

WEB OF WATER TRAILS

Two years ago, Michael Casey Walker Esq. and three of his kayaking buddies got worried that boom-time development creeping south down the San Francisco bayshore (Pac Bell Park, Mission Creek, U.C. Campus etc.) would cut off their local access points to the water. "I used to be a river runner, but getting through the Bay Area traffic hassles to the Sierra took hours," he says. "I can get to the Bay from my house in eight minutes."

Walker and his buddies launched a group called Bay Access Inc. in 2000 to promote creation of a S.F. Bay Water Trail. "Most planners think of access to the Bay as access to a riprap shore where people can look down on the water, not touch it. It's time they realized that going out on the water is not just for big power boats needing big expensive marinas, but also for inexpensive human-powered boats like ours," he says.

Water trails are now flourishing across the country, trails such as the Cascadia Marine Trail in the Puget Sound, but Walker says many of these are largely "linear" trails going from A to B, and even providing overnight camping along the way. His group's vision is for much more of a "web," where kayakers can criss-cross from different access points ("A to F") on day trips.

This April, the group organized a Sausalito Bay Model conference to bring national water trail expertise to bear on the local situation. Sixty people attended the conference, among them water users, shoreline landowners and agency managers. The group has also earned the promise of technical help with its trail development from the National Park Service's Rivers & Trails program.

Next steps, says Walker, are to develop an action plan, conduct outreach to government agencies that control most shoreline parks and refuges, and publish a map of a first phase Bay water trail linking already well-established points of access. "We want to build recognition for this kind of recreation on the Bay, and make sure current access points are preserved and recognized as part of a system, so they are less likely to be removed in the future," says Walker. Issues that will need to be resolved include how to keep the trail wildlife sensitive (and not disturb nesting birds, for example) and how to provide shoreline parking for wheels hauling boats.

Contact: Michael Casey Walker
(415)337-7864 or www.watertrails.org

ARO



Pretty Maps or Critical Conservation?

A recent report says that while California leads the nation in its diversity of wildlife, it is second only to Hawaii in the percentage of its species that are at risk (see The Nature Conservancy under Now in Print). Add to that the fact that the state is home to eight of the most endangered ecosystems in the country, and you have a recipe for further loss of biodiversity. These scary statistics have resource managers scratching their heads, pondering the best way to conserve what remains of our natural landscapes and open spaces. How do you decide between saving a mudflat, a pristine oak woodland or an acre of straw stubble in the Delta if you've only got a few T-bills in your pocket?

Now in its third year, and with new money for conservation in the pipeline thanks to Propositions 12 and 40, the Resources Agency's Legacy Project, formerly known as CCRISP (California's Continuing Resource Investment Strategy Project), is developing a strategy and system for evaluating which parcels of land or which conservation projects will give the public the best buy for its dollar. Says the Agency's Rainer Hoenicke, "There's never been a coherent way before of asking the question, where should we invest our money? Individual agencies have always done this on their own, but nobody, before Legacy, has ever put together a statewide strategic plan for allocation of public funds for open space restoration and stewardship."

Legacy will give every kind of entity, from a local park district to a mountain conservancy to a big state agency like Cal Fish & Game, the tools to determine which areas should be bought or conserved, says Hoenicke. Primary tools, still works in progress, will be a digital atlas reflecting priority areas for conservation and other natural resource and land use information, bioregional workshops to gain local input, and a

report-style assessment of the health and condition of the state's resources. Legacy is also looking into incentives for private landowners to manage their land in a more environmentally beneficial way.

"We don't want to preempt local land use decisions, we want to give them useful tools for making better decisions," says Hoenicke.

"Whether it's Legacy or something else, this is the future of conservation in California and nationally," says Mark Beyeler of the Coastal Conservancy, one of the many state agencies that may one day be expected to consider Legacy in its land acquisition and protection choices. "It's not a rearview mirror issue. It's an attempt to get performance and results, the most bang for the conservation buck."

"The utility of a better database-with an analysis of priority areas in California-is pretty much beyond question," says Steve Johnson with the Resources Law Group, a Legacy consultant.

The new California Digital Conservation Atlas, a k a "CONDOR," will be web-based and easily accessible, and will contain many data layers, among them priority areas identified by a host of different conservation plans from across the state. Atlas users will be able to find out everything from how many of the state's water bodies are impaired to where habitat links are needed for wildlife (such as those compiled by the California Wilderness Coalition for last year's Missing Linkages conference), and where to focus protection of "critical habitat" for endangered species.

