

EL NIÑO WARMS COAST

It's official: El Niño, a disruption of the ocean-atmosphere system that periodically wreaks havoc on the global climate, is back—and experts are comparing it to the milestone El Niño of 1982-83, which brought the wettest winter of the century to Northern California and caused more than \$10 billion in U.S. crop losses.

During an El Niño, warm water from the tropical Pacific flows east and north and normal trade winds disappear or change direction. The conditions usually bring heavier-than-normal precipitation to the southern U.S. and dry conditions to the Northwest.

According to Bill Mork, a climatologist with the Department of Water Resources, ocean water temperatures in the Pacific were two to four degrees (Celsius) higher than normal in July, the greatest anomalies observed since 1982. Although some El Niño years—notably 1976-77, the driest year of the century—can bring drought to Northern California, the strongest El Niños tend to be wet ones, says Mork.

"This El Niño started early and is expected to peak in November," says Mork. "Precipitation is likely to be above normal, and may start as early as September, but to say more than that would be premature."

Regardless of its impact on the weather, El Niño is likely to affect the Estuary and its inhabitants. According to Dan Howard of the Gulf of the Farallones National Marine Sanctuary, El Niño's warm waters prevent the normal upwelling of nutrient-rich cold water. "Without nutrients the phytoplankton populations don't expand, and the result is reduced productivity at all levels of the marine food web," he says. Among the species that could be affected are ocean-going Estuary dwellers such as salmon.

Holly Ryan of the U.S. Geological Survey says that as El Niño pushes water east it can actually raise water levels inside the Bay. However, the effects of the rise are unclear. "More seawater in the Bay could potentially increase the salinity," says Ryan. "But the flip side is that El Niños tend to have higher rainfall and greater freshwater flows, which may offset the effect on salinity."

Amid the predictions and speculations Water Resources' Mork advises a measure of calm. "It may not come to anything," he says. "There have been cases where El Niño conditions developed early and then died early." Contact: Bill Mork (916) 574-2614. CH



A Lake's Lifeline

Early involvement by environmentalists may be the key to preserving one of Oakland's most valuable and little known wildlife areas — the channel that connects Lake Merritt to the Estuary.

The narrow, half mile long channel flows through a city park and the Laney College campus, under a freeway and railroad tracks and past industrial flatlands before reaching the Inner Harbor. Portions of its banks are lined with pickleweed, cordgrass, and other marshland natives, and according to the Audubon Society's John Bowers, dozens of birds, including rarities such as the Barrow's Goldeneye, can be seen there, especially during the winter. He says that several species, such as the American Widgeon, seem to favor the channel over nearby Lake Merritt, possibly because of the vegetation along its banks. Oakland Museum curator Paul Matzner, who regularly brings school groups to the channel, says the urban locale makes it an especially useful teaching tool.

The channel, like Lake Merritt, is considerably altered from its natural state. Until 1869, the lake was actually a tidal slough extending inland from the Bay. In that year, Mayor Samuel Merritt had a dam built across the inlet, and today most of the land below the barrier has been filled. The former marsh is now occupied by the College, the Kaiser Convention Center, the Oakland Museum, and a busy residential and commercial district. In the early 80s, some restoration work was done along its banks, but some of the decorative iceplant and pampass grasses planted have grown into unwelcome visitors to the water's edge.

Earlier this year, the city began developing plans that Matzner and others feared might disturb the delicate

ecosystem of this "Lifeline to Lake Merritt." Oakland wants to increase public access by building foot and bicycle paths, along with a pedestrian bridge over the freeway, so that people can easily travel from the lake to the Bay. In addition, Oakland has big plans for the waterfront, including a revamping of underutilized Estuary Park, and redevelopment of the land near the channel mouth to accommodate large public events.

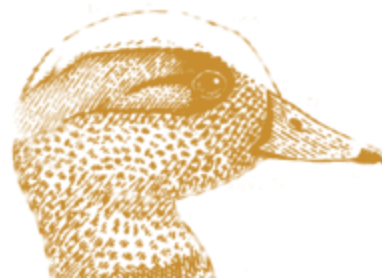
Environmentalists fear that large numbers of people along the channel banks may trample the plants, leave litter and scare away the wildlife. The channel is only a hundred feet or so across at its widest. "It's open to all kinds of impacts," says Matzner. "Those birds have no place to escape, they're trapped."

Environmental considerations weren't even mentioned in the initial planning documents, Matzner says. So along with Audubon members and representatives of other environmental and neighborhood groups, he began lobbying city officials and attending numerous meetings. The response, he says, has been good so far. The city council has agreed to include environmental assessments in its plans, and designers of the pedestrian bridge and waterfront redevelopment schemes have also promised to look at their projects' impacts on the channel ecosystem.

