

## BITS & BYTES

**THE MYSTERY QUESTION PUZZLING SCIENTISTS AT THE STATE OF THE ESTUARY** conference this October was why Delta smelt do well in odd years and poorly in even? A pattern seems to be emerging of low abundance in 1992, 1994 and 1996 and high in the years in-between, but biologist Bruce Herbold — the last but most mindbending speaker at the three-day event — hasn't a clue why. Is it copper running off upstream rice fields in certain years? Or the Navy painting the mothball fleet at Vallejo near smelt hang-outs with anti-fouling paint every other year? What makes smelt happy was just one of the many questions explored by the dozens of scientists who shared their latest estuarine research on the first and second days of the conference, then collected in hallways in the throng of over 400 attendees to share more data and ideas one on one. The conference, rated an overwhelming "excellent" on evaluation forms — covered fish, exotic species, flows, contaminants, wetlands, watersheds, new policy directions and key progress in implementing its organizer's — the S.F. Estuary Project — 1993 *Comprehensive Conservation and Management Plan* for the Bay and Delta (see workbook *Now in Print*). A State of the Estuary report summarizing conference findings is due out later this year. (510)286-0460

**A BEAUTIFUL 4,300 ACRE RANCH ON THE COSUMNES RIVER** was snatched from the onward march of urban expansion and vineyard development south of Sacramento this fall, when a group of private and public agencies led by the Nature Conservancy secured final financing and signed a contract to purchase it. The Valensin Ranch — preserved intact in family ownership from the days of the Mexican land grants — is "a strategic addition" to the 5,000 acre Cosumnes River Preserve, according to the Conservancy's Mike Eaton. Valensin includes more than 500 acres of seasonal wetlands, 12 miles of stream courses and a 300-acre grove of valley oak, as well as productive farmland. Eaton says its protection will also enhance water quality for the existing preserve and river downstream, and link the hydrology of the upper and lower river systems. The \$12 million dollars needed to purchase it includes \$2 million from private donors and a linchpin grant of \$2.5 million in federal transportation funds requiring enhancements. (916)449-2857

# ESTUARY



YOUR BAY - DELTA NEWS CLEARINGHOUSE

## Mercury Up the Creek

A pick and a gold pan, the tools of the prospector's trade, firmly embedded in California mythology. What's usually left out of the picture is a good supply of mercury, used by early prospectors and their successors to amalgamate gold and make it easier to recover. For more than 50 years, from the 1880s until after World War I, mercury was mined throughout the Coast Range for use in gold mining and processing. Today, the mercury mines are abandoned and, until recently, more or less forgotten.

Now however, findings of high mercury levels in Cache Creek and its tributaries are reinforcing suspicions that mines are a big source of mercury inputs to the Estuary and sparking an ambitious new watershed protection program for the creek's watershed, a 1,150-square-mile expanse reaching from the Indian Valley Reservoir to the north and Clear Lake to the south and draining into the Sacramento River ten miles south-east of the state capital.

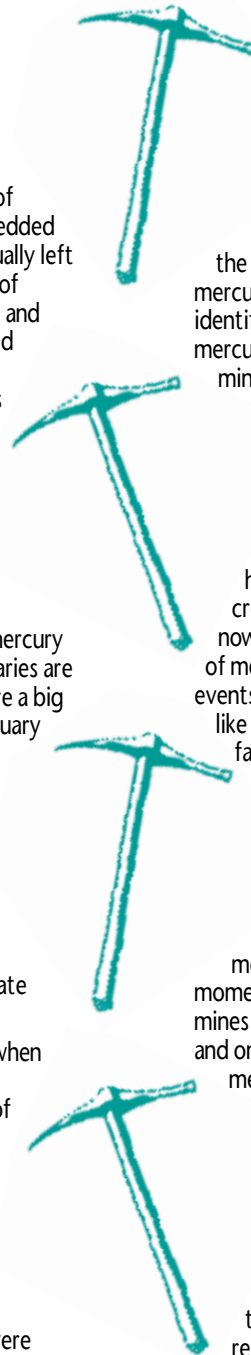
"We were pretty much floored when we got the data," says the Central Valley Regional Board's Bill Croyle of water samples taken as part of the Bay Protection Toxic Clean-up Program in January 1995. During a peak storm period, mercury levels at the creek's outfall at the Yolo Bypass (near the site of the biggest wetland restoration projects west of the Mississippi), were

measured at 695 parts per trillion. The EPA water quality criteria is 12 parts per trillion total mercury.

During the rest of that winter and the next, Board scientists tracked the mercury levels into the watershed, identifying the tributaries with the highest mercury loads. "The tributaries with known mine sites on them are coming out very hot," says Croyle, "but we don't know for sure that they're the source. We are also looking at suspect natural geological formations." Croyle notes that low concentrations of mercury exist in highly erodible soil throughout the creek's watershed. "What we do know now is that Cache Creek is a major source of mercury in the Delta during high flood events." Indeed, mercury from watersheds like Cache Creek may be making its way as far down the Estuary as the Bay, where it's been found both in sediments and in fish at levels high enough to change state health warnings for fish consumption in 1995.

