

# ESTUARY



Y O U R B A Y - D E L T A N E W S C L E A R I N G H O U S E

## BAY HARBOR SEAL HEALTH

A long-awaited study of S.F. Bay harbor seals came out in print early this October. The 150-page study, funded in part by the S.F. Estuary Project, explores the population dynamics and movements of harbor seals within and near S.F. Bay; investigates the concentration of trace elements and pollutants within individuals; and assesses the health of the population and potential sources of distress.

According to the report summary, harbor seals are an excellent indicator of the health of the estuarine ecosystem because they use bays for foraging, resting and reproduction, and because certain toxic pollutants may bioaccumulate in them. Although researchers Dianne Kopec and James Harvey were unavailable to comment on the conclusions of their study as this issue went to press, here are a few of the findings:

- Between 1989 and 1992, the number of harbor seals in the Bay did not increase significantly.
- Over 20% of the seals at seven of the primary haul-outs had red pelage (a scarlet hue to their coats), and at two adjacent South Bay haul-outs the level rose to over 50%. The red pelage may be indicative of the presence of selenium, which the study detected in blood from all seals.
- ppDDE (a DDT derivative) was found in 88% of the seals sampled in 1989-1990. Males had higher levels (mean = 17 ppb wet wt.) than females (mean = 8 ppb wet wt.).
- PCB residues were found in roughly half the seals sampled (mean = 47 ppb wet wt.) The mean PCB blood residue was higher than in blood residues in harbor seals fed fish contaminated with a mixture of organochlorines from the Wadden and Baltic seas.
- More analyses of archived blood and blubber samples are needed to confirm whether contaminant-induced immune suppression is occurring in S.F. Bay seals.
- All harbor seal blood mercury residues exceeded levels associated with toxicity in humans.

For details on how to get a copy of the study, see *Now In Print*. Contact: Dianne Kopec (415)728-5816 ARO

## Delta Fruit Farms Curb Pest Sprays

Picking that perfect pear or tarnish-free tomato at harvest time has historically required spraying pesticides — sprays that can end up in Bay-Delta soils and water and affect farmworker health. But some Delta growers are trying out new pest controls that bedevil bugs and blight while sparing the environment.

On Randall Island, UC Berkeley's Dr. Steve Welter has teamed five pear growers and five pest advisors in a three-year experimental project aimed at interrupting the breeding cycle of the destructive codling moth. The little moth gives big headaches to growers — a single moth infesting a single pear can affect all the pears surrounding it — in a market that only tolerates 2% damage to fruit. To control the moth, growers typically spray Guthion, a broad-spectrum organophosphate pesticide. But according to Welter, a "cluster of resistance" has evolved among Delta moths, which appear to have better biochemical mechanisms for detoxifying pesticides than moths in other areas. In other words, more Guthion has had less effect.

As an alternative, Welter and his five growers have been experimenting with sex pheromones, which females moths emit to attract males for breeding. Using twist-ties, the growers have attached pheromone-saturated plastic disks — around 400 per acre — to pear tree branches over 760 contiguous acres of orchards on the island, blanketing the orchards with pheromones.

"For the moths, it's kind of like being in junior high school," says Welter. "They can smell sex everywhere, but they don't know where to find it." The disoriented males can't find females, so in effect, the moths stop breeding, and the females lay

unfertilized eggs.

The pheromone-using pear growers reduced Guthion use by an annual estimated average of 70% over the three-year project while keeping the infestation rate to just  $\frac{7}{10}$  of 1%. In a separate study, the cost of pheromone use was initially high, but equaled that of conventional pesticide treatment by the third year.

Welter found a "cascade" of accompanying positive benefits, including increasing control of other secondary pests and increasing natural populations of beneficial predators and parasites. And introducing and establishing exotic beneficial insects is more successful in orchards not uniformly treated with broadly toxic organophosphate insecticides, he says.

Welter expects the Delta moths' resistance to Guthion to diminish over time, meaning that the pesticide could be effectively used in small amounts to control border areas or heavy infestations, where pheromones are less successful. Welter says the experiment required a new cooperation-based approach for growers. "We're asking them to behave in a very different way — they have to share information about who has a problem where, and to what extent," he says. "The program won't work if you just hand out the ties."

Elsewhere in the Delta, five Campbell Soup tomato farmers are trying out a set of integrated pest management (IPM) techniques on over 2,500 acres as part of the company's statewide pesticide reduction program. According to Campbell's Bob Curtis, the company decided to aggressively market the program to growers in response to consumer and environmental concerns about pesticides.

Tomato growers can be involved in the program at any of three different levels. In the first, the company splits a field with a grower — the grower uses conventional pesticides and practices, while Campbell's demonstrates its IPM approach. "We pay for

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## DELTA FARMING *continued*

any losses incurred in the IPM-test portion of the field," says Curtis, "so it's a low-risk, low-heartburn situation." Curtis says this "foot-in-the-door approach" often evolves to the second level, where Campbell's and growers use cooperative monitoring of field conditions to further reduce pesticide use. At the third level, Campbell's and growers jointly fine tune monitoring techniques and conduct pest control research projects.