The environmentalists would like to see the channel given wildlife refuge status, similar to that of Lake Merritt itself. Pathways could be aligned to avoid damaging sensitive areas, and access could be restricted during critical seasons. Matzner says there would also be an

opportunity to build viewing platforms and install interpretive signs to increase people's awareness of the channel's wildlife resources.

continued back page



BULLETIN BOARD

A FIRST FOR CONTRA COSTA —

The Environmental Alliance, a local volunteer organization, is spearheading Contra Costa County's first watershed management plan in the 10,400-acre Alhambra Creek watershed. The watershed stretches from Briones Park to Martinez and covers more than 6,000 separate parcels, including rural, agricultural and urban lands. The Contra Costa Resource Conservation District, which is sponsoring the new planning effort by the alliance, has persuaded a group of Natural Resource Conservation Service scientists to provide an initial assessment of the watershed's health and is considering using volunteer monitoring to evaluate baseline water quality prior to implementing the watershed plan. The plan is scheduled for completion in 1999. Contact: CeCe Sellgren, Contra Costa RCD, (510)672-6522 **CH**

DIOXIN RIGHT TO KNOW — A network of refinery workers, neighbors and environmentalists recently pressured the U.S. EPA into granting a petition to list dioxin and 27-dioxin like compounds under the right-to-know Toxic Release Inventory Program (TRI). According to Greg Karras of Communities for a Better Environment, which organized the network and sponsored the petition, dioxin is the most toxic of known pollutants. "The public has a right to know about dioxin discharges, particularly since other less toxic chemicals have been reported for years," he says. The EPA has also requested comment on lowering the reporting threshold for dioxin, which is usually produced at levels lower than those of other TRI-listed chemicals. A final decision on whether to list dioxin will be made after the agency determines a reporting threshold for dioxin that is lower than the current 10,000-25,000 pound annual limit for industry. Karras says the only way to solve the dioxin problem is with a threshold of zero. The July 7 deadline for comments on the proposed listing was extended to September 5 at the request of the Chlorine Chemistry Council. Contact: Greg Karras (415) 243-8373 **LOV**

**NORTH BAY SLOUGH STUDIES —**

During the years that the Navy occupied Mare Island it kept the Napa River dredged to allow passage for submarines, altering the flow of water and sediment in the river and the adjacent sloughs. Now that the Navy is gone, those flows are of profound interest to scientists planning the restoration of the 40,000-acre wetland between the river and Sonoma Creek. "The big question is, does all the water flow in one layer in the sloughs or not," says Geoff Schladow of UC Davis, which is cooperating with the U.S. Geological Survey in an on-going study of the sloughs. Although Schladow notes that restoration of the wetland will further alter the flows, he says the study is focusing on existing flows with a view to creating conceptual and mathematical models that will help guide restoration. Contact: Geoff Schladow (916)752-6932 **CH**

POW-WOWING ON DIAZINON — A public-private committee aimed at stemming the flow of the pervasive pesticide diazinon into Estuary waterways just released its first products — four summary reports addressing water quality and toxicity, target watersheds, outdoor use and control efforts (see *Now in Print*). According to Urban Pesticide Committee chair Tom Mumley of the S.F. Regional Board, the evolving control strategy consists of outreach and education (with emphasis on integrated pest management), as well as regulatory reform activities such as as improving labels and addressing water quality issues within the pesticide pre-registration process. Diazinon is one the most commonly used general purpose pesticides in California, and is frequently found in Bay-Delta urban runoff and creeks at levels that are lethal to test organisms and exceed the state-recommended maximum of 80 ppt. In 1996, levels topping 50,000 ppt were found in Castro Valley street gutters. "We have yet to determine or rule out whether the problem is due to overuse, improper use or proper use," says Mumley. The Committee plans additional studies while implementing and refining its prevention program, possibly using Castro Valley as a pilot watershed. Contact: Tom Mumley (510)286-0962 **LOV**

INVASIVE SPECIES GET WESTERN

FOCUS — Forty-eight representatives from 19 states, four provinces and the islands of Guam and Hawaii gathered for the first meeting of the Western Regional Panel on invasive species in Portland, Oregon this July. Created through the recent reauthorization of the Nonindigenous Aquatic Nuisance Species Prevention and Control Act, the panel is tackling the tough task of preventing the spread of exotics in the marine and freshwater systems of the West. Panel attendees — including representatives from CALFED, the S.F. Estuary Project and the S.F. Estuary Institute — heard horror stories and discussed vectors and control options for everything from brown tree snakes to zebra mussels, then set up procedures and committees to develop workplans. Contact: Marcia Brockbank (510)286-0780