But whether the Atlas will facilitate actual on-the-ground, substantive habitat protection remains to be seen. "I guess strategy-wise it's a good idea to have in one place all of the information about priority areas, and areas to conserve," says Jeff Miller with the Center for Biological Diversity. "But I'm pretty skeptical right now about the state's commitment to preserving endangered species. Why spend all of this money to print pretty

continued - page 4

BULLETIN BOARD

A "DIAMOND IN THE ROUGH" could describe the steep, red guano-covered island jutting out of the Bay near the Richmond-San Rafael Bridge and now up for grabs at a price only millionaires can afford. Named for the reddish hue caused by the manganese in its rock and soil, Red Rock island falls under the jurisdiction of Contra Costa County and the City of Richmond (which own four acres zoned for open space, parks, and recreation), San Francisco (which has zoned its 1.5 acres for one residential unit per lot), and Marin County, which has jurisdiction over less than an acre zoned for agriculture. The island provides nesting grounds for double-crested cormorants, western gulls and black-crowned night herons, and brown pelicans have been seen roosting on its rocks. A consortium of environmental interests—including Cal Fish & Game, the National Audubon Society and the East Bay Regional Park District—recently offered \$350,000 (through money from the Cape Mohican oil spill settlement) to acquire the rock as a wildlife refuge. But the private owners are looking for bigger bucks, something more in the \$2-3 million dollar range.

FROGS IN A COAL MINE?

Atrazine, a common weed killer sprayed on lawns and cornfields, can change



young male frogs to hermaphrodite frogs, according to a recent study published in the *Proceedings of the National Academy of Science*. Although the EPA allows three parts per billion (ppb) of atrazine in drinking water, the study, headed by Tyrone Hayes at U.C. Berkeley, found that frogs were affected at concentrations as low as 0.1 ppb. As the amount of atrazine was increased, up to 20% of the developing frogs in the study showed more mutations, such as multiple sex organs, or both male and female organs. Some frogs developed small, feminized larynxes. The research team concluded that atrazine causes cells to produce the enzyme aromatase, which converts testosterone to estrogen. But atrazine may affect more than frogs. In June, the Natural Resources Defense Council filed a petition with the EPA asking the agency to take the chemical off the market because its leading manufacturer had not disclosed that 17 workers had developed prostate cancer. The EPA is in the process of drafting new rules for atrazine, and is expected to issue any changes later this summer.

HOW MUCH CYANIDE is too much? Current limits for discharging cyanide into San Francisco Bay need revision, say dischargers and staff of the S.F. Bay Regional Water Quality Control Board. The chronic standard for saltwater is now 1.0 ug/l, which is below the concentration at which cyanide is measurable, except by very specialized labs, notes the Bay Area Clean Water Agencies Gail Chessler. She adds that even with maximum effort, dischargers would find it virtually impossible to meet the present limits. Board staff, meanwhile, say that there is no evidence of cyanide bioaccumulation in Bay flora or fauna, and that cyanide concentrations in Bay waters are generally less than half the chronic standard, because it rapidly degrades and vaporizes. Furthermore, the science supporting the existing standard is "soft", says the board's Lynn Suer, as it relies on data of unknown quality for only one East Coast crab species. The staff and dischargers recommend raising the chronic standard to 2.9 ug/l, a number developed by researchers in Washington State, who tested the toxicity of cyanide to four West Coast crab species. Their research indicates that 2.9 ug/l cyanide in saltwater is safe for aquatic life. The change is one of the amendments being considered for the Board's *Basin Plan*. The proposed amendment would update the national U.S. EPA standard, and if approved by the board, be applied on a regional basis. The board may take action in late summer or in the fall. If the new standard is adopted, EPA and U.S. Fish & Wildlife will conduct their own review. Contact: Lynn Suer (510)622-2422

BCDC RECENTLY REJECTED A CONTROVERSIAL PLAN by the Mirant Corp to build a once-through cooling system for its proposed Potrero Power Plant in San Francisco. The 570 megawatt plant would use up 228 million gallons of water per day. BCDC reasoned that the once-through cooling would not comply with the McAtteer-Petris Act, which bans Bay fill when there are feasible alternatives. The vote was 19 – 0. The issue now moves on to the California Energy Commission. In order to overrule BCDC, the Energy Commission would have to find that the alternatives, such as building a land based cooling tower, would cause more environmental damage than the original proposal. This is considered highly unlikely; the CEC staff has recommended against the once-through system, saying damage to aquatic resources could not be mitigated and that alternatives could work. A staff report also notes that the National Marine Fisheries Service, Cal Fish & Game and the S.F. Bay Regional Water Quality Control Board have all "expressed clear opposition" to the once-through cooling.



NEW BAY HABITAT POLICIES. For the first time in 35 years, the S.F. Bay Conservation & Development Commission (BCDC) has updated its habitat related policies guiding permitting

for Bay dredging, filling, shoreline development and habitat restoration. In a *Bay Plan* amendment approved this April, the Commission addresses new science and public priorities for baylands management (including the recommendations of the 100 scientists who crafted the 1999 *Baylands Ecosystem Habitat Goals* report), and for the first time outlines policies for subtidal areas (open water and the Bay bottom) -- codifying the importance of the linkages between the uplands, marshes, mudflats and open waters in the Bay's tidal ecosystem. Also new to the *Bay Plan* are sections exploring BCDC's endangered species responsibilities; the need to conserve sensitive or unique subtidal areas such as eelgrass beds and sandy deep water; a requirement that in the review of proposed restoration projects the Commission be guided by the *Habitat Goals* (and a related policy saying it should restore around 65,000 diked acres to tidal action); the ability to permit a minor fill or dredging for the enhancement of fish, other aquatic organisms and wildlife habitat if no other method is feasible; a requirement that proposed tidal and subtidal restoration projects consider potential impacts from sea level rise and the Bay's sediment deficit; and another requirement that non-native plants not be used in restoration projects and be avoided in public access landscape improvements, especially where they might easily spread to adjacent areas. According to the Commission's Katie Wood, "This process has been an amazing opportunity to integrate current scientific understanding of the Bay ecosystem into an important regional regulatory planning document." Contact: Katie Wood (415)352-3642