At all three levels, a sophisticated new statewide disease-forecasting model that employs daily monitoring information from in-field computers has proved effective, says Curtis. The computers record temperature and moisture conditions — leaf and fruit wetness — in fields representative of eight California microclimates, two of which are in the Delta. Scientists track these parameters in relation to the conditions required for tomato blackmold and other diseases to flourish.

"We found out the best time to spray is just before the disease takes off," says Curtis. "This model allows us to figure out exactly when to apply fungicides to protect the plant."

To expand its data collection and forecasting abilities for the California tomato industry, Campbell's is working with the state and the University of California to install regional networks that eventually could provide, for example, a daily area fungicide report that cues growers when it's time to spray. In the meantime, Campbell tomato growers statewide have dropped synthetic pesticide applications by 30%.

Whether to stop a moth from mating or a mold from germinating, these two projects clearly show that creative work with nature and high technology can do much to reduce growers' use of chemicals that all too easily run off their fields and into Estuary waterways.

Contact: Bob Curtis (916)395-5086;  
Dr. Steve Welter (510)642-2355 KA

## BULLETIN BOARD

### OUT-OF-WORK FISHERFOLK ARE GETTING JOBS RESTORING UPSTREAM SALMON HABITAT

under a federal emergency economic assistance program addressing the near elimination of commercial salmon fishing off the Pacific Coast. Experts say degraded river systems and spawning streams are a primary causes of the dramatic decline in ocean salmon stocks. Under the assistance program, 40 displaced fishermen and women have conducted 21 watershed assessment and habitat restoration projects in four designated salmon disaster counties in Northern California to date, and more are expected to be hired soon. The assistance program is being carried out by U.S. Dept. of Agriculture Resource Conservation Districts in coastal counties, some of which are still seeking suitable restoration projects for funding. Contact your local RCD; Sonoma RCD (707)836-0585

### COMPUTER MODELING EXPERTS ARE TAKING A COOPERATIVE LOOK AT ESTUARINE COMPLEXITIES,

not to mention their own methodologies and assumptions, as part of the increasingly successful Bay-Delta Modeling Forum. The forum brings both public and private sector modelers together to work on ways to improve the usefulness of computer models for analyzing Bay-Delta hydrodynamics, fisheries and water policy issues. In the two years since its inception, the forum has already reached agreement on several aspects of one of the thorniest Bay-Delta modeling problems — how to predict the quantity of upstream water releases necessary to maintain Delta water quality standards during water exports. (510)231-9539 or modelingforum@sfei.org

**A RESEARCHER WRITING ABOUT THE VALUE OF RESTORED S.F. BAY TIDAL WETLANDS TO FISH** needs fish survey data from any of the Estuary's marshes or bays. Contact Jim Forsberg, National Biological Service, at (916)756-1946 or email: jim\_forsberg@nbs.gov

**THE CATEGORY III PROGRAM WAS FORMALIZED THIS SUMMER** when state and federal agencies (ClubFed and CalFed) and various urban, environmental and agricultural Bay-Delta stakeholders signed an MOU (memorandum of understanding). Though the Category III commitment to fund non flow-related environmental restoration projects was set up as part of the December 1994 Bay-Delta Accord, the program has lacked a formal, credible process for how the money

will be spent, according to the Natural Heritage Institute's Cynthia Koehler. The MOU establishes a steering committee of six agency reps and 12 stakeholder reps (including Koehler) and gives it the authority to come up with an institutional design for Category III, which the committee hopes to complete by December 15. (415)744-1024

**RAILS ARE ON THE REBOUND** since wildlife managers identified the primary cause of their recent precipitous decline as the red fox and began trapping and removing these and other predators from South Bay marshes. The South Bay's endangered California clapper rail population dropped from 1,000 in 1981 to about 240 a decade later, but grew to 600 this year as a result of the aggressive fox-removal program. The rail population's long-term health, however, also revolves around the health and extent of the Bay's last remaining tidal marsh habitats. (916)979-2752



### CALFED IS SEEKING INPUT FROM JOAN Q PUBLIC

this fall by holding a series of five public meetings up, down and around the Estuary (see calendar). These meetings invite the general public to hear about and comment on the CALFED effort to develop a long-term solution to Bay-Delta water conflicts early on in the planning process. "We're not coming to the public with a done deal and asking them to respond," says meeting coordinator Jean Auer. The process — which also involves parallel meetings among key government agencies, water users and environmental watchdogs — is currently focused on defining "the problem" and researching diverse alternative approaches to solving it. (916)657-2666

**A GAO REPORT SAYS CONGRESS SHOULD CONSIDER NIXING THE COSTLY COTTON SUBSIDY** program because it benefits only a few wealthy growers and because the economic conditions that inspired its creation in the 1930s no longer exist. The report adds economic ammo to the steady assault on cotton by environmentalists, who say the crop is too pesticide- and water-intensive and that the hydric (once water-covered) soils cotton is usually grown on would be better used for wetlands or more waterfowl-friendly crops like rice. With the 1995 harvest of the Sacramento Valley crop just getting underway, the price of cotton was 88 cents per pound, well above the subsidy level of 77 cents. The General Accounting Office report also says subsidies may no longer be needed due to the removal of global trade barriers and the creation of reliable free-market price supports. (202)512-5138 re: GAO report ##RCED-95-107

## INSIDE THE AGENCIES

### A PLUMBING FIX FOR TAINTED AG RUNOFF

Refuge and hunt club managers on the San Joaquin Valley's west side have already begun "flooding up" their wetlands to make them hospitable, after a long dry summer, to the rafts of waterfowl soon to stop over. These first floodwaters may have contained selenium — a naturally occurring trace element eroded from west side soils via crop irrigation and linked to water quality problems and wildlife impacts such as the dead and deformed bird embryos found at Kesterson in the 1980s. But this winter's wetland floodwaters may be cleaner by early December, at least in the Grasslands area.