EDUCATION SEGUE — Anyone wondering why those familiar and award-winning Kids in Creeks workshops and Teacher Action Grants seem to have been taken over by an unfamiliar organization called the Aquatic Outreach Institute needn't fear a hostile or out-of-state takeover. This is the same S.F. Estuary Institute education program, complete with staff and materials, it's just off on its own and wearing a new label. The program separated from the Institute this spring. Since its inception 10 years ago, the program has, among other things, educated nearly 1000 K-12th grade teachers, inspired numerous school-based environmental restoration projects and community watershed awareness efforts, and created a computer program on S.F. Bay that runs as a permanent exhibit in eight museums and visitor centers. Contact: Kathy Kramer (510)231-5655

POLLUTION

SPOTLIGHT ON TOXIC CLEANUP

Over the objections of dischargers who say the program unfairly penalizes them, legislation extending the Bay Protection and Toxic Cleanup Program was approved by the California Assembly in May. The program, which requires Regional Water Quality Control Boards to identify toxic hot spots in the state's bays and estuaries and develop remediation plans, is scheduled to expire at the end of 1997. A Senate vote on the legislation to extend the program to 2001 is expected this fall.

Much of the opposition to the program's continuation stems from the fact that although it is funded through fees paid by dischargers, "there are some stakeholders who have not taken responsibility," says Geoff Brosseau of the Bay Area Stormwater Management Agencies Association. Others put it more bluntly: "Agriculture is being exempted and my members are paying for it," says MK Veloz of the Northern California Marine Association. "Our members got roped into this thing merely because of their presence on the water's edge." The bill specifically exempts agricultural nonpoint dischargers from fees.

"We did talk about including agriculture in the bill, but decided not to because it would be politically next to impossible," says Keith Nakatani of Save the Bay, which sponsored the legislation. He contends, however, that the complaints about the fees are little more than a smokescreen put up by dischargers who want to kill the program before cleanup plans are developed. "The main reason dischargers are opposed to the program is that they want to avoid financial responsibility for cleaning up the pollution they created," he says.

Beyond the issue of fees, program critics say it has been mismanaged since it began in 1990. "The legislation that established the program was based on advocacy, not consensus," says Brosseau. "The program was underfunded and overscoped. Much of the money went into methods development instead of fulfilling the mandate of the program." Brosseau also thinks that polarization of the Advisory Committee set up to oversee the program hampered its effectiveness, making it difficult even to agree on a definition of a "toxic hot spot." "The terminology was unfortunately chosen and inflammatory," he says. "It made people nervous because of its implications of liability." The new legislation changes "toxic hot spot" to "area of sediment contamination."

Nakatani acknowledges that the program "should have accomplished much more than it has," but says bureaucratic sabotage by dischargers is to blame. He adds that despite its problems, the program has pioneered new monitoring and assessment methodologies and collected valuable data. "The program needs to be refunded and restructured, not ended," he says. The current legislation includes amendments requiring that no more than 50% of the

continued back page

SPECIES SPOT

DELTA ELUDES DUCK-EATING FISH

Despite one unconfirmed sighting of a northern pike at the John F. Skinner fish screen, Cal Fish & Game officials say they are confident that the predator has not yet escaped from Lake Davis, where it was illegally stocked during the mid-1990s.

That's good news for the Delta's native fish and other species, which would likely face one of their biggest challenges yet if the pike did make their way into the Delta. The fish are voracious eaters, capable of consuming other fish up to one-half their own length. "A 30-inch pike can eat a 15-inch trout, and will do so readily," says Cal Fish & Game's Patrick Foy. Pike pose a threat not only to fish such as salmon, smelt and trout but also to frogs, snakes and virtually anything else they can sink their very sharp teeth into. According to Foy, one Michigan study found that pike consumed 1.5 million ducks in a single year.

Pike, which are native to the Great Lakes region, are popular with sport fishermen because they grow quickly to 10 pounds or more and are ferocious strikers. Pike prefer weedy, slow moving water and would find the Delta an extremely congenial home. The fish are much more prolific than native trout—a mature female can lay up to 100,000 eggs at a time; by contrast, trout lay only 1,000 to 2,000 eggs at a time.

Pike represent such a threat to the Delta that Fish & Game is preparing to take drastic measures to eradicate the intruders. The agency plans to lower Lake Davis and treat it with rotenone in the fall, which will kill all the fish in the lake. Following the treatment, Fish & Game will restock the lake with one million fingerling trout, and plant the

lake with catchable trout next spring.

The pike eradication plan was delayed by protests from residents of nearby towns, which use Lake Davis as a supplemental drinking water source. Earlier this summer a judge issued a temporary restraining order requiring the agency to complete a well and construct a 500,000 gallon tank to hold an alternate drinking water supply before proceeding with the lake drainage. The Department plans to have the alternate drinking water supply on line by late August.

