsburg. LandPaths staff also lead hikes and work parties in dozens of protected county open spaces, both public and private, including the newly acquired Taylor Mountain near Santa Rosa. Other public acquisitions are on the horizon.

The involvement of local citizens in a state park from its beginning yields benefits for the public in the long run, said Andrea Mackenzie, the Open Space District's general manager. "At Willow Creek, there was already significant community involvement—in volunteering, in getting grants, in stewardship. When you have a history like that, when you have a built-in group of volunteers who love the park, that's more than just a public agency coming in, buying a place, and protecting it. The State can't provide that; that has to come from the community."

In the past there were the Pomo and Coast Miwok, the original people of this place we call Sonoma County, who lived on the land and used it lightly. More recently it has been the multigenerational ranching and farming families who kept their land holdings intact and large enough to be thought of by the rest of us as "open," wild, and unspoiled. The future of Willow Creek will be written by people who live there now and will come in the future, who will learn about it and love it and find the connection to land that has been in so many ways forgotten in modern-day America.

It's a Tradition

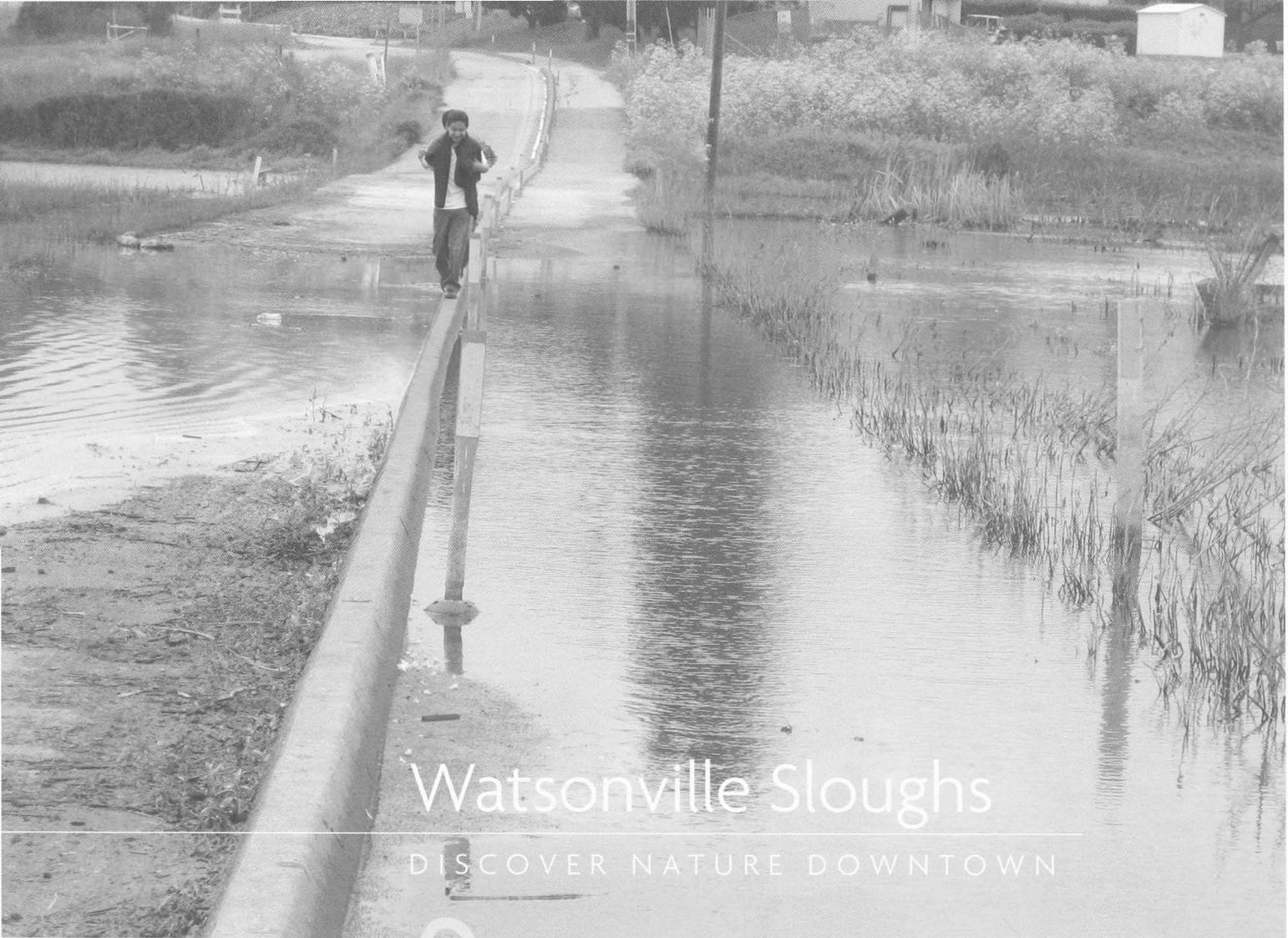
THE SOUTHWESTERN COAST of Sonoma County is unspoiled because local residents have worked imaginatively and persistently for more than 40 years to keep it that way, for their own and the public's enjoyment. It's a place where you not only can wander freely, but also study landmarks of California's coastal conservation movement. At Bodega Head a deep man-made pond, "The Hole in the Head," marks the spot where a nuclear power plant was about to be built in 1962 but was scrapped when citizens

discovered the site was on an earthquake fault. Upcoast, 30 miles north of the Russian River, Sea Ranch catalyzed the 1972 Save Our Coast initiative by claiming nine miles of shore for private use. The California Coastal Act of 1976 ensures that you can now visit some of that shoreline, as will the generations after you. The tradition of innovative activism and collaboration for the sake of the coast is alive and well in this county. If you want proof, ask anyone involved with Willow Creek. ■

To obtain an access permit, join a guided hike, or get more information, call (707) 544-7284 or see www.landpaths.org.



Some creeks are being restored for anadromous fish.



ANNE CANRIGHT

Watsonville Sloughs

DISCOVER NATURE DOWNTOWN

ANNE CANRIGHT

ON A BREEZY FRIDAY afternoon in May, my husband and I set off on a nature trip. Our destination: downtown Watsonville.

No, you didn't misread. We really did go on a nature trip, and this thriving central coast city of 50,000 was, surprisingly enough, the perfect place for a good dose of wildlife—of the wetland variety.

I can't count the number of times I've driven along Highway One and noticed the signs at the bridges: Watsonville Slough, Struve Slough, Harkins Slough. Then I'd see, flashing by, long fingers of still blue water dappled with rushes and reeds, the occasional great egret frozen in midstride. Each time I've passed these jewels, I've wondered whether they were accessible—for strolling, for bird-watching, for finding a bit of peace and quiet.

It turns out they are, but only since 2003. That's when the City of Watsonville launched a trail system aimed at bringing the city's residents into closer contact with the nature in their own backyards—quite literally. For set on higher land

around these wetlands, which constitute the largest remaining freshwater wetland habitat remaining on the central coast—800 acres fed by the surrounding Pajaro River watershed—are mobile-home parks, single-family residences, apartment buildings, and condominium complexes, with new housing developments going up even as I write.

Urban settlement too often has a negative impact on wetlands. In Watsonville's case, however, a happier story is unfolding. By making these sloughs more accessible to local neighborhoods, Watsonville has seen a rise in public awareness and care for the environment. The notion of stewardship, as well of pride of place, is growing rapidly as residents participate in restoration projects, dispose of litter responsibly, and appreciate the ability to enjoy a peaceful stroll along a sloughside trail, binoculars in hand, go for a slow run or bike ride, or take the dog for a walk. "It's a safer place now," commented Michelle Templeton, coordinator of the Wetlands of Watsonville Nature Center, "because so many people are using the trails—joggers,

bicyclists, groups of kids walking home from school. We're also seeing the areas around the sloughs staying cleaner. People have an investment now."

The trail system, most of which is wheelchair-accessible, eventually will comprise six miles of asphalt paths, boardwalk, and footbridges, with 29 access points in surrounding neighborhoods. At the moment, about four and a half miles have been completed. Some of the trails were built where informal dirt paths existed; these casual thoroughfares bespoke a need for better access between areas, and the City tried to respond to that need. Other trails are being built by developers. This is occurring on former privately owned parcels whose boundaries took in the wetlands. When the developers purchased these lands, the City assumed ownership of the sloughs proper; it also brokered a deal that the developers would build sections of the trail system. Some of the most active slough stewards are residents of these new housing developments.

A small nature center, open to the public week-ends only, sits at one trailhead in Ramsay Park, off Main Street. It includes displays in both English and Spanish on wetland creatures and their habitat. Each Sunday at 1:30 a nature walk leaves from there—binoculars provided. Every second and fourth Saturday, restoration work parties sally forth—this time, gloves, tools, and a snack are provided—to perform various tasks, such as planting native grasses, sedges, and rushes, erecting wood fences, or removing non-native species.

Education is a key activity in spreading awareness, one in which the City has invested fully. Two full-time staff members, Michelle Templeton and the City's environmental education coordinator, Tami Stolzenhaller, work tirelessly to teach both young and old about these valuable lands and the natural processes that keep them healthy. In 2005, 2,604 local upper elementary school children (representing 114 classrooms) participated, along with their teachers and parents, in 142 classroom presentations and 108 field trips. The material covered ranged from bird and plant identification to water conservation, watershed protection, and waste reduction and recycling. First- through third-graders aren't left out: they get to play with worms (red wigglers: nature's recyclers)!

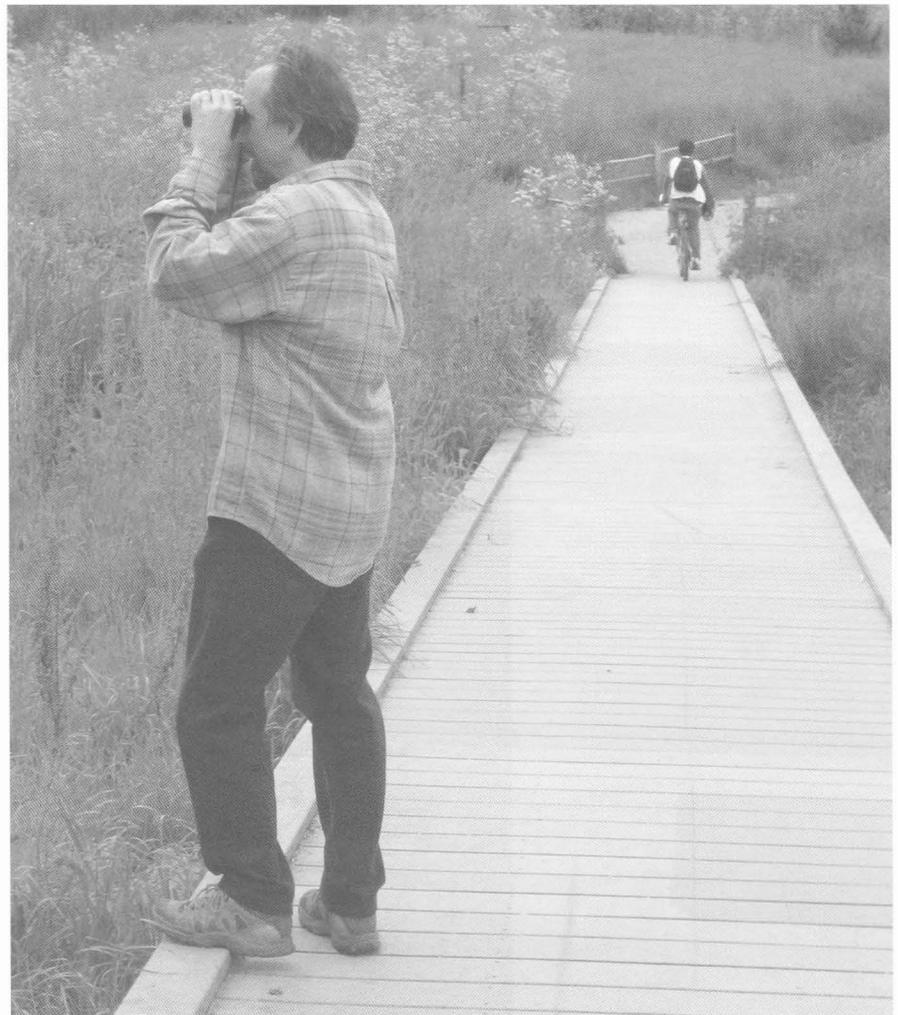
In addition, every Wednesday is devoted to some sort of adult outreach—presentations to the Rotary Club and other civic groups.

The day we went for a stroll along the Upper Struve Slough Trail, I was struck by the abun-

dance of bird life. Just a couple of minutes after we hit the path, our eyes were drawn by a fat streak of green and rust flying low over the water, trailed by bright orange feet. The bird landed next to a stand of reeds and immediately vanished from sight, perfectly camouflaged. "What was *that*?" I asked. My husband already had the binoculars to his eyes, and after some searching succeeded in finding the stock-still bird. "It looks like a heron. I think it's a green-backed." A second flash of gray and rust and bright orange flew, then blended in a little farther off. (It turns out their legs are usually dull yellow, but in males they turn bright orange in high breeding plumage. Two males. Where were the girls? Sitting on nests?)

Although we didn't see any nesting herons, we did spy a coot sitting on a nest of dried reeds about half a foot above the surface of the water. Nearby, a young coot dived and surfaced, dived and surfaced. Farther on, we watched some starlings feed their chicks.

Meanwhile, tree and barn swallows swooped over the water, nabbing insects. Red-winged



ANNE CANRIGHT

blackbirds flitted about, displaying their bright epaulettes and exuberantly calling *konk-la-reee*. A pair of snowy egrets flew determinedly one way, while a great egret soared gracefully in the opposite direction—until blackbirds began to harass it and, adopting avoidance tactics, it lost a bit of its grace. House finches, a phoebe, and mallards completed the array. And then there was the snake: a three-foot gopher snake, utterly still.

Besides all these relatively common creatures, the Watsonville sloughs are home to 26 species whose survival are threatened, including the Santa Cruz long-toed salamander, California red-legged frog, California tiger salamander, peregrine falcon, and osprey. And let's not forget the endangered Santa Cruz tar plant, as well as the robust spineflower, to name but a few of the rare plants found here.

Along the paths I noticed small signs, each with a number and a painted bird, animal, or plant ("Artwork by Girl Scout Troop 4000"). These, Templeton explained, are to allow people to locate themselves—in case of an emergency, or to report a problem on the trail.