December is when officials hope to reopen 28 miles of the long-closed San Luis Drain so that the selenium-tainted drain water from 97,000 acres of croplands can be removed from around 90 miles of channels serving 51,685 acres of private and public wetlands. Officials renamed this 28-mile stretch the "Grasslands Bypass Channel" to prevent confusion between their new plumbing project and other proposals for use of the entire 85-mile-long, Kesterson-associated San Luis Drain. And though everyone hastens to call the Bypass Channel project an interim, short-term solution, it could offer the first measurable test of potential long-term strategies for reducing west side selenium pollution in over a decade.

"The bypass almost totally remedies our wetland problems and lays a good foundation for us to start dealing with our water quality problems in the San Joaquin River," says Dan Nelson of the west side's San Luis-Delta Mendota Water Authority. The irrigation drainage rerouted through the San Luis Drain will be discharged via a new connection into Mud Slough six miles upstream of its confluence with the river (see map).

"By putting it all together in the one drain, and by coordinating drainers through a single entity, we'll get a much better handle on which management strategies produce the most significant water quality improvements," says Penny

Howard of BurRec, which owns the San Luis Drain.

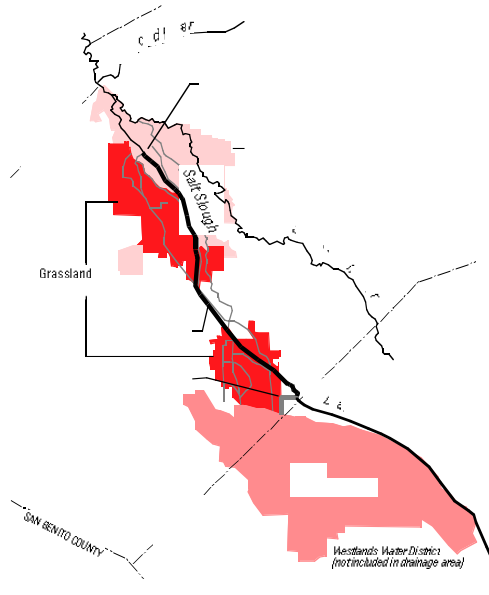
BurRec's bypass project agreement with the drainers includes a system of selenium load targets and penalties for exceedances to be administered by a new regional entity and overseen by a new committee of federal and state agency head honchos. Under the system, the entity — comprised of six districts within Nelson's water authority — must make sure its drainage stays within recent average selenium load levels in the first two years (6660 pounds per year) and then make reductions of 5% annually over the following three years. If limits are exceeded, the government can charge the new entity monthly fees of \$700-\$20,800 and annual fees of \$25,000-\$250,000.

"It's the right structure but the wrong numbers," says Terry Young, who works for the Environmental Defense Fund, which proposed a more stringent system in its 1994 report *Plowing New Ground*. Young thinks the load limits are too high and the fees too low to be effective incentives for farmers to reduce selenium pollution. And she's critical of what the limits are based on: "soft information regarding the drainers' ability to meet the limits rather the wealth of hard data on the environment's capacity to assimilate selenium."

But the drainers' Dan Nelson says the level of the fees was almost a "deal breaker" in the last days of the project negotiations, adding that monthly and

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### GRASSLANDS BYPASS CHANNEL PROJECT



## BURNING ISSUE

### DULL POINT ON NONPOINT ?

Jim Pachl says he's "thoroughly disgusted" with the coastal nonpoint pollution control plans the State Water Board turned in to the feds this fall in fulfillment of requirements in a 1990 Coastal Zone Management Act amendment, and he's not the only one.

The Sierra Club's Pachl says he and other disgruntled folk devoted mega-time and energy to the subject of how to better control coastal agricultural, urban, mine and marina runoff into coastal waters as members of 10 multi-interest technical advisory committees (TACs) to the state. After months of meetings, the committees produced 150 highly specific recommendations and hundreds of pages of consensus language on the subject (see *Now in Print*). But what the Board produced in turn is a slim, gray, 12-page booklet labeled *Initiatives in Nonpoint Source Management* that critics are calling vague and unclear and that some TAC members say in no way reflects the painstakingly negotiated recommendations of their committees.

"They threw 95% of our work in the trash can," says Pachl.

"The initiatives document is unspecific, unmeasurable and unenforceable," says coastal watchdog Warner Chabot of the Center for Marine Conservation.

