

WUTHERING OAKS

Since the Sudden Oak Death (SOD) pathogen *Phytophthora ramorum* debuted in Marin County in 1995, it has killed tens of thousands of trees along the coast and infected forests all around the Bay Area. As scientists struggle to catch up to basic facts, such as how fast the pathogen is spreading and why some trees survive better than others, they can only speculate on its potential effects on the Bay-Delta watershed.

The most obvious effect is patches of dead oaks, especially tanoaks. Infection rates can range as high as 80%, while death rates can reach 25%. In the worst hit areas, such as Marin's China Camp State Park—which some call "ground zero"—the disease has left clearings and thinned-out slopes. "The consequences of the disease in areas where it reaches an epidemic level are going to be important," says Matteo Garbelotto, the U.C. Berkeley researcher who helped finger *P. ramorum* as the culprit in 2000.

Will more areas reach epidemic levels, and what will the consequences be? The pathogen thrives in moist conditions, so wetter winters ahead would accelerate the disease's spread, says Keyt Fischer of the Wildlife Conservation Society. Meanwhile, initial data from her study of the acorn supply in infected and uninfected forests suggest the disease may cut an area's production substantially—potential bad news for creatures that eat acorns. Other research has forecast declines in oak-related bird species.

The trees not only provide food and habitat, but also hold soil and shade streams. Watershed impacts, such as increased erosion or rising stream temperatures, aren't known, but researchers acknowledge their possibility, if the disease accelerates. Some riparian trees are not victims so much as unwitting accomplices, says Deanne DiPietro, SOD project coordinator at Sonoma State University. The pathogen, which has 22 native species hosts, prospers on bay laurels.

DiPietro and some others are optimistic that the worst may be over—they hope the most susceptible trees have already died, and the ones that have avoided infection may have built up a tolerance to the disease—but no one's certain. Says Garbelotto, "It is too early to determine where and how things are going to pan out."

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Mokeleumne Slips through Relicensing Window

Timesheets will show that workers who breached the East Panther Creek Dam and removed the West Panther Creek Dam in July and August spent about one week completing their tasks. But the real heavy lifting that made rubble fall, sediment move, and water—long absent—flow freely once again into the upper Mokeleumne River took much longer.

The removal and breaching of these dams, sandwiched on top of tributaries to the Mokeleumne River—as well as the breaching of Beaver Creek Dam—are part of a settlement reached in 2000 between environmental groups, state and county agencies, and PG&E on the terms for relicensing hydropower Project 137 after 13 months of constant negotiating—and years of automatic relicensing.

Project 137, owned and operated by PG&E, harnessed the power of the North Fork of the Mokeleumne River, which runs from the high country of the Mokeleumne Wilderness to the Electra powerhouse at Highway 49, to generate enough electricity for about 200,000 homes. But to environmentalists and concerned residents in the counties along its banks, the Mokeleumne—and the effort to relicense the hydropower project on it—came to symbolize all that was wrong with operations of the watchdog agency, the Federal Energy Regulatory Commission.

If the license renewal process is delayed for any reason, the commission has a policy of automatically giving one-year extensions to projects like the Mokeleumne until the issues are resolved. These one-year licenses are identical to the original, a fact that troubles those who monitor the health of rivers.

"Because [the commission] was giving PG&E these licenses without question, there was no incentive to get a permanent relicensing and nothing was done about forcing restoration of the river," says Friends of the River's Steve Evans.

The Federal Power Act of 1921 stipulated that hydropower projects are subject to periodic renewal, at which time the public interest can be re-assessed. Licenses were set for 30 to 50-year terms. But by automatically issuing one-year licenses to the Mokeleumne project, the commission failed to uphold the public review process of the Federal Power Act. "As long as PG&E and others get an annual license, they don't have to upgrade to new standards," says Pete Bell of the Foothill Conservancy.

Bell notes that automatic renewal was not unique to the Mokeleumne; the commission did the same thing on projects across the nation. In fact, what led to the commission's decision to push PG&E and state and local agencies toward the negotiating table was the fact that it ran into a backlog of hydropower projects on which no progress had been made

toward relicensing. But the Mokeleumne, 27 years without a new license, had achieved a dubious milestone—the longest running automatically relicensed river in history.

The Mokeleumne is only the beginning of the relicensing deluge in California, which is home to approximately 300 hydroelectric projects. Over the next 17 years, about 50 such projects in the state are scheduled to be relicensed by the commission. The last license for the Mokeleumne project was written in the 1950s, at a time when river and fisheries science were not as advanced as they are now. When a project is up for relicensing, local agencies, state governments, and various organizations with a stake in the

"Relicensing is a once-in-a-generation chance for citizens to exercise their control of the rivers."