This winter, the Board hopes to pinpoint precisely where the mercury loads are coming from. For the moment suspicions focus on about 10 large mines with open portals and waste dumps and on several natural sources. In the meantime, the Board's awaiting the results of studies by U.C. Davis biologist Darell Slotten which should show how much of the mercury is biologically available for uptake by estuarine organisms.

The mercury findings, the latest in a series of environmental problems that have plagued Cache Creek in recent years, highlighted the need for a



*continued page 4*

## ENVIRO-CLIP

### THORNY LISTING PAPERS

Wildlife managers say there are no conflicts between current efforts to help ducks and two proposed new endangered herbs in the Suisun Marsh, despite federal listing documents that state otherwise. At a meeting this October, U.S. Fish & Wildlife proposed the Suisun thistle and a snapdragon called the soft birds-beak as endangered species, after a one year study.

The Suisun thistle lives only in two places, the Rush Ranch Preserve and another shred of native brackish marsh at Peyton Slough Ecological Reserve. The soft bird's beak occupies the upland fringe of the brackish marsh in pickleweed-dominated plains and is found in ten locations, all on public lands, says Cal Fish & Game's Dennis Becker. Both live on the outboard side of levees which protect seasonal marshes designed to help migratory waterfowl.

Listing documents for the two plants identify seasonal wetlands creation for waterfowl, along with salinity increases and continuing urbanization, as key threats to the tidal marsh habitat the two plants prefer. But these statements in the listing documents were called erroneous by Suisun Marsh managers, who admitted they had not commented during the comment period. The comment period closed October 15 with little written testimony submitted, according to Fish & Wildlife's Kirsten Tarp.

Cal Fish & Game's Brian Hunter says it may have been an oversight that no corrections were made to what he called "numerous errors" in the listing and says his agency would make sure that the "errors" were cleared up before a recovery plan is released.

Becker says the real threat to the two plants, an alien broadleaf weed called whitetop, was not mentioned in the report. He says Fish & Game has been forced to spray the noxious weed on Grizzly Island to keep it from spreading into tidal marshes.

Contact: Dennis Becker (707)452-3858  
FH

## BULLETIN BOARD

**THE NATIONAL INVASIVE SPECIES ACT PASSED CONGRESS** this October but failed to move the nation from voluntary to mandatory ballast water control regulations. Ballast water exchanged by ships as they move from port to port has been identified as a major means of transport for foreign invaders of estuarine ecosystems. Over 230 exotic clams, worms, snails, fish, crabs and other organisms have been found in the Bay and Delta as of 1996 — some of them are threatening the base of the food chain, others may soon undermine levees and clog drinking water intakes. Though the new act (HR4283) expands the nation's efforts to prevent invasions from the Great Lakes region to the entire country, it's still not as stringent as many Bay Area scientists, water users, managers and environmentalists would have liked. "It's a bill without a tooth in it," says biologist Andy Cohen. A baby tooth, perhaps, is a requirement that the Secretary of Transportation develop a strategy for assessing and ensuring compliance with the act's guidelines, including a strategy specific to the Bay Area. Congressman George Miller and other California lawmakers succeeded in getting the bill modified to help their state. Such modifications included up to \$750,000 for research on aquatic nuisance species prevention and control in the S.F. Bay-Delta Estuary (as well as \$500,000 for Pacific Coast research); addition of a Bay-Delta representative to the existing National Task Force (see calendar); and creation of a new panel to identify and coordinate priorities for the Pacific Coast. Contact: Debbie Colbert (202)226-7256

**CALIFORNIA'S WHITE ABALONE** are among 100 oceanic species being added to the World Conservation Union's "red list" of creatures vulnerable to or nearing extinction this fall. The marine red list is part of the largest study of the state of the world's wildlife ever conducted (evaluating over 5,000 species and using data from over 7,000 scientists). Although it is not news that commercial stocks of ocean fish such as Pacific Coast salmon are rapidly depleting, most scientists have long assumed that the sheer size of the ocean and general fecundity of oceanic species made true endangerment of marine fish and invertebrates next to impossible. Now some are changing their

views. The threats to sharks, seahorses, groupers and other species are the same as those facing many terrestrial creatures: over-exploitation of slow-reproducing species, the destruction of narrow habitats and pollution. However, the red list also includes super-fertile, wide-ranging but severely over-fished species including tuna and swordfish. The red list carries no legal authority; rather it is used as a guideline and red flag for policy makers.