ARO



TRANSPORTATION

FURY OVER FERRIES

As Bay Area freeways crawl along at a snail's pace, some frustrated commuters dream of being whisked back and forth across the Bay on high-speed ferries, and the Water Transit Authority (WTA) is considering their use as part of its overall ferry expansion plan for the Bay. But recent experiences with high-speed ferries in Washington and British Columbia have stirred up concerns that fast vessels could cause more problems than they will solve. In Washington, ferries had to slow from 34 to 12 knots along Rich Passage after residents filed a lawsuit complaining that wakes from the fast ferries were eroding their shoreline. After the ferries were forced to slow down, travel time on the ferries increased by 10 minutes. In Vancouver, says Teri Shore with Bluewater Network, which heads up the Clean Ferry Coalition, huge, expensive fast ferries caused such wake problems that three had to be taken out of service and are still sitting on the sidelines.

Shore cringes at the possibility of as many as 120 boats criss-crossing the Bay from every imaginable point (the recommendation of the Blue Ribbon Task Force being studied as Alternative 1 in the project's Environmental Impact Report). Shore worries about the impacts of higher speed vessels on marine mammals, whales, even rafting ducks and water birds.

"We're worried that more boats will increase overall wake and other problems," says Shore. "There will be more vessels on existing routes, plus there will be new routes. Even if there are only 70 ferries (Alternative 2), that is a lot more than the 14 commuter ferries that currently ply the Bay." Shore worries that new, faster ferries—traveling at speeds over 35 knots per hour—will worsen both wake problems and air quality. (Ferries currently cross the Bay at 20 knots or less.) Bluewater Network is pushing for low wake, low wash hulls, and even the use of hybrid electric ferries.

According to the WTA, there is no proposal as of yet for fast ferries. "To be a fast ferry, you have to go over 30 knots," says Heidi Machen, Public Affairs Officer for the Authority. "We don't need that kind of speed on some of the shorter routes. Fast ferries are just part of what we're looking at; our plan is for an expanded ferry system. So far, we've identified several issues: some are perceived; others real." Machen says the WTA is conducting wake studies and working with a consulting firm to create a wake wash meas-

urement protocol, a standard by which the effect of various wakes can be judged.

"High speeds do not always equal high wake. What causes a problem in one place doesn't necessarily cause the same problem elsewhere," says Mary Frances Culnane, WTA's Manager of Marine Engineering. "In Rich Passage, the problems were largely caused by the interaction between the waves and the man-made obstacles built along the shoreline to protect million dollar homes."

Culnane says the WTA will "not be proposing ferries that are any faster than those currently in operation on the Bay." She says a minority of the proposed boats will fall into the 35-knot speed category, and that these will be used on longer runs—such as Vallejo—that already operate fast ferries. According to Culnane, WTA has found that

high-speed boats don't, in and of themselves, increase wake. Counters Shore: "It is a scientific fact that large catamaran fast ferries do have different wake characteristics than slow, monohull ferries." Shore cites studies done in Norway and Sweden, as well as the ferry debacles in Seattle and Vancouver.

The WTA has held public scoping sessions for the draft EIR, and a draft is expected to be released this August for public review. WTA will produce a final EIR, as well as an implementation and operations plan, for the region's Metropolitan Transportation Commission by September 12. In December, the plan will be submitted to the state legislature, and then completed by next summer. Contact: Teri Shore (415)544-0790 ext. 20 or Heidi Machen (415)364-3189 **LOV**

THE MONITOR

LIMITS ON NAPA FISH

Why aren't there more Chinook salmon, steelhead and California freshwater shrimp in the Napa River than there used to be? A two-year study shows reveals how major changes to the river and its tributaries have played a role in limiting the populations of the three rare species, and puts more real science on the table in the ongoing debate over the impacts of hillside vineyards on local forests, flora and fauna.

The salmon, steelhead and shrimp each have their own individual story, says Mike Napolitano of the S.F. Bay Regional Water Quality Control Board, which funded the \$400,000 study (conducted by U.C. Berkeley and Stillwater Sciences) along with the California Coastal Conservancy and the Napa County Resource Conservation District. Chinook primarily use the main stem of the Napa River. Before the valley was intensely developed for agriculture and residences, the river was allowed to meander, forming shallow pools and backwaters, where the fry could linger and grow. "It was really excellent habitat if you were a young salmon," he says. But the river has been straightened and leveed, resulting in "a widespread and dramatic simplification" of its channel, he says. Long, deep, featureless pools were created, which favor exotic predators, such as smallmouth bass. Now the youngsters "have to run the gantlet" to survive, he says.