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BULLETIN BOARD

DESPITE THE POSSIBILITY THAT SOME RICEFIELDS may no longer be wet if Southern California runs dry (see "Following May Foil Flocks," ESTUARY, June 2003), Sacramento Valley ricelands comprise almost 80% of the 650,000 acres recognized recently as part of the Western Hemisphere Shorebird Reserve Network. The designation was based on research conducted between 1988 and 1995 by the Point Reyes Bird Observatory, which found that the area, especially when flooded in the winter and/or managed at different water levels for birds, hosts at least 14 species of shorebirds, including several of concern. Last month, the California Rice Commission celebrated the designation at an event, along with supporters Ducks Unlimited, the Central Valley Habitat Joint Venture, the Sacramento National Wildlife Refuge Complex, duck clubs, and state and federal wildlife agencies. See www.manomet.org/WHSRN/

EPA HAS TURNED ITS BACK on invasives in the Bay by refusing to regulate ballast water under the Clean Water Act, say enviros. If the agency were to tackle the issue of invasives in ballast water, large cargo ships could be identified as "point sources" of pollution, which would mean they would have to get permits—like other dischargers—and could be fined for exceeding pollution levels. But EPA says the Coast Guard, which already monitors vessels, more appropriately regulates ballast water. The Coast Guard is in the process of writing a nationwide rule that will mimic California's ballast water laws, some of the toughest in the country. The laws are a good start, say enviros, but without enforcement—and stiffer fines—exotic species will continue to invade the Bay.

SHREDDERS COULD SHRINK the onslaught of water hyacinth in the Delta—or spread the pesky plant to new locations. Scientists at the S.F. Estuary Institute and U.C. Davis are examining that dilemma. They're sending airboats fitted with mulching machines through Delta waterways clogged with the rapidly growing waterweed. The study, as part of the Aquatic Pesticides Monitoring Program, will try to identify the risks and benefits of shredding as an alternative to chemical applications. A critical question is whether pieces of the plant will survive mechanical chomping and reproduce and/or spread to other areas.

THE SOUTH BAY FISHERY THAT FISHERS claim was ruined by a discharge from Cargill Salt last year was mistakenly identified in our August Bulletin Board as brine shrimp. The correct species is Bay shrimp (*Crangon spp.*), which are fished for with trawls in the Bay's open waters.

THOUSANDS OF MILES OF WATERWAYS in California and Washington could be affected by a new law that will limit pesticide spraying along streams supporting federally listed salmon and steelhead. The size and location of these no-spray zones are being negotiated by enviros, industry reps, and EPA officials under an order issued in August by a federal judge in Seattle. Research has shown that salmon may lose their ability to smell—and find their way up their birth streams—when exposed to diazinon and other pesticides (see "Salmon Need Their Noses," ESTUARY, April 2003). According to Heather Hansen of Washington Friends of Farms and Forests, plaintiffs presented a map to the court showing runs of listed steelhead extending all the way to the Mexican border.

COMMERCIAL FISH MAY SOON HAVE another place at the table, says NOAA Fisheries' Brian Mulvey. Under the Magnusen Stevens Act, the agency recently designated an area that includes S.F. Bay as Essential Fish Habitat. The act, says Mulvey, gives NOAA the authority to identify and protect essential fish habitat for commercial fish species. Although it doesn't have the teeth of the Endangered Species Act, the designation allows NOAA Fisheries to make sure commercial species are taken into consideration when decisions are made that could impact their Bay habitat. See <http://swr.nmfs.noaa.gov/efh.htm>

IT'S RAINING DIAZINON AND CHLORPYRIFOS in Modesto, according to a rainfall study by the U.S. Geological Survey done during January and February storms in 2001. Concentrations of the two pesticides exceeded proposed state guidelines in most of the samples, by up to a factor of 10 for diazinon and 7.4 for chlorpyrifos. Funded by the California Department of Pesticide Regulation to help the Central Valley Regional Board develop TMDLs for the two chemicals, the study will continue through 2004 at six sites in the San Joaquin River

basin and two sites in the Sacramento River area. See

<http://water.usgs.gov/pubs/wri/wri034091>

EBMUD WILL TAKE THREE STEPS BACK, say enviros, if it goes ahead with plans to turn off or ramp down its North Richmond water recycling plant, which currently supplies five million gallons of recycled wastewater per day to Chevron for its cooling towers. EBMUD claims it can save about \$500,000 per year by reverting to supplying Chevron with freshwater instead of recycled wastewater during the six months per year when the state's water supply is plentiful. EBMUD says it is suffering from the state budget crisis and lost property tax revenues, and it either has to raise its rates or cut costs. Completed in 1996, the recycling plant was built with a low-interest loan from the State Water Resources Control Board, which could require EBMUD to pay back the loan if it stops using recycled water.

THE U.S. FISH & WILDLIFE SERVICE MUST conduct a five-year review of the Delta smelt's status after lawsuits by the San Luis & Delta-Mendota Water Authority and the California Farm Bureau Federation prevailed. Although the smelt has been listed as threatened since 1993, the Service must reconsider the smelt's population status and threats based on any new science since the original listing.