**FOUR NEW BARRIERS AND A NEW WATER INTAKE** were proposed by BurRec and the Department of Water Resources this August to resolve water-level and circulation problems for local agricultural diversions in the South Delta, as well as to improve hydraulic conditions so as to maximize the frequency that the State Water Project's Banks Pumping Plant can pump at full capacity. To address the former, an August 1996 Draft Environmental Impact Statement/Report (see *Now in Print*) recommends installation of permanent barriers at four South Delta locations — three to better control flows and water levels (at Old River near Tracy, Middle River and Grantline Canal) and one (at head of Old River) to improve conditions for migrating San Joaquin salmon. To address the latter, the EIS/EIR recommends constructing a new intake at the Clifton Court Forebay near the pumping plant, increasing diversions into the Forebay, and dredging a 4.9 mile reach of the Old River just north of the Forebay. Environmentalists and water users contacted concerning the pros and cons of the recommendations had no comment. Comments due on the EIS/EIR by December 6. Contact: Steve Roberts (916)653-2118

### PROPOSED GRANT LINE FLOW STRUCTURE



Source: Entrix

## INSIDE THE AGENCIES



### RETIRING FARMLAND TO SAVE WATER?

Even with irrigation, the summer sun can bake the soil on cotton farms outside Firebaugh to a hardened crust. Another kind of heat has been generated by the *Phase I Final Report* released this fall by CALFED, which eliminates drying up such San Joaquin Valley farmland as a way to save water to "fix" the Bay-Delta system.

CALFED — a two-year-old, cooperative federal and state effort to develop a long-term solution to Bay-Delta water supply and environmental conflicts — had initially considered removing 800,000 acres of marginal San Joaquin lands from production. The latest report (see *Now in Print*) crosses off land retirement as one of the ways to save water within CALFED's current three alternative solutions. Land retirement is to be used only when water quality issues demand it, the report says.

CALFED's Rick Soehren says economic and other impacts of fallowing land were considered by CALFED during the scoping process. But ultimately CALFED decided that changing the use of land was not an acceptable way to save water. "There are ways to conserve water and manage water and land better and keep the land in production," says Soehren. He says landowners in the San Joaquin can pursue a "whole suite" of conservation, conjunctive use and recycling measures instead of drying up farms.

Ronnie Weiner-Cohen of the Natural Resources Defense Council says CALFED was right to reduce the original 800,000 figure but not to "throw out the baby with the bath water."

Enviros believe that in backing away from land retirement, CALFED is undermining public faith in its solution-seeking process. "This is being held up as an example of CALFED caving in on a key issue, not on its merits but solely because of pressure from agriculture," Cohen says.

The Environmental Water Caucus, which represents over 20 groups, thinks at least 200,000 - 300,000 acres of permanent retirement is needed to achieve water quality objectives alone, and that another 200,000-300,000 should be considered for

a mix of temporary fallowing and permanent retirement to help achieve water supply reliability objectives. "In many cases, land retirement offers the most cost effective water quality and water supply reliability benefits and has been widely recognized by various federal and state programs as necessary," according to a caucus position statement. Cohen says any such land retirement would be voluntary and compensated on a willing seller basis, and points to the high level of interest expressed by farmers in the land retirement program created by the 1992 Central Valley Project Improvement Act.

Steve Hall, of the Association of California Water Agencies, says land retirement never had anything at all to do with fixing the Delta. "There are some in the environmental community who just want to see farmland taken out of production and don't care if it is directly related

to what we are working on," Hall says.

Cohen thinks much of the debatable land will come out of production anyway eventually, as studies have shown that farming on much of the salty former desert in the San Joaquin is not sustainable. She says if CALFED takes a stand now to take the land out of production, it would prevent the property from being converted to development in the future.

Hall says there will be land that goes out of production in the San Joaquin because of drainage problems but taking land out should "not be a function of CALFED." Contacts: Rick Soehren (916)657-2666; Ronnie Weiner-Cohen (415)777-0220; Steve Hall (916)441-4545 FH

## CAPITAL BEAT

### A VOTE FOR ESTUARY RESTORATION

A \$995 million state bond measure for Bay-Delta water supply and restoration programs got a big boost in September when a bill providing \$430 million in needed federal matching funds passed both houses of Congress and became part of the continuing budget resolution signed by President Clinton. But it was two months earlier that the bond measure gained a place on California's November ballot as Proposition 204, and that the State Legislature passed SB 900, the Safe, Clean, Reliable Water Supply Act and basis for the bond measure, by a wide margin.

The measure goes much farther than it's voter conscious title-makers would have you think. A large portion of the funding is earmarked for enhancing the estuarine ecosystem, including \$390 million for restoration and habitat acquisition measures under CALFED (see opposite).

Prop. 204 also includes \$93 million for Central Valley Project Improvement Program projects such as temperature control device at Shasta Dam, spawning bed restoration and improvements to fish passages, as well as \$60 million for fish screens and other measures called for in the 1994 Bay-Delta Accord. Watershed

protection, wastewater treatment plants, and water recycling facilities would also be funded. Although it provides for flood control projects, the measure does not fund any new water supply facilities. "There's no peripheral canal, no Auburn dam, no environmental disaster hidden in this bill and proposition," says Save the Bay's Barry Nelson. "The bottom line is that it's a strong habitat conservation measure."

Despite its emphasis on conservation, SB900 had unusual support from business, agriculture and urban interests as well as environmentalists. Linda Adams, an aide to Senator Jim Costa (D-Fresno) who sponsored the bill, attributes this support to a widespread recognition that "we will not have a stable water supply if the Delta's environmental issues are not dealt with."

