

ESTUARY

YOUR BAY - DELTA NEWS CLEARINGHOUSE



THE SHRIMP CLUB

The California freshwater shrimp isn't much to look at — it's only about an inch or two long, with a transparent body, bluish tail and a couple of rust colored spots on its flanks — but *syncaris pacifica* has some mighty friends. Students from San Anselmo's Brookside Elementary School adopted the crustacea last year and set up the Shrimp Club to save it.

"We felt sorry for endangered species and wondered what we could do," says club member Aaron Mihaly. So they contacted the Audubon Society, which suggested they adopt trout, salmon or freshwater shrimp as a project. The students decided on the most obscure of these species. "We wanted to teach people that not only cute and cuddly animals were important to the ecosystem," says Aaron.

The club learned that the shrimp don't swim very well, and thus favor slow moving streams with plenty of shade and undercuts along the banks.

- continued on back page

Quake-Proofing Delta Levees

Yet another use has been found for unwanted sand dredged up from the Bay bottom — earthquake safety. State agencies plan to undertake studies this summer to determine if dredge spoils can be used to help shore up Delta levees against earthquakes, as well as floods.

The stability of 1,100 miles of loosely constructed levees on the 60 islands of the Bay-Delta system could be threatened in an earthquake, according to Greg Zlotnick of the Bay Delta Oversight Council. "If a major failure or breach should occur, it is generally conceded that a water quality crisis would ensue, likely leading to a complete and extended halt to the export and use of Delta waters," he says. Thousands of acres of wildlife and waterfowl habitat would also be permanently inundated.

The state Department of Water Resources plans to install half a million dollars worth of seismic monitoring equipment this summer to study the problem, officials say. Getting a handle on the problem is a department "priority," according to director David Kennedy.

Delta levees, which protect uninhabited farmland, differ from levees that protect towns and cities in that they are constructed simply by piling up a mixture of peat and other soils. Subsidence in the Delta's peat soils has left some islands up to 15 feet

below sea level. There's a shortage of earth to repair the levees surrounding the islands. The Department's Curt Schmutte says it will take

50 million cubic yards of dirt to shore up the levees, mostly to keep fresh water from spilling on the islands.

The idea of tapping dredged material to supply that dirt got its first test in 1990 when 1,500 cubic yards were piled on the Sherman Island levee without adverse effect, says Schmutte. Last year tests adding 50,000 cubic yards to Twitchell Island levees produced no problems. This summer, the Department will conduct the biggest test yet when over 100,000 cubic yards are added to Jersey Island's banks.

"We've found no indication that dredged sediment imported from Simmons Island for levee rehabilitation has had an impact on water quality," Schmutte told the Central Valley Regional Board. But officials at the Board and U.S. Fish & Wildlife say no determination has yet been made that would allow large-scale use of salt and contaminant-laden sands to repair levees.

Dredged materials could provide more earthquake-resistant repair materials than peat. "The problem is nobody knows what peat does in an earthquake," says the Department's Les Harder. "There's one school of thought that says peat could amplify the motion, and other scientists who say the soft soil could absorb it. These tests could tell us."

But the Department's \$500,000 investment in the tests, including new instruments and seismographs installed on levees, won't be well spent until a quake actually hits. "In the 1980s we had three or four earthquakes that could have served as a test," says Harder, "and I think it's reasonable to assume there will be a similar number in the 1990s." Despite their investment in the tests, officials are quick to point out that Delta levees have not failed in a hundred years and that the water quality risk from a major earthquake remains remote. A comprehensive report on the levees will be released this February (see *Now in Print*). Contact: Curt Schmutte (916)653-5422 FH

THE SHRIMP PLEDGE

*I pledge to protect
the shrimp and respect
the stream of life upon it.
And to honor the shrimp in
their syncaris pacifica
family, one stream,
one world, in harmony,
with peace, swimming
and freedom for all.*

- Adam Welliver
Fifth Grade

NEWS ROUND UP

NEW RULES FOR GOLD SUCKERS

Gold miners using suction dredges to extract the precious yellow ore from the state's rivers may face new regulations later this year. These will be the first formal statewide controls over the dredges, says Fish & Game's Ken Anderson. The agency hopes to reduce damage done to fish, stream banks and riparian vegetation, he says. The regulations will limit the size of the nozzles on the dredges, restrict the use of power winches, which can move large logs and boulders, and prohibit the miners from altering the stream banks.