VERNAL POOL SPECIES

in 30 California counties and one in Oregon had 740,000 acres of habitat designated as critical rather than the 1.7 million acres proposed last year by the U.S. Fish & Wildlife Service. The reduction resulted from new mapping efforts and updated biological information, and excludes tribal and military lands, lands already under habitat conservation plans, national wildlife refuges, national fish hatcheries, state ecological lands, and wildlife management areas. All land in Butte, Merced, Madera, Sacramento, and Solano counties was excluded due to potential economic impacts. See <http://sacramento.fws.gov>



PEOPLE

LADY LINCHPIN



Backstage at the S.F. Estuary Project—which CALFED's Sam Luoma recently praised as "playing a massive role relative to its size"—a petite woman with cat-colored eyes and a fondness for unusual necklaces quietly coordinates the Project's multitude of education and outreach, science, restoration, and grants programs.

Marcia Brockbank came to the Estuary Project in the late 1980s via the League of Women Voters, which had a contract with U.S. EPA to provide public education and outreach about the Estuary. After working on that project for a year, Brockbank was hired by the Association of Bay Area Governments to head up the public involvement component of the Estuary Project. Prior to that, she had worked for the League in partnership with KTVU, Channel 2, producing documentaries about environmental and social topics. Jean Auer, a longtime friend and alumna of the League, which was involved early on in California water issues, says, "Marcia had a great eye for copy and knew what would sell to the public." Those qualities, and many others, including her passion for the environment, says Auer, have carried throughout her work in the Estuary Project. "Marcia IS the Estuary Project," says Auer. "She's the historian, the manager, the implementer. She knows how to utilize funds — and people — to their maximum. That's not something everyone can do."

In 1994, Brockbank became the Estuary Project's Program Manager. Under her direction, the Estuary Project fledged from a staff of three and an annual budget of \$300,000 to a staff of 14 and a budget of about \$8 million. Brockbank juggles those millions to manage programs as diverse as inner-city high school environmental ed, community small grants, a variety of outreach publications about the Estuary, erosion control workshops for developers and others, restoration projects in the Delta and Bay, the biennial State of the Estuary conference, CALFED's science program—and much more.

The S.F. Regional Board's Larry Kolb, who has known and worked with Brockbank for the past 10 years, is another fan. "She's very productive and a wonderful motivator. You rarely find that combination of efficiency and charm in one person." Kim Taylor, with CALFED, says Brockbank is the linchpin for

their science program. "Lots of people get involved in resource management issues, digging into the science," says Taylor. "We often forget that it takes a really organized person to make things happen. Marcia's the one everyone turns to, to make things happen."

In addition to her long evening and weekend hours, hard work, and tenacity, what makes her so successful and well-liked? Says Ariel Rubissow Okamoto, who developed ESTUARY newsletter with Brockbank's support, "She's a good listener; she knows how to hire people who get things done. She knows how to let people be creative and what it takes to communicate important public messages." Okamoto also singles out Brockbank's "humbleness." "Marcia is so committed to education and also terribly compassionate. She really feels for the little guy."

Brockbank says it was probably living as a teenager in Salt Lake City — where she experienced discrimination firsthand for not being a Mormon — that gave her an understanding of what the "little guy" — or minorities and other disenfranchised folks — go through. That makes her eager to support inner-city youth environmental education programs about the Bay. "I think we fall short in that area," says Brockbank. "We get detoured by some of the other stuff. We need to make a better effort to get the word out to people of color."

Her biggest frustration on the job is "being tied to my computer and meetings

and not being able to get out into the field and see the environment, see what it is we're trying to protect." Yet attending meetings and conferences is essential to building a network of support for protecting and managing the Bay. "Consensus building takes a tremendous amount of effort and meetings and keeping your ear to the ground," she sighs. To release stress, Brockbank takes frequent walks and hikes in her relatively spare spare time. She can't stand to stay still and embroiders and reads voraciously, "10 books at a time." She also belongs to a mysterious group of women known as "Chicks on Sticks," who meet every year to ski together (at an undisclosed location).

Her greatest satisfaction at the Estuary Project, she says, is "organizing chaos and working with so many incredible people who treasure the environment." Her biggest surprise? "The fact that we're still here. When we finished developing the CCMF, there wasn't a lot of support for us to continue, and it was hard those first few years with a really small budget." But Brockbank dug in her heels. She didn't want the CCMF to be just another plan sitting on a shelf. She says, "It's probably just stubbornness; I didn't want to fold my tent right away. I thought we could be of real use to people."

LOV

SPECIES SPOT

SNAKES IN THE RICE

This year's sale of water from Sacramento Valley ricefields to Los Angeles' Metropolitan Water District ("Following May Foil Flocks," Estuary, June 2003) was bad news for an endangered reptile. The giant garter snake, which requires flooded habitat through the summer, had adapted to ricefields when natural seasonal wetlands were converted to agriculture. This year's water transfers, following 40,000 acres of riceland, took place during the slithering critter's peak active season. One bright spot: The snakes have discovered an artificial marsh in northern Sacramento County's Natomas Basin, created under a federally approved Habitat Conservation Plan to mitigate development.

The largest garter snake species (maximum length: five feet), the giant garter is also one of the most aquatic. It's seldom found far from water, where it hunts for fish,

frogs, and tadpoles. Once abundant through the Central Valley's bottomlands, it is now absent south of Fresno County. Besides habitat loss, the snake is vulnerable to selenium contamination and, when young, to predation by bass and bullfrogs. Population estimates are hard to come by; the snakes are secretive, and many inhabit private land. But they're scarce enough to warrant state and federal listing as threatened. The U.S. Fish & Wildlife Service published a draft recovery plan in 1999 that hasn't yet been implemented.