In addition, 33 interpretive signs, in both English and Spanish and with vivid illustrative material, are being installed; I missed them by days. These will focus on three different aspects of the sloughs' heritage: natural history, conservation messages, and cultural history—including information about the first family to farm in

the area, the Struves, as well as Ohlone Indian history and customs.

On June 3, National Trails Day, the City is hosting a VIP nature walk to officially "unveil" these signs. Among the VIPs will be 30 Struve family representatives. They should be very proud of what the City has accomplished with what was once their land.

Templeton is certainly proud to be part of this effort. "Just this month," she told me, "we received an award from the California Trails and Greenways Association—for trails, in particular for the fact that we're providing experience within city limits."

Her pleasure is more than professional, however. She grew up in Watsonville, and used to make her way with difficulty along the overgrown margins of the sloughs, both to get from one place to another and because she appreciated the wetland habitat. "Now," she said, "it's really exciting to see the local community—and they've lived here forever—getting so involved. We're seeing community vigilance, and community pride. People are taking ownership."

Sometimes, the urban and the natural *can* mix. ■

A map of the slough trail system is available at the nature center at 30 Harkins Slough Road (call (831) 768-1622 or see www.watsonvilleslough.org for directions), and at Watsonville City Hall and public library.



CITY OF WATSONVILLE

SHIRLEY SKEEL



BONNIE
LEWKOWICZ

■
Wheelchair
Riding Pioneer

IN 1972, WHEN BONNIE LEWKOWICZ was 15 and growing up in Detroit, she could pitch a baseball, skate, and play piano and guitar. Most of all, she loved to dance. She had studied ballet, tap, and jazz for ten years, preparing for a career on stage. Then, suddenly, all that was over.

SHIRLEY SKEEL

She had been riding in an Amphicat all-terrain vehicle with three older boys, heading for a schoolyard to spin donuts. The ATV hit a bump on the street and flipped over. All four were thrown into the street. The boys were uninjured, but she landed awkwardly and the fall broke her neck. When she briefly regained consciousness, she couldn't move.

Four months of hospital misery followed. Lying flat on her back, she watched the Munich Olympic gymnastics on television, feeling that she might as well have been watching from the moon. When she came home she was paralyzed from the neck down, with limited movement in her arms. Her "strong-willed Jewish mother" fought to get her rehabilitation treatment, Lewkowicz said. Her father, an Auschwitz survivor, was devastated—to the point, she would later learn, that he wanted to kill both himself and his daughter. Yet it was her father's own suffering in the concentration camps that gave her strength then. He had been 13, not much younger than herself, when the Nazis took him and his family from their home in Boleslawiec, Poland.

"It was so much worse than what I had to deal with," Lewkowicz said, as she told her story in her greenery-filled kitchen in Berkeley. "Knowing that was a driving force for my stubbornness and desire for independence."

At first, though, she grimly resisted the changes in her life. Sharing few recreational interests with her older brother and younger sister, feeling stifled at having to stay indoors for days on end when it snowed, she was depressed. She hated going back to her ninth-grade class, dismissed wheelchair sports as not for her, and when her first motorized chair arrived, she cried. To her, it merely symbolized her helplessness.

That state of mind lasted about three years. By the time she graduated from high school, she had changed. "What turned things around for me was focusing on what I could do, rather than what I couldn't do," she remembers.

On her own, she set off for Johnston College in Redlands, east of Los Angeles, to study nutrition, then transferred to Santa Rosa Junior College because the smog was unbearable and because she wanted a school with services for

Bonnie Lewkowicz shares a trail with rollerbladers Yoel Zagar and Tanya Eggers.



PHOTOS THIS PAGE: SHIRLEY SKEEL

Top: Lewkowicz exits her kneeling Braun Entervan at her Berkeley home.

Above: Lewkowicz with Ralf Hotchkiss and his grandson Desmond.

people with disabilities. The stimulating college atmosphere reawakened her sporting instincts, and before long she was swimming a half mile three times a week and racing in 800-yard wheelchair competitions. By 1979, she had decided to pursue a career as a recreation therapist. In 1985, after more college classes at California State University in Sonoma and Chico, she received her bachelor's degree.

There was far less wheelchair access during her college years than there is today. Wherever

she went—to a restaurant, store, or office building—she phoned ahead to ask if she would be able to get in or use the restroom. “Half the time they wouldn’t even know what I was talking about,” said Lewkowicz.

She found a job with the Bay Area Outreach and Recreation Program (BORP) in Berkeley. She organized wheelchair tennis matches, led outdoor adventures like skiing and rafting, and helped start the first California teams of quad rugby, a fast-paced sport played with wheelchairs and a volleyball on a basketball court. While working at BORP she also met Paul Church, a disability services specialist with the City of Berkeley. They are now married.

In 1987, Lewkowicz began dancing again. She and six others—three wheelchair riders, three not—formed the AXIS Dance Company, which choreographs modern dance pieces that use the strength and movement of the wheelchairs to facilitate a new form of dance. Their first performance, at the Oakland Furious Feet Festival, brought a standing ovation.

“What went through our minds was, were they clapping at ‘those brave people up there’ . . . or at good art?” Lewkowicz said. Eventually she decided it was the latter. Working with choreographers and musicians including Bill T. Jones and Joan Jeanrenaud, AXIS has performed on stages from Siberia to New York.

Today, at age 49, Bonnie Lewkowicz looks out at the world through dark, cautious eyes that light up as she talks. Her life is rich and busy. She founded and directs Access Northern California, a nonprofit organization serving travelers with physical disabilities, writes for travel publications, and is an avid gardener. When she undertook the task of writing *A Wheelchair Rider's Guide: San Francisco Bay and the Nearby Coast* for the Coastal Conservancy Association in 2003, she figured it would take 12 months. It ended up taking three years to explore and describe more than 100 scenic places, as she fit her field trips between rehearsals, performances, and travels beyond the Bay Area.

She drove to each area, alone or with a friend, in her Braun Entervan, a vehicle that kneels, opens its side doors, and unfolds a ramp in response to a remote control. To maneuver the van, she uses hand controls attached to the brakes and gasoline pedal. Sometimes her husband would go with her on weekends. A few times she went out with Brett Wilkison, one of the book's editors, who rode his bicycle.

From A Wheelchair Rider's Guide

TO OFFER A TASTE of what's in *A Wheelchair Rider's Guide: San Francisco Bay and the Nearby Coast*, Bonnie Lewkowicz selected one of her favorite places. Here is an excerpt from her description of Point Reyes National Seashore.

Bear Valley, Point Reyes National Seashore

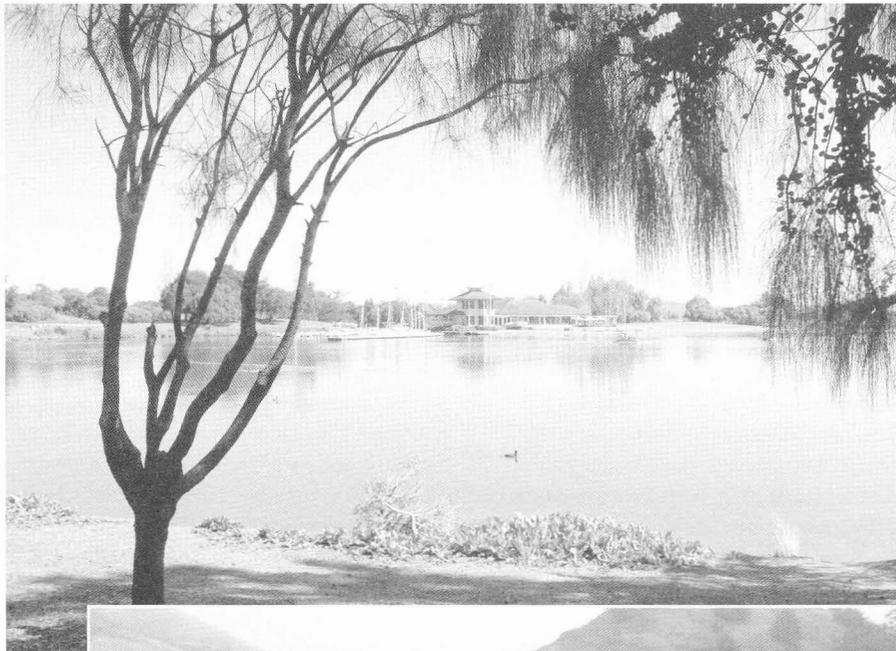
The magnificent Point Reyes National Seashore is one of the nation's great treasures. Its 71,057 acres include rolling grasslands, forested ravines that open onto steep, rocky bluffs, broad beaches, lush salt marshes, and 600-foot-high granite promontories at the Point Reyes Headlands.

To begin exploring the park's inland areas, you might start at the Bear Valley visitor center, which offers displays and specimens of native wildlife mounted in dioramas, as well as a seismograph station monitoring activity along the San Andreas Fault. The multilevel interior is ramped, with the exception of one raised station, and all displays are well conceived for use or viewing from a seated position. Movies about the shoreline are shown on request. A wheelchair is available to visitors.

The Earthquake Trail, a .6-mile asphalt loop, leads from the Bear Valley visitor center to a spot where the 1906 earthquake cut a fence in two and moved it. The two pieces are now 16 feet apart. The trail provides a pleasant stroll through forest and meadows. On a grassy oak-shaded knoll near this path's beginning are picnic tables and barbecue grills.

Also leading out of the upper parking lot is the Bear Valley Trail, which runs west a little more than four miles to Arch Rock and the ocean. This wide hard-packed dirt trail follows Coast Creek as it winds under Douglas fir and other trees amid fern undergrowth. For the first 1.5 miles, the trail slopes gently uphill, becoming moderately steep for the last several hundred feet of that stretch. Manual wheelchair riders will get a good workout, but there are also level sections where you can rest. Gloves are helpful during extended braking. During the rainy season, this trail may become impassable.

At 1.5 miles out, the trail enters the large and beautiful Divide Meadow, a good place to loll around or picnic. Beyond the meadow, it continues at a gentle slope for another 2.5



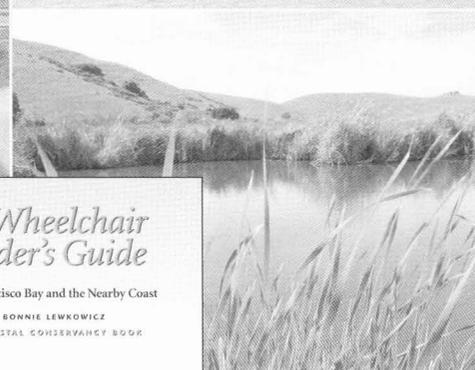
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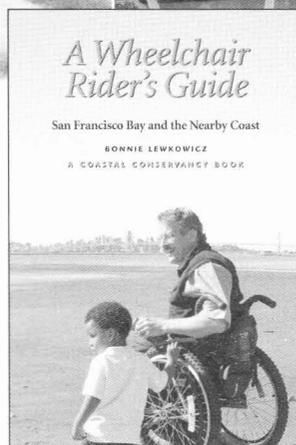
LAWRENCE ROBBIN



LAWRENCE ROBBIN

miles to Arch Rock. The steep, uneven trail to the overlook may be accessible to some, but otherwise don't expect ocean views.

To order free copies of this guide, e-mail calcoast@scc.ca.gov or call (510) 286-1015. Download a free PDF version at www.scc.ca.gov/Publications/wheel.htm



From top: Shoreline at MountainView

Rodeo Lagoon

Hayward Regional Shoreline

Coyote Hills Regional Park

More Access to State and National Parklands in the Near Future

PEOPLE WITH DISABILITIES are gaining more access to parks and open spaces as a result of two recent developments: the settlement of two related class action suits against California State Parks and, at the federal level, a major step toward adoption of long-awaited access guidelines for outdoor recreation areas. The economic analysis of the proposed guidelines—underway for more than six years—is nearing completion, and they are expected to be presented to the public for comment later this year.

State Parks will spend an average of \$10 million per year over the next 11 years to improve campgrounds, trails, visitor centers, and other facilities in its parks, according to Roy Stearns, the department's communications director. The improvements are specified in the comprehensive consent decree agreement reached in *Tucker, et al. v. California State Parks* and signed by U.S. District Court Judge Charles R. Bryer in November 2005. Plaintiffs in the primary case, filed in 1998, were two disabled individuals, the California Council of the Blind, and Californians for Disability Rights.

When the court's preliminary approval of the agreement was announced in July 2005, Laurence Paradis, executive director of Disability Rights Advocates and lead counsel for the plaintiffs, said: "With this settlement, California is on its way to having the most accessible parks system in the country."

The plan developed under *Tucker v. State Parks* specifies a wide array of improvements to be made, first at 37 of the most frequently visited parks, by July 2009. At the other 241 parks, improvements will be made according to priorities established in the agreement; work is scheduled to be completed at most parks by July 2016. State Parks has been improving access in keeping with the ADA since 2000 and had spent more than \$47 million by the time the settlement was reached. "State Parks always agreed with the goal" that is now laid out in the settlement, Stearns said.

Improvements to be made include modifications at visitor centers, campsites, picnic

areas, restrooms and showers, parking areas, and the routes of travel between them. For example, wheelchair seating spaces will be added at the campfire center of Carlsbad State Beach, telescopes at Hearst San Simeon State Monument will be made wheelchair accessible, and American Sign Language interpreters will be provided on some tours throughout the state park system.

Tucker v. California State Parks was filed in U.S. District Court for the Northern District of California in 1998. To achieve a resolution, the parties cooperatively took on an enormous challenge. They surveyed each program in each park and each trail to "determine what programs and trails had barriers and which of those barriers could be feasibly removed," said Kasey Corbit, an attorney with Disability Rights Advocates. "The surveys were an enormous undertaking." Once they were completed, the parties worked to create timelines and work plans for removing the identified barriers. "There were also smaller issues, such as accessibility of portable toilets, that arose along the way and added more time to the negotiation process," she said.

The intent is not to "pave over" large parts of the parks system or otherwise affect the wilderness experience for visitors, all the parties agree. "It's impossible to make the wilderness ADA accessible," said Stearns. "But we can go to certain places where there are neat trails, and make at least the first three to five miles of them accessible, so everyone can get a real sense of what the place is about."

THE PROPOSED FEDERAL guidelines for outdoor recreation areas provide technical specifications for trails, beach and other access routes, and picnic and camping facilities. Although they are only recommendations at this point and will apply only to federal lands and federally funded programs, the guidelines are already being used by the Forest Service and other land management agencies around the country as the best tool currently available for complying with ADA

requirements, according to Bill Botten, an accessibility specialist with the United States Access Board.