The Lake Davis pike represent at least the second illegal attempt to establish a pike fishery in California. In the early 1990s, Fish & Game used rotenone to kill pike that had been stocked in Frenchman Lake, but apparently not before some of the fish had been moved to nearby Lake Davis. To prevent any further efforts by pike fans, Foy says the department is relying on stepped up law enforcement and will strive to "educate people on the ecological consequences of bringing in non-native fish." Contact: Patrick Foy (916) 358-2938 [CH](#)



LETTERS

DEAR ESTUARY,

This spring the Wilson Administration claimed a 112,634-acre, or 24%, increase in California's wetlands since 1993, offering these figures as evidence that the state is ready to take over the federal Section 404 program and assume regulation of wetlands. ESTUARY readers should be aware that a close look at the numbers reveals that the Administration has grossly overstated the increase of wetlands in the state, as well as the value of its Wetlands Policy.

In large part, the exaggerated numbers stem from a rather disingenuous definition of "new" wetlands. Secretary of Resources Doug Wheeler included three categories of wetlands in his calculations: "restored," "created" and "enhanced." It's reasonable to consider a "restored" wetland "new" if it had previously lost all, or nearly all, of its wetland functions to such impacts as diking, draining or filling. And a "created" wetland should certainly be considered new if it functions successfully (a big "if"). But classifying an "enhanced" wetland as new creates a problem: Enhancement is the improvement of an already existing wetland. An enhanced wetland was a wetland to begin with. Of the new wetland acreage the Administration is claiming, fully 91,400 acres are "enhanced."

"Restored" wetlands account for 21,088 acres of the Administration's claim. However, an Audubon Society analysis shows that many of the restoration projects claimed by the Administration are really just enhancements of existing wetlands. To cite just one example, the approximately 800-acre Baumberg Tract in Hayward is included in the list of restored wetlands. The fact is that these 800 acres are made up of abandoned salt ponds and crystalizers that presently provide productive seasonal wetland habitat to tens of thousands of shorebirds and waterfowl, including the threatened western snow plover. The restoration itself is still only in the planning stage. To claim that these acres provide "new" wetland acreage is simply not true.

All told, it seems probable that California's wetlands have increased by at most 4.5% over the past four years, and perhaps as little as 0.5%. The Administration's claims are greatly inflated, and offer no indication whatsoever that the state is ready to assume the task of preserving its few remaining wetlands.

ARTHUR FEINSTEIN

AUDUBON SOCIETY

PEOPLE

JIM MCGRATH
A MAN OF MANY SUITS

Jim McGrath has seen the Bay from all sides. He first looked at it through the eyes of a regulator, reviewing environmental impact statements and working on water quality issues for the EPA in the early 1970s. Next, the Coastal Commission hired him as a wetlands restoration specialist and "on call water quality expert." Then in 1990 he switched sides and joined the ranks of the regulated when the Port of Oakland signed him up to manage environmental and hazardous materials reviews of all the Port's airport, seaport and commercial real estate projects. But McGrath thinks the best view is from the deck of a fiberglass board as it skims across the waves. "My favorite suit is still a neoprene suit," the avid windsurfer confesses.

When he isn't "conducting drive by surveys of the Bay" from his board, the tall and craggy McGrath is applying his considerable technical and political skills for the Port. He played a key role in getting approvals for the Port's 42-foot dredging project. He's also worked on state and federal regulatory reform, and developed innovative wetlands restoration projects.

McGrath was glad to leave the Coastal Commission — under the Deukmejian administration, its budget had been gutted and one of its members sent to jail for extortion. ("I still have a file marked 'Commission Sleaze,' he says.) But making the transition to the Port wasn't easy. It took about six months before he was completely accepted, he recalls. "I had to establish the credibility that I had the Port's interest and not just tree hugger interests at stake."

One of his first challenges was to convince the Port that using harbor dredgings to restore the Sonoma Baylands was feasible. In the early 90s, the "sustainable reuse" concept was "thinking

way outside the box," he says. By stressing both the environmental and economic benefits, he helped to get the project moving. "By the end of the day, using the Sonoma Baylands was probably cheaper than ocean dumping," he says.

Longtime colleagues credit McGrath with being a master coalition builder, albeit an outspoken one. "What Jim tries to do is see how the port can carry out its duties and still protect San Francisco Bay," says the Bay Commission's Will Travis, who has known McGrath since the 70s. "He feels strongly and passionately about things and does not suffer people who disagree lightly. You have to have your facts, because he has his facts."

The Port benefitted by hiring McGrath in 1990, adds the Bay Planning Coalition's Ellen Johnck. "At the time there didn't seem to be a lot of public confidence in the environmental planning at the Port. Jim changed all that."