The Northern California Water Association's Rick Golb agrees. "We realize we are all working together toward one goal—to save the Delta—and everybody realizes that financing issues are crucial." Golb adds that he thinks a bond measure was seen as much more attractive than other financing methods, such as taxes or fees. Contact: Linda Adams (916)445-2206 CH

## DREDGE SCOOP

### PORTS TREAD LIGHTLY ON OCEAN FLOOR

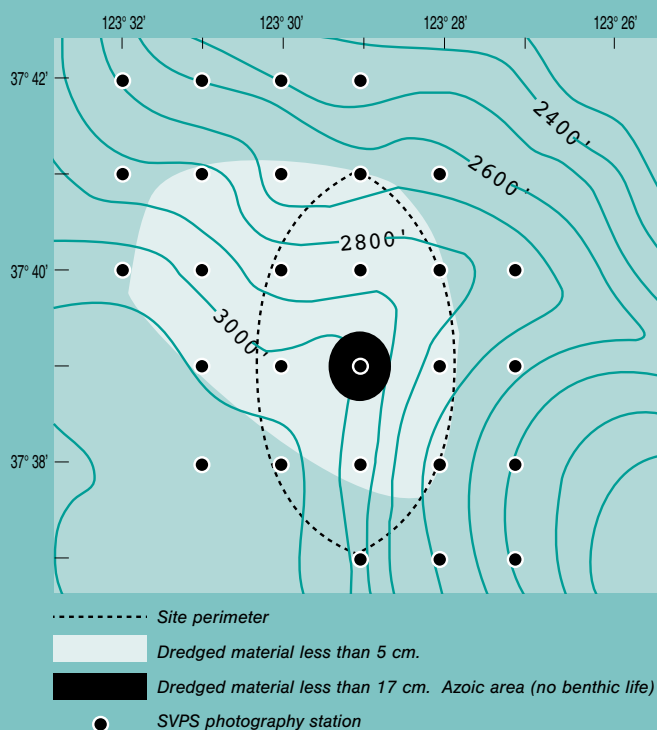
The "footprint" left on the seafloor by the several 100,000 cubic yards of material dredged from the region's ports and dumped at the Bay Area's new ocean disposal site in 1995 is the exact shape, size and depth scientists and planners thought it would be. As EPA managers tally up the final results a year's worth of seafloor mapping, sediment plume tracking and monitoring of impacts on bottom-dwelling critters, fisheries, seabirds and marine mammals at the site — which lies 46 miles west of the Golden Gate — they're even more confident than before that the material is staying well within disposal site boundaries.

"It's so cool we're actually hitting the middle of a site that's 10,000 feet deep," says EPA's Brian Ross. According to Ross, physical mapping of where the dredged material ends up once it leaves the barges — its "footprint" — shows a small area of deposits more than 17 cm thick smack in the center of the site. Surveys of the rest of the site indicate a dusting of no more than about two cm. thick (see map). This thin dusting isn't enough to smother the worms, crustaceans and other critters in the ocean floor oozes, says Ross, though organisms in the central target area did get buried. While fisheries survey results aren't yet complete, Ross says seabird and marine mammal observers on board barges saw no evidence of anything unusual — no avoidance or attraction. "There are no surprises, no violations, no exceedances of any criteria we set showing up in our monitoring results," says Ross.

EPA scientists plan to publish all this data in an annual report soon. But the no-adverse-impacts results are helping them make the case for extending current disposal limits and monitoring programs

established for the site beyond a looming December 1996 expiration date. The 1994 official site designation set an interim annual disposal volume limit of six million cubic yards per year, based on the assumption that a permanent volume limit could be better set when environmental documentation for a proposed comprehensive package of Bay, ocean and upland disposal sites and options for the entire region was complete. Two years later this EIS/EIR for the Bay Area's LTMS (long-term management strategy for dredged material disposal — a six-year, multi-agency, public-private cooperative planning effort) is still only in draft form, so EPA is recommending an extension of the interim disposal limits for another two years. Ross says EPA will release a draft proposed rule extending existing interim management of the ocean site in late October, at which time the public can comment on several options for different volume limits and timeframes. Contact: Brian Ross (415)744-1979 ARO

DISPOSAL FOOTPRINT AT OCEAN SITE



## CACHE CREEK CONT'D

comprehensive watershed management plan. Enter the Colorado Center for Environmental Management, which has developed a promising waste clean-up program for a Colorado watershed riddled with abandoned mines and has received an EPA grant to replicate its methods in other states. According to the Center's Todd Bryan, "We were looking for a project that involved mines as well as an opportunity to do a watershed approach to collaborative decision-making." The Center chose Cache Creek for its first project under the grant, and obtained additional funding from California's Hewlett Foundation.

Despite the initial focus on mercury, Bryan notes that this may not turn out to be the priority of the watershed program. "What we do is bring a structured framework by which stakeholders can identify problems and develop common strategies for addressing them. As we open up the process we may come up with different ideas about what its ultimate goals are," he says.