The Access Board has been working on these guidelines since 1993, and in 1997 set up a committee of park managers, disability advocates, and representatives of outdoors groups to negotiate a consensus. "It was very difficult because you had a lot of people on the resource side who had no knowledge of people with disabilities, and a lot of advocates for people with disabilities who didn't understand the kinds of issues resource managers face, or the design issues involved," said Ray Bloomer, director of education and technical assistance for the National Center on Accessibility and a member of the committee. "Everybody had to give in on something."

The committee reached a consensus and presented its report in 1999. Since then the Board has been assessing how much it will cost federal land agencies to meet the proposed standards. This economic analysis is nearing completion and the guidelines will be presented first to the Office of Management and Budget for review, then to the public for comment, Botten said. To find out how you can submit comments, go to www.access-board.gov or contact the Board at (800) 872-2253 (voice), (800) 993-2822 (TTY), or outdoor@access-board.gov.

Botten is glad to see accessibility guidelines move beyond buildings and transportation to experiences in nature. In 1983, when he began using a wheelchair, "we fought like hell just for curb cuts. In a 20-year span we've gone from creating a more accessible environment in cities to now looking at things like camping, boating, and fishing. If you keep a person with a disability in the built environment, you really limit so much of what we live for. [The ability to get outdoors] leads to a healthier lifestyle and builds confidence; it makes people believe they can do anything."

—EE

In the book, Lewkowicz describes topography and various features of interest. She tells of good places to watch birds, picnic, stroll quietly along, or bring children. She details fees, hours, trail lengths, food, lodging options, and even weather patterns. She reports on parking: Is there a blue Handicapped Parking Only space? Is there an “access aisle” alongside the parking spot so a wheelchair can exit? She inspected each trail for barriers such as turnstiles or narrow passageways, as well as noting its condition. Was it firm, stable, and level, or was there gravel, sand, mud, or deep ruts? Armed with pen and pad and a tape measure, she poked around drinking fountains, restrooms, picnic tables, playgrounds, and docks and piers, checking to make sure they were accessible. In some areas, such as César Chávez Park in Berkeley, she was delighted to find picnic tables with the bench cut away to allow a wheelchair in. Many parks had restrooms with some combination of wide stalls, grab bars, roll-under sinks, and lever door handles, though few had all of these.

At times the going was tough. At the Don Edwards San Francisco Bay National Wildlife Refuge in Fremont, she found herself alone in the blazing heat, sliding sideways on a hill as her motorized chair struggled to get up a steep trail. In the Marin Headlands, on a coastal trail starting at Rodeo Beach, she encountered a locked gate with deeply rutted paths around it—impossible to navigate alone.

Yet the trips were often inspirational, even moving. On that same troublesome trail in the Marin Headlands, on a perfect summer day, she stopped to view the ocean below and the wildflowers around her. She listened to the birds, the surf, and a foghorn in the distance. “It was breathtaking,” she said.

She came away from these explorations with a powerful awareness of the fragility of the coastal and Bay ecosystems and an appreciation of the farsighted citizens who saved the Bay and the coast from what at one time had seemed inevitable destruction by reckless development.

Her greatest surprise was “how much I found that would be manageable for people in wheelchairs.” Access has improved considerably since the Conservancy published its first wheelchair rider’s guide to this area, in 1990. Under the federal Americans with Disabilities Act, standards have been established for facilities including restrooms, entranceways, and drinking fountains. More specific rules on trails, beaches, and

camping areas are currently under review by the United States Access Board, which makes recommendations (see page 16).

All this is progress, but Lewkowicz hopes that, over time, the boundaries between those with mobility limitations and everyone else will dissolve as more architects embrace “universal design,” a concept promoting buildings and parklands that don’t require special handicapped access features. Access “does not have to stick out like a sore thumb,” she says. For example, a wooden ramp edged by greenery can often replace outdoor stairs—and be used and enjoyed by everyone.

A pioneer in expanding boundaries, Lewkowicz also hopes that the new wheelchair rider’s guide will inspire others with wheelchairs or canes to do some pioneering of their own in the Bay Area’s diverse and often stunning recreational spaces. ■

Shirley Skeel’s last article for Coast & Ocean was “Spartina Warrior: Katy Zaremba” in the Autumn 2004 issue.

More on Access to Nature

The October–December 2006 issue of *Bay Nature* will feature a 16-page special section on access to the natural world for people with disabilities. It will include articles about a kayak outing on San Francisco Bay, wheelchair hikes in the hills and along the shore, and a report on efforts to expand access to the outdoors; it will also list access programs and related resources. For more information or to order a copy, contact pam@baynature.com, (510) 528-8550, or visit www.baynature.com.



Bonnie Lewkowicz at the Berkeley Kite Festival

SHIRLEY SKEEL

DOROTHY GREEN and the POWER of WATER

An Activist's Path to the Source



RASA GUSTAITIS

ADMIRERS HAVE CALLED HER “a force of nature.” For more than three decades, Dorothy Green has prodded and urged southern California toward a sensible way of living within the natural limits of its geography. Much as water wears away stone, she has worked to shift water agencies from near-exclusive reliance on concrete channels to control floodwaters to an approach that includes groundwater recharge, water reuse, spreading basins, and native plants. Her creative spirit, graciousness, intelligence, down-to-earth warmth, and relentless energy have earned admiration from both allies and opponents. You can track her footprints along the Los Angeles and San Gabriel Rivers, and Santa Monica Bay, to Sacramento and Washington, D.C. She founded Heal the Bay, the Los Angeles and San Gabriel Rivers Watershed Council and, about three years ago, launched the California Water Impact Network (C-WIN), whose goal is to move the state toward a sustainable water future.

Coast & Ocean talked with Dorothy Green in her home of 40 years in the Westwood neighborhood of Los Angeles.

—Rasa Gustaitis

Coast & Ocean: Your book on water is about to be published. Tell us a little about it.

Dorothy Green: The tentative title is *Water Politics: Avoiding Conflict in California*. It was originally supposed to be self-published by the Watershed Council, and spell out how water is managed. However, what was learned by writing it is just how badly managed our water resources are, and that there really is enough water in the state to meet the needs of our growing population and agriculture, with enough left over to restore some of our rivers and streams.

All the supply systems that serve southern California and the greater L.A. area are oversubscribed. None of them can deliver as planned or as originally anticipated,

due to either water quality or environmental constraints. The City of Los Angeles is now required to leave about a third of what it had been taking from the Owens Valley and Mono Lake to restore the river and the lake. The Colorado River has been oversubscribed for a long time and we've been told we've got to live within our means. The Metropolitan Water District, which built an aqueduct that can deliver 1.2 million acre-feet a year, is now going to be restricted to its entitlement, .55 million acre-feet a year.

The State Water Project can deliver half—maybe even not even half, on average—of the contracts that have been signed. The Central Valley Project, which affects the State Water Project though it doesn't affect us directly here in southern California, is required to divert 800,000 acre-feet for the environment. About a third of our water in the L.A. area is local. Groundwater is contaminated. And we're mining our groundwater statewide to the tune of one to two million acre-feet a year. Global warming will also impact our water supply, by making us more dependent on High Sierra snows rather than northern California snows, both of which will melt earlier, and on a delta subject to sea-level rise.

Who manages our resources? Multiple agencies. There are five different kinds of agencies, and multiples within each kind: they manage water supply, groundwater, stormwater, wastewater, and water quality. Do they talk with each other? Not really. Cooperate? It's like pulling teeth. So it's no wonder we have such a fractured and fragmented sense of water policy. How efficiently do we use our water? Not efficiently at all. The Pacific Institute has done a major study on urban water conservation and concluded that a third of our water used indoors in an urban environment could be conserved cost-effectively using existing technology. The Bureau of Reclamation has done some water-reuse studies and has come up with reuse potential that's huge.

C&O: Some water is being recycled now.

DG: Maybe ten percent of the wastewater stream, mostly for irrigation in urban areas. But the way to reuse it most cost-effectively is for groundwater recharge. Our wastewater stream is now cleaned up to almost potable standards and then thrown away into the ocean. With further treatment, applying reverse osmosis to already tertiary-treated wastewater, it can be put underground, letting the soil complete the job of purifying that water. It will then slowly migrate over a period of a couple of years into the groundwater basin, adding to the total groundwater supply. Groundwater is already being pumped and chlorinated before going through the distribution system, so no new infrastructure will be needed.

C&O: That's what's done with desalination.

DG: Exactly, it's the same process except that with ocean desal they suck in the life force that is the ocean and kill it dead during the process of separating pure water from all the salts, plankton, larvae, eggs, and other living matter in sea water. I object to ocean desal also because of the massive amounts of chemicals needed to prevent the membrane from clogging, and the massive amount of energy needed to push the source water through a membrane that allows only the smallest of molecules through. Why do that when we have this wastewater stream that is almost potable already? There's so much more nasty stuff in the ocean than there is in the waste-

water stream after it's been through tertiary treatment. Ocean desal, to me, is the silliest, craziest—it is only viable because there's lots of money to be made by the people who are pushing it.

C&O: Purifying wastewater and drinking it may make sense, but how do you get past the psychological barrier?

DG: It's possible to do it. Orange County has done it. You just have to go out and talk to people, and tell them about the technology, about the fact that we are reusing water all the time. What do you think is in the Colorado River? What do you think is in the Delta? Las Vegas sewage goes back into the Colorado River, and there are ten sewage treatment plants that discharge into the [Sacramento–San

Joaquin] Delta. We're drinking it anyway. So it just takes an educational process. The Municipal Water District of Orange County went out and sold its project to the public, holding many public meetings, before they built it and they got everyone to vote for a bond act. It is now under construction. It will apply advanced water-purification techniques (reverse osmosis, ultraviolet light, and ozonation) to its wastewater stream and pump it to where it can be spread into groundwater basins for later use.

C&O: What's another major issue on your mind, or in your book?

DG: Water transfers bother me an awful lot. The old traditional way was for transfers to be made from one farmer to another in the neighborhood, kind of like borrowing a cup of sugar. But now there's this tremendous push to change water-rights law from the right to use the water to an ownership right, so the user can sell the water and make a profit. There's a lot more money to be made in selling water than there is in farming. As we respond to the World Trade Organization's pressures to eliminate

"She's a legend, literally without peer in her success."

Mark Gold, executive director of Heal the Bay

"I did make a couple of speeches [for the Coastal Initiative], but I was terrible, I was so scared."



HEAL THE BAY



Dorothy and Jack Green. He always supported her work.

subsidies for cotton, what's going to happen to all that water that has been used to grow cotton? It is only being grown because it's subsidized. Is the government contract for water an ownership

right to market the water elsewhere, or does the government take that water back because water belongs to all of us and it's the state's job to allocate that water in behalf of citizens?

C&O: That's part of the trend toward water privatization.

DG: Exactly. The World Bank says the wars of the 21st century will be fought over water, not oil.

C&O: How did you become an activist? What set you on that path?

DG: One of my kids is retarded, and I joined the Exceptional Children Foundation and ran their Christmas card program from 1962 to '79. We manufactured our own cards, designed by children in the program and printed by parents who had a print shop. I built it up to a pretty good business, taking in over \$25,000 a year by just selling cards designed by retarded kids, till I finally just got bored with it.

But also, there was the Vietnam War, and my oldest son was going to have to register for the draft. That happened at about the same time the first Earth Day was happening, and the civil rights movement was coming to a conclusion. I went into a kind of depression. And when I realized what was happening to me—I just didn't want to get out of bed in the morning—I began to look around for an organization where I could learn how to become an activist.

I joined Women For:, an organization that worked for all the good things—better education, civil liberties, environment, peace. It had been formed by some frustrated League of Women Voters members who wanted to be more directly involved in the electoral process. The first thing I worked on was the Coastal Initiative (1972). I volunteered for the speakers' bureau and did make a couple of speeches, but I was terrible, I was so scared. But I learned.

The second thing I did was to work for a bill that Assemblyman Ed Z'berg (D-Sacramento) was carrying, which would have established a

super agency to set environmental policy for all other agencies. To push this bill, advocates had formed a single-purpose organization and I was the representative of Women For: I volunteered to be treasurer because I know how to keep a simple set of books. The two women who really ran that organization took me lobbying in Sacramento—which was an eye-opening experience.

We couldn't even get in to see the assemblyman from Long Beach. His a.a. [administrative assistant] stood in the office doorway, elbow on the doorjamb, asking us how this bill would affect the tidelands. It didn't take long to figure out: tidelands, in Long Beach, are the source of a lot of money. The oil industry is there. It is money that really makes Sacramento tick. Of course the Z'berg bill didn't get anywhere.

The third thing I worked on was the Clean Environment Act initiative by the People's Lobby, an organization that was headed up by Joyce and Ed Koupal. They rescued kids who were drugged out, gave them a place to nod off and get clean, taught them how to run a printing press and how to go out with an ironing board and gather signatures for various campaigns. I chaired the study for Women For: that led the organization to support the initiative. It was a real citizen initiative, people going out on the street and gathering signatures—not being paid to do so, but because they cared.

C&O: That process sure has been degraded.

DG: Oh my God, has it been changed. The 1970s had a lot of real citizen-sponsored initiatives.

C&O: After that you worked for campaign reform with Common Cause.

DG: After the People's Lobby Clean Environment initiative went down to defeat, the Lung Association brought the environmental community together to assess what we would all want to do together. They wanted to get the lead out of gasoline. The discussion led instantly to campaign-finance reform. Carlyle Hall, an attorney specializing in land use and environmental law, was asked to lead the effort to write an initiative and declined. Ellen Stern Harris, who had led the successful campaign for the Coastal Initiative in southern California in 1972, also declined. I was next-most vocal and was duly appointed. I was then between issues, so I formed Citizens for Campaign Reform. Monthly meetings were held in my home. We attracted folks from the ACLU,

Common Cause, a number of prominent attorneys, and worked out a proposal. It was sent with a cover letter to about 100 nonprofits all over the state, stating that we all suffered because of the way campaigns are financed, and asking for feedback. You know what response I got back? Zero. Zero.

C&O: You're kidding.

DG: Zero. People were not tuned in yet. Now everybody sees it. Our group was absorbed into Common Cause as it formed a state board, and I ended up working on the initiative that would require reporting of campaign contributions and expenditures and would establish the FPCC [Fair Political Practices Commission]. I served six years each on the state and on the national board trying to push public financing.

C&O: Your next cause was nuclear energy?