Even though it took many frustrating years to get the dredging project underway, McGrath never stopped pushing. That's typical, says Johnck. "He's tenacious as a junkyard bulldog and wild eyed as the windsurfer he is." Currently, the Port is tussling with the Bay Commission and other agencies over the 50-foot dredging project, but McGrath is confident. Again, he stresses the economic advantages, noting the Port could save millions by doing wetland restoration, rather than using the open ocean as a disposal site. Much of the dredged material is

targeted for a wetlands project at the former Hamilton Air Force Base but McGrath is especially enthusiastic about a proposal to rebuild intertidal marsh in the port's Middle Harbor. "I'd like to see habitat restoration going on in Oakland as well as in Marin and Sonoma Counties," he says. o'b



"He's tenacious as a junkyard bulldog and wild eyed as the windsurfer he is."

RESTORATION

CONEHEADED FISH SCREENS

All fish screens are not created equal and surprisingly few meet the flow standards set by federal agencies to protect endangered fish. Suisun Marsh's new screens are an exception.

This 116,000 acre marsh north of Suisun and Grizzly bays has some 700 intake pipes that suck water into 56,000 acres of managed, seasonal, leveed wetlands. For Delta smelt or winter-run salmon, this is not good news: being seasonal, the wetlands eventually dry out, stranding the fish. To keep them out, the Suisun Resource Conservation District hired Fran Borcalli to design and install screens at key intake areas. Five screens have been installed to date and Borcalli is building seven more. An additional 17 may be added if the district gets funding. "We're concentrating on priority areas with high habitat value for fish like salmon, Delta smelt, splittails, and green sturgeon," says the District's Lee Lehman.

Borcalli's screens are receiving rave reviews from resource managers. "Most screens are designed for fresh water," explains Lehman, "but we're in a unique place here and have problems other places don't. We need something that can withstand the conditions in sloughs and brackish water where you get a lot of debris and salt. When Fran started to design the screens he sat down with us and discussed the specifics of this marsh. Other people just didn't understand how this marsh works."

In addition to the screens' state-of-the-art technology (resource managers can

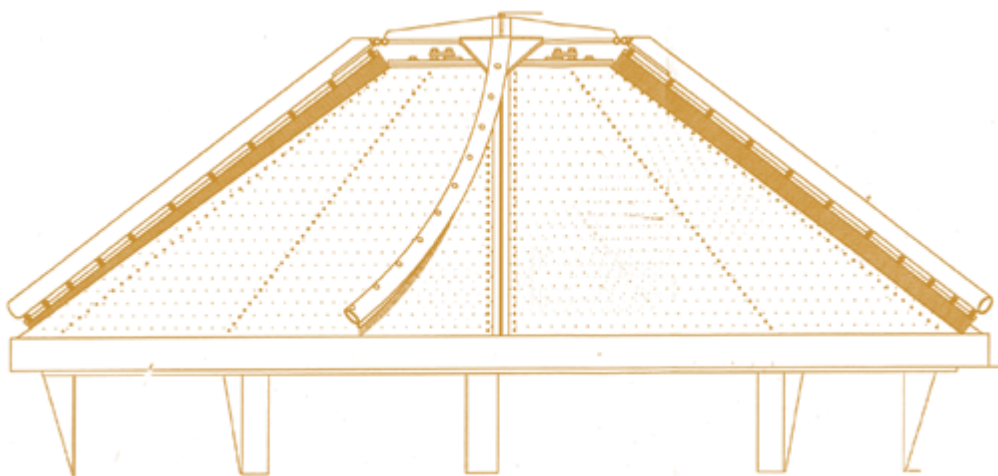
monitor flows via radio transmissions from the screens), Borcalli's screens are made of the best materials, say Lehman, a decision influenced in part by experience: after a beaver or muskrat chewed through wiring on one of the first screens installed, Borcalli wrapped the wiring on all of the screens in stainless steel. Bolts are also made of stainless steel and sheet pilings of interlocking vinyl, which resists corrosion.

Borcalli's screens are also among the very few that meet the U.S. Fish & Wildlife and National Marine Fisheries flow standard of 0.2 cfs for Delta smelt (which is significantly lower than the 0.33 cfs required for salmon). "The Delta smelt is a poor swimmer," says Lehman. "You can only bring in so many cubic feet per second or the fish get slammed against the gates or sucked into areas where they become stressed and die." According to Lehman, how much water comes in all depends on a properly-designed screen. Everything from the type of mesh used to the gates in the screens can affect flows. Water must come in at an even rate through all areas of the screen, and sections where water is coming in too quickly have to be fixed. "Some engineers can't design these things well because they've never dealt with the problems most fish screens have," says Lehman. "Experience is a good teacher."