Turbidity caused by sediment proved to be less of a problem than expected. The

study found it clouds the water for just a few hours after major storms, not enough to seriously interrupt the fishes' feeding regimens. In the tributaries, however, fine sediment clogs gravel beds where steelhead lay their eggs, which reduces available oxygen and decreases the successful hatching rate, possibly by 50%. But steelhead population decline "cannot be explained by too much fine sediment alone," says Napolitano, citing other factors such as dams, diversions, water temperature and lack of wood. Little data on the shrimp emerged. The study says more research is needed to determine how cutting back riparian vegetation might be impacting shrimp habitat.

The study isn't likely to diminish the ongoing controversy over hillside vineyard and residential development in the valley. Napolitano says that its purpose was to "provide a detailed description of what the streams look like." The next stage of the research will more closely examine the sources of sedimentation.

Vintner David Graves praises the scientists' "even-handed approach" and sees reason for optimism. Valley residents are becoming more aware of the consequences of their actions, and of the importance of improving conditions in the streams. "We shouldn't be afraid of the truth," he says.

The study, *Draft Napa River Limiting Factors Analysis*, is available at the board's web site: www.swrcb.ca.gov/~rwqcb2. Contacts: Mike Napolitano (510)622-2397 or Bruce Orr (510)848-8098 **O'B**

LEGACY CONTINUED

maps if they're not really going to translate into conservation?" Miller also says that while incentives for private landowners to conserve sound like a good idea, they have "failed spectacularly" in California in terms of preserving endangered birds, frogs, rabbits, mice, snakes and the like.

Several of the resource managers ESTUARY interviewed also had mixed feelings about Legacy, viewing it as a necessary evil but refusing to speak on the record for fear of jeopardizing possible future state support for their programs. Some wonder whether the \$12 million allocated to the project over six years wouldn't be better spent acquiring at least a little of the land being prioritized for protection-and whether there will be any Prop 12 or 40 money left by the time the Atlas is finally finished. But Legacy's Heather Barnett points out that in a state this big with so many conservation needs, \$12 million is just pocket change and that the project is leveraging many of those dollars by developing data that will bring in bigger bucks.

Other resource managers were critical of the "top-down" planning approach Legacy seemed to be taking until recently, an approach that may be changing as a result of feedback from Legacy's many advisory committees. Members of these committees have also voiced concerns that conserving urban open space and farmland must be considered in addition to preserving hotspots of biodiversity. "California is a very big place, and one size does not fit all," says Beyeler, who sits on one of the committees. "We need a quilt or mosaic that takes regional priorities and stitches them into a statewide plan."

Is Legacy re-inventing the wheel? Many states have implemented conservation plans, some more successfully than others, according to Barnett. In Oregon, the non-profit Defenders of Wildlife took the lead on the Oregon Biodiversity Project. After years of trying to get Oregon Fish and Wildlife to come up with a habitat conservation strategy for the state, says Defenders' Sarah Vickerman, the group just decided to do it itself, starting in 1994 and publishing its results in a book and CD in 1995. A coalition of 30 different groups, from ag

continued - page 6

ENVIRONMENT

PUBLIC DOLLARS
FOR PRIVATE PROFIT?

Before its stock and reputation crashed, the Enron corporation sent emissaries to the Central Valley to investigate the possibilities for turning water into a market commodity. Now it turns out that California's water districts and farmers didn't need any outside help. Environmentalists are criticizing state agencies for subsidizing the construction of groundwater facilities that allow farmers and water districts to buy water from the state-and sell it back at a hefty profit.

"Public money is being used for projects that the operators say could be used for environmental benefits, but there is no commitment to making sure that happens," says the non-profit Bay Institute's Peter Vorster.

A 2000 bond measure called Proposition 13 included \$200 million in funding for construction of groundwater storage facilities regarded as essential for solving California's perennial water woes. By using depleted aquifers as giant underground storage tanks, California water officials hoped to build more flexibility into our system of ways to accommodate water demands.

Proposition 13 money is already helping develop three projects in Kern County, which recently came under fire for using state money to build facilities to stockpile water so the county could then resell it to the state at a profit. Bakersfield-area farmers have already grossed \$60 million at taxpayer expense over the past two years by selling water to the Environmental Water Account, a fish protection program that is an integral part of CALFED, the joint state and federal program designed to achieve a long-term solution to California's water problems, according to a recent article in the *San Diego Union Tribune*.

Tribune reporter Michael Gardner reported that Kern County farmers were reaping benefits from a \$45 million state investment in a water storage facility that was turned over to the Kern County farmers in 1996. In that deal, farmers gave up their rights to buy 45,000 acre-feet of water, but also agreed to sell 130,000 acre-feet of water annually to urban agencies at \$1,000 per acre-foot, 10 times what they paid for it.

For the past two years, CALFED's Environmental Water Account, designed to provide water for endangered fish at crucial points in their migrations, has been buying water from farmers in Kern County, at an average of \$256 per acre-foot, about three times

what the farmers paid for it, resulting in gross revenues of \$41 million.

Kern County water district officials say that their net profits haven't been that large. But environmentalists say that there is nothing to stop anyone operating groundwater storage facilities from charging as much as they can.