A draft Environmental Impact Report was released in early February. Fish & Game had proposed more stringent regs last year, but these were withdrawn after protest from mining groups. Anderson says some of the new controls are still "pretty contentious." The agency hopes to have them in place by the time dredging activities pick up in the spring, although some miners are pushing to delay them until 1995. Contact: Ken Anderson (916)657-2392 O'B

STATE WATER BUDGETING

According to a newly updated *California Water Plan*, the state won't have quite enough water to slake the thirst of its burgeoning population by the year 2020. The 750-page, three-inch-thick plan updates a document whose earliest draft in 1957 was an engineer's wish-list of new dams and diversions. The 1993 version is short on dams — proposing a few new reservoirs — and long on water conservation, recycling, marketing and redistribution. It even suggests that some irrigated farmland may have to be retired. Projected shortfalls in a typical rainfall year will amount to 2.2-4.2 million acre-feet (maf), according to the report, and urban water demand will leap from 6.7 to 10.5 maf per year. Contact: Naser Bateni (916)653-9883 AR

GOLF COURSE GOING UNDER

Everyone agrees that the dredging of Oakland's inner harbor should get underway as soon as possible. But some local residents have concerns about the use of the Galbraith Golf Course as a disposal site. On January 20, the Sierra Club's Northern Alameda County Group held a public meeting on the issue. "We live here, and we think that our health should be of some concern," said the Club's Jacquie Castain. Over forty people attended the meeting, airing concerns about everything from the loss of a good golf course to fears that contaminated sediments would blow into neighborhoods as they dried. The Port's Tom Gwynn responded that the disposal process is undergoing thorough environmental review. Contact: Jacquie Castain (510)568-5333 O'B

BAY FILL (INGS)

City officials in San Francisco are worried about tooth decay, or at least the prospect that mercury used in dental fillings is harming Bay water quality. Dental amalgams, which consist of about one half mercury and one half silver, are routinely ground up by dentists and flushed down the drain. According to a study by the Department of Public Works, the amalgams make up 8 - 13 percent of the mercury-containing waste that arrives at local sewage treatment facilities. The city may require dentists to install special centrifuges to remove the mercury. Dentists protest that there is little evidence that any mercury actually leaches out of the amalgam into the water. Contact: (415)695-7363 O'B

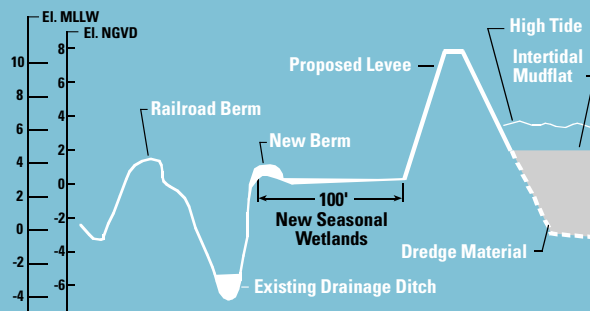
DREDGE SCOOP

SEASONING SONOMA

Sonoma rancher Fred Dickson says rain doesn't pond up in his hayfields for long if he can help it. Dickson's land is adjacent to Sonoma Baylands — 322 acres of similar hayfields slated for tidal wetland restoration. The restoration project, though endorsed by Clinton himself this December as an answer to Oakland's dredging disposal problems, has been criticized for not addressing the

Sparking the debate over whether or not ponds occur in the area was a recent U.S. Fish & Wildlife demand that the restoration project include seasonal wetlands mitigation. A somewhat exasperated California Coastal Conservancy, the Bayland's sponsor, responded to the Service's demand by proposing a new berm around the entire project perimeter, which would allow water to pond in a 100-foot-wide, 26-acre area.

SEASONAL WETLAND DESIGN MODIFICATION



Source: State Coastal Conservancy

potential loss of seasonal ponds. But Dickson says that even with the 1993 rains, ponding occurred on his ranch and the Baylands for no more than five days and covered no more than 2-5 percent of the land.