There is one thing in the report, however, that everyone's happy about — a commitment to a watershed approach emphasizing the cooperative, voluntary development of pollution control measures and watershed management plans by stakeholders and state regulators.

"We can't go out and hang a permit on every developer, farmer and landowner," says the State Board's John Norton. "Aside from being politically unpopular, it'd be a bureaucratic nightmare."

Instead, the report focuses on five common themes drawn from the TAC reports: a preference for voluntary cooperation over prescriptive measures, public education to encourage individuals and landowners to take more responsibility, management on a watershed scale where local stewardship and specific problem-responsive measures

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## BYPASS PROJECT *continued*

annual penalties could add up to a pretty steep \$500,000. Young argues that this only comes down to about \$5 per acre. Both agree that the important thing is that fees, and thus a real system of accountability, have been established at all.

Meanwhile, the public agencies governing this project — BurRec, U.S. Fish & Wildlife and U.S. EPA — have been struggling to attach enough environmental commitments to the drain-use agreement to make it acceptable to the enviros but not unpalatable to the drainers. One key commitment is that water quality in the

San Joaquin River can't become any worse than it would be without the bypass project. If the careful monitoring associated with the project shows that the new drainage management strategies aren't working and that environmental conditions are getting worse, the project will be terminated, says Howard.

Another major environmental commitment is the linkage of the project's continuation after the first two years to key long-term protections now being considered by the Central Valley Regional Board. Under the agreement, use of the San Luis Drain can

only continue if the Board adopts a Basin Plan Amendment with a long-term strategy for achieving water quality objectives for the San Joaquin River.

Making this link, and getting the drainers to endorse it, which they did, will help increase the Regional Board's political comfort zone with moving from voluntary to mandatory regulation. Agriculture has always had a lot of clout in the Golden State, and the politically appointed board has not been immune to it, frustrating efforts by federal regulators such as EPA and other environmental interests to crack down on ag drainage pollution. But the Board's Bill Crooks is optimistic about his agency's readiness to take the next step.

Indeed, the Central Valley Board has already drafted a staff recommendation (see *Now in Print*) for a Basin Plan Amendment that would set a water quality objective for selenium in Mud Slough and the San Joaquin River of 5 parts per billion on a four-day average for all water-year types. To meet this objective, staff estimate that the area's annual selenium discharges may have to be reduced by up to 70%. The table above shows the probability of exceedances of load targets necessary to meet the 5 ppb objective in wet and dry years. Board staff have also drafted an implementation plan that will set load targets as part of a waste discharge requirement for drainers. If all goes well, an amendment could be approved in 1996.

"Although the drainers have made great strides in selenium reductions on a voluntary basis, it's not quite enough," says Crooks. "Clearly, it's going to take more than just irrigation efficiencies. It's going to take land retirement, treatment and more direct control on our part. If our Board approves it, this will be a first for California and perhaps even the nation. No one has ever adopted a waste discharge requirement on irrigated agriculture."

"If we don't get the Board to move ahead with a strong requirement, then we've blown it," says the Defense Fund's Tom Graff. Contact: Bill Crooks (916)255-3000; Penny Howard (916)979-2476; Dan Nelson (209)826-9696; Terry Young (510)658-8008 ARO

### CALCULATED ANNUAL MAXIMUM SELENIUM LOAD (IN LBS.)

*Needed to Achieve Various Exceedance Rates of a 5 ppb/4-day avg. Selenium Water Quality Objective*

Exceedance Rate	Water Year Type	
	Wet	Dry
1 in 3 years	3,087	1,001
1 in 2 years	3,087	1,324
1 in 1 years	4,542	1,968
1 in 5 months	5,942	3,019

*from CURWQB Staff Report*

## COASTAL NONPOINT *continued*

can be devised through comprehensive watershed protection plans, more technical assistance to local groups and individuals, and better resource management agency coordination.

"We're happy that it recognizes the value of education," says Jim Haussener, whose Marinas and Recreational Boating TAC also saw three of its dozens of boater-specific recommendations make it into the initiatives report. These were diver certification for potentially polluting hull cleaning practices, development of an indicator test more specific to the pathogens introduced by human (boaters) versus animal fecal matter and shared responsibility (with local health departments) for inspections of dockside boat sewage pumpout facilities.

Earle Cummings' TAC was not so lucky. "It's embarrassing. They did a gloss on our work, then substituted some of the governor's policy language on wetlands," says Cummings, who works for the State Department of Water Resources. "Their lack of active leadership makes it harder for those of us doing flood control and restoration work to press local jurisdictions into action."

Norton says the document reflects the Board's shortage of staff and dollars to expand state programs and its caution with adopting a slew of recommended actions before they can be proven in the field. To this end, the report suggests that pilot watersheds be used to test the feasibility of some of the TACs most innovative recommen-

dations, including the development of a model stormwater program for small cities, the use of self-hazard and risk assessment worksheets by farmers applying potentially polluting nutrients to croplands and the creation of watershed-wide riparian and wetland development and protection plans.

Norton says more meat and potatoes may come out of parallel work on a new statewide plan for protecting water quality in inland bays and estuaries (see calendar) and from his agency's regional boards.