U.S. Geological Survey biologist Glenn Wylie has been using radio telemetry to learn more about the giant garter's annual cycle. After winter dormancy in riprap or rodent burrows, the snakes emerge in spring to seek food and mates. In the past, this coincided with natural high-water peaks; now, it's when the ricefields are flood-irrigated.

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river get the opportunity to assess the project's impact on the river, fish and other wildlife, and surrounding vegetation. "Relicensing is a once-in-a-generation chance for citizens to exercise their control of the rivers," says California Hydropower Reform Coalition's Steve Wald.

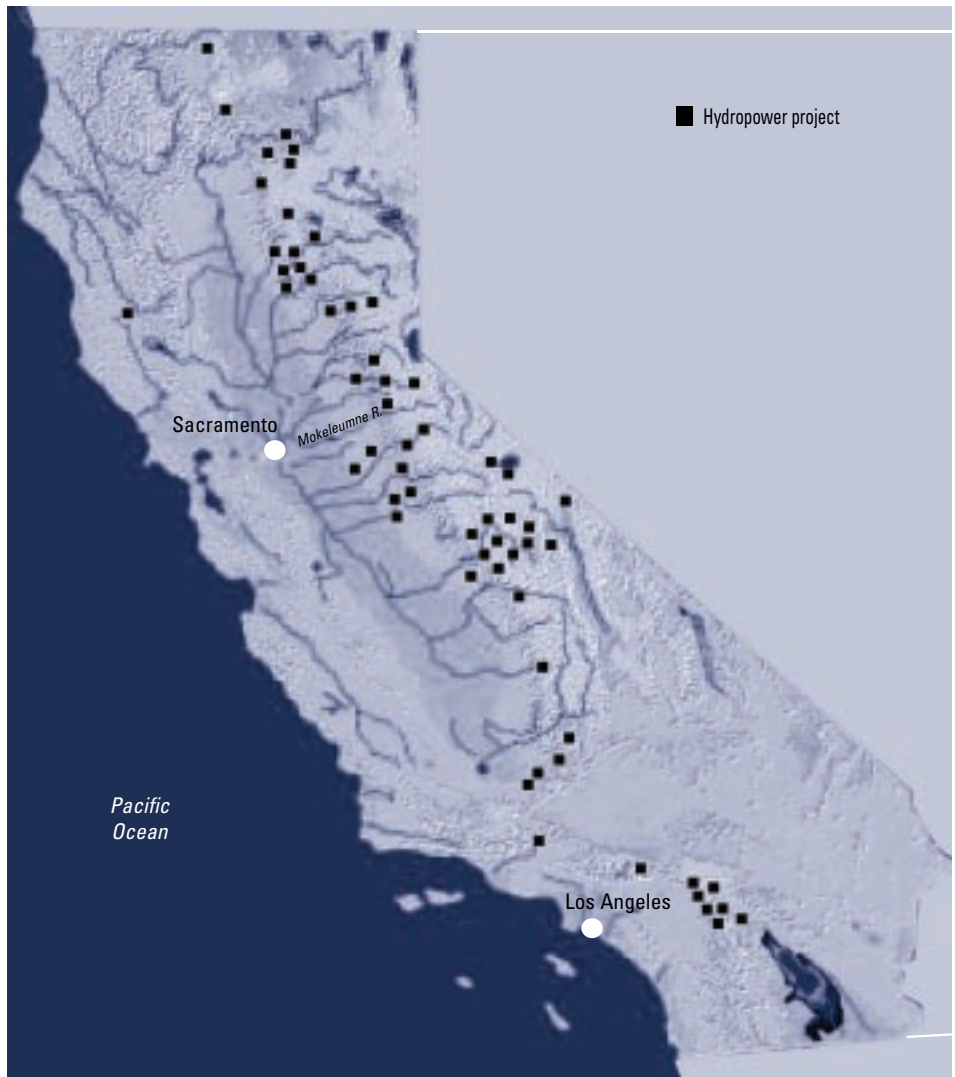
The conflict between rivers as habitat for fish and wildlife and rivers as power producers has to do with the way energy is produced. Hydroelectric plants operate by capturing water at a high point in the river with a dam and reservoir or by rerouting water with a diversion dam. This water is then shuttled through a series of tunnels so that a high volume of water makes a steep drop into a powerhouse, where the turbines power the generators that produce electricity. The higher the water is above a turbine, the more pressure it has to turn the turbine, and the more power it can generate. But because they take large volumes of water from the high point in a river, hydroelectric plants create vast fluctuations in flows. "You have long stretches of the river that are dewatered," says Bell.