Despite this concession, the Conservancy and other key agencies continue to believe the mitigation unnecessary. In a recent letter to the Army Corps, the Conservancy documents how pumping to promote hay growth, as well as low migratory bird counts, show little historic ponding in the area. The brouhaha over the mitigation issue has divided project supporters, to the extent that State Resources Secretary Doug Wheeler recently wrote to Interior

Secretary Bruce Babbitt urging him to intervene "to prevent collapse of the project." Contact: Laurel Marcus, Coastal Conservancy (510)286-4164 AR

It's hard to introduce "watershed management" without seeming overly ambitious or ambiguous in an era where efforts to save air, water and land all have their separate compartments, as do those aimed at protecting little fish, big trees and thirsty humans. Ambitious because watershed management addresses all these things at once, embracing whole ecosystems; ambiguous because it breaks conventional boundaries as it leaps from pebble to stream to bank to field, from city to farm to mountaintop, from rancher to biologist to student. In this context, where on earth do you start?

The Estuary Project started in nine specific places 18 months ago, and its network of demonstration projects for watershed protection is fast-growing into a model of how to make local actions have regional impact, how to put big government behind real people, and how to make the Project's Comprehensive Conservation and Management Plan (CCMP) for the Bay and Delta come alive from the ground up.

"There's a synergy here, a regional partnership of people looking not only at the success of their individual projects, but also how they fit together as a whole," says manager Tim Vendlinski.

Each project demonstrates how to implement one or more of the CCMP's 144 actions. To fund them, the Estuary Project contributed close to \$600,000, augmented by a 25 percent non-federal match. It also organized quarterly meetings among project leaders. "We've helped innovative thinkers connect on a personal, technical and policy level," says Vendlinski. "It's a model for how government can do business as a catalyst, of how

emerging local projects can become facets of a large-scale ecosystem approach."

The following special section presents project summaries and highlights of recent activities.

Contact: Tim Vendlinski (415)744-1989 AR

Inventorying Streams

The hardhead is a lowlander — a native minnow that lives in low and middle elevation stream habitats and one of the multitude of species that makes lowlands some of the most biodiverse zones on Earth. Unfortunately, lowlands are also where people most like to build their homes and cities.

Finding the last unspoiled stream habitats in the Bay watershed was what EPA's Rob Leidy was after when he netted a hardhead in Napa Creek last summer. The discovery of a

Napa Creek is one of 400 riparian sites throughout the Bay watershed where Leidy has been inventorying fish, amphibians and plants for this demonstration project. His most recent discovery shows how well natives, versus interlopers, fair in the extremes characteristic of California's freshwater environments. "After last year's heavy flows, it seems there's a decline in introduced species," he says. "A lot of the exotics

aren't really adapted to these flashy, high flow systems, which flushed them out, if you will. Of course in areas where reservoirs were built, the flows have been changed, and the exotics still dominate."



Rob Leidy makes field notes.

species that's been fast-disappearing as pollution and habitat degradation take their tolls was hopeful. "In some streams, we've found really nice intact remnants of native fishes and amphibians," says Leidy. "That's sort of surprising to some people because the Estuary is so urbanized."

Once high-quality, high-risk stream zones have been identified, priorities can be set for protection and the creation of Aquatic Diversity Management Areas designed to preserve whole ecosystems.

O'B & AR

Contact: Robert Leidy (415)744-1970
Budget: \$224,699

Mapping Conditions

Al Gore's dream of a nationwide data superhighway is already alive in the Estuary in the form of a computer-based Geographic Information System (GIS) that can map and compare different environmental and land use factors. "We're making digital information into live, usable, interactive files," says Professor Robert Twiss of U.C. Berkeley's Center for Environmental Design Research.

Twiss and the Center have spent more than five years building a GIS for the San Francisco Bay-Delta region. They now have more than 50 basic data layers showing everything from streams and wetlands to urban growth scenarios in the Estuary's 34 hydrologic units. The newest layers are coming in from other watershed demonstration projects.

The project will soon offer 12 of the most-asked-for layers on a CD-ROM disk. And plans are underway for a "situation room" where planners and the public can use advanced GIS technology.

To Twiss, GIS and advanced telecommunications have the power to assure wide public access to information. Rather than having one centralized government repository, Twiss envisions a large number of information suppliers (universities, government agencies, volunteer groups) and users (libraries, schools, homes, private firms) connected by a network.