Borcalli agrees that the success of his screens can be largely attributed to their unique design. "The technology isn't really any different than what's been done before, it's the configuration that's different," he says. While most screens are flat plates, either placed vertically or inclined at about 30 degree angles, Borcalli's is conical, and the water goes around it. "The apex of the cone is at the top, and the brushes rotate

continued back page

SUISUN MARSH FISH SCREEN DESIGN



THE MONITOR

PLANKTON WITH A TAN?

An unusual collaboration of students and scientists is learning more about the effects of natural seasonal variations on the amount of ultra violet light reaching the earth by looking at the amount of pigment in phytoplankton.

From aboard the research vessel Inland Seas, high school students and research scientists from Redwood City's Marine Science Institute have been taking weekly samples of South Bay water, and analyzing them for temperature, salinity, and turbidity. Then, at NASA labs under the supervision of NASA scientists, the students analyze phytoplankton in the samples for UV-absorbing pigments.

While studies with algae and UV have been done before, none of them have lasted for more than a week or two, says NASA's Dr. Lynn Rothschild, who heads up the team. Rothschild hopes that this team can continue its research over the next few years. "The students and the Institute have the ability to go out every day on the Institute's research vessel. If we were to use a professional vessel, it would cost \$10,000 per day. They've got the capabilities and enthusiasm and access to the water; we've got the professional research facilities and scientific expertise. It's a perfect match."

While the team's results are "very preliminary," data from last spring's studies showed an increase in UV-absorbing pigments in phytoplankton samples taken in February. An increase in the production of UV-absorbing pigment may be a possible defense mechanism by phytoplankton against damage to DNA caused by UV light. "It's very simple," says Rothschild. "One of the manifestations of our DNA damage from UV is skin cancer. These 'guys' certainly feel the effects of UV too—they may be damaged too. One of the ways we protect ourselves is by tanning—the algae can do something similar." But increases in pigmentation may also indicate that the algae are being stressed, which could have secondary effects on the rest of the Estuary's ecosystem.

The Institute plans to purchase a new ship to use next year for North Bay educational programs and, with Rothschild, has submitted a proposal for NASA funding for the next three years. Contact: Dr. Lynn Rothschild (415) 604-6525 or Karen Grimmer, Marine Science Institute (415) 364-2760 **LOV**

WETLANDS

POOLSIDE PROGRESS

When Santa Rosa property owner Ron Engel decided to sell 40 acres of undeveloped property near Santa Rosa he offered it first to Cal Fish & Game, which chose not to purchase the land at its appraised value of \$10,000. The property included approximately 14 acres of high quality vernal pools, and was home to two endangered species, making it unsuitable for development. Engel had few options for disposing of the property until his real estate agent put him in touch with a member of the Santa Rosa Vernal Pools Task Force. In May, the property became part of the region's first vernal pool mitigation bank.

According to Fish & Game's Carl Wilcox, the bank is critical to implementing the Task Force's strategy for "preserving the best of what's left" of vernal pool habitat while streamlining the regulatory process. Vernal pools are dish-shaped seasonal wetlands with a unique soil composition that takes thousands of years to form and makes them challenging to restore, according to Diane Windham of U.S. Fish & Wildlife. Experts estimate that 50%-90% of the state's vernal pools have been lost since settlers arrived in California.

Congressman Frank Riggs convened the Task Force in the early 1990s to develop a preservation strategy for vernal pools. The Task Force includes representatives from Fish & Game, US Fish & Wildlife, the Army Corps of Engineers, the EPA and local stakeholders. Wilcox says that a key piece of the strategy will fall into place when the Army Corps authorizes a General Permit for Sonoma County and its cities, including Santa Rosa, that delegates to local government the permitting process for vernal pool areas.

The General Permit would allow local governments to permit development of low-quality vernal pools so long as the developers provide mitigation in the form of both creation and preservation of high-quality pool areas. Developers can satisfy the mitigation requirements by purchasing credits from banks such as Engel's, which was approved for 208 preservation credits. The credits are priced at \$7,000 each, and Engel has agreed to set aside \$35,000 to create an endowment for the long-term maintenance of the property. When all the credits have been sold, he says he will donate it to the state.



Brancheta conservato, female

Elsewhere in the state Fish & Wildlife's Windham says that mitigation banks will play a part in the recovery plan being developed by the Central Valley Vernal Pool Recovery Team, which was convened early this year. The team, comprised of technical experts and stakeholders, is taking an ecosystem approach to vernal pool habitat recovery and hopes to complete a draft plan in 1998. Despite the difficulty of restoring vernal pools, Windham says she expects it to play a part in any recovery strategy. "Even if we preserved every vernal pool we have left, it would not be enough to ensure the recovery of the threatened or endangered species that rely on vernal pool habitat," she says.