DG: That was on the ballot in 1976. It would have given California land use control, where to site nuclear power plants. The legislature responded by creating the California Energy Commission with responsibility for projecting energy needs for the state and for siting power plants. This took all the wind out of our sails, and we permitted the initiative to go down in defeat.

I was easily drawn into that campaign because I had done the nuclear analysis for the People's Lobby initiative, and had made friends with a nuclear physicist who at that time was working at RAND. He came and spent an evening with the six of us working on this ballot measure and taught us that nuclear power is just a way of boiling water to make steam to turn a turbine; that's all it does. Barry Commoner [the biologist, professor at Washington University in St. Louis, opponent of nuclear testing in the 1950s, and a leading voice in the ecology movement in the 1970s] used to say that using nuclear power to make electricity is like using a chain saw to cut butter. There are so many other ways to boil water to turn a turbine.

Nuclear power plants were being built only because the Price-Anderson Act insured the nuclear industry against failures. If there was a meltdown or catastrophic accident, it limited its liability to \$500 million. The federal government would pick up the rest. Without that insurance policy there would be no nuclear power at all in the United States.

"We started on opposite sides of a lawsuit and became friends through the process. The goal was the same—maximizing water for the people and still keeping people safe. Our approach was just a little bit different. She had a vision and she understood the big picture. I don't think a lot of people do."

Carl Blum, former deputy director, Los Angeles County Department of Public Works

C&O: Each of your projects grew out of something you learned from a previous one. In recent years you have been a leader in trying to change water policy. You've founded Heal the Bay to work in water quality in Santa Monica Bay, and the Los Angeles and San Gabriel Rivers Watershed Council. What took you to water?

DG: Ellen Stern Harris. She had worked for years to get an appointment to the Metropolitan Water District (MWD) Board, representing the City of Beverly Hills, where she lived. She wanted to know why they were so powerful and how they

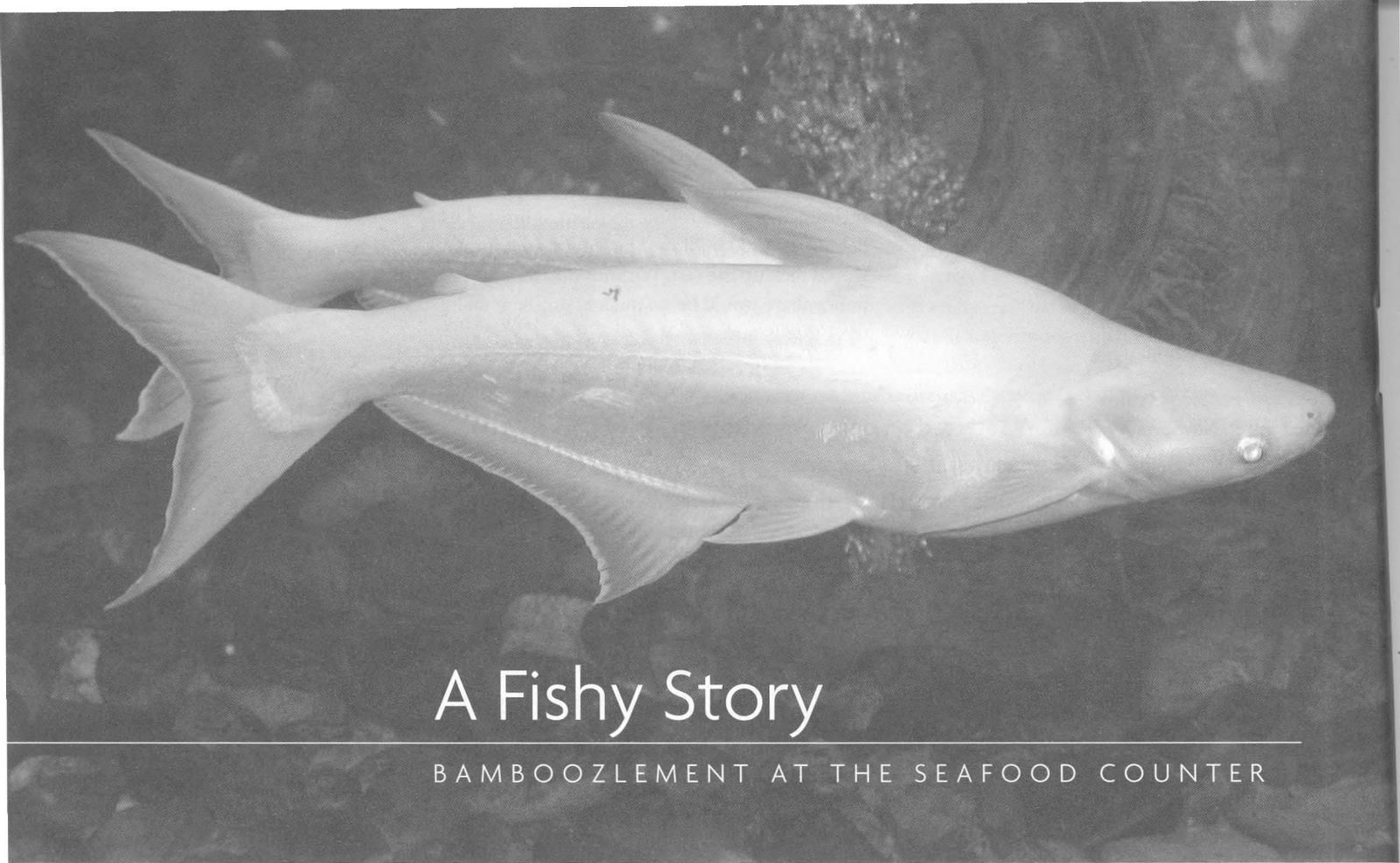
functioned. Upon finally getting this appointment, she called together the environmental community to help her with this task. We met at her home with MWD's chief general counsel, and it became clear that water is at the heart of all California politics. I was between issues at that time and was intrigued, so I began to accompany her to board meetings, to read up on the history, and to understand that water was the most basic engine for California's growth and development. The land speculators that drive the influx of people in the south have always looked for more water to serve their development schemes. The Peripheral Canal on the ballot in 1982 would have taken Sacramento River water around the Delta directly to the pumps, to increase the amount of water that could be taken from that environment. I served on the statewide committee that fought against this destructive answer to more water for both southern California and for the farmers in the San Joaquin Valley.

The two most difficult issues out there now are privatization of water and using "paper water"

(continued on page 39)



Dorothy Green with Joel McLafferty, a former board member of the Los Angeles and San Gabriel Rivers Watershed Council



A Fishy Story

BAMBOOZLEMENT AT THE SEAFOOD COUNTER

KEITH HOWELL

Tra (*Pangasius hypophthalmus*) in Thai waters

EVER HEARD OF pikeminnow, or goliath grouper? They're better known as squawfish and jewfish, respectively. But those names are no longer considered suitable for polite conversation. You don't see "dolphin" or "dolphinfish" on menus so much anymore, either. That fish is now known in most of the country by one of its less misleading names—the Spanish dorado or the Hawaiian mahi-mahi. But elsewhere confusion around the common names of fishes is rampant, either for historical or geographical reasons, or because fish sellers prefer more mellifluous descriptions or just can't resist a little product inflation.

Chilean sea bass suddenly started appearing on restaurant menus a decade ago. Consumers generally assumed that the local seabasses had been largely fished out, and buyers—and fishermen—were casting their nets more widely. That much is true, but the fish they found as a substitute isn't a seabass. No relation at all. Not just a different genus, a different family, and with the ungainly and unappetizing common name of Patagonian toothfish. Most Patagonian toothfish today come from fish farms in Chile—as does most Atlantic salmon available in the United States.

Then there is the New Zealand bluenose sea bass. This is actually a fish of the butterfish family. It was previously known as the mildly off-putting blue-eyed trevella and was treated as by-catch and thrown back. But it's hard to find the seabass species our parents knew. Times change. Don't expect stocks of orange roughy, a slow-maturing fish once known as slimehead, to last long at current consumption rates. It's soon likely to be replaced on some menus, though not necessarily in name.

Not that there's anything wrong with butterfish, by the way—which, according to San Francisco fish restaurant owner Philip Sancimino, first got its name because properly cooked, it melts in the mouth like butter. Dan Cohen, a biologist with the National Marine Fisheries Service, now retired, remembers sablefish on the West Coast being upgraded to "butterfish," because, as the seller acknowledged, "I get paid more for butterfish."

Cohen also recalls getting a call many years ago from a New Zealand fishery representative in Washington, D.C., about a fish species the New Zealanders proposed to market in the United States under the common name "golden trout." Once he saw an illustration of the fish he realized that it wasn't a trout at all, but a porgy, a

broad enough term already, including various species of bream, sheepshead, and even snapper. The exporters settled on “golden snapper,” but it didn’t catch on—or hasn’t yet.

The Food and Drug Administration (FDA) and the National Marine Fisheries Service (NMFS) began grappling with fish name confusion in the 1970s. The growing popularity of seafood, along with increased imports of unfamiliar fish, eventually led to the publication of the “Fish List” in 1989. Later revised to include shellfish, the Seafood List can be found on the FDA website www.cfsan.fda.gov/~frf/seaintro.html, where it shines considerable light into once murky depths. The list includes the scientific name, the common name, which is usually quite specific, the market name, which the FDA finds acceptable and a useful description for fishmongers and restaurants, and the vernacular names, which the agency discourages as they are often confusing if not blatantly inaccurate and misleading.

Take the popular snapper: now there’s a catch-all if ever there was one. There are some 42 different species belonging to eight different genera marketed as snapper. Often they have some tantalizing adjective preceding: silk, king, queen, Mexican barred, silver, old man, and, especially, red, or more particularly on the West Coast, Pacific red.

The FDA recognizes only one species—*Lutjanus campechanus*—as “red snapper.” Only by stretching the imagination can the 13 or so species of rockfish usually sold as “Pacific red snapper” be classified alongside red, or Gulf snapper. Rockfish belong to a completely different family of fishes, with a different texture and taste. Forty years ago they were known as rockcod (no relation to cod). But lying there in the fish market, they do have a physical resemblance to snapper, and when livelihoods are at stake it’s not difficult to stretch the imagination. As a spokesperson from the agency explains, “Some people just want to sell their fish at a higher price.”

Still, according to the spokesperson, species substitution is currently not a high priority for the FDA, and it’s rare for agency staff to take action unless the mislabeling may result in a food safety hazard or is particularly egregious. For instance, when paddlefish roe, which sold for about a dollar an ounce, was being marketed as sturgeon caviar (\$28 an ounce), they felt it was time to step in. In addition, they don’t like to see escolar, generally considered a by-catch by tuna fishermen, sold as grouper. Escolar is high in histamines and may be a food safety hazard. Escolar (sometimes known as the Ex-Lax fish

because of undigestible waxy esters) also occasionally shows up in some sushi stands as “white tuna,” though “white tuna” is usually used as a synonym for albacore or bonito.

The latest fish to come under the scrutiny of the FDA is the basa, marketed for a while in this country as catfish or, more particularly, as Vietnamese catfish. It’s a large, tasty fish and abundant in the fish farms of Vietnam. After Vietnam was opened up to U.S. trade in 1994, imports soon began undercutting the Southern domestic catfish industry. Local fish farmers cried foul.

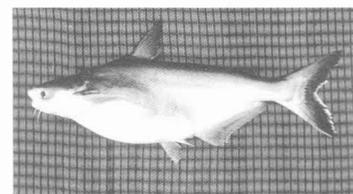
Thanks to the fish farmers’ pull in Washington, legislation was introduced and now the only fish that can be called “catfish,” unadorned with any adjectives, are those belonging to the genus *Ictalurus*. Basa must be sold as basa. Actually, basa has become quite expensive and rarely leaves its natal shores. Most of the erstwhile catfish imported from Vietnam now are not basa but its cousin, the less fragrant, drier fish, tra. According to the Seafood Business website, tra, besides being sold as basa, is sometimes marketed in this country as China sole, though it is not from China and is certainly not sole. It’s catfish—that is, by the currently non-PC definition of catfish, a fish with long tactile barbels belonging to the order *Ostariophysi* [recently changed to *Otophysi*—Ed.].

So how are fish lovers to know what they are buying? Get to know your fish seller or favorite restaurateur. Check websites such as the California Academy of Sciences’ www.calacademy.org/research/aquatic/seafood_guide and FishWise’s www.sustainablefishery.org. According to the Monterey Bay Aquarium Seafood Guide, few commercially caught fish are sustainable in the quantities currently harvested. As the wild populations of traditional, popular fishes—tuna, cod, snapper, sole, seabass, salmon, etc.—become harder to find and, hence, commercially extinct, they will either be farmed, disappear altogether from the fishmonger’s slab, or be “substituted.” Those who can tell the difference must be willing to pay the high price the genuine article will command. Those who can’t should adapt to more sustainable species, or be prepared to be bamboozled. ■

Keith Howell was editor of California Wild for 15 years before the magazine's recent demise.

Below: Basa (*Pangasius bocourti*)

Bottom: Tra (*Pangasius hypophthalmus*)



IAN BAIRD



JEAN-FRANÇOIS HELLIAS



TOWARD A
HEALTHIER
FUTURE FOR
THE SEAFOOD
MARKET

■
**Sustainable
Seafood Forum**

BARBARA CRANE

IN 2004 RESTAURATEUR Sam King removed Chilean sea bass (Patagonian toothfish) from the menus of the 15 restaurants he owns with his cousin Jeff King. These include the Water Grill in downtown Los Angeles and ten King's Fish Houses. "Chilean sea bass was the number-one seller for lunch and dinner," he said. "The customers were a little confused at the beginning. We told them we're not sure if the sea bass fishery is going down the right road, and we want to take some time and make sure. Our customers understood."

Mitchell Cohen of King's Fish House presents salmon at the Forum's kickoff dinner at the Aquarium of the Pacific in Long Beach.

That was King's first step in what was to grow into a far larger commitment. Soon thereafter, he joined the Long Beach Aquarium of the Pacific board of directors and approached Aquarium president and chief executive officer Jerry Schubel with a novel idea. He proposed that the Aquarium help establish a network of restaurants, seafood suppliers, scientists, and aquariums to promote sustainably caught and raised seafood. Schubel liked the concept, and in 2004 the Sustainable Seafood Forum was created as a program of the Aquarium. Its goal is to help consumers—particularly restaurant customers—make informed choices about the healthfulness and environmental and social impact of the seafood they consume, and to ensure that sustainable seafood choices are available in participating restaurants and supplier operations.