"They're not punting this into a vacuum," says the S.F. Regional Board's Tom Mumley, who cites his agency's ongoing work to complete watershed management plans in Napa and Sonoma. Mumley says he plans to use the new TAC reports as "lists of already screened tools." But not all of the state's nine regional boards are likely to take the same initiative.

In the meantime, critics hope the U.S. EPA and NOAA, which are now reviewing the state's nonpoint documents, will put some conditions on their approval, such as triggers and timetables to make the watershed approach more enforceable (comments should be directed to the EPA within the next few months). Even the harshest critics don't want the feds to turn the state's submittal down outright and risk losing California's share of federal coastal nonpoint source pollution control grants. Contact: John Norton, State Board (916)657-0522 or Sam Ziegler, U.S. EPA (415)744-1990 ARO

# THE MONITOR

## CREEK SURVEY YIELDS DATA AND LESSONS

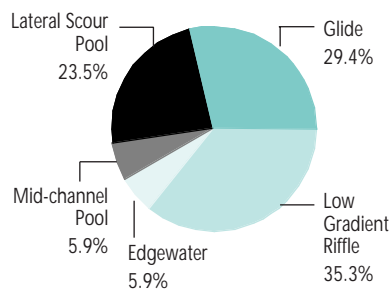
Citizens conducting an environmental survey of the East Bay's San Leandro Creek this April learned a thing or two about scientific rigor. Those doing bird counts, for example, had to stop themselves from recording more bright-feathered warblers than drab gray finches. Those measuring dissolved oxygen learned that when the creek got too shallow to take a sample the way they'd been taught, the answer wasn't to improvise with sampling technique.

But with technical help, the 35 volunteers from Friends of San Leandro Creek who carried out the 10-week pilot creek survey turned in some "data we can have faith in," according to the S.F. Estuary Institute's Mike Rigney. During the survey, the volunteers measured five water quality parameters — water temperature, dissolved oxygen content, pH, electrical conductivity and turbidity — at four points along the lower third of the creek. They also evaluated fish habitat conditions and conducted bird counts.

Before they began the survey, the volunteers received careful training in how to follow three highly specific testing protocols, and the quality of their work was also checked in the field. Some of the data they collected are shown in these charts, and the rest is due out in an official report soon.

"To see all our work and all those hours laid out in plain numbers and on paper is the most exciting part of all," says volunteer Rick Richards. "All at once, you can see the actual state of your creek, and you know those numbers wouldn't be there without your volunteerism."

### FISH HABITAT TYPES



This pie chart shows the relative abundance of each type of fish habitat encountered by volunteers. The predominance of low-gradient riffles and glides is evidence of San Leandro Creek's lack of substantial gradient change. Evidence of lateral scour pools shows that, as the channel meanders, it manages to create deeper pools where fish can hide. In general, steelhead spawning takes place in riffles and glide "crests" just downstream of deep pools.

The pilot ecological survey was a cooperative project involving funding from the Alameda County Flood Control District and Alameda Countywide Clean Water program, with technical support from the S.F. Estuary Institute, the Coyote Creek Riparian Station and Woodward-Clyde Consultants. Citizen-based volunteer monitoring is one component of the San Leandro Creek Watershed Awareness Program, a model project funded by the Flood Control District and implemented by the Institute and the Friends organization. To date, the program has not only done environmental monitoring, but also held watershed festivals, printed T-shirts, stenciled stormdrains, done bank restoration and cleaned up trash — last year they built a float for the city's cherry festival completely out of junk retrieved from the creek.

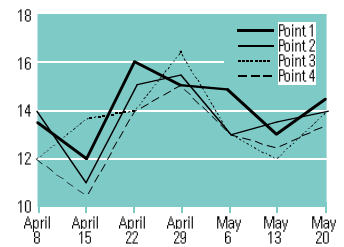
In follow-up to the pilot survey, Rigney and Woodward-Clyde's Dr. Revital Katznelson are working to refine the testing protocols used by the volunteers. Katznelson says there were numerous lessons learned, including the need to ensure that at least one trained volunteer appeared for every sampling excursion over the 10-week period.

Other lessons emerged from the ecology of San Leandro Creek itself. Rigney discovered, for example, that in a short 7-mile-long creek like San Leandro, massive releases from the creek's half dozen urban stormwater outlets had a much bigger impact on water quality than they had on the longer creeks with more diverse watersheds in Santa Clara County, where he first developed the testing protocols. Katznelson adds that conditions were also changed by a major, unanticipated release from the Chabot reservoir.

"What we're after is producing protocols applicable to a range of changing conditions and water levels," she says. One answer in this case may be to increase the number of sampling points and to locate them away from stormwater outlets.

Rigney says he also learned that in intermittent streams such as those in the

### WATER TEMPERATURE



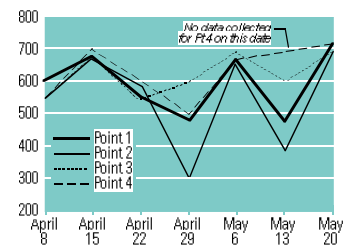
This chart shows both the general warming trend and the week-to-week variability in water temperatures as the rainy season draws to a close.