In a related development this spring, 13 state and federal agencies signed an Interagency Vernal Pool initiative to improve the protection of vernal pools, again using an ecosystem management approach. The agreement calls for the signatories to work with urban and rural communities statewide to establish a network of vernal pool preservation areas. Contact: Carl Wilcox (707)944-5500 or Diane Windham, Central Valley Vernal Pool Recovery Team, (916) 979-2710 CH



Brancheta conservato, male

FOLLOW-UP

CITIES CHECK WATER METERS

An inside look at compliance with the six-year-old *Memorandum of Understanding Regarding Urban Water Conservation* has found that although overall compliance by urban water districts appears to be high, clearer performance standards would need to be adopted before any rigorous certification process could be implemented. Such a process is now being considered by CALFED.

The internal evaluation, released in a July report, examined the degree to which the 12 members of the California Urban Water Agencies (CUWA) are implementing the 16 conservation Best Management Practices (BMP) identified in the MOU, which was signed as a negotiated settlement between water agencies and environmental interests. The initial term of the agreement expires in 2001. "We're more than halfway through the initial ten-year term and there has been no rigorous evaluation of how well our members are doing until now," says CUWA's Byron Buck.

The evaluation found that most CUWA agencies are generally in compliance with the MOU and are implementing most BMPs on schedule. Compliance is most uneven for the most expensive BMPs and those requiring the most customer intervention, such as customer rebates, device distribution and audits. For example, all agencies are lagging on implementation of BMP 10, which requires review of new commercial, industrial and institutional water use.

BMP 16, which requires ultra-low-flow toilet replacement programs, is the single largest obstacle to compliance facing most agencies. One reason is that compliance is based on the cumulative volume of water saved over the term of the MOU, and therefore agencies that launched ULFT programs relatively late will find it almost impossible to catch up and meet the MOU's requirements by the time it expires. Ronnie Cohen of the Natural Resources Defense Council notes, however, that some agencies are not implementing the BMP at all, while others are not dedicating the resources necessary to meet even annual targets.

Cohen says that although the evaluation shows that some agencies have made great progress, "there's still a lot of room for improvement," noting that compliance is most uneven for those BMPs that save the most water. She adds that the evaluation points up the need for a certification and enforcement process to ensure compliance.

The report found several challenges for such a certification process, among them the inadequacy of the annual reports agencies currently file and the lack of standard evaluation criteria in the MOU. "The difficulty of performing the evaluation is evidence that the BMPs need to be revised to include clearer performance standards," says Cohen. Buck says that the California Urban Water Conservation Council, which oversees implementation of the MOU, is currently revising the BMPs. Contact: Byron Buck (916) 552-2929 CH

PLACES TO GO & THINGS TO DO



WORKSHOPS & SEMINARS

SEPT 13 SAT 4TH ANNUAL VOLUNTEER MONITORING CONFERENCE

Conference will focus on building partnerships between agencies and volunteer groups for watershed protection.

Sponsors: SF Estuary Institute, Bay Area Regional Watershed Network

Location: San Anselmo
9:00 AM--5:00 PM
(415) 457-0802

SEPT 15 MON • TUE 16 2 21ST BIENNIAL GROUNDWATER CONFERENCE

Agenda includes discussions on groundwater transfers, the effect of transfers on groundwater management, major contaminants, the future of California's groundwater and the 1996 Safe Drinking Water Act.

Sponsor: UC Water Resources Center, Department of Water Resources, Water Education Foundation, Groundwater Resources Association and the State Board.

Location: Radisson Hotel, Sacramento
(916) 752-7999

OCT 10 FRI • SAT • SUN 12 CALIFORNIA EXOTIC PEST PLANT COUNCIL SYMPOSIUM '97

"Reaching Out and Keeping Out" explores the threat of non-native plants to California's ecosystems.

Location: Concord
(714) 888-8347 or sallydavis@aol.com

OCT 19 SUN THRU THUR 23 AMERICAN WATER RESOURCES ASSOCIATION ANNUAL CONFERENCE AND SYMPOSIUM

Conjunctive Use of Water Resources: Aquifer Storage and Recovery

Location: Long Beach, CA
(703) 904-1225



HANDS ON

SEPT 20 SAT COASTAL CLEANUP DAY

Sponsor: California Coastal Commission

Location: Beaches throughout the state

9:00 AM--12:00 Noon
(800) 262-7848

SEPT 24 WED THRU 26 FRI NORTHERN CALIFORNIA WATER TOUR

Tour travels the length of the Sacramento Valley and includes visits to Oroville and Shasta dams, Feather River fish hatchery.