Guided by a science advisory panel, the Forum considers member restaurateurs' menus and suppliers' lists and offers recommendations as to which specific wild fisheries and aquaculture operations in which countries will best meet the Forum's criteria and provide sufficient quantities to meet members' demand. All members must accept the criteria used in assessing sustainability and must agree to make sustainable choices available to their customers.

The Forum's collaborative effort was welcomed by ocean advocates. David Helvarg, president of the Blue Frontier Campaign, commented that it is "an attempt to move beyond educating the consumer—which hasn't had the market impact necessary to change behavior—to have a greater impact by educating the complete cycle of the fishing industry, which includes the fishing men and women, processors, marketers, retailers, and consumers."

Rod Fujita, senior scientist with Environmental Defense, noted a similarity with what his organization, along with others, is trying to do on Morro Bay, where efforts are focused on "taking consumer education to different levels." The Morro Bay Harbor District, Environmental Defense, the Nature Conservancy, fishermen, a fish broker, grocery stores, and some restaurants have joined together to support local fisheries. Morro Bay fishermen have supported the establishment of large no-trawl zones in an effort to make the transition to more sustainable fisheries with access to new markets. (See *Coast & Ocean*, Autumn 2005.)

In March 2006, King, Schubel, and several members of the science advisory panel

announced the formation of the Sustainable Seafood Forum at the International Boston Seafood Show. "In general, industry representatives were supportive," said Schubel. "Some sustainable seafood groups were upset that we would acknowledge the important roles that salmon and shrimp aquaculture must play, and that we would endorse some of those operations as being at least on the road to sustainability."

Issues surrounding aquaculture present some of the most difficult challenges for the Forum, but Schubel and other members believe that responsible seafood farming operations are essential to securing a sustainable future. "We're not going to be able to harvest more fish to meet growing demand," said Dr. Mike Connor, executive director of the San Francisco Estuary Institute. "Therefore, it's crucial that organizations like the Forum develop improving standards for aquaculture producers such that the quality of aquaculture-produced food becomes higher and more sustainable." According to a recent United Nations report, a quarter of all ocean fish stocks are now depleted.

What's Sustainable?

THE SUSTAINABLE Seafood Forum uses the definition of sustainability adopted by the World Summit on Sustainable Development in 2002: "... development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Three criteria to judge sustainability have been adopted by the Forum: The product is healthful, nutritious, and meets the most stringent available standards for chemical residues, in accordance with standards set by the federal Food and Drug Administration, the Environmental Protection Agency, and international organizations such as the World Health

Sam King



KING'S FISH HOUSE



Frank Deluca, co-founder of Santa Monica Seafood

Organization; the wild-catch fishery or aquaculture operation does not harm the environment; the fishery or aquaculture operation benefits both its employees and the community.

The forum makes recommendations in keeping with evaluations and advisories by the Marine Stewardship Council (MSC), the Global Aquaculture Alliance (GAA), and other organizations. When possible, members of the science advisory panel and other aquaculture experts intend to inspect aquaculture operations and evaluate whether they meet the Forum's criteria for sustainability. To date, they have looked at an oyster farm in Bahia Falsa, Mexico, salmon farms in the

state of Washington, and an operation that straddles the Canadian/U.S. border at New Brunswick and Maine.

Public concern about sustainability has been growing. For several years, both the Monterey Bay Aquarium and the Audubon Society have been publishing wallet-sized cards that identify "good" and "bad" choices, based primarily on sustainability. "The cards have been important in raising awareness about fishery and aquaculture issues, but they don't go far enough," Schubel said. "For example, salmon is one of the most popular seafood items in the United States. It's clear that wild stocks cannot meet the demand for

this product, but North Atlantic farmed salmon have never made it out of the 'avoid—red' zone on the Seafood Watch Card. There have been great advances in the farming of salmon in the past few years, and we are documenting some of the best producers for our members to buy from. Our hope is that other less good aquaculture operations will follow their example and get onto trajectories that are sustainable."

Sustaining Trust

BY MAY 2006, THE FORUM'S membership had grown to include Santa Monica Seafood; Shaw's Crab House Restaurants, which are part of Lettuce Entertain You Enterprises, Inc., a mega-chain of restaurants in the Midwest; Plitt Seafood, Shaw's supplier and one of the largest seafood suppliers in the Midwest; and SMG, worldwide conference and venue managers.

Michael Cigliano, vice president of Santa Monica Seafood, was among the first to join. His company has been family-owned for three generations and is one of southern California's largest seafood suppliers. (King's Fish House Restaurants are among his customers.) The Ciglianos were engaged in sustainable practices long before "sustainability" emerged in the vocabulary of the general public.

"My siblings and I grew up in our business. It's in our blood," Mike Cigliano said. With their father, they purchased the company from their granduncles, the Deluca brothers, in 1981. "In our uncles' day, all the people they bought from owned the companies. Everything was very small, very hands-on. You could depend on what the boats' owners said as gospel. Now we have to depend on sources in other countries and trust that their vision and interpretation of sustainability and traceability [are] the same as ours. We base that trust on the recommendations of our director of purchasing, who visits suppliers worldwide to make sure they share our interest in and passion for sustainability."

The family decided that the Sustainable Seafood Forum was, overall, in keeping with their way of seeing and doing business. "We want high-quality, wholesome seafood to be available at reasonable prices for all market segments. It's in the best interest of all suppliers and restaurateurs to learn about seafood and the environment. The Forum provides this opportunity for us and allows us to be a driving force behind sustainability."

Aquaculture Challenges

MOVING AQUACULTURE, especially salmon and shrimp farming, toward more sustainable practices has been a topic of much discussion within the Forum and elsewhere. Major improvements have been made in some operations, yet challenges remain. Some farms use antibiotics, which can escape into the environ-

ment and create drug-resistant organisms; some degrade water quality because the fish are overfed or the pens are sited in waters with poor circulation, allowing feces to accumulate. Shrimp farm operations in Asia, Latin America, and Africa have destroyed and continue to destroy mangrove forests that are not only essential nurseries for marine life, but also help to protect coastlines against violent storms and tsunamis.

Salmon farming consumes enormous amounts of krill, a major food source for baleen whales and many species of fish. Where pens are not separated from ocean waters, there's the hazard that captive-bred fish might escape and breed with wild fish of different species, altering the genetic pool. Although no scientific evidence of interbreeding has turned up, escapes have occurred.

Overfeeding has diminished, according to science advisors for the Forum, because many aquaculturists now use technology to detect when fish have stopped eating, so they can stop feeding, thus saving money. But Fujita says that even relatively good salmon aquaculture operations have not solved the basic problem: it takes several pounds of wild fish ground into fishmeal to produce one pound of salmon, an equation that is antithetical to sustainability. The damage can be diminished, however, he said. Environmental Defense is working to encourage salmon farmers to use fewer wild fish and more vegetable matter in feed. It is also working with Wegmans, a regional supermarket chain, and Bon Appetit, a large food-service company, to create stringent standards for aquaculture.

"The goal of reducing the use of fish meal in aquaculture feeds has been pursued for several years now by fish nutritionists," said Robert R. Stickney, professor of oceanography at Texas A&M University, director of the Texas Sea Grant College Program, and a Forum science advisor. "Significant progress has been made. For example, the channel catfish industry uses all-vegetable protein diets today." In salmon aquaculture, however, while fish meal levels in feed have been reduced, meeting the amino acid requirements without using animal protein continues to be a problem. It's a problem that will ultimately be solved, Stickney said, because "greatly reducing or eliminating fish meal from salmon feed not only will lead to better sustainability, it will reduce feed costs."

Whether the incentive is ecological concern or market pressures and opportunities due to public concern about pollution in seafood, there

appears to be a shift toward more sustainable practices in aquaculture, some of the Forum's science advisors report. "I see a lot of producers trying to do the right thing," said Barry Costa-Pierce, a joint professor of fisheries and oceanography at the University of Rhode Island and director of the Rhode Island Sea Grant College Program. "Ocean Boy Shrimp Farms and Bioshelters Tilapia Farm in the United States, and First National Salmon Farms in British Columbia are all examples." They produce healthy, uncontaminated seafood from operations that show no impact on the environment, and they take good care of their highly trained employees, he said.

"The Sustainable Seafood Forum will see its greatest impact by identifying outstanding leaders of sustainable fishing and aquaculture companies and making them known to restaurateurs and seafood suppliers," Costa-Pierce predicted. Mike Connor agrees. "The Forum will be educating sophisticated fish consumers," he said. "That action on its own will start to create a higher demand for better products."

"I think we've come a long way, and Sam [King] can take credit for starting on this road," said Schubel. "Sustainability for most restaurants means 'Can you deliver 3,000 pounds a week of product X?' Asking 'Where is it grown?' and 'How is it caught?' is a quantum leap." ■

Barbara Crane is a Long Beach-based freelancer who writes on business, the arts, and the environment.



SANTA MONICA SEAFOOD

Logan Kock, Santa Monica Seafood's director of purchasing, checks the quality of live Maine lobsters.

FOR MORE INFORMATION

Seafood Selector: www.oceansalive.org

Marine Stewardship Council: www.msc.org

Global Aquaculture Alliance: www.gaalliance.org

Links to pages about human and marine health:
<http://fn.cfs.purdue.edu/fish4health>

Long Beach Aquarium of the Pacific:
www.aquariumofpacific.org

THE BORDER FENCE WAS NO BARRIER

ON SATURDAY, APRIL 29, about 1,500 Wetland Avengers and Campeones de los Cañones swarmed through Border Field State Park and Playas de Tijuana, stopping to examine things on the ground and around, pull out some plants and put in others. Many were dressed in camouflage to represent a commitment to enjoying the environment while leaving only positive impacts.

The event was organized by the nonprofit Aquatic Adventures of San Diego, a collaborative effort that provides tuition-free educational programs and hosts community events that connect underserved youth to science. Many other organizations and agencies took part or lent support.

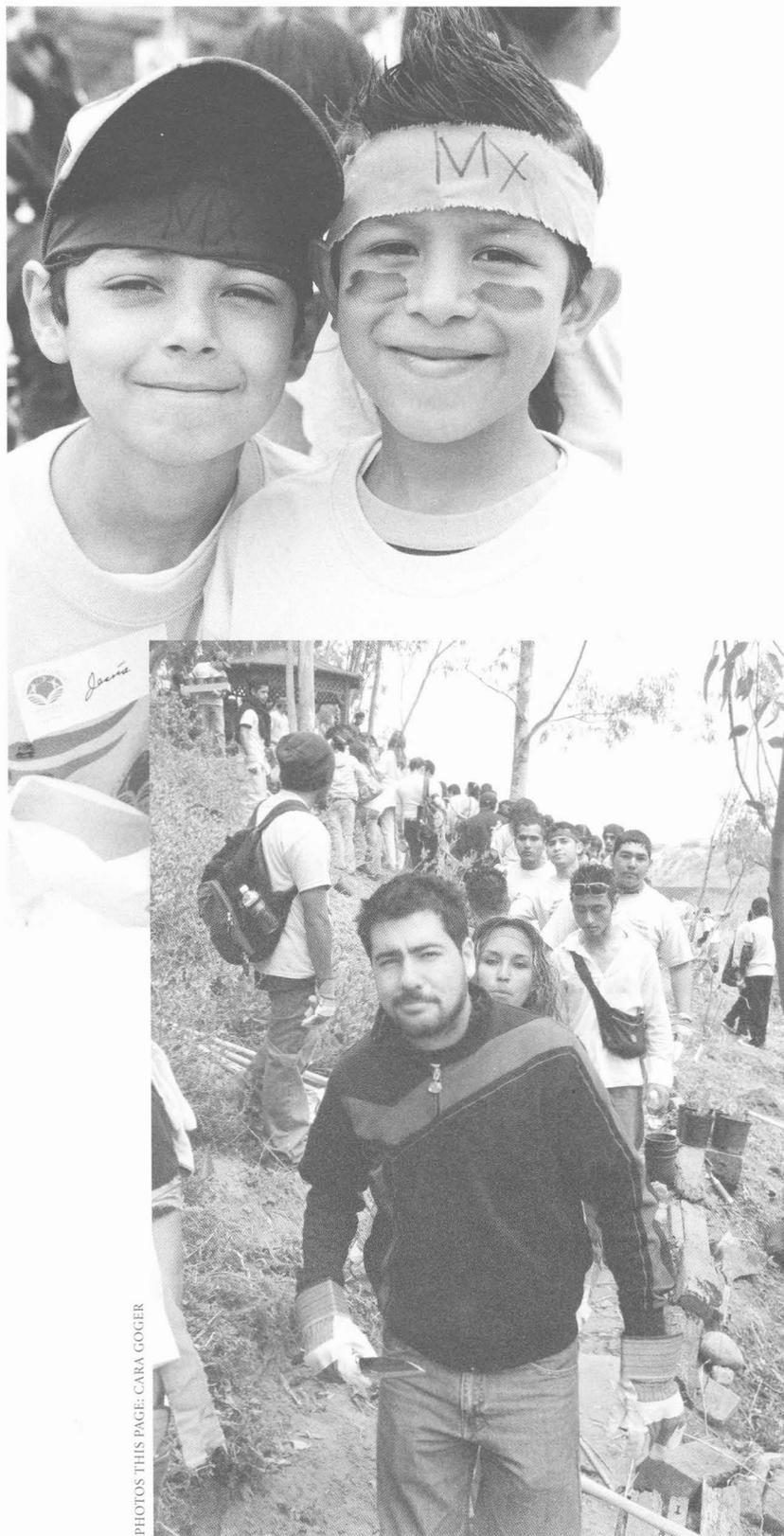
A “secret agent” biologist led the participants, ranging in age from very young to over 70, on walks to help them see why wetland and watershed habitats are important and how people can be effective stewards. Immediately after, everyone went to work, putting in 5,700 native plants.

In Playas de Tijuana, a canyon hillside was planted to reduce sediment runoff and improve habitat, a trail with interpretive signs was installed, and more than 10 cubic yards of trash and invasive vegetation were removed. In San Diego, a field of invasive grass was turned into maritime succulent scrub and coastal sage scrub habitat, and a “conservation connectivity garden” was created to highlight and further propagate rare plant species.

Volunteers worked together, separated by the border fence, but sometimes side by side. Though many of them could not see each other, the event was broadcast from each side of the border to the other and could be viewed on a video screen, mounted 40 feet high and visible from both sides of the fence.