East Bay, they may have to do more hydrological research to better anticipate where they'll find water at low flow levels. In San Leandro's case, the level dropped too low at some of the sampling points for the volunteers to get their equipment underwater, and they weren't sure what to do instead.

"We learned that they need to have free and constant access to technical support for immediate problem solving," says Katznelson, "even if it means calling me on a Saturday morning."

Rigney says this winter Friends plans to expand sampling along the entire length of the creek and start habitat mapping and fish migration monitoring. The Institute will remain available as part of plans to extend technical support to ten riparian stations regionwide this year. Contact: Mike Rigney (510)231-9539 or Friends of San Leandro Creek (510)569-9405 ARO

### MICROSTEMENS



Microstemens are a measurement of electrical conductivity, in this case the number of ions in the water than can transfer electricity between electrodes 1 centimeter apart. The peaks in this chart show the kind of higher conductivity (600-700 microstemens) indicative of releases from Chabot reservoir, where the water has been sitting around long enough for ions to concentrate. The dips indicate stormwater flushes — stormwater usually contains very few ions, and levels generally range from 70-300 microstemens in Alameda County creeks.

## RIVER WATCH

### AUBURN DAM REARS FROM THE DEEP

Environmentalists say heavy buying of land by speculators downstream is evidence that officials have already made up their mind to build the \$932 million Auburn Dam on the American River. The dam — the first new dam in the Estuary watershed to near approval in years — is one of three options for protecting Sacramento from floods presented by the Army Corps, the state Reclamation Board and the Sacramento Area Flood Control agency at a series of public meetings this September.

One option, the Folsom stepped-release plan, would hike levees and enlarge gates at the Folsom dam, create 209 acres of habitat on the Delta's Liberty Island, cost \$528 million and reduce the risk of a big Sacramento flood from 26% to 13% over a 30-year period. A second \$326 million option would simply modify the Folsom dam, cutting the flood risk to 15%. The Auburn dam option would cut the risk to 5% and be largely mitigated by the planting of 5000 acres of replacement habitat.

To the surprise of none, the Auburn dam, not the two other options, was the focus of furious controversy.

Environmentalists, who see the dam as the ruin of the river, dominated public meetings in Folsom and Auburn. But a Sacramento hearing had an equal number of dam supporters, including farmers interested in new water supplies and elderly people and property owners scared by the 1995 flood.

"Most individuals don't really understand the levee repair options, and they don't trust the levees," says Tab Berg, a publicity consultant for the flood control agency "They understand a dam and the security it brings."

But dam opponents got a boost on September 29, when U.S. EPA wrote a letter saying the dam would cause irreparable loss of one of the few remaining conifer and hardwood canyon ecosystems in the lower Sierra.

Contact: Merritt Rice, Army Corps  
(916)557-6761 FH

## ENVIRO CLIP

### PAPER RECYCLING TRADE OFFS

When the MacMillan-Bloedel paper recycling plant was proposed in the early 1990s, its suggested wastewater flow into the Sacramento River caused an outpouring of complaints from the environmental community. But the comment period for the last legal obstacle to the paper plant — the draft EIR on its wastewater treatment facility — passed this August with no comment from environmental watchdogs.

Jim Crenshaw says that's because the group he represents, the California Sportfishing Protection Alliance, was never notified of the release of the treatment facility EIR, even though the Alliance was already on the list of commenters on the earlier paper plant EIR. Cal Fish & Game's Dave Zezulak says water quality impacts will be addressed by the Central Valley Regional Board when it permits the facility — a process he plans to "keep an eye on."

The draft EIR for the proposed Southport Wastewater Treatment Plant in West Sacramento — which will handle up to 6.4 million gallons of paper plant effluent and 16 million gallons of city sewage effluent per day — predicts possible water temperature and suspended solids impacts in two of the four options offered. Two options would have significant impacts on water quality from cyanide, one option from mercury. City officials say the EIR contains sufficient mitigation steps for all predicted impacts of the treatment plant.

"The EIR says impacts on the river are less than significant, but we believe that the added salts, plus elevated temperatures, plus heavy

metals inputs are more than significant," says Crenshaw. "They're just trying to put up a trial balloon to see what happens."

Though he didn't get a chance to comment, Crenshaw and other concerned enviros may team up with the urban water districts that did. A 13-page comment letter from the Contra Costa Water District claims the EIR analysis is technically flawed and that the project will result in increased salinity and decreased clean water supply for other river water users. The letter objects to allowing even a tiny increase in the discharge of toxins such as mercury to the Sacramento River. Impacts of coliform bacteria and temperature on fish and wildlife are ignored or underestimated by the EIR, says the letter. The letter also asserts that the EIR fails to take into account tidal fluctuations in Sacramento River flows and thus is flawed and should be corrected and recirculated. A four-page letter from California Urban Water Agencies echoes the district's concerns.