Sponsor: Water Education Foundation
(916) 444-6240

SEPT 26 FRI KIDS IN CREEKS

Workshops prepare educators to teach about creek ecology and restoration.

Sponsor: Aquatic Outreach Institute. Marin County and Alameda County locations
(510) 231-5784

OCT 11 SAT 4 5 BUGFEST '97

Learn amazing things about Earth's largest biomass.

Sponsor: Lindsay Wildlife Museum
Location: Walnut Creek

10:00 AM--5:00 PM
(510) 935-1978

OCT 18 SAT 25 EDUCATORS CONFERENCE

Topic: Teaching About Creeks, Wetlands and Watersheds (additional dates: November 1, 8).

Sponsor: Aquatic Outreach Institute
(510) 231-9566



MEETINGS & HEARINGS

AUG 27 WEDS BDAC ECOSYSTEM RESTORATION WORKGROUP

Sponsor: CALFED

Location: Sacramento, San Francisco
(916) 653-3790

SEPT 24 WEDS CCMP IMPLEMENTATION COMMITTEE

Sponsor: SF Estuary Project

Location: Fairfield Community Center
10:00 AM--12:30 PM
(510) 286-0460

NOW IN PRINT

State of the Estuary Report, 1992--1997: Vital Statistics, New Science, Environmental Management

SF Estuary Project

Copies available in late September from
(510) 286-0460

CALFED Ecosystem Restoration Program Plan Draft Executive Summary, Volumes I, II and III available separately

Copies from (916) 657-2666

Central Valley Project Improvement Act Draft Programmatic Environmental Impact Statement

Bureau of Reclamation

Copies available in September from (916) 979-2837

Diazinon Toxicity Control Reports: Diazinon in Surface Waters in the San Francisco Bay Area: Occurrence and Potential Impact; Outdoor Use of Diazinon and Other Insecticides in Alameda County; Characterization of the Presence and Sources of Diazinon in the Castro Valley Creek Watershed; Strategy to Reduce Diazinon Levels in Creeks in the San Francisco Bay Area.

Alameda County Public Works Agency
Copies from: (510) 286-0962

Dredged Materials Management Guidance

EPA Ocean and Coastal Protection Division

Copies from: (202) 260-1952

1996 California Water Quality Assessment Report

State Water Quality Control Board, January 1997

Copies from (916) 657-2390

Applied River Morphology

Dave Rosgen, Wildland Hydrology Books, 1996

Cost \$89.00

Copies from: (970) 264-7121

NOW ONLINE

Governor Wilson's Flood Report

rubicon.water.ca.gov/FEATReport120.fdr/featindex.html

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FISH SCREENS, CONTINUED

around the cone," he explains. "The cone stays above the mud. We didn't want the bottom of the screen in the silty marsh bottom."

Lehman says the new screens are among the least expensive permanent screens available, although the one-time installation cost can reach up to \$250,000. Maintenance and operation is paid for by the private landowners of Suisun Marsh. And because many of Borcalli's screens are partially solar-powered, they are not energy-intensive, which Lehman appreciates. But perhaps Borcalli's most satisfied customers are the fish. Even when they swim very close to the screens, they are not drawn up against them. Instead, says Lehman, "they swim right by." Contact: Borcalli & Associates (916) 564-3300 or Lee Lehman (707) 425-9302 **LOV**

TOXIC CLEAN-UP, CONTINUED

program's Advisory Committee be comprised of dischargers, and shifts more responsibility for the program to the regional boards rather than the state board.

The Estuary's two regional boards have both generated valuable data through the program. The S.F. Board has developed new reference sites and toxicity tests tailored to S.F. Bay conditions, measured contaminant levels in Bay fish, and screened more than 100 possible hot spots to prioritize sites for cleanup, with final recommendations due early next year.

"Some statewide pesticide issues were brought to light by this project," says Bill Croyle of the Central Valley Board, who believes the program provides important resources for addressing sediment toxic hot spots and reuse of sediment in the Delta. Noting that many sources of funds for monitoring and assessment are drying up he concludes, "This program is pretty critical for us. We've got a lot more to do." Contact: Geoff Brosseau (510)286-0615 or Keith Nakatani (510) 452 9261 **CH**

LAKE'S LIFELINE, CONTINUED

Matzner stresses the importance of getting involved from the beginning, before tens of thousands of dollars have been spent and environmental impact reports prepared. By then, the positions of both sides would have hardened, resulting in conflict instead of cooperation. "Once you move from a reactive to a proactive strategy, all kinds of things can happen," he says. Contact: Paul Matzner (510)549-3010 **O'B**

YOUR INDEPENDENT SOURCE FOR BAY-DELTA NEWS & VIEWS



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