Mayor Jorge Hank Rhon of the City of Tijuana and Imperial Beach’s Councilmember Patricia McCoy crossed the border, he to present a “Star Adventurer” award to a San Diego youth, she to award an “Estrella Aventurero” to a Tijuana youth. At day’s end, students from Tijuana formed a long chain and danced through the work site to music in English and Spanish. Then everyone joined at the fence for photos and to share experiences. ■

Shara Fisler is the executive director of Aquatic Adventures



PHOTOS THIS PAGE: CARA GOGGER



CARA GOGER



KIMBERLY PARK



KIMBERLY PARK



KIMBERLY PARK



KIMBERLY PARK



CARA GOGER

FATHEAD MINNOWS have forced me to reevaluate my relationship with the natural world. Not that I've been remiss in my regard for nature before this. I've always cared about clean water and air. I reduce, reuse, and recycle. I feed my family locally grown organic produce, ride my bike when I can, and vote for Barbara Boxer. It's just that fathead minnows have added new meaning—a whole new dimension, really—to my relationship with the world around me.

It's the male fish that precipitated my environmental epiphany. They're the ones being used by scientists to monitor the concentrations of certain chemicals in the watersheds of the Central Valley and North Coast regions of California, as well as in lakes, streams, estuaries, and effluents from sewage treatment plants throughout the rest of the United States.

Male fathead minnows are like canaries in coal mines, but they don't have to drop dead to signal danger. What happens to them in the presence of estrogen-mimicking compounds can be likened to a sex change. Scientists are checking whether a gene normally turned "on" only in female fathead minnows has, because of exposure to certain compounds classified as endocrine-disrupting chemicals (EDCs), become unnaturally activated in males.

The EPA has found that exposure of a male fathead to an estrogen-mimicking EDC for only 24 hours can activate an egg-yolk gene that under normal conditions would never become activated in the wild. The more of these chemicals there are present in a waterway, the more strongly the egg-yolk gene is activated, scientists at EPA and elsewhere have found. Given enough of an estrogenic EDC, a male fathead can become "feminized," exhibiting the easily distinguishable physical and behavioral characteristics of the female of its species.

This phenomenon caused me to wonder how EDCs might affect my own species, and me personally. Reading an EPA report I found on the agency's website (www.epa.gov/eerd/VGQPCR.htm), as well as other reports of research on endocrine

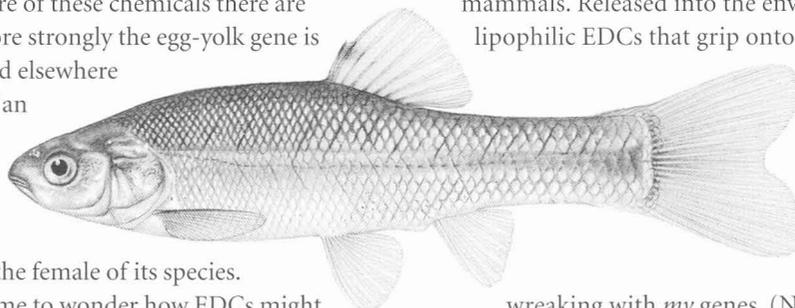
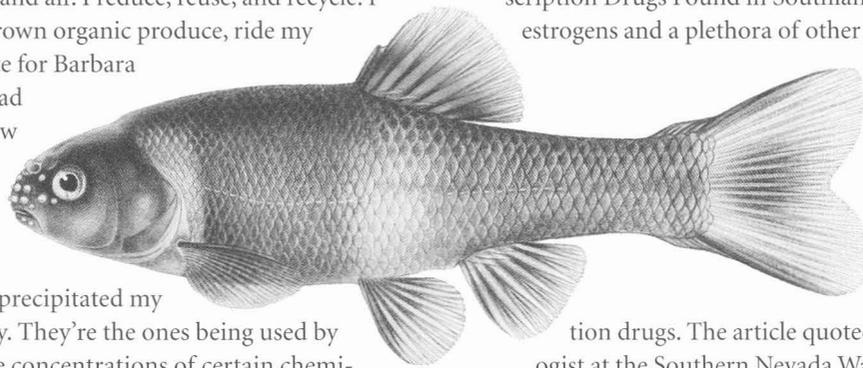
disruptors, made me rethink my relationship with—well, my drinking water, for one thing.

According to an article in the *Los Angeles Times* ("Traces of Prescription Drugs Found in Southland Aquifers"), for example, estrogens and a plethora of other pharmaceuticals are present in southern California's drinking water, which contains some purified wastewater. Water reclamation plants purify sewage to a standard considered pure enough to drink, but they do not remove all prescription drugs. The article quoted Shane Snyder, head toxicologist at the Southern Nevada Water Authority, as saying that "There is no place on Earth exempted from having pharmaceuticals and steroids in its wastewater. This is clearly an issue that is global, and we're going to see more and more of these chemicals in the environment; no doubt about it."

Although pharmaceuticals occur at very low levels in most water sources, scientists acknowledge that next to nothing is currently known about the effects of ingesting tiny doses of them continuously over a lifetime. Snyder thinks pharmaceuticals in drinking water are "highly unlikely" to cause human health problems, though he acknowledges that they may affect individual fish and potentially even fish populations.

More than a hundred synthetic chemical compounds are known to be capable of interfering with the normal processes of the endocrine systems in fish, birds, reptiles, and mammals. Released into the environment, some of them—the lipophilic EDCs that grip onto fat tissues—bioaccumulate, appearing in higher concentrations as they move up the food chain. Drinking a cool, clear glass of water after learning all this, I could not help but wonder what havoc EDCs might be

wreaking with *my* genes. (Now seems a good time to admit that I'm a geneticist—a molecular geneticist trained to study gene expression.) I felt compelled to take a closer look at EDCs and what is known about them.



THE RIVERS FLOWING THROUGH US

Fathead Minnows and EDCs

BELINDA MARTINEAU

The Chemicals and Their Effects

PERHAPS THE BEST KNOWN EDCs are the polychlorinated biphenyls (PCBs), used as industrial insulators and lubricants. Although PCBs were banned in the United States in 1976, they have been shown to persist for decades and so continue to pose an environmental hazard. Other extremely persistent EDCs include organochlorines, among them the pesticides DDT and chlordane; dioxins and furans, byproducts of many chemical, manufacturing, and combustion processes; and plasticizers called phthalates, which are found in a wide range of cosmetic and personal care products, as well as in some vinyl flooring and some shower curtains. Then there are the EDCs produced specifically for the purpose of altering endocrine systems: birth control pills and other prescription hormones, portions of which get flushed into sewer systems.

Because endocrine systems play such a critical role in growth, development, and reproduction, any unnatural disturbance created by even minute amounts of an endocrine disruptor could be profound and lasting. Studies have shown effects in animals ranging from immune-system suppression to abnormalities in sexual organ development. Beluga whales in the St. Lawrence Seaway with high rates of cancer, Florida alligators with abnormally small penises, Lake Michigan cormorants with birth defects and, closer to home, stranded Pacific Coast seal pups with compromised immune systems are but a few of the real-world examples of endocrine disruption that have been linked to EDC exposure.

Concern about EDC contamination and its effects on marine animals dates back more than 20 years. Much of the earliest work was conducted in Europe after scientists suspected that a massive die-off of harbor seals in the Baltic Sea and North Sea in the late '80s was linked to PCBs. In the late 1990s the EPA published *A Special Report on Endocrine Disruptors*, which confirmed that "compelling evidence [had] accumulated that endocrine systems of certain fish and wildlife have been disturbed by chemicals that contaminate their habitats." A massive, multidisciplinary scientific research effort has been under way ever since, and thus far over 200 species, with representatives from at least two invertebrate phyla and all five major vertebrate classes, have been confirmed to be—or the sci-

entific community suspects have been—adversely affected by endocrine disruptors.

Scientists are still debating whether feminized egg-laying males, or deformed sex organs, or any of the other abnormalities linked by research to endocrine disruptors have actually led to population-wide harm in any given species. Nevertheless, there appears to be no doubt that for individuals, unintended exposure to these chemicals is not a good thing. The scientific consensus, as stated in the December 2001 issue of *Environmental Health Perspectives*, is that the "contaminant-endocrine system link is no longer a hypothesis, but constitutes a real health hazard to wildlife and humans."

Human Exposure and What to Do about It

THAT'S RIGHT: IT'S NOT JUST species that live in the water, like fathead minnows and Pacific Coast harbor seals, that can be affected by EDCs. The endocrine systems of consumers of aquatic species—including humans—are also susceptible to disruption. And, because of the geometric progression by which chemicals become biomagnified as they move up the food chain, consumers at the top can receive incredibly high doses. "A killer whale at the top of the food chain retains in its body contaminants that may have been distilled 10 million times," wrote Michael J. Rivkin in the Fall 2001 issue of *OnEarth* magazine.

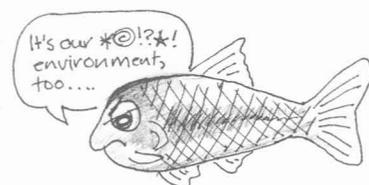
Although the scientific jury is still out over the role EDCs may be playing in declining sperm counts, acceleration (or delay) in the timing of sexual maturation, and increased incidences of cancers in hormone-sensitive tissues like breast, testis, and prostate in humans—suspicions that have all been reported in the scientific literature—verdicts on human immune suppression have already been delivered. In Dutch infants, relatively low levels of PCBs have been linked to depressed immune systems, and in another study, researcher Eric Dewailly and colleagues found that Inuit babies of the Arctic, exposed to high levels of EDCs in their mothers' milk, developed 20 times more infectious diseases in their first year of life than Canadian babies whose mothers did not eat traditional Inuit foods.

I find Dewailly's studies particularly alarming. (For a recent review see the December 1, 2005 issue of *Science of the Total Environment*.)

Opposite page: Drawings by Joseph R. Tomelleri

Top: Male fathead minnow

Bottom: Female fathead minnow



Fathead minnows crowd into a section of pipe.



JEFFREY DIVINO

What You Can Do



ORGANIZATIONS INCLUDING the Natural Resources Defense Council (NRDC), Breast Cancer Fund, and the Silent Spring Institute (which researches links between the environment and women's health) recommend ways you can reduce your exposure to endocrine-disrupting chemicals (EDCs) and help reduce their presence in the environment. Among these are:

Avoid animal fat. Gina Solomon, a senior scientist and physician in NRDC's health program, says the single most important thing you can do to reduce your personal exposure is to eat less fatty meat, poultry, and dairy products and more fresh fruit, vegetables, and whole grains. Some EDCs cling to fatty tissues and bioaccumulate as they move up the food chain.

Learn what is in the fish you eat. Oceans Alive (www.oceansalive.org), produced by Environmental Defense, has an "Eat Smart" section that lists the best and worst fish to eat (for reasons of sustainability as well as health) and a wallet-size "seafood selector" you can print out. For information about fish advisories in water bodies near you, go to www.oehha.ca.gov/fish/so_cal/index.html (California) and <http://epa.gov/waterscience/fish> (nationwide).

Avoid products that contain phthalates. Hundreds of products may contain phthalates, from food packaging to shampoos, perfumes, and cosmetics to products made from polyvinyl chloride (PVC), such as IV bags, vinyl shower curtains, construction materials, and some soft plastic toys and teething rings. The European Union has banned phthalates in children's toys, and some U.S. toy manufacturers

have voluntarily removed them from their products.

According to the Silent Spring Institute, the most common phthalates are dibutyl phthalate (DBP), diethyl phthalate (DEP), and diethylhexyl phthalate (DEHP); look for them on labels, as well as the term "fragrance," which frequently indicates phthalates. Also look for "phthalate-free" labels, or ask the retailer or manufacturer. The Healthy Building Network (www.healthybuilding.net) lists resources for PVC-free building materials and other home products (PVC is identified by the recycling number 3); www.stopwaste.org has a database of green building products and services available in the Bay Area.

The Campaign for Safe Cosmetics website (www.safecosmetics.org) includes a searchable database with information about ingredients in more than 14,000 personal care products. Nail polish and hair straighteners can have high concentrations of EDCs, according to Solomon.

Avoid products containing polybrominated diphenyl ethers (PBDEs). Also known as brominated flame retardants, PBDEs are used in products ranging from furniture and foam cushions to the plastic casing of computers and other electronics. Two of the most widely used types are banned in the European Union and have recently been phased out in California. Other types used in electronics have not been banned, but some manufacturers are eliminating them voluntarily and will have that information on their websites. The Safer Products Project's "Chemical House" website (www.safer-products.org/page.php?p=hous) rates some of the major household product

manufacturers and retailers on their policies regarding the use of hazardous chemicals, including PBDEs.

Use less plastic, especially for heating food.

To heat foods in the microwave, use only glass, ceramic, or plastic containers and wrap that are labeled microwave safe; don't heat or defrost foods in their packaging materials, and don't reuse plastic trays and containers from frozen dinners. Don't let plastic wrap touch food when it's cooked in a microwave. Avoid storing fatty foods in plastic containers or wrap.

Reduce, reuse, and recycle all plastics whenever possible to help keep them—and the endocrine disruptors that some contain—out of waste streams and water bodies. Some types of plastic, such as PVC (identified by the number 3) are not recyclable.

Don't flush old medications down the toilet or drain.

Ask your local household hazardous waste facility how to dispose of both prescription and over-the-counter drugs.

Use nontoxic cleansers and paper products.

Some household cleaning products contain nonylphenol ethoxylates (NPEs), which have documented effects on wildlife populations. Alternatives to potentially harmful chemical cleaners include baking soda, borax, vinegar, and lemon juice. Choose unbleached paper products; the bleaching process releases dioxins into the environment. For information on safe alternatives to common household toxics, see <http://es.epa.gov/techinfo/facts/safe-fs.html> and <http://www.debraslist.com/index.html>.

Granted, the Inuit people eat especially, and primarily, high on the food chain, consuming meat and blubber from seals, walruses, narwhals, and beluga whales, as well as fish. Due to bioaccumulation, any contaminants in the Arctic food chain would show up in their food. But why are contaminants there to begin with? Dewailly's work, and the work of other researchers, indicates that the Arctic is not the pristine outpost it once was. On global air currents and in the bodies of migrating animals, EDCs and other chemical contaminants have made their way to this remote

place. And if the Arctic ecosystem is so seriously contaminated with EDCs, what hope is there of avoiding them in the industrialized, and therefore most polluted, parts of the planet, those areas where they are or have been produced?