"Demystifying and deprofessionalizing this kind of information is a very important democratic principle," says Twiss. "It's enormously empowering. It's a way for the Estuary Project to connect at the grassroots level." AR

Contact: Professor Robert H. Twiss (510)642-2896
Budget: \$89,858

Entrusting Citizens

Can citizen monitors provide reliable data for decisionmakers? The answer is a resounding "yes," says Mike Rigney of Coyote Creek Riparian Station, which has trained almost 200 volunteers over the past year to survey water quality and habitat along urban streams in Santa Clara County.

Teams looked at vegetation, fish habitat, reptiles and amphibians, birds and water chemistry. The Station developed a quality assurance protocol for each team that included working side-by-side with scientists and comparing results.

According to the Station's Chris Fischer, volunteers surveying fish habitats matched scientists' work 100 percent, and other teams were almost as accurate. "The key was intensive training at the beginning of the program," says Fischer. But training went both ways, says volunteer Nancy Hardesty. "The theory of putting data on spreadsheets is very different from the reality of wading up to your waist in water and trying to collect data," she says. "We had to make practical adjustments to the data collection sheets so we could work in the field effectively."

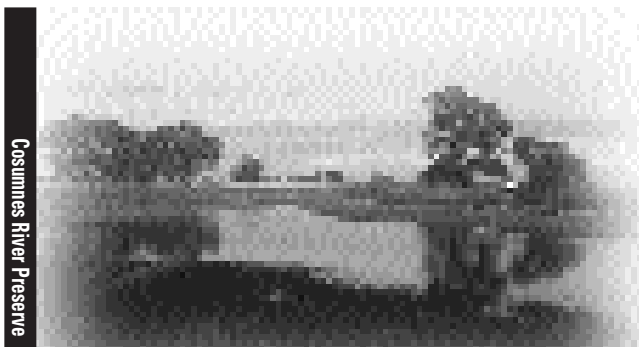
The Station is developing a how-to manual to make the whole process exportable to other programs, says Fischer. An analysis of quality assurance protocols for citizen water chemistry monitoring is already available (see *Now in Print*). KA

Contact: Mike Rigney
(408)262-9204

Budget: \$85,000

Interweaving Habitat and Human Use

Sandhill cranes are flocking to the Cosumnes River Preserve along the rich floodplain where the Cosumnes meets the Mokelumne and where a major ecosystem restoration project is underway. In 1990, only 750 of the stately, long-legged, long-necked, gray



birds wintered at the Preserve; last year there were over 3,000, says Ducks Unlimited's Andy Engilis.

The Preserve's 5,200 acres interweave marshes, pastures, croplands, grasslands and



valley oak forests. The demonstration project, a 560-acre subsection, will showcase how oak forest and seasonal wetland restoration can combine with the preservation of farming and prime agricultural land.

The Nature Conservancy's Greg Elliott believes this habitat mosaic is what attracts

the cranes. "The birds have adapted to the changing land use in the area. They can forage in ag lands and pastures during the day, then roost in the marshes at night," she says. "They don't have to fly far to get to their prime feeding grounds." To help, farmers leave stubble from crops like rice and wheat in Preserve fields after harvest. In

upcoming growing seasons, one demonstration farmer will try out integrated pest management and organic farming to see how these techniques benefit wildlife and people. "Human pursuits can be successfully integrated in and around the river, riparian corridors and natural and restored wetlands," says Elliott. "The project proves that human activities don't have to be detrimental." KA

Contact: Cosumnes River Preserve (916)684-2816
Budget: \$53,500

Curbing Ag Drainage

Eroded soil and agricultural chemicals running off farm fields into Bay-Delta waterways are a major uncontrolled source of pollution. Monitoring the success of best management practices (BMPs) designed to curb this pollution is the aim of a cooperative demonstration project of the state's

Department of Pesticide Regulation and the West Stanislaus County Resource Conservation District.

The agencies are gathering data about pesticide use patterns, soil types, sub-drainage basin boundaries and land use in the Stanislaus area, says the department's Muffet Wilkerson. Wilkerson believes the demo project will provide a "good baseline" for finding out how effective the BMPs are. "We'll be able to start at a certain year, and as management practices change over time, we'll be able to see which ones account for various effects. This is a fairly detailed look at things. It's almost a field-by-field look at what's going on out there," she says. O'B

Contact: Muffet Wilkerson
(916)445-4042

Budget: \$41,408

Providing the How-To

Blanketing vineyards with coconut hair may seem like a strange fruit and nut combo. But Sonoma County grape growers, hard-hit by the root-chomping louse *phylloxera*, are finding the matting useful as they struggle to replant entire vineyards and keep their topsoil in place. "If somebody rips out an old vineyard and doesn't have good engineering advice, they could lose up to 150 tons per acre of topsoil, which would then go directly into the watershed," says Tish Ward, a grape grower and board member of the Southern Sonoma County Resource Conservation District.