Crenshaw says the Sportfishing Alliance's only recourse may be litigation. Given the city's long history of both violating its wastewater discharge permit requirements (at its existing sewage plant) and not informing the public of its intentions, he says, "We're very suspicious and believe caution would behoove us all." Al Chmerlauskas of MacMillan-Bloedel says his company has carefully acquired all its permits and is only waiting for the wastewater plant EIR to be finalized to proceed. Contact: Harry Gibson, City of West Sacramento (916) 373-5850; Jim Crenshaw (916)661-0997; or K.T. Shum, Contra Costa Water District (510)674-8083 FH



### EBMUD MAY TAP AMERICAN

Is EBMUD a step closer to exercising its rights to water from the American River, or will the district find itself on the road back to court? On September 12, East Bay Municipal Utility District directors voted 5-2 to authorize a project-level EIR for construction of a 15-mile, \$112 million canal connecting the Folsom South Canal on the American River to the district's Mokelumne Aqueduct. The district is still exploring other options such as storage of water in San Joaquin County aquifers and a conjunctive use plan with Sacramento that would take water from below the conflu-

ence of the Sacramento and American rivers, near Freeport. But it's the vote to move ahead with the canal EIR that has alarmed Sacramento officials, who also covet American River water, and environmentalists such as the Sierra Club's David Nesmith, who says EBMUD is "in for another couple of decades of litigation" if it goes ahead. The district's Mary Selkirk, one of two "no" votes, put things in perspective. "People have been suing for thirty years to get water from the lower American, but nobody's gotten a drop yet," she says. Contact: (510)835-3000 O'B

## PLACES TO GO & THINGS TO DO



### WORKSHOPS & SEMINARS

#### Regional Wetlands Habitat Goals Project Open House

**FRI•10/27•1:30-3:30 PM**

**Topic:** Developing a scientific rationale for regional wetlands habitat goals.

**Sponsors:** S.F. Estuary Institute, S.F. Estuary Project, S.F. Regional Board and others

Room 4B/C, S.F. Regional Board  
2101 Webster Street, Oakland  
(510)286-0427

#### Water Supply and Fish in the Sacramento-San Joaquin Delta

**FRI•10/27•All day**

**Topic:** Discussion of current Delta issues, including lectures from B.J. Miller and David K. Fullerton.

**Sponsor:** U.C. Berkeley Extension  
Berkeley Conference Center  
2105 Bancroft Way, Berkeley  
**Cost:** \$225 (510)642-4151

#### San Francisquito Creek CRMP Process Workshop

**SAT•10/28•9:30 AM-12:30 PM**

**Topic:** Creating a Coordinated Resource Management Plan (CRMP) for the San Francisquito Creek Watershed.

**Sponsor:** Peninsula Conservation Center  
City Council Chambers  
701 Laurel Street, Menlo Park  
(415)962-9876

#### Teaching About Watersheds

**SAT & SUN•11/4-5 & 11/11-12•All day**

**Topics:** Two-day conference, including symposia, workshops and field trips, prepares educators to teach about watersheds.

**Sponsor:** S.F. Estuary Institute  
Cal State Hayward, Hayward  
**Cost:** \$30 (510)231-9539

#### Seizing the Initiative: ACWA Fall Conference

**WED-FRI•11/29-12/1•All day**

**Topics:** Discussions of asset transfers, CVP issues, the Auburn Dam and future California water policy direction.

**Sponsor:** Assoc. of California Water Agencies  
Wyndham Hotel, Palm Springs  
**Cost:** \$130-\$560 (916)441-4545



### HANDS ON

#### Building Aquatic Alliances: Marine Science Institute's Annual Open House

**SAT•10/21•10 AM-4 PM**

**Activity:** Learn about local aquatic ecosystems through Discovery voyages, fish seining, tidepool exhibits, mud grabs and plankton demonstrations.

**Sponsor:** Marine Science Institute  
500 Discovery Parkway, Redwood City  
(415)364-2760



### MEETINGS & HEARINGS

#### State Water Resources Control Board

**TUES•10/24•All day**

**Topic:** Progress and discussion of public advisory task forces established to address issues relevant to the adoption of a new Inland Surface Waters Plan and Enclosed Bays and Estuaries Plan.

Various locations in downtown Sacramento  
(916)657-1036

#### CALFED Public Meeting

**WED•10/25•7 PM**

**Topics:** General overview of CALFED process and specific discussions on ecosystem and water quality, water supply reliability and vulnerability of Delta levees and channels.  
MetroCenter, 101-8th Street, Oakland  
(916)657-2666

#### Friends of the Estuary Board of Directors

**FRI•10/27•9:30 AM-12:30 PM**

Room 4 B/C, S.F. Regional Board  
2101 Webster Street, Oakland  
(510)286-0734

#### CCMP Implementation Committee

**FRI•11/3•10 AM-12:30 PM**

Room 4 B/C, S.F. Regional Board  
2101 Webster Street, Oakland  
(510)286-0924

#### Bay Commission

**THUR•11/16•1 PM**

**Topics:** Public hearing and vote on Galilee Harbor Settlement and public hearing on tentative recommendations on strategy for eliminating unnecessary regulations.