The Bay Institute and the Natural Resources Defense Council have recommended to the Department of Water Resources that groundwater storage facilities receiving Proposition 13 funds be required to provide water for environmental uses at the cost of delivery, says Gary Bobker, the Institute's executive director.

Central Valley water users are not the only ones who could make a killing on state water, Bobker says. "Yuba County is going to take water out of a river and put it in the ground to service farmers," Bobker says. "They are a water-rich county and they are selling hundreds of thousands of acre-feet to urban users and environmental agencies. Now they're going to get money from the Department of Water Resources to do even more."

Jerry Johns, chief of water transfers at the Department, says it's possible that partnership with the Environmental Water Account could become a priority in choosing who gets Proposition 13 bucks. "We're thinking about it," says Johns.

Bennett Raley, President Bush's lead water adviser in the West, defended the farmers' profits. "We believe in the free market," says Raley.

But Adán Ortega, a vice president at the Southland's Metropolitan Water District, says that the current state of California water reflects an outdated system of subsidies that has nothing to do with the free market. The Metropolitan Water District supports recommendations by the Bay Institute and the Natural Resources Defense Council that new groundwater storage facilities earmark water for the environment.

"From our perspective, it is somewhat troubling when the public sector, state or federal, is making a double payment for water," says Ortega. "What we're interested in is not a free market for water. We believe water is a public resource. It should be utilized in a beneficial manner as stipulated in our state constitution in the public trust."

The intent of Proposition 13, which passed in November 2000, was to improve water quality and provide water for environmental purposes. The criteria for obtaining bond funds include environmental benefits. But currently, there is no requirement that the facility must provide water for the environment once the project is up and running.

continued - back page

RESTORATION

AN ISLAND FOR THE BIRDS

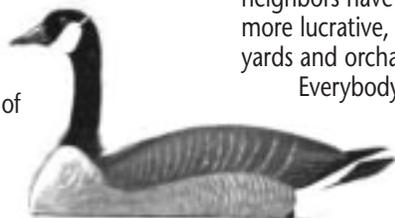
Change often makes folks nervous. But Sally Shanks says that having a new owner for the Delta farm she and her husband, Jim, manage is a relief. It means that they'll be able to keep doing what they've done for decades — run a profitable farm and at the same time provide habitat for the thousands of sandhill cranes, waterfowl and shorebirds that stop by every winter.

The couple, along with seven employees, operate the 9,100-acre farm on Staten Island, along the Cosumnes River near the town of Galt. Last November, the Nature Conservancy used a \$30 million CALFED grant to purchase the property from the real estate trust that had owned it for 17 years. The Conservancy could have knocked down the levees protecting the farm and turned the whole thing into a nature preserve. Instead, it decided to keep things pretty much the way they are and, rather than tell the Shanks what to do, it will listen to them.

The Shanks aren't scientists; they're farmers who happen to love birds. They've educated themselves by watching the various species as they arrive each year, and they've tailored the farm's operations to the birds' needs as much as they can.

At the peak midwinter season, more than 15,000 sandhill cranes (both the greater and lesser species) roost on the island every night. In addition, up to 20,000 Aleutian geese forage there, along with large numbers of mallards, pintails, snow geese, swans, sandpipers, dowitchers and more. Sally Shanks estimates that the island plays host to over 100,000 birds a year.

She outlines some of the things they do to accommodate the birds. In the fall, after harvesting corn, farmers routinely flood their fields to reduce oxidation of the peat in the soil and to drive accumulated salts down below the root zone. When cranes arrive in the early fall, they eat the leftovers from the newly harvested corn crop, along with some of the sprouts of winter wheat that are just beginning to emerge from the ground.



Each night at sunset, the tall birds return to the same fields to roost, doing their strange, noisy dance as they land. They sleep standing in water several inches deep so they are protected from land-based predators, and they prefer freshly flooded fields rather than those where water has been standing for weeks. The Shanks selectively flood and drain each of the island's 53 diked-off fields so that the cranes have both feeding and roosting areas.

"Every aspect of the farm operation is tuned to deliver habitat benefits."

There's no formula or computer program that tells the farmers when to do what. They watch the visitors, she says. "The birds tell us what to do. We never follow the same pattern twice." In September, the first arrivals "are bouncing up and down, asking, 'Where's the water?'" In spring, the birds' northern breeding grounds beckon. "They aren't there at night. Then we say we can farm."

The Shanks also do less obvious things to help their avian visitors. They leave as much growth as possible on the banks of the farm levees, giving pheasants and other ground-dwelling birds more cover and better nesting sites. They also gently slope the banks of their drainage ditches, making it easier for baby birds to scramble in and out of the channels.

Sally Shanks will confess to a bit of favoritism. When harvesting corn, the farmers sometimes leave a high stubble in the field. The cranes have no problem getting to the leftover kernels, but geese, which Shanks likens to "locusts," have a more difficult time. "We're kind of anti-duck, we'd rather be home to cranes, swans and shorebirds," she says, adding that ducks inevitably attract hunters — definitely not a welcome species.