This demonstration project provides that advice, complete with the coconut matting, in a manual called *Vineyard Management Practices: An Environmental*

Approach to Development and Maintenance. The district, which researched and published the manual, has sold 250 copies to date and sponsored a field day on sustainable agriculture last June. Assisting growers who want to use environmentally friendly vineyard management techniques is critical, says Ward. "The writing's on the wall, but there is no system in place to help us make that transition." O'B

Contact: Tish Ward
(707)935-1474
Budget: \$33,333

Monitoring the Estuary

Virtual monitoring will become reality in the Estuary once the computer-based *Wetlands Atlas* envisioned by the Aquatic Habitat Institute goes on-line. With a few keyboard strokes, scientists, citizens, agency staff and elected officials alike will be able to link up via an interactive data base that includes everything from the ecological values of a specific marsh to a list of who has jurisdiction over that shoreline band.

The on-ramp to this Estuary lane on the information super-highway is a Regional Wetlands Monitoring Plan now under construction. The atlas is just one part of the plan, and the plan, in turn, demonstrates one element of the overall Bay-Delta monitoring strategy for wetlands, wildlife, land use and water quality called for in the CCMP.

According to Institute scientist Dr. Josh Collins, the new wetlands monitoring plan will yield comprehensive information about the conditions and functions of tidal marshes on both a local and regional basis, along with methods for measuring these

factors. It will also set out the roles that citizen monitors can play in the overall Estuary monitoring process. "Once we gather this information, we want to extend its benefits as far through government and society as possible," says Collins. This demonstration project will also lay out the basics for information exchange among the 200 entities currently involved in wetlands monitoring region-wide. "The *Wetlands Atlas* will allow citizens to access government more easily, and it will also help government talk to government, especially at the staff level," he says. KA

Contact: Dr. Josh Collins
(510)231-9539
Budget: \$160,000

Training Cows

Now that the fences are up around upper Wildcat Creek, cows aren't as much of a problem as people. Hikers have been leaving the gates open. "We've trained the cows," says EPA's Tim Vendlinski. "Now we need to train the people."

Before they were trained, the cows created some problems, says Jean Woods of the Contra Costa Resource Conservation District. "They drank directly from springs and stomped around the wetlands area." They now drink from newly installed water troughs, and new fences keep them away from the stream banks. In addition, their pasture has been divided into four sections so that their owner, Leonard Mohring, can rotate the use of the fields and

thus protect fragile native grasses and wildflowers. Range scientists recently began sampling pasture vegetation to measure the effects of this new grazing regime.

These steps — a cooperative project of the Soil Conservation District, U.C. Berkeley, East Bay Regional Parks and Mohring — show how the impacts of cattle ranching on stream environments can be reduced.

"It's a little more work for us," says Mohring, who leases the East Bay parklands and constructed the fences himself. Woods says Mohring's cooperation has been a key to the project's success. "He's a responsible rancher. He builds good quality fences, too." O'B & AR

Contact: Jean Woods
(510)672-6522
Budget: \$73,960



Three partners in the project.

Linking Up Planning

"You can't address watershed protection at the same level for every square inch of California," says Dr. Scott McCreary. "I've tried to suggest a methodology for setting priorities."

In two working papers, McCreary's demonstration project presents a methodology for classifying watersheds and ranking resources and threats, and suggests ways to knit watershed

management into the fabric of existing land use planning and environmental protection efforts.

The methodology begins with a straightforward inventory of natural resources and threats to those resources, then identifies the magnitude of threats to specific resources in the context of the whole Estuary, then pulls it all together into a cumulative risk assessment of multiple threats. "We took raw unsorted, unranked data and tried to make sense of it in a comparative way," says McCreary.