The answer, apparently, is little or none, as became all too clear recently for Michael Lerner and his wife, Sharyle Patton, of Marin County. They were two of nine participants in a study of human "body burden," the amount of chemical contamination within human bodies. This study was undertaken as a collaboration among the

Mt. Sinai School of Medicine in New York, the Environmental Working Group of Oakland and Washington, D.C., and Commonweal, a research institute in Marin County of which Lerner is founder and president.

Lerner and Patton strive to live healthy lives in a healthy environment. They live in the small coastal town of Bolinas, remote from industry and urban centers, its salty air cleansed by wind and fog. Nevertheless, researchers identified more than 100 industrial chemicals in Lerner's body, and Patton had the highest levels of dioxins and PCBs among the study's participants. Similar kinds of measurements, carried out by the Centers for Disease Control every two years and on thousands of people living throughout the United States, corroborate the findings from the Mount Sinai study. Agricultural and industrial chemicals pollute not only our air, soil, food, and water, but our bodies as well.

In California, the Senate Health Committee approved SB1379 last March, an effort to set up a statewide voluntary biomonitoring program to measure chemical contaminants in the bodies of individual Californians. And calls are now going out, from the California Policy Research Center within the University of California Office of the President, as well as Commonweal and other organizations, for reform of our nation's Toxic Substances Control Act. This law does not require health-related testing of most industrial compounds, including EDCs. In fact, according to a report released in summer 2005 by the Congressional Government Accountability Office, the EPA has sought information about health hazards for fewer than 200 of the tens of thousands of industrial compounds that have been in use for 30 years or more. The current administration and some congressmen have been trying to weaken legislation protecting consumers.

In addition to seeking stronger federal legislation, some health advocates concerned about EDCs recommend improving sewage treatment facilities to minimize chemical releases.

On the personal level, avoiding products that contain EDCs and eating lower on the food chain might make a difference in personal body burden. (See "What You Can Do," p. 32) Lerner, for one, has stopped eating fish known to contain high levels of mercury and other chemicals.

The lesson driven home by the fathead minnow is that "the environment" extends right into our bodies. John Muir was teaching the same lesson back in the 1870s when he wrote: "Won-

derful how completely everything in wild nature fits into us, as if truly part and parent of us. The sun shines not on us but in us. The rivers flow not past, but through us, thrilling, tingling, vibrating, every fiber and cell of the substance of our bodies." Now, more than a hundred years later, the rivers flowing through us are contaminated. The minnow's condition therefore carries this warning: Care for the Earth as you would care for yourself. ■

Belinda Martineau, Ph.D., is a principal editor with the Genome Center at U.C. Davis and author of First Fruit: The Creation of the Flavr Savr™ Tomato and the Birth of Biotech Food (McGraw-Hill, 2001). She writes about prevailing scientific issues.

For more information:

Report by the World Health Organization's International Programme on Chemical Safety:
www.who.int/ipcs/publications/new_issues/endocrine_disruptors/en/

"Hormonally Active Agents in the Environment," a 452-page report by the National Research Council of the U.S. National Academy of Sciences (fee required):
<http://fermat.nap.edu/catalog/6029.html>

FAQ on Endocrine Disruptors by the Natural Resources Defense Council:
www.nrdc.org/health/effects/qendoc.asp



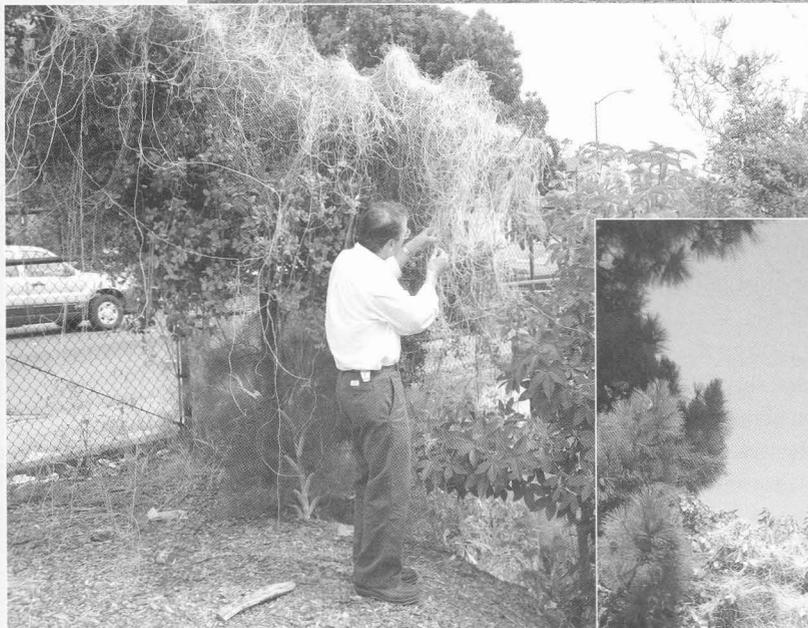
Dodder Danger

A NEW INVASIVE ALIEN plant has appeared in California—a bright-yellow, leafless, parasitic vine called Japanese dodder (*Cuscuta japonica*), which infests a wide variety of trees and bushes and sucks the life out of them. As of mid-June, this parasite had been sighted at several locations in two counties. It was first found in Yuba County and Redding in early 2005, then at three sites in Contra Costa County.

At an apartment building in San Pablo, the dodder had infested an apple tree, a privet, a rose bush, and other plants. It was removed, along with the infested plants, and buried. At a restoration site on Cerrito Creek on the Albany–El Cerrito border, it was found on willow, plum, and elderberry; on Wildcat Creek in San Pablo, on California live oaks and California buckeyes. Eradication was scheduled within weeks.

The plant spreads both by seed and vegetatively; the long, succulent tendrils break off easily. Once it finds a host, it sends root-like structures called hausatoria into limbs to suck out the tree's water and nutrients. It forms dense tangles and weakens or eventually kills its host.

Japanese dodder is native to Asia, where it is used as an herb, and may legally be imported for such use. Its seeds are used to stimulate the liver and kidneys, as an aphrodisiac, and to treat a variety of ailments including diarrhea and constipation. Imported seeds are supposed to be sterilized, but the California Department of Food and Agriculture (CDFA) has found viable seeds being sold. The U.S. Department of Agriculture has quarantined the dodder, but that may not stop its rapid spread in wildlands, gardens, and orchards. Agency representatives have been visiting ethnic markets and health food stores to collect seeds for testing to make sure viable seeds are no longer for sale.



If you see Japanese dodder, don't try to eradicate it yourself. Instead, inform your local agricultural commissioner or U.C. cooperative extension (in Contra Costa County contact Vince Guise: vguis@ag.cccounty.us). The surest way to get rid of it is to remove the entire host tree or bush down to the ground, double-bag everything, even small fragments, and make sure the bags are deeply buried in landfill. Do not compost!

VINCE GUISE

VINCE GUISE

FRIENDS OF FIVE CREEKS



Malibu Beach Access Recovered

SOMETIMES THE BEST solution to a problem is the simplest solution. Although our project on Malibu Road is hardly complete, it was a pleasant surprise to be able to provide a bit more coastal access in Malibu in one morning. Joan Cardellino, our access manager, explains how we did it below.



—Sam Schuchat

WHEN THE ROAD above Malibu Beach slipped seaward a few years ago, the City of Malibu stabilized it and erected a chain-link fence topped with razor wire along some 300 feet of the roadside. (There had been a fence there earlier, but it had a big hole through which the public could get to its beach.) The City installed a gate in the new, stronger fence and someone, we are not sure who, decided to put a lock on the gate. Then, in 2002, the Coastal Conservancy accepted a dedicated piece of property along Malibu Road, roughly in the middle of the former landslide. It took two years to develop the initial plans for a stairway at the site and get the plans approved by the Office of the State Architect. Twice during that time, Conservancy staff had locks removed from the gate so that at least those people nimble enough to make their way down the steep slope could continue to get to the beach. Each time the locks were removed—cut off with bolt cutters—they



TOM SINCLAIR

LINDA LOCKLIN



TOM SINCLAIR

were replaced with even bigger locks, until staff could no longer remove them.

On May 18, 2006, staff from the Coastal Commission, the Conservancy, and the Mountains Restoration and Conservation Authority pulled down the whole fence and hauled it away, enabling citizens to again enjoy their beach.

—Joan Cardellino



LINDA LOCKLIN

COASTAL CONSERVANCY NEWS

HELPING TO BUY WILDLAKE RANCH

WILDLAKE RANCH, 3,045 acres in the mountains of Napa County east of Calistoga, extends from near the floor of the north end of Napa Valley to the summit of Three Peaks, 2,800 feet above sea level. It has been used mainly for deer hunting for the last 30 years, but has great biological diversity and contains more than a dozen types of vegetation communities.

In April, the Conservancy approved \$2 million to the Land Trust of Napa County to contribute toward the purchase price of nearly \$19 million. The balance was to come from a grant from the Betty and Gordon Moore Foundation, a loan from the Packard Foundation, and donations from individuals. The Nature Conservancy has declared the property a "core conservation area." The land trust requested that the Coastal Conservancy divert its funds to this purchase from another project that became infeasible. The land trust hopes to transfer title and management to State Parks.

Wildlake Ranch has five perennial springs, three major creeks, and high-quality obsidian outcrops that were once used by indigenous people. Parts of the property were logged or used for cattle grazing, but not since the 1970s. The land has great potential for trails, and if adjacent "school lands" (property held in trust by the State for the benefit of public schools) managed by the State Lands Commission can be included in the land trust's plans, the property could be linked to Robert Louis Stevenson State Park to the north. A ten-year lease of the school lands to the Department of Fish and Game expired in 2002, and the land trust is trying to make sure those lands remain protected and accessible to the public.



SEARS POINT RESTORATION PLANS

THE CONSERVANCY APPROVED \$1 million in Proposition 50 funds to the Sonoma Land Trust for various studies and plans for the Sears Point Restoration Project. The 2,327-acre Sears Point property lies between the mouth of the Petaluma River and Tolay Creek on the north shore of San Pablo Bay, and includes about 1,400 acres of diked agricultural lands and alluvial fans, and about 900 acres of uplands sloping to elevations of 400 feet. This portion of the once-vast tidal baylands was diked off for hay farms in the late 19th century, but has recently been recognized as a key area for restoration of historic wetlands. The Sears Point property is an essential stopover for migratory birds, and is home to many rare and endangered species, including burrowing owls, golden eagles, and the San Pablo Bay song sparrow.

The funds approved by the Conservancy in April will enable the land trust to prepare restoration plans, environmental reviews, designs and specifications, and to apply for all permits needed for the project. For a



Top: Old farm equipment and blacksmith shop at Rush Ranch

Above: Mike Muir gives disabled visitors horse-cart tours of Rush Ranch.

brief time recently these baylands seemed destined to be developed for a casino. Faced with strong opposition, the Federated Indians of the Graton Rancheria instead donated their \$4 million purchase option to the land trust which, with help from the Conservancy and other organizations, foundations, and private donors, was able to acquire the property in 2004.

STATE KICKS IN FOR RUSH RANCH NATURE CENTER

THIS SUMMER, THE SOLANO Land Trust will be able to start building a new nature and education center at Rush Ranch

in Solano County with the help of \$500,000 in Proposition 50 funds approved by the Conservancy. Construction is expected to be completed by year's end.

The 2,070-acre Rush Ranch, located along Grizzly Island Road just south of Fairfield and Suisun City, contains one of the best remaining examples of brackish (slightly salty) marsh in the United States. This marsh supports several endangered and threatened plants and animals, including the California clapper rail and salt marsh harvest mouse.

The nature center will stand within a complex of historic ranch buildings, including a working blacksmith shop, a 1932 Sears kit house, a barn, water tower, and working windmill. From the ranch complex, trails run through fields and along the edges of the marsh.

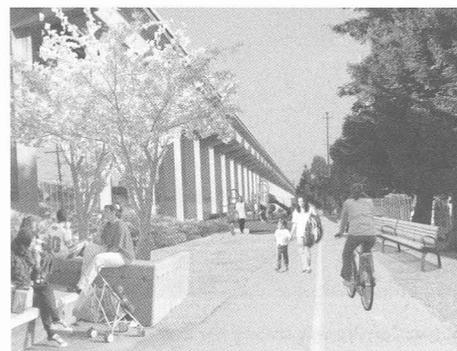
The center will have a classroom with multimedia capability, and a new parking lot and ADA-compliant restrooms will make it easier for visitors with limited mobility to take part in horse-drawn carriage tours of the ranch. Rush Ranch is not connected to the power grid; solar and wind power will supply most of the center's needs. The new building will include a field lab, office, and quarters for visiting scientists working on projects with the San Francisco Bay National Estuarine Research Reserve, as well as accommodations for a caretaker.

In 1988, the Conservancy provided \$1.5 million to the land trust toward its purchase of the ranch, and over \$400,000 for improvements. The funds approved in April will be supplemented by \$500,000 from the Estuarine Research Reserve and \$250,000 from an anonymous donor. The Solano Land Trust, founded in 1986, is a pioneering collaboration among farmers, environmentalists, developers, and local government to preserve the agricultural legacy and natural landscapes of Solano County. Using innovative, nonconfrontational techniques, the organization has permanently protected over 16,000 acres of natural areas and farmland. Rush Ranch is the land trust's largest and oldest open space preserve.

NEW GREENWAY IN BART CORRIDOR

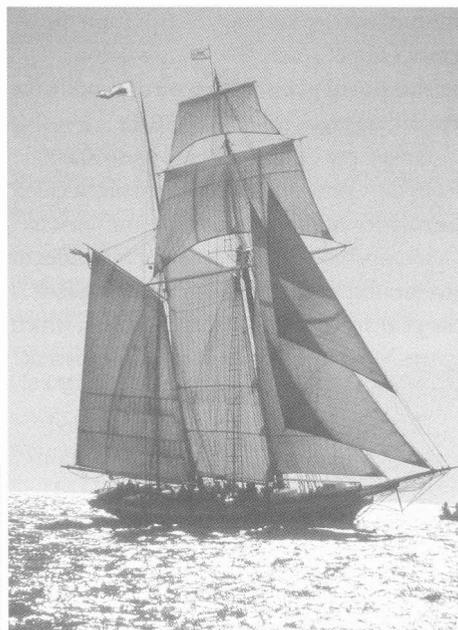
THE NONPROFIT URBAN Ecology, which works to promote ecological health and social vitality in communities around San Francisco Bay, will prepare a conceptual plan for a 30-mile greenway in the Bay Area Rapid Transit corridor between Fremont and 15th Avenue in Oakland, on land that is now mostly unused and unsightly. The Conservancy approved \$100,000 in Proposition 40 funds for the conceptual plan in April. The greenway as now envisioned would resemble the Ohlone Greenway, a multi-use trail built 25 years ago between Berkeley and El Cerrito that continues to be highly popular.