But perhaps the biggest reason the farm has remained such good wildlife habitat is that the Shanks are still raising the same corn and wheat crops that they always have. Over the last 20 years, most of their neighbors have converted their lands to more lucrative, but less eco-friendly, vineyards and orchards. "We haven't changed.

Everybody else has," she says.

In recent years, the Shanks have participated in several restoration

BANK BALANCE

BUCKS FOR BIRDS AND BOXES

While many local scientists, resource managers and activists have caught the CALFED and CVPIA gold fever in recent years, others continue to rely on less well-endowed but equally well-intentioned sources of support. U.S. Fish & Wildlife's Rick Morat believes small, steady and strategic investments—his Coastal Program currently distributes about \$200,000 per year—also play an important role in protecting the Bay-Delta ecosystem. Since its inception 11 years ago, the program has helped fund 172 projects, ranging from a few sheets of plywood for wood duck nest boxes to the removal of invasive cordgrass in Bay wetlands, the development of scientific consensus on how to create a healthier ecosystem (Habitat Goals Project) and the creation of the San Francisco Bay Joint Venture (a multi-agency/organization regional coordinating group for wetlands acquisition and protection).

Among more recent projects receiving Fish & Wildlife Coastal Program funding is a radio-tracking study done this past spring aimed at helping scientists learn more about where migrating birds come from that stop over in the Estuary. Biologists from Point Reyes Bird Observatory, the U.S. Geological Survey and the Prince William Sound Science Center teamed up with biologists in Sinaloa, Mexico, to radio-tag 90 birds: 60 tiny Western sandpipers—the so-called "peeps"—and 30 dowitchers—chunkier, long-legged shorebirds with long bills also in the sandpiper family. The birds were tagged and tracked—by planes and on-the-ground volunteers—as they moved between Mexico and their breeding grounds in western and northern Alaska.

Preliminary results found that of the 28 birds (27 western sandpipers and one dowitcher) recovered, 10 used the Estuary as a stopover point. Those birds remained in the Estuary for four to eight days—longer than they stayed at other spots along the Flyway, according to the Observatory's Sarah Warnock. The biologists suspect that the Estuary may have even been the first stop along the Flyway for some of those birds after leaving Mexico, since few were found in any of the other major estuaries south of San Francisco Bay.

continued - page 6

continued - back page

BUCKS FOR BIRDS CONTINUED

"These results underscore how important it is for us to maintain clean and food-productive mudflats and foraging areas for these migrants," says Morat. "They're on a clock and need to load up fast and get some good rest before heading on."

So where were the other birds? "We think they were either using the Central Flyway (on the other side of the Rockies), or coming up through the Central Valley, and cutting over to the coast when they reached Coos Bay, Oregon, or at points even farther north," says Warnock. Of course many other shorebirds, including dowitchers, winter in the Bay and/or come from southern or Baja California, says Warnock. But those birds were not part of this particular study.

The results of the study (and many others) will be posted on the shorebird study web site (<http://sssp.fws.gov>), where hundreds of elementary and high school students report birds they see in the field throughout the year as part of the Shorebird Sister School program, another among the 15-25 projects receiving Morat's support this year.

Morat invites others with good ideas for estuarine restoration and protection projects to contact him. In contrast to the complex application processes and proposals required by many funders, he tries to keep things simple, but true to his program's mission. "It's strategic to remain opportunistic and flexible, while I keep my eyes on the prize," explains Morat. "I look at what the project can accomplish in the short term and what it will lead to in the long term." Contact: Rick Morat (916)414-6571 or Sarah Warnock (415)868-0371x306 **LOV**



LEGACY CONTINUED

to enviros, now acts as an implementation arm for the project and recently helped pass legislation to approve conservation incentives for private landowners.

Will this ever happen in California? "It's hard to get there from here," admits Vickerman, but she offers these words of advice. "Talk to everyone who has some sort of plan, then map it all. Fold in everything that's already been done. That way you can look at what's been done, what's underway and what's missing." The do-it-yourself method is a double-edged sword, she says. "If it's done by the private sector, it doesn't scare people as much. On the other hand, it's not official policy either."

CALIFORNIA'S MOST AT-RISK HABITATS

native grasslands	(99% lost)
needlegrass steppe	(99.9% lost)
San Joaquin alkali scrub	(99% lost)
coastal sage scrub	(70-90% lost)
vernal pools	(99% lost)
wetlands (all types)	(91% lost)
riparian woodlands	(89% lost)
coastal redwood forest	(85% lost)

Source: *Endangered Ecosystems*,
R.F. Noss and R.L. Peters 1995

Defenders is hoping Oregon will adopt the group's plan; the state parks department has made a resolution to consider it, according to Vickerman, and even the Board of Forestry now agrees that the state needs a conservation plan (Oregon does not have the equivalent of California's Resources Agency).

John Woodbury, head of the Bay Area Open Space Council, says California had two choices for developing a statewide plan, either to add all the local plans together and figure out how to marshal the state's resources behind them, or to decide that some things must be figured out at the state level and some left to the locals. Legacy began with the latter choice, with a worthy "landscape-level" approach to conservation planning grounded in science. But when it broadened its scope from large habitat areas to urban parks and valley farm fields, things got more complicated and political.