One issue that's sure to figure largely in discussions is the long-running debate over whether to permit deep-pit off-channel gravel mining to replace the in-channel mining that has decimated the creekbed. Some mining opponents fear that mercury will collect in the groundwater-filled pits, threatening the food chain and perhaps seeping into the drinking water supply. Two measures on the November ballot address gravel mining issues, including where mines could be located, how deep they could be, and what water quality monitoring would be required. In the meantime, the Yolo County Department of Public Health is planning a mercury monitoring program focusing on drinking water.

One of the two ballot measures requires mining companies to provide funding for restoration of abandoned in-channel gravel mines. According to Jim Eagan of the Yolo County flood control district, these pits could have several beneficial uses, including riparian habitat restoration and groundwater recharge. The Army Corps has conducted a reconnaissance study of the pits and determined that there is a federal interest in participating in their restoration. However, a feasibility study is on hold pending the

## RE-HAB

### DAYLIGHTING POINSETT CREEK

How to uncover — “daylight” — and restore a strip of long-culverted creek as part of a city-wide storm drain renovation program, while maintaining enough urban park environment to please neighbors, was a challenge recently faced by the East Bay’s City of El Cerrito. When the city decided to overhaul its storm drain system, a creek restoration approach offered a perfect opportunity to improve water quality (by filtering urban runoff before it reaches the Bay) and to save the costs associated with maintaining culverts. And Poinsett Park — a city-owned patch of dry grass — seemed the ideal site to try it.

“By introducing water and creek-related landscaping we hoped to demonstrate an attractive, interesting, cost-effective way to help us meet our clean water goals,” says City Planner Ed Phillips.

Although most area residents supported the project at first, as work progressed, some became dissatisfied when the site didn’t conform to the conceptual drawings. The original design had to be altered to deal with the physical constraints of the site — a small, triangular patch of land on a very steep hill, with only about 250 feet (in length) by 75 feet (at the widest width) in which to recreate a natural creek. In addition, the streets on the north and south sides of the creek differed in height, creating a cross-slope height differential of about 3-4 feet, according to project manager Vern Phillips. Plus, neighbors wanted to preserve several existing areas of lawn. In order to please neighbors and meet the city’s goal of accommodating a 10-year flood, the creek’s

banks and retention basins had to be made steeper and deeper than originally planned — leaving residents worried about children falling into the ponds or on the banks.

But engineers say the ponds, which will be fenced off at the steepest points, are necessary to slow the stream. “The upper pond slows the water before it flows down the creekbed, preventing erosion and scour of the channel,” explains Vern Phillips. “And without the pond at the bottom there would not be enough storage capacity for a 10-year flood. We need that storage because we are tying back into existing, undersized storm drains, and without it there would be too much pressure on the pipe when the creek re-enters it.” The ponds also had to be made deep enough to match the position of the existing pipes at either end.

Neighbors eventually agreed to forego the lawn areas in order to allow portions of the banks to be more gently graded. But some residents remain unhappy. Resident Sylvia Falcon sees the creek as a loss of “open space” and the addition of “engineered space”. At meetings to discuss their concerns, a few questioned the value of open creeks at any cost, calling the creek “an industrial drainage ditch.” The site, which will be planted with native trees and wildflowers this fall, currently consists of dirt slopes and raw rocks.

The city has held numerous meetings with residents to reassure them that there have been no accidents with other restored creeks in the Bay Area, that studies show that property values actually increase with proximity to creeks, and that open streams have environmental value for all of us. “Natural and open streams provide habitat for plants and wildlife, which in turn becomes our best flood control, erosion control, and pollution control device,” says the Urban Creeks Council’s Carole Schemmerling.

Since so many of Poinsett’s complications revolve around pipes, maybe one lesson learned is to avoid putting creeks in them in the first place. “Years ago, people decided to culvert the creek, put it in an underground pipe, and build houses on top of it,” says Vern Phillips. “Now because the metal pipes are failing, the city has to replace them and in some cases redirect the pipes out from

## TOUGH CHOICES

### WETLAND CREDITS & DEBITS

A concept paper proposing creation of a wetland mitigation banking system has got enviros worried, business excited, and biologists and regulators close-mouthed. The paper, floated by Will Travis of the S.F. Bay Commission and now making informal rounds for comments, is a bold if highly controversial attempt to improve a current and not very successful mitigation system in which builders and developers who destroy wetlands must replace them.

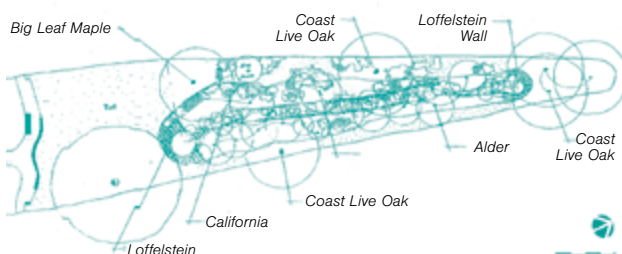
“Developers only do restoration because they have to—they aren’t really interested in it and don’t do a good job of maintaining the restoration sites,” says Travis. “The idea of this system is to create an environment where a new type of entrepreneur, who’s interested in restoration and can develop expertise in it and do it well, can make a profit by restoring and protecting wetlands instead of developing them.”