Room 455, State Building, San Francisco  
(415)557-3686

#### Bay-Delta Advisory Committee

**WED•12/6•10 AM-4 PM**

Beverly Garland Hotel, Sacramento  
(916)657-2666

## NOW IN PRINT

#### *Culvert Action: How to Interest Your Local Media in Polluted Runoff Issues*

The Lindsay Museum  
Copies from (510)935-1978

#### *Delta Wetlands Project Draft EIR/EIS*

Prepared by Jones & Stokes Associates for State Water Board and U.S. Army Corps of Engineers. Cost for full 2,300-page EIR/EIS is \$110; 42-page Executive Summary available free.  
Copies from (916)737-3000

#### *Determinants of Sediment Toxicity, San Francisco Bay*

Lawrence Berkeley Laboratory  
Copies from hoffman.erika@epamail.epa.gov or  
(415)744-1986

#### *Draft Environmental Assessment of the Grasslands Bypass Channel Project*

Prepared by U.S. Bureau of Reclamation.  
Copies from (916)979-2476

#### *Initiatives in Nonpoint Source Management*

Prepared by the State Water Resources Control Board. Technical Advisory Committee's reports on the following are also available: Pest Management; Plant Nutrient Management; Hydromodification, Wetlands and Riparian Areas; Irrigated Agriculture; Abandoned Mines; Rangeland; On-Site Sewage Disposal Systems; Confined Animal Facilities; Urban Runoff; and Marinas and Recreational Boating.

Copies from (916)657-1132 or download *Initiatives* from <http://www.swrcb.ca.gov>

#### *Of Marsh and Mud: A Guide to Shoreline Life*

Dave Riensche, Ohlone Audubon Society. Cost: \$8.50  
Copies from (510)656-1953

#### *RMP: Regional Monitoring News*

(new quarterly newsletter)  
San Francisco Estuary Institute  
Copies from (510)231-9539

#### *Staff Report on the Beneficial Uses Designations and Water Quality Criteria to be Used for the Regulation of Agricultural Subsurface Drainage Discharges in the San Joaquin Basin*

Prepared by Central Valley Regional Board  
Copies from (916)255-3097

#### *Sulfide Tolerances of Four Marine Species Used to Evaluate Sediment and Porewater Toxicity*

Lawrence Livermore National Laboratory  
Copies from knezovich1@llnl.gov or (510)422-0925

#### *Toxic Pollutants, Health Indices, and Population Dynamics of Harbor Seals in San Francisco Bay, 1989-1992*

Moss Landing Marin Laboratories  
Copies from (415)788-3666

#### *Utility of Porewater Toxicity Testing for Development of Site Specific Marine Sediment Quality Objectives for Metals*

Lawrence Berkeley Laboratory  
Copies from slanderson@ux5.lbl.gov or (510)486-4654

# LETTERS TO THE EDITOR

## DEAR EDITOR:

From the perspective of the campaigns of a full quarter of a century ago to end the uses of several of the chlorinated biocides and of the PCBs, it has been distressing to note that ESTUARY articles have consistently shown a bias towards exaggeration of the threats of environmental contaminants, even when there are no plausible reasons or data to suspect a deleterious environmental effect. All of these deserve, in the interest of credibility, a detailed technical reply, but the lead article of the August 1995 ESTUARY entitled "Hormonal Havoc" crossed a line that mandates a response.

[The article], presumably inspired by a recent Audubon Magazine [article] entitled "Hormonal Chaos: The New Pollution Problem," refers as far as documentation is available to effects of chemicals whose uses ended long ago, and whose environmental levels have been declining. To suggest that these effects are "new" in soliciting research or monitoring funds, or to promote a very different agenda such as ending the use of all chlorine-containing synthetic compounds, is a sad chapter of intellectual dishonesty in the history of environmental protection.

"Better living through chemistry hasn't turned out to be the case for ...women worldwide with reduced fertility" can be supported by no empirical data or plausible hypothesis. The circumference encompassing responsible journalism was crossed, into the area occupied by the supermarket tabloids. Credibility is our strongest asset in keeping meaningful regulations, in fighting the current backlash against environmental laws, and in responding to new perceived threats. Why squander it?

**Robert W. Risebrough**  
Bodega Bay Institute

*As Dr. Risebrough points out, many of the chemicals thought to be endocrine-disruptors have indeed been banned, at least within the United States (DDT, for example is still used in many developing countries). The phrase "women worldwide..." refers to rising rates of ectopic pregnancies (roughly 400% in the U.S. between 1970-1987) and of endometriosis (which frequently leads to infertility) — both of which some scientists say may be related to the endocrine-disrupting effects of certain chemicals.*

## DEAR EDITOR,

Thanks for reporting on dioxins and PCBs threats (Hormonal Havoc, 8/95). New data suggests these chemicals are toxic in smaller amounts, present in Bay fish in greater amounts, and consumed by anglers in bigger doses than previously suspected. Yet oil refineries still release dioxin into our Bay, and PCBs still threaten to enter it from our watershed. People have a right to know that we need to prevent these ongoing chemical releases.

**Greg Karras**  
Communities for a Better Environment

*Whatever the perspective, ESTUARY welcomes feedback and debate concerning its articles. Readers should know that as a matter of policy, all our stories are reviewed by the scientists, engineers, project managers and other sources interviewed to ensure the greatest possible degree of accuracy and relevance.*

# ESTUARY



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