"Developing good science, data and maps about habitat needs makes sense, but moving on to developing statewide priorities is becoming a process of apples and oranges,"

Woodbury says. "The only way you can decide on the value of a stretch of Coyote Creek in urban San Jose over thousands of acres of wildlands in the Hamilton Range is by values. You can't number and rank values, it's ultimately a political judgment."

Beyeler hopes Legacy will move more toward the comprehensive, bottom-up approach Vickerman recommends. "If the state were to embrace the groundwork provided by the past 30 years of organizing and stewardship by local community groups--what a great marriage and vision that would be. It will be a tragic mistake if Sacramento officials don't take that local history and activism and make it part of their plan. Community non-profits are our implementation partners. Without them, we will never protect or steward these areas. People will care for the land they care about."

To hear from a wide range of stakeholders around the state, and to try to begin to plan more from the "bottom up," Legacy held the first of nine planned regional workshops this May on the Central Coast. The workshop was designed as a forum for people at the local and regional levels to voice their opinions about what is special about their areas, says Barnett.

At the workshop, 90 people--including the county ag commissioner, farmers and representatives from local land trusts, environmental and business groups--were divided into small groups to discuss the specifics of Legacy's proposed criteria for conserving terrestrial and aquatic biodiversity, working and agricultural landscapes, urban open space and rural recreational areas. The criteria for each type of landscape differed, and included such considerations as soil and water quality for agricultural areas; connectivity and floodplain integrity for aquatic habitats; connectivity and quality of habitat for terrestrial areas; linkages between open spaces, scenic values or coastal access for urban landscapes; and positive economic impacts for rural recreation areas (to name just a few). Participants then weighted the various criteria. The information generated in the first workshop--as well as in future workshops (see calendar)--will be used to help decide which data layers to include in the conservation Atlas.

In the meantime, no one imagines that the Resources Agency is going to start ordering local agencies to "follow our Legacy model," or that the current governor is going to come out as a strong leader on the conservation land use front or that the state legislature will want to give up any of its district-focused turf. At a very minimum, Legacy may be tack-

continued - back page

PLACES TO GO & THINGS TO DO



WORKSHOPS & SEMINARS

JULY
THURS — FRI
18
19

Water Law and Policy Briefing
Topic: Water Law and Policy
Sponsor: Water Education Foundation
Location: San Diego, CA (916)444-6240

JULY
THURS
25

Small Water Systems Workshop
Topic: Learn about new regulations and how they apply to you; learn solutions for the issues challenging your system. New rules and treatment measures for disinfection, arsenic, coliform, and surface water.
Sponsor: American Water Works Assoc.
Location: Santa Rosa (909)481-7200

JAN '03
TUES — THURS
14
16

SAVE THE DATE AND CALL FOR ABSTRACTS! Second Biennial CALFED SCIENCE CONFERENCE
Topic: Advances in science and restoration in the Bay, Delta, and watershed. Oral and poster presentations on ecosystem restoration, levee system integrity, water quality, and water supply reliability.
Abstract Deadline: Friday, September 13, 2002
Sponsor: CALFED
Location: Sacramento Convention Center, Sacramento
<http://iep.water.ca.gov/calfed/sciconf/2003/index.htm>



HANDS ON

JULY
SATURDAYS
6
THRU
27

Bay Outings
Topic: Outings on and around the Bay (July 6 canoe the Cosumnes River; July 13 discover burrowing owls at Mountain View's Shoreline Park; July 20 kayak the Marin islands; July 27 catamaran on San Francisco Bay.)
Sponsor: Save the Bay (510)452-9261 or JHittle@savesfbay.org

AUG
SUN
25

Tomales Bay Tule Elk Kayak Adventure
Location: Tomales Bay, Inverness
Sponsor: Farallones Marine Sanctuary Association
For reservations, call Blue Water Kayaking (415)669-2600
Cost: \$89 (\$80 with member discount)

AUG
DAYS THAT END WITH Y
1
3
10
13

WILDLIFE GARDENER

Topic: New program for people who live or work in Contra Costa County. Create gardens that provide habitat for birds, butterflies, and other wildlife using California native plants. Participants who complete the training will be expected to volunteer a minimum of 50 hours to a local school, garden or organization to help implement or improve a wildlife habitat garden. After completing the volunteer hours, participants receive a \$150 stipend. Must attend all four days of training.

Location: Bancroft Elementary School, Walnut Creek and Diablo Valley Community College, Pleasant Hill.

Sponsor: Aquatic Outreach Institute
Contact: Lisa Lacabanne (510) 231-5783 or www.aoinstitute.org

Cost: \$25 (includes extensive resources)



MEETINGS & HEARINGS

JULY
WEDS — THURS
24
&
25

Preserving California's Natural Resources

Topic: Legacy Project workshops (see cover) will take place in San Diego (July), Los Angeles (September), and in the Bay Area (October). Although attendance is by invitation and pre-registration only, potential participants can learn more about how to register on the project's web site.