Using this methodology, McCreary and his co-authors found out, for example, that of all 34 Estuary watersheds and receiving waters, the South Bay faces the highest overall threat from multiple impacts, the North Delta stands to get the largest increase in runoff due to urban growth and the East Delta stands to lose the most wetlands to planned development.

The second paper delves into the institutional side of watershed management and suggests ways to incorporate it into city and county Storm Water Management Plans (now required under the Clean Water Act), the General Plan Guidelines developed by local governments and the environmental impact review process required under the California Environmental Quality Act. Both papers build on previous research on the effects of land use change on the Estuary and are now available for review (see *Now in Print*). AR

Contact: Dr. Scott McCreary (510)649-8008
Budget: \$46,667

INSIDE THE AGENCIES

FLOWS FEEDBACK

Just when California's Santa Claus was wondering how to run his sled without any snow, four federal agencies announced their final plan for keeping the Delta healthy rain or shine. Club Fed (U.S. EPA, Fish & Wildlife, BurRec and National Marine Fisheries) released a coordinated plan of action on December 15, and state water agencies and interests are now trying to get a piece of it.

The plan — launched into a void left by decades of state inaction — includes:

- New water quality standards based on salinity.
- Reduced pumping and measures to get salmon and smelt out of the water diversion zone, as well as to up their habitat and populations.
- Listing changes — the winter-run Chinook salmon is no longer "threatened" but "endangered," and the Sacramento splittail joins the threatened species list.

- Steps for divvying up the 800,000 acre-feet of water set aside for fish and wildlife by the Central Valley Project Reform Act last year.

The feds estimate their plan will require state and federal water project users to give up 9-21 percent of their supply, depending on the weather. "Club Fed's trying to put a smiley face on the whole thing, saying it won't add up to much, when in fact it adds up to a whole lot," says Bob Potter of the state Department of Water Resources. He thinks the plan could mean more than a 50 percent reduction in water supplies from the projects during a drought.

Potter's particularly worried about the standard requiring that enough water be released to keep the 2 ppt (parts per thousand salt to water) isohaline within Suisun Bay, especially during a drought. "If the line was at the mouth of the rivers, it would be easier to control," says Potter. "Out in the bay we could be in compliance, but if the wind comes up or the barometric pressure changes, it could take half the Folsom reservoir just to get the line back where they want it." Potter also thinks "the scientific underpinnings of the decisions are pretty weak."

But oceanographer Dr. Wim Kimmerer, who conducted a lot of the research behind the new standards, sees the relationship between the position of the 2 ppt isohaline and biological response as quite robust. "My impression is that the water management community is used to doing things a certain way and doesn't want to change," says Kimmerer.

State and federal officials do agree, however, that the action needs some fine-tuning. "We have to figure out how to deal with extended droughts and come up with a real, workable implementation procedure," says EPA's Bruce Herbold. The current plan, for example, ties the standards to rain or drought conditions each year rather than conditions over multi-year periods, according to Herbold. "Everyone now seems to be in favor of setting the standards by the state's wetness index, which takes previous years into account, rather than by year type," he says. Public hearings are being held on the federal action this February (see *calendar*), and comments are due by March 11. Contact: Bob Potter (916)653-6055 or Patrick Wright, EPA (415)744-1993 AR

FRILLS FOR SPILLS

Dischargers who spill negligently or accidentally in the Estuary's surface or groundwaters can pay the price closer to home under the S.F. Regional Board's new Enforcement Guidelines. The Board now encourages these dischargers to carry out mitigation projects in the same watershed where the violation occurred. Dischargers may be able to direct up to 75 percent of the imposed administrative civil liability penalty to an acceptable mitigation project instead of paying that amount to the state's Clean-Up and Abatement Account. "The thrust is to educate the public, enhance waterways, deter future spills and mitigate the impacted area," says the Board's Hossain Kazemi. According to Kazemi, Tosco, recently fined for an oil spill, will mitigate by spending \$9,000 on enhancing a section of the Walnut Creek channel and another \$3,000 on a feasibility study for an environmental education center. Similarly, the Board has approved mitigation projects from other violators, including BART's program to teach passengers about stormdrain pollution and Pittsburg's plan for a wetlands preserve and self-guided nature trail. Kazemi hopes the Guidelines

ENVIRO CLIP

BDOC REVIVED

Last year the governor's 18-member Bay-Delta Oversight Council spent six months reeling from the resignation of its environmental panelists, only to be hit with the dramatic December 15 Delta "fix" proposed by four federal agencies. But BDOC's Greg Zlotnick is now back on the meeting circuit, hoping to get the council restarted on its original goal of coming up with long-term solutions to all the problems of the Bay-Delta system.