Under the system, restoration experts could purchase degraded Bay wetlands, restore them, and then sell “mitigation credit certificates” to developers at a price set by the free market. The developers in turn could satisfy any mitigation requirements by delivering the required number and type of certificates to the appropriate regulatory agency. Under the current proposal, at least two acres of wetland would have to be created for each acre of mitigation credit issued. Because the credits represent mitigation that has already occurred rather than that which is merely planned or prescribed, the environment always comes out ahead, says Travis. Mitigation banks would typically be larger and more ecologically productive than the “postage stamp” wetlands created to mitigate the damages from individual parcels.

“Even if it’s two for one, you still lose one,” says Audubon Society’s Arthur Feinstein who is preparing a ten point comment letter

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### CREEK PLANTING PLAN



Source: Brady and

under homes.” Says Schemmerling, “People need to realize that any pipes put in the ground now will soon begin to deteriorate, whereas this newly-opened creek will only improve with time.”

Contact: Vern Phillips (510)827-4900

LOV



## TECHNO-FIXES

### CUTTING COPPER AND SAVING PENNIES

Three Silicon Valley manufacturers with historically high metals discharges have shown how pollution prevention measures can both protect the Estuary and save money. Although these measures required initial investments ranging from \$2,000 to nearly \$1 million, all are expected to pay for themselves within a few years. All significantly reduced, and in some cases eliminated, metals discharges to the Palo Alto Regional Water Quality Control Plant, which ultimately discharges to the South Bay — a water body designated “impaired” under the Clean Water Act due to high metal levels.

The Palo Alto plant has undertaken a number of projects to reduce metals discharges, many aimed at metal finishing and semiconductor manufacturing industries. In response to the plant’s new wastewater discharge limits for copper and nickel, Ramlor, Inc., a small manufacturer of printed circuit boards, converted its existing wastewater treatment system to allow water that was initially discharged to be reused. The company also installed a clean water storage tank, process piping, a recirculation pump, valves and filters, and improved rinsing techniques. As a result, Ramlor reduced its copper discharge to the city sewers from 1.1lbs/year to zero, eliminated permit requirements, monitoring requirements and fees, and reduced both raw material and total water bills. The total cost of improvements was approximately \$2,000, which the company recovered in less than six months.

According to Ramlor’s Robert Garcia, the company received encouragement from the Palo Alto plant. “They gave me hints on how I could save water and improve discharges and I saw that the changes would be easy to make. I wanted to help the Bay, and I’m happy with what we’ve been able to do.”

Another company, Davila International Circuits Inc., installed a new circuit board production technology, known as direct metalization, that allowed it to reduce the number of process solutions for metal plating from eight to three, cutting the number of rinses required. New rollers now remove copper-laden solution from circuit

boards before rinsing and automatic spray rinses allow for more efficient water use. The company also made changes in the rinsing system for its oxide line which permit metal to be plated out of wastewater and recycled.

Direct metalization enabled Davila to increase its production by 48% while reducing its copper load by 91% and water use by 42%. Although production in the oxide line decreased by 4%, the improvements cut wastewater by 89% and copper load by 54%. The combined cost of the project was \$125,800, with a payback within two years. The Palo Alto plant helped out with \$75,000 from its funds for pollution prevention demonstration projects.

A third company, Watkins-Johnson, undertook an ambitious pollution prevention program as a result of a 1992 compliance agreement with the Palo Alto plant. In its metal finishing operations, the company initially employed rinse water reduction measures, which reduced the amount of water needing treatment and allowed the installation of a smaller, less expensive wastewater treatment and recycling system. The company then installed a system to remove metals and cyanide from plating line rinse waters, allowing the water to be recycled. The pricetag for the whole shebang came in at around \$500,000, which was recovered within 28 months through reduced water use and materials costs.

Watkins-Johnson installed a similar system in its semiconductor fabrication unit, reducing wastewater discharge from approximately 3,500 gallons per day to zero at a cost of \$350,000. However, surfactants and alcohols used in cleaning interfered with the recycling process, making modifications and additional expenditures necessary.

Watkins-Johnson’s Rusty Fayter says the company made the investment because the writing on the wall was clear. “Zero discharge requirements are coming,” he says.

Officials of the Palo Alto plant hope that the success of these efforts will encourage other metals dischargers to take similar measures. The plant has compiled detailed reports on these projects and others, which it plans to send to metal finishers and circuit board manufacturers in the region as part of its ongoing outreach effort. Contact: Janice Buzzwell (415)329-2514

CH

### VALLEY CROSSROADS

A move to reorient solutions to the San Joaquin Valley’s salt management and selenium-tainted drainage problems — from an in-valley to an out-of-valley approach (such as completion of the controversial San Luis Drain and export of drainage to the Delta) — so disturbed members of an influential public oversight committee that it disbanded.