Sponsor: The Legacy Project, The Resources Agency
www.legacy.ca.gov

OPPORTUNITIES

Demonstrations

Arsenic treatment demonstrations for drinking water utilities
www.epa.gov/ORD/NRMRL/arsenic
Robert Thurnau (513)569-7504

Call for Papers

The Western Chapter, Society of Wetland Scientists seeks papers on the ecology of wetlands in the Western United States. Abstracts due July 15, 2002
Sws-wc@wra.ca.com or (415)454-0129
September 19-21, 2002

The Water Environmental Research Foundation seeks proposals from environmental professionals on the science of collection and treatment systems, watershed and ecosystem management, stormwater, and human and ecological health. Deadline: August 21, 2000.
www.werf.org/funding/2002_RFPs.cfm
(703)684-2470, ext. 7900; fax (703)299-0742; or email dmorroni@werf.org.

NOW IN PRINT & ONLINE

Drinking Water Source Assessment. 2000.
San Francisco PUC.
(877)SFPUCWQ or (877)737-8297

The Endangered Species Act
Stanford Environmental Law Society. 2001.
Stanford University Press

Environmental Protection Indicators for California, April 2002.
www.oehha.ca.gov
cmilanes@oehha.ca.gov or (916)324-2829

Fish and Wildlife photos
images.fws.gov

State Water Project Bulletin 132: Management of the California State Water Project
California Department of Water Resources
www.swpao.water.ca.gov/publications.html

States of the Union: Ranking America's Biodiversity.
The Nature Conservancy and Nature Serve. April 2002. www.nature.org/earthday/work/

Storm Drain Filter Brochure
Lake Merritt Institute
(510)238-2290

Water Quality Standards for California
www.ice.ucdavis.edu/wqsid/

WaterTalk; StormTalk; SewerTalk:
www.haestad.com

Where Does Your Water Come From? — The Drinking Water Source Book
Water Education Foundation
(916)444-6240

Water Quality and Supply.
Annual Water Quality Report, Year 2001. East Bay Municipal Utility District. (510)835-3000

Call for Presentations

National Conference on Coastal and Estuarine Habitat Restoration
April 13-16, 2003
Baltimore Maryland
www.estuaries.org
(703)524-0248

Job Opening

WaterKeepers of Northern California seeks a Program Associate for its San Francisco BayKeeper project. Minimum of 3 years experience in environmental advocacy or relevant graduate degree required. A technical background, knowledge of water quality issues, boat experience, negotiation skills, and media relations experience are desirable.
kerin@sfbaykeeper.org.

STATEN ISLAND CONTINUED

efforts on Staten Island, working with the State Lands Commission and Cal Fish & Game to plant riparian vegetation along the south bank of the Cosumnes and to build several small islands in the stream.

Mike Eaton, the Conservancy's project manager, has become the Shanks' avid pupil, touring the farm with them in order to learn from the couple's expertise. "What's been an eye-opener for me is how every aspect of the farm operation is tuned to deliver habitat benefits," he says. "It's not just 'add water and they will come.' It's a year-round effort."

The Conservancy doesn't plan to make any major changes in the farming routine. Shanks credits the previous owner with allowing them considerable latitude to accommodate the birds, but notes they always had to keep an eye on the bottom line. "When you cut costs, it invariably has to be from the wildlife side," she says. "Now that the Nature Conservancy owns it, we don't have that conflict."

"We have been and continue to be a profitable farm," she hastens to add. "It's not like they bought a losing company."

Eaton says the farm will be run as an independent operation, hopefully not a money-losing one. That fact has generated criticism from some environmentalists, who believe that, because the farm was bought using public funds, it should be opened up to the public. Eaton notes that virtually all the "natural" areas in the Delta are actually highly managed, and that it would take millions more dollars to turn the island into a wildlife refuge.

Shanks points out that the island already hosts more sandhill cranes than any designated wildlife refuge in the state. If the Conservancy hadn't bought the property, it could easily have gone to a housing developer or someone looking to put in trees or grapevines. "This was here to be lost," she says. **O'B**

GROUNDWATER CONTINUED

Environmentalists fear that in the future, if urban users are willing to pay high premiums for water, programs like the Environmental Water Account may find themselves running dry. Contact: Jerry Johns (916)651-7051 or Peter Vorster (510)444-5755 **SZ**.

LEGACY CONTINUED

ling decades of poor coordination on statewide conservation planning, and laboring along as opportunist agencies and groups try to get all their own issues and values included in the mix.

"It's an ambitious project to be lauded for trying," says Woodbury. "I hope that at the end of the day we'll think the money has been well spent."

Contact: Rainer Hoenicke or Heather Barnett (916)653-5656, Sarah Vickerman (503)697-3222 or Marc Beyeler (510)286-4172 **LOV**

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Editorial Office: PO Box 791
Oakland, CA 94604
(510)622-2412
bayariel@earthlink.net

Estuary Web site at
www.abag.ca.gov/bayarea/sfep/news/newsletter/index.html

Subscription Q&A: (510)622-2321

STAFF

Managing Editor: Ariel Rubissow Okamoto
Senior Editor: Lisa Owens-Viani
Graphic Design: www.dcampeau.com
Contributing Writers: Bill O'Brien
Susan Zakin

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