This "dewatering" prevents the movement of sediment and nutrients that are essential to fish and other aquatic species as well as to vegetation. In addition, lower flows cause higher temperatures that make it harder for native fish, insects, and vegetation to survive. With the West Panther and Beaver Creek Dams removed and the East Panther Creek Dams breached, creek natives like rainbow trout, Sacramento pike minnow, and the Sacramento sucker are expected to rebound. PG&E chose to shed a part of the Mokelumne project that was going to be costly to maintain. Heavy rains in 1997-98 brought flooding, which filled the three dams with silt and rendered them practically useless: They were producing less than one-fifth of one percent of the power generated on the Mokelumne overall.

"The real message of the collaborative [PG&E and other parties to the relicensing negotiation] is that we've returned these three creeks to pre-project unimpaired flows—there was water even with diversion, but now the creeks are back in their natural state," says PG&E's Steve Periano.

For participants like Bell, the successful settlement shows how the public review process under the Federal Power Act is supposed to work. But this provision is now in danger, thanks to lawmakers on Capitol Hill.

CALIFORNIA HYDROPOWER PROJECT LICENSES EXPIRING BETWEEN 1993-2010



The Energy Policy Bill of 2003, passed in both the House and Senate last summer, amends the Federal Power Act to allow the owner of a dam an additional appeal when it is told to fulfill a condition before it can receive a new license for a project. For example, a utility company is told to build a fish ladder as a condition of getting its hydropower project relicensed. The utility company can appeal this condition through a trial-like hearing involving only the federal agency and the utility company. Public entities such as the Foothill Conservancy, county agencies, landowners, and state governments affected by a project would not be part of such a hearing.

The amendment is part of the bill now in conference committee waiting to come to a vote in both houses. Should this language stay, the question for Bell and others is how

this provision will be applied to the hundreds of hydroelectric projects up for relicensing nationwide over the next several years. Many relicensing procedures already are underway, and the bill as amended could serve to stall them. "This language would roll back public participation in relicensing entirely," says Bell.

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SCIENCE

NASA'S SALTY PROBE



When most people think of NASA, they think planets and stars—like that flame-red Mars that's been so visible recently. But with the help of a cutting-edge, remote sensing device called AVIRIS (Airborne Visible InfraRed Imaging Spectrometer), a team of NASA scientists is taking a detailed look at those less celestial bodies known as the South Bay salt ponds, purchased from Cargill last year, for restoring to tidal marsh. The sensor has accumulated a wealth of spectrographic "images" of the ponds over the last 10 years, which NASA plans to use to characterize the current condition and compare with future changes to help monitor the progress of the restoration.

When deployed by plane, AVIRIS, now based at NASA's Jet Propulsion Laboratory in Pasadena, can scan the entire South Bay in a matter of minutes. AVIRIS processes light reflected from objects below through several spectrometers, instruments that, like prisms, separate light into its individual wavelengths. While the naked eye can see a rainbow's worth of colors refracted by a prism, AVIRIS sees a much more detailed breakdown of visible and infrared light.

At this high level of resolution, objects can be identified by their "spectrum," defined by the type and amount of light they reflect. NASA's salt pond team is working to correlate the spectrum of each pond with the type and population size of the pond's organisms, which are indicators of salinity and of water quality. Future AVIRIS scans will then monitor how these populations change as the ponds are restored.

Team biologist Dana Rogoff is collecting and analyzing samples from the salt ponds. The naturally occurring microbes that flourish in the most concentrated salt ponds are, according to team astrogeophysicist Brad Dalton, similar to "the kinds of life we expect to find [on Mars]" because the Mars microbes also would have adapted to saltier environments as the planet's water disappeared.

Team leader Jean Palmer-Moloney believes that while on-the-ground monitoring will still be necessary, remote sensing will provide a broader view of the ponds than can be obtained on foot. AVIRIS is due to go onto a satellite sometime in the near future, which will boost the number of images collected from the South Bay. NASA also has several satellites with less sophisticated remote sensing technology already in orbit. Palmer-Moloney is looking at whether this existing satellite data could also

prove useful. Whether talking with the agencies planning the restoration or with local school students, she is eager to get the word out. "So often people hear NASA and they think about the stars; they don't stop to consider we have a number of satellites in space...that can help us understand the earth."

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COUNTING FISH

Every day in the South Bay, classrooms of K-12 students put on scientist hats and board the Robert G. Brownlee for a four-hour research expedition sponsored by the Marine Science Institute (MSI). On the mini-voyages, they catch, count, and release fish, then record their findings. Scientists study the students' data for long-term trends, such as declines or increases of certain fish species that could signal changes in the aquatic environment and warrant concern.



Using a windsack-shaped net with a 16-foot-wide mouth, the student scientists—as many as 12,000 per year—trawl for 44 different species of fish. After emptying the net into the ship's holding tank, they identify and count the fish a bucketful at a time, then toss them back into the Bay. They also measure and record the water's dissolved oxygen, temperature, and salinity.

"Kids love seeing all the fish—sharks, bat rays, and bass—come out of the water," says MSI's Marilou Seiff. "They also like knowing that what they are doing is used."