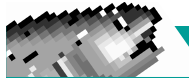
The Drainage Oversight Committee — created in the early 1990s to provide diverse stakeholder oversight for the San Joaquin Valley Drainage Implementation Program — was already on the rocks. According to acting committee chair Jean Auer, “We had lagging attendance, little money to implement the program, and then this controversy over a proposed new direction.” Many members didn’t like that new direction, proposed by some program managers in a new draft agreement between responsible agencies and an accompanying draft scope of work. The Environmental Defense Fund’s Tom Graff says these summer 1996 documents prematurely abandoned the policy blueprint laid out by the 1990 “*Rainbow Report*” and encouraged the “let’s build the San Luis Drain” approach.

The five-year, multi-million dollar *Rainbow Report* drew on exhaustive technical research and public and stakeholder input, and found that in-valley drainage management (such as source control, evaporation systems, land retirement etc.) could provide adequate interim solutions to environmental contamination problems for decades. The report also required such actions as the first phase of any out-of-the-valley export system for drainage.

Graff doesn’t see how a drain could ever be built without in-valley solutions first being exhausted and without out-of-valley money, support and feedback. “You can’t do things on your own in the California water wars anymore,” he says, “and with the committee’s dissolution they’ve lost all semblance of any Bay-Delta or environmental input into a solution.”

Program coordinator Manacher Alemi says “Where we are today is not really satisfactory to us.” Alemi says future directions and goals for the program will be discussed at an inter-agency management group meeting this November. Contact: Tom Graff (510)658-8008 or Manacher Alemi (916)327-1630 ARO

## PLACES TO GO & THINGS TO DO



### WORKSHOPS & SEMINARS

#### State of the Sacramento River Conference

SAT-11/9

**Topic:** Update on the state of the Sacramento River, specifically the Upper Sacramento River Fisheries and Riparian Habitat Management Plan, the CALFED process and the implementation of the Central Valley Project Improvement Act.

**Location:** Red Bluff, California

**Sponsor:** Sacramento River Preservation Trust

(916) 345-1865

#### Kids in Creeks

SAT-11/9, 11/16-9:00 AM-4:30 PM

**Topic:** Workshops prepare educators to teach about creek ecology and restoration.

**Sponsors:** S.F. Estuary Institute, Town of Danville, City of San Ramon, Contra Costa Clean Water Program

East Bay locations

(510) 231-5784

#### San Francisco Bay Decisionmakers Conference

THURS-11/14-8:30 AM-2:30 PM

**Topics:** The 10th Annual Conference will feature a review of San Francisco Bay's economic and environmental achievements; post-election referenda; and discussions of coalition building to fulfill long range goals and wildlife habitat and public access management.

**Location:** Fleet Admiral Nimitz Conference Center, Treasure Island

**Sponsor:** Bay Planning Coalition

(415) 397-2293

#### Urban Streams Conference

FRI-SUN-11/15-11/17

**Topics:** Treating streams in urban areas and working with the natural properties of streams.

**Location:** Arcata, CA

**Sponsor:** City of Arcata

(707)441-9856

#### SFEI Seminar Series

FRI-11/22-11:00 AM—noon

**Topic:** Flood Management in the Bay Area with UC Berkeley's Luna Leopold.

**Location:** EBMUD Administration Building 375 11th Street, Oakland

**Sponsor:** S.F. Estuary Institute

(510) 231-9539



### MEETINGS & HEARINGS

Department of Water Resources,  
U.S. Bureau of Reclamation

11/7—11/14

**Topic:** Interim South Delta Program Draft EIR/EIS (see Bulletin Board) hearings.

**Locations:** Sacramento, Tracy

Call for exact times, locations.

(916) 654-6515 or (916) 989-7255

#### Hearing on Revisions to the Industrial Stormwater Permit

TUES-11/12-10:00 AM

**Location:** Secretary of State's Office 15000 11th Street, 1st Floor Auditorium Sacramento

(916) 657-0919

#### Aquatic Nuisance Species Task Force

WEDS-THURS-11/13-11/14-ALL DAY

**Topic:** Coastal forum and field trips for this national task force and California decision makers and interested parties on exotic marine species impacts.

**Location:** SF Bay Refuge, Newark

(202)482-5181 (Bill Archambault)

#### Central Valley Regional Board Hearing

FRI-12/6-9:00 AM

**Topic:** Proposed Basin Plan amendment concerning salty drainage (ag, industrial, wetlands and municipal) in the San Joaquin River basin. Call for time and location.

(916)255-3000



### HANDS ON

#### Northern S.F. Bay Flyway Festival

FRI-SUN-11/8-11/10

**Activities:** Birding tours and outings in Marin, Sonoma, Napa, Sonoma counties. Family wildlife exploration and birding, exhibits, hands-on activities (Saturday, 9-4 only).