This opportunity to build a new greenway arises because BART is about to begin an extensive seismic retrofitting project that will take more than ten years to complete. Like the Ohlone Greenway, the proposed new greenway would include pedestrian and bicycle trails linked to the Bay and Ridge Trails, and also playgrounds and open space.



Top: A barren BART corridor near 105th Street and San Leandro in Oakland

Above: Artist's conception of the BART corridor as a multi-use greenway



RANDALL MCILACHLAN



MAGGIE PIATT

The Conservancy allotted \$100,000 from the Environmental License Plate Fund to help the Maritime Museum of San Diego plan Tall Ship Exposition festivals for summer 2008 at California ports, including San Francisco, Los Angeles, and San Diego. Historic tall ships and working craft will visit each port for up to five days. Multicultural educational and recreational activities to promote interest in urban waterfronts will be offered on board and on shore. At left is the *Californian*, restored with the help of a Conservancy grant; at right, the *Star of India*.



SHEILA SEMANS



Chunn Carrillo was among the Pomo dancers who were a highlight at the dedication of Pomo Bluffs Park in Fort Bragg on April 22. The City of Fort Bragg acquired the site of about 20 acres with funds from the Conservancy and Caltrans in 2001. The Conservancy provided additional funds for a management plan, trails, and other improvements, including native plant restoration. Now everyone can enjoy the sight of boats coming in and out of Noyo Harbor, look for passing gray whales, or simply enjoy the ocean view.

HELP FOR STEELHEAD TROUT

IN KEEPING WITH THE ongoing effort to remove barriers that keep salmon and steelhead from their spawning grounds, the Conservancy approved \$971,800 for projects in Santa Barbara and Santa Cruz Counties in April. Two historically important steelhead trout runs along California's central coast will get a boost from the Coastal Conservancy grants.

The Cachuma Conservation Release Board will use its \$371,800 to build a new bridge over Quiota Creek, a main tributary of the lower Santa Ynez River that is considered to be critical habitat for the watershed's remnant population of endangered southern steelhead trout, and to restore the stream channel to natural conditions. The Santa Ynez River, which drains the mountains north of Santa Barbara and enters the Pacific near Lompoc, once supported one of the largest runs of steelhead trout in southern California.

Construction of the Bradbury Dam in the 1950s closed off spawning habitat in the river's upper watershed, forcing steelhead to rely on tributaries in the lower watershed, such as Quiota Creek. The new bridge will

replace a road crossing that is the most significant barrier keeping the fish from the creek's upper reach. The conservation release board plans to remove or modify the remaining eight barriers by 2010.

Santa Cruz County will use its \$600,000 from the Conservancy to reconstruct a failed fish ladder and retrofit a culvert on Valencia Creek, opening the way to about five miles of steelhead spawning habitat. Valencia Creek is the principal tributary to Aptos Creek, which enters Monterey Bay about five miles east of the city of Santa Cruz.

These two projects are among 24 environmental restoration projects being conducted this year through the Integrated Watershed Restoration Program for Santa Cruz County, aimed at improving wildlife habitat and water quality by means of a voluntary, non-regulatory approach. The Conservancy helped develop the program and provided \$4.5 million to get it started in 2003.

LOWER VENTURA RIVER HABITAT STUDY

THE CONSERVANCY approved \$100,000 to the nonprofit Santa Barbara Channel-Keeper for monitoring water quality in the

Lower Ventura River watershed and conducting studies needed to prepare a comprehensive restoration strategy.

Volunteers from Ventura Stream Team, a partnership between Channel-keeper and the Ventura Chapter of the Surfrider Foundation, have been monitoring water quality in the watershed for the last five years, providing baseline information for the stream studies to be undertaken using Conservancy funds. The project will also identify and prioritize potential restoration sites such as barriers to southern California steelhead passage, eroded stream banks, invasive vegetation, trash dumps, and pollution sources.

The biggest change in the watershed in many decades will come with the projected removal of Matilija Dam (see *Coast & Ocean*, Winter 2005–06), which will allow steelhead to return to their historic spawning grounds and will also restore sediment transport to the lower reaches of the river and to beaches. Much of the river corridor retains intact riparian woodlands, and the watershed supports great biological diversity, including more than 300 species of vertebrates, at least 26 of special status, including steelhead, tidewater goby, California red-legged frog, least Bell's vireo, peregrine falcon, black-shouldered kite, and California condor.

FRESHENING UP SANTA MONICA PIER AQUARIUM

HEAL THE BAY WILL build new exhibits at the Santa Monica Pier Aquarium, upgrade deteriorating equipment, and analyze a possible expansion with the help of \$650,000 approved by the Conservancy. The City of Santa Monica and Heal the Bay will contribute \$150,000.

The new exhibits will focus on coastal conservation, watershed protection, and environmental stewardship, and will encourage hands-on learning experiences. They will emphasize local natural history, the Santa Monica Bay watershed, and marine environmental issues.

All the species on exhibit at the aquarium are found in or near Santa Monica Bay, and almost all the plants and animals have been collected by hand. Visitors can now see displays of animals that live under the pier, a

kelp forest, touch tanks with animals of the rocky shoreline, and tanks with sharks, rays, octopuses, and other creatures.

The aquarium, which is below the Santa Monica Pier Carousel, had more than 65,000 visitors last year, including 13,000 students on group tours.

FOR A HEALTHIER SANTA MONICA BAY

EFFORTS TO RESTORE Santa Monica Bay got a double boost in April when the Conservancy authorized \$1 million to the City of Malibu for improving treatment of stormwater runoff into Malibu Creek and Lagoon, and also approved \$350,000 to Santa Monica Baykeeper to continue restoring kelp habitat.

Malibu Creek, the principal source of water for Malibu Lagoon, has been plagued by pollution. The City will install equipment to divert runoff into the creek from storm drains at Cross Creek Road, Malibu Road, and Civic Center Way. The water will be screened for trash at each drain, then pumped to a treatment facility where it will be filtered and disinfected before it is released back into the creek. The City is also looking at ways to reuse the treated water other than returning it to the creek.

Malibu's Surfrider Beach, which adjoins the lagoon, has regularly received "F" grades on Heal the Bay's Beach Report Card, particularly during rainy season when the berm across the lagoon's mouth is breached and the lagoon is open to the ocean. Pollution has made beachgoers wary of going into the water.

The bay's health will also benefit from Santa Monica Baykeeper's kelp restoration along its northern shoreline. The giant kelp beds off the southern California coast have been reduced by more than 70 percent in the last 100 years by the impacts of coastal development, pollution, El Niño events, and an explosion of sea urchin populations.

Both projects are part of the Santa Monica Bay Restoration Plan, adopted by the State and the EPA in 1995 to improve water quality and restore habitat in the bay and its watersheds.

(Green, continued from p. 21)

(water that only exists in contracts, on paper) for development purposes. To have a sustainable water future we need to use what we've got a lot more efficiently and effectively. C-WIN [California Water Impact Network] is now engaged in lawsuits challenging the urban water management plans of some water districts in an attempt to stop development based on paper water, contracted water that cannot be delivered.

C&O: If you weren't in frail health right now, what would you be doing next?

DG: I would be organizing the state around the principles for a sustainable water future that grew out of my book. C-WIN took the "Elements of a Sustainable Water Future," with which I end the book, and has refined it into 16 principles. I have designed and had built a website (www.c-win.org) to solicit endorsements and to act as a network for all the small nonprofits that work on water to share information and needs. The only way to take on those with the money and political influence is to organize the people. I am now seeking the funding needed to hire help to make this happen.

C&O: You have three children, right?

DG: Yes, the oldest lives in Phoenix, doing family business, which is real estate, mostly industrial buildings, which we own and manage for ourselves. My middle one's retarded and in a sheltered environment, and my baby is now in L.A. He came back because he understood that Jack and I were getting older and maybe he should be around, and also because the family business didn't have anybody of his generation to take charge.

C&O: The family business was what allowed you to do the things you did?

DG: Exactly. I never had to earn a living, and there were

resources there to support what I wanted to do.

C&O: And your husband, Jack, was supportive?

DG: Absolutely supportive. That was really wonderful. So many men would have felt threatened by a strong woman who was out there, but he never was. He was always proud to push me out in front and stay in the background and applaud. For that I am eternally grateful. He knew who he was and didn't need to be validated by anybody else. [Jack Green passed away in 2005.]

C&O: One problem now is that so many women are full-time employees. You can't really dedicate yourself so solidly to community service if you have to work for a living.

DG: Of course.

C&O: Do you see community leaders coming along who do have some time?

DG: The environment is now a job. And there just isn't the pool of women who don't have to work and who can do what they want to do because they want to do it—like me. They just don't exist any more.

C&O: I can't believe that. I think they're always turning up.

DG: I hope you're right. ■

Heal the Bay board member Julia Louis-Dreyfus looks on as founder Dorothy Green addresses the group's annual "Bring Back the Beach" dinner.



HEAL THE BAY

**Editor:**

Thank you for Michael Bowen's article about hunting and conservation. I actually taught a first-year seminar titled Ecology, Animals, and Activists where we examined the issue of hunting from an animal rights activist, ecological, and hunter point of view. I don't hunt, but I raise Labrador retrievers and believe strongly that the ability to hunt must be preserved in the breed. I also work on riparian systems in the San Gabriel and Tujunga Rivers and care deeply about wetlands.

Bowen is dead on. As long as preserving species is tarnished with the same brush as giving individual animals human rights, and as long as the Second Amendment trumps habitat to hunt in, I fear conservation is doomed because a large part of the support base is eliminated or alienated. Yours is a message that needs to be out there all over.

Cheryl Swift

Department of Biology, Whittier College

Editor:

I was excited and amazed to see such a calm, middle-of-the-road perspective on hunting from a fellow urban hunter. I too discovered hunting as an adult and share many of the same philosophies as the author. I too in fact use Blackpoint as a fine place for hunting with my sons.

The challenge of course is to walk that middle and find that middle ground so both movements can unite. At the moment I am a bit pessimistic about that but perhaps we can find a leader some day who straddles both worlds.

Please be sure to post this article to the web so I can share it with my many skeptical friends when I tell them I am as concerned about conservation as they are.

Paul Cannon
San Francisco

Editor:

I'm an environmental advocate and proponent of river restoration. I am also an active member of the permaculture community.

In this article ["Matilija Dam Will Come Down," *Coast & Ocean*, Winter 2005–06] there is no mention of the residents that will be displaced, most likely, if the dam comes down. There is no discussion of liability issues when the "public" gets access to the land that will be bordering private homes in Matilija Canyon and downstream. Sustainable plans, I feel, need to include people as well, otherwise it is not a holistic system. I feel the article leaves out this critical element. I have yet to hear a sound plan, other than paying people off to obtain eminent domain, that addresses the love, hard work, roots, and legacy the residents of this area have at stake.

Raymond Powers
Ojai

Editor:

From Oct. 7–10, 2005, I rode my bicycle south from Fort Bragg, CA down CA Coast Route 1 to Samuel P. Taylor Park in Marin County.

Some kind folks at a church in Point Arena gave me a free meal and an overnight motel room (as I was bankrupt). They deserve my gratitude!

I slept without a tent above Portugese Beach in Jenner one starlit night. Believe me—ice plant actually makes a terrific substitute mattress!

Prior to that adventure, I spent eight months living in Newport, Oregon. Those who've yet to visit should take in the sights, sounds, and smells of the scenic coastline from Bandon to Seaside.

Robert Cavalier
San Rafael



MOUNT DIABLO BUCKWHEAT RETURNS

Michael Park, a graduate student in botany at the University of California, Berkeley, had no good reason to search for Mount Diablo buckwheat during a survey of grasslands on the mountain in May 2005. This plant had last been seen 69 years ago and was assumed to be extinct. It had been rare even in its original habitat, among native bunch grasses. Those bunchgrasses have long been crowded out by introduced range grasses.

Nonetheless, “something in the wind” led Park to keep an eye out for *Eriogonum truncatum* that particular day—and to his amazement, he saw it. About 20 of the delicate pink-flowered plants were growing near an animal trail on the southeast flank of the mountain. “It was a shock,” said Park.

His colleagues at the U.C. Botanical Garden, amazed and excited, announced the discovery, but kept the location secret, fearing a stampede of plant enthusiasts. After the buckwheat had matured and died, Parks and Holly Forbes, curator and conservation officer at the Botanical Garden, collected a few hundred seeds, and last winter propagator John Domzalski successfully germinated a dozen and grew new plants. The gardeners will collect seeds from both the cultivated and wild plants to sow in the wild and help reestablish the buckwheat in its original habitat.

—HMH

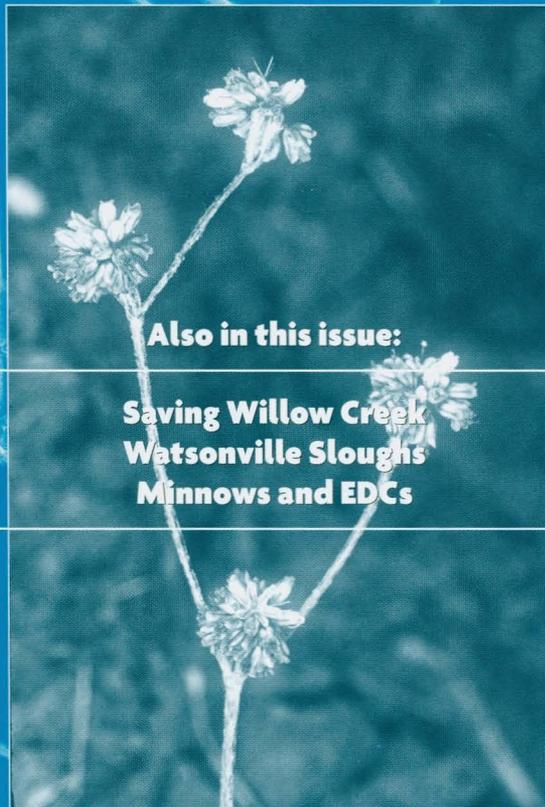
DRIED SPECIMEN COLLECTED IN 1862.
PHOTO: UNIVERSITY AND JEPSON HERBARIA.



Coastal Conservancy

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