Aquamarine Research's Kate Schafer, a marine biologist, is using the student-collected data as a baseline for monitoring the restoration of South Bay salt ponds to tidal wetlands, which will provide spawning areas that could boost fish populations. "The monitoring is especially important because we want to be certain that no adverse effects occur due to high salinity and heavy metal concentrations that have built up in the salt ponds over the years," says Schafer. "MSI's 33 years of data collected almost daily provides a fantastic baseline."

There are so many research opportunities because of the students' data, says Schafer. "The South Bay restoration can be studied thoroughly and provide a model for the nation and the world."

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TECHNOFIX

GOING WITH THE (LOW) FLOW

When folks at the California Urban Water Conservation Council heard that a test lab had proved that low-flow, high-pressure spray nozzles could rinse dirty dishes as quickly as standard-flow nozzles but used a lot less hot water, ideas began to flow too. They thought about restaurants where kitchen workers rinse hundreds of sticky dishes a day. They considered all the water and energy used to heat the water. Then, in October 2002, with a \$2.2 million grant from the state Public Utilities Commission and marketing support from 13 water agencies around the state, they launched the "Rinse and Save" program. Now Council staff go door-to-door to restaurants throughout the state offering to replace water-guzzling spray nozzles with the low-flow variety right on the spot—for free. The program has funded the installation of over 9,000 low-flow nozzles since it began last fall; the Council hopes to install a total of 16,900 by the end of this year.

"Reaching our goal would save restaurant owners \$17 million on their water bills by 2008," says the Council's Maureen Erbeznik. "It would also conserve six billion gallons of water and 40 million therms of natural gas over five years. That's enough water for 18,000 families for a year and enough energy to heat 67,000 homes."

Most restaurant owners quickly agree to the installation. "They work fine, and they're easy to use," says Chad Stevens, owner of Chad's Restaurant in Santa Barbara. "My water bills have dropped, so I'm happy with the program." Each restaurant should save \$500 to \$1,000 a year on its water and energy bills combined, according to Erbeznik.

Erbeznik says Rinse and Save is the most cost-effective water conservation device she's seen, so she expects the program to be funded again in 2004-2005. "It's a good device—restaurants shouldn't want to use any other kind."

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RESOURCE REVIEW

MANAGING THE HERRING-IMPAIRED

Herring fishers will have one less month during which they can throw out their gill nets in S.F. Bay in 2003-04, says the California Fish and Game Commission, which voted to shorten the season and reduce the quota for the fishery to 2,200 tons, the lowest it's ever been.

The truncated season and lower quota were the lesser of two remedial measures placed before the Commission in June by Cal Fish & Game. Fish & Game studies indicate that the herring population is at a critically low level, in part because it has not bounced back from the last El Niño.

Current stocks are at or near the lowest abundance observed since the 1970s, and the studies — independently verified through a scientific review by California Sea Grant—indicate that the Bay herring population is at 20% of its unfished level. "We prefer not to have this drop below 40%," says Fish & Game's Eric Larson.

The Commission's decision allows the more than 400 herring fishers to continue working — albeit at a lesser pace. But it's not the solution Larson desires. "Instead of taking five years to rebound, we're looking at 20 to 25 years," he says.

The 2,200-ton cap and shorter season will have an effect on what had been a \$1.5 million fishery per year. But Zeke Grader of the Pacific Coast Federation of Fishermen's Associations says the economic impact is only part of the issue. "There's a need to have at least one fishery to monitor what's going on in the Estuary," he says.

Grader's wish would be to monitor species like juvenile Dungeness crab in the Bay, which once served as the biggest nursery for the crustacean. Now the crab's population is low, and there is no fishery. Juvenile crab populations north of the Bay are healthy, an indication that something may be wrong in the Bay, notes Grader.

"I was very indignant when Fish & Game said we should close [the herring fishery]. This fishery is the only thing that pays for Bay monitoring," says Grader. Larson counters that Fish & Game and other state agencies conduct other monitoring activities in the Bay independent of the commercial herring fishery.

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WATERWARS

FREEPORT GETS GREEN LIGHT

Normally, resolving a dispute in two-and-a-half-years would hardly be described as blind speed. But in the world of California water politics—and in particular, EBMUD's lengthy attempt to increase its drought-year water supply—30 months seems like barely the blink of an eye.

Water agencies that sued EBMUD over its proposed Freeport diversion project on the Sacramento River recently agreed to drop their legal actions. Officials say that's an important step toward getting the 185 million gallons per day (gpd) Freeport facility, a joint effort between EBMUD and the Sacramento County Water Agency (SCWA), online by 2008.

"If you step back and look at the whole thing, it's somewhat miraculous," says veteran EBMUD spokesperson Charles Hardy. In 1970, EBMUD announced plans to take water from the American River during dry years in order to supplement its regular supply from the Mokelumne River. The proposal brought howls of outrage from enviros and Sacramento area water interests. The ensuing battle—replete with lawsuits, lengthy court decisions, accusations, counter accusations, electioneering, and just plain ugly words—lasted until January 2001, when EBMUD and SCWA agreed to build the Freeport project. Under this agreement, EBMUD gave up its claim to the American River water, and instead could take up to 100 million gpd from the Freeport intake during drought years. SCWA would be allowed to take up to 85 million gpd in order to recharge its groundwater supplies.