**Sponsors:** Save the Bay's Partnership for San Pablo Baylands; U.S. Fish & Wildlife Service.

(707) 644-1752

#### Exhibition on Oakland's Dynamic Waterfront

Now Thru 1/5/96

**Topic:** Museum exhibition of past, present and future of Oakland's 19-mile waterfront covering aquatic sports; shipping, shipbuilding and transportation; environmental restoration; and political history. Includes 95-foot-long waterfront map.

**Location:** Oakland Museum, Oak & 10th Sts.

(510)238-2200

## NOW IN PRINT

*CCMP Workbook: A Review of Progress Made in Bay Delta Environmental Management Since 1993. Revised draft.*

San Francisco Estuary Project, October 1996

Copies from (510) 286-0460

#### *Interim South Delta Program Draft EIS/EIR*

Department of Water Resources

Bureau of Reclamation

Copies from (916) 653-2118

#### *Phase One Final Report*

CALFED Bay-Delta Program

Three alternative solutions to Bay-Delta water supply and environmental problems.

Copies from (916) 657-2666

#### *Fact Sheet on the National Water Quality Inventory: 1994 Report to Congress EPA 841-F-95-011*

Copies from (513) 569-7186 fax

www.epa.gov/OWOW/305b

#### *Diazinon in Urban Areas*

Palo Alto Regional Water Quality Control Plant August 1996

Copies from (415) 329-2598

#### *Streamside Planting Guide for San Mateo and Santa Clara County Streams*

Coyote Creek Riparian Station

Copies (\$5) form (408)262-9204

## GET IN PRINT

### YOUR OWN 4-PAGE SPECIAL INSERT IN ESTUARY

In keeping with ESTUARY's mission of providing a public education resource for all those involved in protecting the S.F. Bay-Delta Estuary and its beneficial uses, the newsletter is now offering a special insert option such as the one in this issue on the S.F. Estuary Institute's Regional Monitoring Program. If you have a new study you'd like to share, a new program you'd like to describe, a progress report that you'd like to give or an event you'd like to publicize that simply can't be covered in a standard ESTUARY article (300-1000 words), you may want to consider this special insert option (3200 words). We can do the whole insert for you, from concept to mailing (\$3200) or you can give us camera-ready art on disk (\$1860), provided you've worked with us in advance to make sure your text and graphics match the high standards associated with ESTUARY. You'll reach 3,500 Bay-Delta decisionmakers and get extra stand-alone copies for use as brochures or handouts. The topic featured in your special insert must have a direct relation to efforts to protect or restore the S.F. Bay-Delta Estuary and its beneficial uses, or to implementation of the S.F. Estuary Project's *Comprehensive Conservation and Management Plan*. Contact: Ariel Rubissow Okamoto (415)989-2441.

## MITIGATION CREDITS CONT'D

on the concept paper. "Unless it was limited to small fills, a banking system would ultimately facilitate wetland development and lead to a net loss." Save the Bay's Mark Holmes agrees, saying "The idea probably has merit if it is limited to the kinds of small projects—say less than half an acre—for which mitigation has typically not been required and that have caused big cumulative losses over the years." Indeed limiting banking to small fills is a criteria for banking adopted by regional consensus in the S.F. Estuary Project's 1993 Comprehensive Conservation and Management Plan for the Bay and Delta.

While environmentalists would like to carefully rein in any new mitigation banking system, business would like to open up the throttle and let it rip. "Frankly, we've been waiting for something like this for a long time," says Paul Campos of the Home Builders Association of Northern California. "We would like to see mitigation banks be the first rather than the last resort," he says. But Travis' concept paper does not throw out the existing checks and balances on a mitigation love-in. His concept system would still avoid wetland destruction wherever possible, minimize it where it is not, and mitigate it on-site and in-kind whenever feasible.

California's Secretaries for Resources and Environmental Protection have endorsed Travis' concept but other state and federal agencies, as well as wetland scientists considered key to assessing the true biological gains versus losses of any such system, declined to comment for this article. "Right now it's really a thought piece," says Travis. "We want to keep the dialogue going to see if we can reach a consensus on how we might implement a system like this," he says. For a copy of the concept paper, contact Will Travis at (415)557-8775. CH



YOUR BAY - DELTA NEWS CLEARING HOUSE

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*ESTUARY is a bimonthly publication dedicated to providing an independent news source on Bay-Delta water issues, estuarine restoration efforts and implementation of the S.F. Estuary Project's Comprehensive Conservation and Management Plan (CCMP). It seeks to represent the many voices and viewpoints that contributed to the CCMP's development. ESTUARY is funded by individual and organizational subscriptions and by grants from diverse state and federal government agencies and local interest groups. Administrative services are provided by the S.F. Estuary Project and Friends of the S.F. Estuary, a nonprofit corporation. **For a free trial subscription** (three issues), mail your name and address to Liz Blair of ESTUARY at the address above. Views expressed may not necessarily reflect those of staff, advisors or committee members. Printed on recycled paper with soy-based inks by Alonzo Printing Co.*

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