BDOC environmental representatives, including the Sierra Club, the Environmental Defense Fund and the Mono Lake Foundation, walked away from the multi-interest council last year over the failure of the State Water Resources Control Board to act on Decision 1630. Executive Officer John Amodio says BDOC has no more control over the new federal Delta plan than it did D-1630, but hopes federal agencies and environmentalists will join in the council's search for long-term solutions.

The walk-out caused meetings to be canceled for six months. But two of the "environmental" seats have finally been refilled, and BDOC hopes to fill at least two more soon. "We couldn't wait anymore," says Zlotnick. "We were losing daylight so to speak."

The new environmental catches are Trout Unlimited's Gary Widman, a former Interior Department attorney, and Nat Bingham, a top official at the Pacific Coast Fisherman's Association. "It's not clear to me that these represent mainstream environmental organizations," says ex-council member David Fullerton of the Sierra Club. "They may be meeting, but there's no consensus that this is a process where solutions will be hammered out." Contact: Greg Zlotnick (916)657-2666 FH

will lead non-profit organizations to approach violators directly with ideas for potential mitigation projects. Making sure that projects don't fall through the enforcement cracks is a priority, says the Board's Larry Kolb. If dischargers fail to complete their projects by a specified deadline, they must pay the full amount set aside for mitigation to the Board. Contact: Hossain Kazemi (510)286-1043

KA

PLACES TO GO & THINGS TO DO



WORKSHOPS & SEMINARS

Managing Farmland to Bring Back Game Birds and Wildlife to the Central Valley

SAT-SUN•2/19-20•All day

Topic: Practical, state-of-the-art information on habitat restoration and enhancement techniques for the Central Valley.

Sponsor: Yolo County RCD
Kleiber Hall, U.C. Davis, Davis
Cost: \$35-\$45 (916)662-2037

Watersheds '94

THUR-SAT•2/24-26•All day

Topic: How to preserve natural resources through integrated watershed management.

Sponsor: Soil and Water Conservation Society
Pacific Suites Hotel, San Luis Obispo
Cost: \$60-\$80 (209)723-3354

Base Closings and Conversion: Regional Challenges and Opportunities

SAT•2/26•9 AM-12:30 PM

Sponsor: League Women Voters of Bay Area Officers' Club, Alameda Naval Air Station
Cost: \$5; Register by 2/18 (510)283-7093

Erosion Control and Land Restoration

TUES-WED•3/1-2•All day

Topics: Revegetation, re-establishing native plant communities, new products for erosion control and stormwater permit regulations.

Sponsor: Assoc. of Bay Area Governments
MetroCenter, 101-8th Street, Oakland
Cost: \$360-\$450 (510)464-7964

Interagency Ecological Studies Program Annual Workshop

WED-FRI•3/2-4•All day

Topics: Program reports, endangered species, CVP Improvement Act, new Bay-Delta standards and technical sessions.

Asilomar Conference Center, Pacific Grove
Cost: \$20; Must pre-register (209)948-7800

Military Base Closures

THUR•3/3•All day

Topic: Legal and practical steps necessary in closing military bases, particularly environmental cleanups.

Sponsor: Assoc. of Bay Area Governments
MetroCenter, 101-8th Street, Oakland
Cost: \$160-\$195 (510)464-7964

Urban Stream Restoration Training

FRI•3/4•All day

Topic: Innovative urban stream restoration techniques for local and state Conservation Corps personnel.

Sponsor: Golden State Wildlife Federation and Urban Creeks Council

Various field locations in the East SF Bay Area
Cost: \$60 (510)848-2211

Landslide Hazard and Mitigation

THUR•3/10•All day

Topic: Landslide hazards and mapping, slope stability, landslide analysis, urban landslides and case histories.

Sponsor: Assoc. of Bay Area Governments
MetroCenter, 101-8th Street, Oakland
Cost: \$160-\$195 (510)464-7964

Alameda Naval Air Station's Natural Resources and Base Closure: Planning for the Future

SAT•3/12•All day

Topic: A scientific symposium on how the Air Station's closure will affect its natural resource values, including endangered species.