Enviros didn't challenge the plan, but other water agencies did. A coalition of water users, including the State Water Contractors (SWC), representing 27 agencies, and the San Luis & Delta-Mendota Water Authority, made up of 32 agencies that rely on Central Valley Project (CVP) supplies, sued. They were joined by several individual agencies, including the Santa Clara Water District and the Contra Costa Water District.

The case was winding its way through the courts, with rulings generally in EBMUD's favor. But no one was looking forward to yet another lengthy legal battle, so negotiations began. In August, EBMUD and SWC announced an agreement, and at press time, all but one of the other districts had settled as well.

Settlement terms vary. SWC contractors worried that Freeport diversions could have impacts on the quality and quantity of water

they are allowed to divert. The agreement states that EBMUD's Freeport supply will be counted as CVP water "so that it will not adversely affect future and existing [SWC] facilities operations." It also states that the Freeport facility will be fully screened in order to minimize incidental fish kills during pumping. The Freeport project will work with state and federal agencies to avoid a biological opinion that could restrict pumping due to fish takings, and the Freeport Regional Water Authority (set up by Sacramento and EBMUD to run the facility) will support SWC's right to use the full capacity of the Banks pumping plant, up to 8,500 cfs. "There was give and take on both sides," says SWC general manager John Coburn.

CVP contractors were concerned about water quality and costs. EBMUD had been making yearly payments of up to \$1.9 million to secure its rights to the American River. When its contract with BurRec was amended for the Freeport project, EBMUD agreed to make payments to the CVP based on the amount of water it actually uses. But the other agencies didn't want to have to pay more when EBMUD's payments were reduced. In the case of the Santa Clara Valley Water District, EBMUD agreed to pay \$125,000 per year for three years to offset that agency's increased costs. During those three years, BurRec will review the cost distribution methodology for all the agencies, and differences will be dealt with through that review process, says EBMUD. Currently, the only agency that hasn't reached an agreement with EBMUD is the Contra Costa Water District, and the two sides say they are hoping to resolve outstanding issues soon.

In addition to dropping the lawsuit, the agencies agreed not to challenge the project's environmental documentation. The draft EIR/EIS was released in July, and officials hope to have a final document available this month. (The draft is available at www.freeportproject.org.) So far, the main concerns expressed in a public meeting have reportedly been from people living near the Freeport site, who are concerned about noise and construction impacts.

There are, of course, other hurdles that must be cleared, including design challenges and approvals from the myriad regulators involved in the process. But Freeport Authority general manager Eric Mische notes that the legal challenges had the potential to delay construction for years. "This is a weight off our minds," he says. "It's nice to have people on the same wavelength as much as possible."

Contact: Doug Wallace (510)835-3000 O'B

PLACES TO GO & THINGS TO DO



WORKSHOPS & SEMINARS

OCT 11-18 SATURDAYS WORKSHOPS FOR EDUCATORS (K-12) KIDS IN GARDENS

TOPIC: Two-day workshop focuses on demonstrating the connection between garden-related pesticides and urban runoff pollution.

LOCATIONS: October: Alameda & Oakland; November: Livermore

SPONSORS: Aquatic Outreach Institute, CALFED, Bay Area municipalities & non-profits

Mary Malko (510)231-9430; mary@aoinstitute.org; www.aoinstitute.org

OCT 14-15 TUES & WEDS ENVIRONMENTAL PLANNING & SITE ANALYSIS

TOPIC: Physical and cultural influences on planning and design; techniques for gathering and synthesizing site data; environmental factors that affect landscape planning; and analysis at the larger watershed and regional scales.

LOCATION: Sacramento

SPONSOR: U.C. Davis (800)752-0881

OCT 14-16 TUES - THURS INVASIVE SPECIES SYMPOSIUM

TOPIC: Intended and unintended animal invasions in terrestrial and aquatic ecosystems.

LOCATION: Sacramento

SPONSOR: Western Section of the Wildlife Society www.tws-west.org/

OCT 16-19 THURS - SUN LAND TRUST ALLIANCE RALLY 2003

TOPIC: Join more than 1,700 of America's conservation leaders at the largest gathering of land trust professionals, volunteers, and others devoted to land conservation.

LOCATION: Sacramento Convention Center

SPONSOR: Land Trust Alliance (202)638-4725; www.lta.org; rally@lta.org

OCT 21-23 THURS - THURS 6th BIENNIAL STATE OF THE ESTUARY CONFERENCE 2003

TOPIC: Check on the status of the Bay-Delta's changing ecosystem. Keynote speaker: Leon Panetta.

SPONSORS: S.F. Estuary Project, Friends of the S.F. Estuary, CALFED, and other local, state, and federal agencies

LOCATION: Oakland

(510)622-2465; www.abag.ca.gov/events/estuary_state

OCT 27-29 MON - WEDS BROWNFIELDS 2003: GROWING A GREENER AMERICA

TOPIC: Brownfields redevelopment.

LOCATION: Portland, Ore.

SPONSORS: U.S. EPA & International City/County Management Association www.brownfields2003.org

NOV 12 WEDS CONTRA COSTA COUNTY CREEK & WATERSHED SYMPOSIUM

TOPIC: Review and analyze what's happened in local watersheds since the first symposium in 1999.

LOCATION: Walnut Creek

SPONSORS: Contra Costa Watershed Forum; local, state & federal agencies & non-governmental organizations

Kae Ono (925)335-1230; kono@cd.co.contra-costa.ca.us

NOV 13 THURS DECISIONMAKERS CONFERENCE

TOPIC: 20/20 Visioning the Future: Look forward to the next five, 10, and 20 years; celebrate 20 years of the Bay Planning Coalition.

LOCATION: Oakland Marriott City Center

SPONSOR: Bay Planning Coalition www.bayplanningcoalition.org



HANDS ON

SEPT 20 SAT FORCES THAT SHAPE THE BAY ONGOING

TOPIC: Hands-on play and instruction of the natural forces—water, plate tectonics, and mountain building—that have shaped and continue to shape S.F. Bay.

LOCATION: Lawrence Hall of Sci., Berkeley

SPONSORS: U.C. Berkeley Class of 1948, EBMUD, National Science Foundation & Lawrence Hall of Science www.lawrencehallofscience.org

OCT 18 SAT 14TH ANNUAL CREEKS, WETLANDS & WATERSHEDS CONFERENCE

SOUTH BAY CREEK & WETLANDS RESTORATION TOUR

TOPIC: Daylong field trip to visit ongoing restoration projects—from citizen-driven projects to large-scale government efforts—in the South Bay.

LOCATION: Alviso

SPONSOR: Aquatic Outreach Institute Mary Malko (510)231-9430; mary@aoinstitute.org; www.aoinstitute.org

OCT 18 SAT CANOES IN SLOUGHS—GALLINAS CREEK

TOPIC: Explore Gallinas Creek and surrounding historic marshlands by canoe in this workshop targeted to teachers. Learn about saltwater marsh habitat, the S.F. Bay watershed, and issues facing the Bay.

LOCATION: San Rafael

SPONSOR: Aquatic Outreach Institute Mary Malko (510)231-9430; mary@aoinstitute.org; www.aoinstitute.org

NOW IN PRINT & ON LINE

The California Digital Conservation Atlas. 2003. California Legacy Project. California Resources Agency, California Environmental Protection Agency. www.legacy.ca.gov/new_atlas.epl?page=atlasWelcome

California GeoCommunity. ThinkBurst Media. http://data.geocomm.com/catalog/US/61069/sublist.html

California Spatial Information Library. 2001. California Mapping Coordinating Committee. www.gis.ca.gov/

Fire and Resource Assessment Program (FRAP) Data. California Department of Forestry and Fire Protection. http://frap.cdf.ca.gov/data/frapgisdata/select.asp

GIS Data Links for Northern California. June 2003. Maintained by Colin Brooks. U.C. Berkeley. www.pacificsites.com/~cbrooks/gis1.shtml

Integrated Hardwood Range Management Program (IHRMP) North Coast Research and Extension Group. September 2003. Hopland Research and Extension Center, U.C. Department of Agriculture and Natural Resources. http://hopland.uchrec.org

The Natural Resource Project Inventory (NRPI). California Biodiversity Council and the Information Center for the Environment, U.C. Davis. www.ice.ucdavis.edu/nrpi

Russian River Watershed GIS. National Oceanic and Atmospheric Administration and Fisheries and Circuit Rider Productions. www.noarussianriverwatershedgis.org/project.html

OCT 25 SAT SALT POND RESTORATION — TURNING DREAM TO REALITY

TOPIC: Take a walking tour to explore historic and restored marshes and salt ponds; identify water birds and plant communities.

LOCATION: Fremont

SPONSOR: Aquatic Outreach Institute Mary Malko (510)231-9430; mary@aoinstitute.org; http://www.aoinstitute.org

SEPT 12-15 SAT THRU 2004 SAVE THE DATE! Restore America's Estuaries

TOPIC: 2nd National Conference on Coastal and Estuarine Habitat Restoration

LOCATION: Seattle

www.estuaries.org/nationalconference.php

SPECIES SPOT CONTINUED

If water transfers continue, says Wylie, the habitat managed by the Natomas Basin Conservancy becomes all the more important to protecting snake populations." The 53,341 acres covered by the basin's HCP is home to 22 endangered or special-status species, including Swainson's hawk and valley elderberry longhorn beetle. The plan, approved in June after years of controversy, requires landowners to maintain half the original acreage in rice and create managed marsh on another 25%.

Contact: Glenn Wylie (707)678-0682
x616 JE

**CALL FOR PROPOSALS
DEADLINE: NOVEMBER 15**

The California Coastal Commission's Whale Tail Grants Program is now accepting proposals for funding to support programs that foster an appreciation of the Golden State's coast, marine life, or inland watersheds. Applicants may request any amount up to \$50,000; 25-50% of the funding will be allocated in small grants of up to \$10,000. A total of \$381,000 will be distributed. See www.coastforyou.org, or call (800)Coast-4U.

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