Sponsors: Bay Area Audubon Council, East Bay Conversion and Reinvestment Commission, Save the Bay and US Navy College of Alameda, Alameda (510)843-2222

Changing Roles in Managing California's Water

FRI•3/25•All day

Topic: The science, economics, history and politics behind California's water issues.

Sponsor: Water Education Foundation
Radisson Hotel, Sacramento
Cost: \$150-\$175 (916)444-6240

Pollution Prevention Seminar for the Boat Repair Industry

MON•4/11•5:30-9:30 PM

Topic: Environmental impacts of the boat repair business and required compliance with environmental regulations.

Sponsor: Marin County Office of Waste Management and N. California Marine Assoc.
Embassy Suites Hotel, S.Rafael (415)499-6647



HANDS ON

Storm Drain Stenciling

SAT•4/23•All day

Activity: Volunteer to help stencil storm drains with message, "No Dumping! Drains to Bay."

Sponsor: San Francisco Estuary Project
Locations throughout the Bay-Delta area
(510)286-0460



MEETINGS & HEARINGS

Bay Commission

THUR•2/17•1 PM

Topics: Continued public hearing on Caltrans' West Grand/Cypress/I-80 HOV project; public hearing on San Mateo County landfill.

State Building, Rm 455, SF (415)557-3686

Federal Delta Action Hearings

2/23•Fresno, 2/24•Sacramento, 2/25•San Francisco, 2/28•Irvine; times vary

Topics: Federal actions establishing water quality standards for the Bay-Delta, designating critical habitat for the Delta smelt and protecting other endangered species (see page 6).

Sponsors: US Fish & Wildlife and US EPA
(415)744-1162

Central Valley Regional Board

FRI•2/25•8 AM

Topic: Annual review of rice pesticides.

Integrated Waste Management Building
8800 Cal Center Drive, Sacramento
(916)255-3039

NOW IN PRINT

California Water Plan Update

California Dept of Water Resources Bulletin 160-93
Copies from (916)653-9883

Citizens Water Quality Monitoring of Urban Streams

Rigney, Coyote Creek Riparian Station's Community Creek Watch Program
Copies from (510)286-0734

Delta Levees

California Department of Water Resources
Copies from (916)653-5422

Environmental Management

Global Cities Project
Copies from (415)775-0791

Options for Strengthening Existing Institutional Arrangements for Watershed Protection of the San Francisco Estuary (working paper)

McCreary, Harnish, Tibbott & Warren, Concur/Perc, EPA
Copies from (415)744-1990

A Prototype System for Classifying Watersheds in the San Francisco Estuary Region (working paper)

McCreary, Langenthal, Neuman, Buice & Warren, Concur/Perc, EPA
Copies from (415)744-1990

COVER STORY

The species lives in about a dozen creeks in Northern California, including Marin County's Stemple Creek.

The kids went to visit Stemple and discovered it wasn't in very good shape. The creek runs through several dairy farms where cattle have trampled and eroded its banks and left little in the way of greenery.

Club members planted willows, blackberries and native grasses along the creek and enlisted the help of dairy farmer Paul Martin. Martin's daughter Betsy joined in, and went on to receive an award from Future Farmers of America for her efforts. In a column for the Shrimp Club's newsletter, she noted that although the club's purpose was to save the shrimp and hers was to prevent soil erosion and water pollution, "We have proved that people with different goals can still work together and get results."

The good results made an impression on the kids. "I used to think the world would be a better place if the human race was extinct," says one student. "The Shrimp Club project changed my mind."

The club didn't stop with planting a few blackberries. It went on to hold weekly two-hour meetings, publish a newsletter, write grant proposals, contact Congress, use E-mail, design T-shirts and raise money. "This is more like real life," says Aaron. "You learn about business, politics and farming, and how they work."

Now the club's learning to manage money. The students entered the *Pledge and a Promise* environmental contest sponsored by Busch Gardens and Sea World and pocketed the \$32,500 grand prize.

Current proposals to build a dam and a golf course on Stemple Creek worry the club. "We're not exactly sure about how they're going to affect the shrimp," says Josh Kline but he intends to find out. After investigating, the Club plans to contact officials with their conclusions. The powers that be should listen very carefully. Contact: Laurette Rogers (415)454-7409 O'B

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