

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

THE BLUEBELT IS JUST ONE CHAPTER IN A BLUEPRINT FOR A SUSTAINABLE BAY AREA now being developed by Urban Ecology Inc. — a 20-year-old, 1200-member grassroots organization dedicated to creating a healthier urban environment. The blueprint for the bluebelt (a watery twist on the more commonly used term “greenbelt”) will draw not only on the ideas generated in vision forums and focus groups, but also on existing visions such as the S.F. Estuary Project’s *Comprehensive Conservation and Management Plan* for the Bay and Delta. Other chapters will explore regional sustainable strategies for Bay Area homes, neighborhoods, city centers, transportation networks, land use and the greenbelt and address energy, waste and social justice. “Everyone’s talking about sustainability, but no one knows what it really means or how to apply it,” says Urban Ecology’s Paul Okamoto. “The blueprint is a hands-on attempt to apply the concept to a specific region and ecosystem. We think the urban environment — with all its density, multiculturalism, economic diversity and energy efficiency — offers the essential ingredients of sustainability and the necessary companion to ecosystem management.” (510)251-6332

NORTHERN CALIFORNIA AGRICULTURAL INTERESTS HOPE TO INTRODUCE A BILL REPEALING PARTS OF THE 1992 CVPIA (Central Valley Project Improvement Act), but at press time they had not yet found a sponsor. “If we remove some of the punitive and confusing portions of the CVPIA, it will make the real environmental improvements more workable,” says Jason Peltier of the Central Valley Project Water Association. But Save the Bay’s Barry Nelson says such a bill would injure the hard-won working relationship between agriculture and environmental interests hammered out during the December 15 Bay-Delta Accord. Nelson says the CVPIA “fills holes” left by the accord, such as spring-run salmon restoration and a San Joaquin River fix that environmentalists aren’t willing to see go by-the-by. Nelson is also concerned that environmentalists will have to drop important work on follow-up to the Bay-Delta Accord and a long-term Delta fix to concentrate their efforts on defeating the bill. Contacts: Jason Peltier (916)448-1638 or Barry Nelson (510)452-9261 FH

The Air/Water Connection: PM₁₀

In California the car is king — an object of adoration, a ticket to liberty, an appendage as indispensable as a right arm — which is why no one likes to hear about how bad cars are for the planet. But we’re going to hear more.

“Maybe we can give the public one more reason to stop driving so much,” says Geoff Brosseau of the Bay Area Stormwater Management Agencies Association, referring to growing awareness that cars don’t just pollute the air, but also the water via road runoff and atmospheric fallout. The emerging linkages between air and water quality have got people like Brosseau examining pollution sources outside their immediate spheres of influence. “Air pollution may not be in the universe we control, but that doesn’t mean we have to give up. It just means we have form some new alliances,” he says.

Many of the pollutants that spew from automobile tailpipes and wear off their body parts attach themselves to fine particles of dirt and dust. “The air people call it ‘particulate matter’ and we call it ‘sediments’.” Their medium just happens to sit right above ours,” says Brosseau. Though no local data is available, a Milwaukee study estimated that 52-57% of the fine particles on that region’s Interstate-94 highway were entering stormwater.

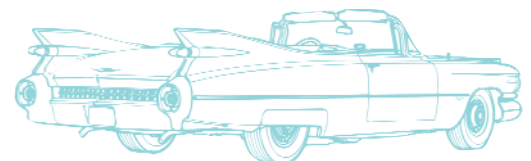
But the stormwater connection isn’t the reason this fine dirt and dust hit the headlines earlier this year. The human health connection was. At the time, newspapers reported the results of a Harvard and Brigham Young study of 552,138 people in 151 cities that showed that PM₁₀ (particulate matter below 10 microns in size, or one fifth the width of a human hair) can increase the risk of death from lung damage and associate heart problems by 15% to those living in the cities with the dirtiest air.

Where is the PM₁₀ coming from? Basically from any activity that combusts fuel, disturbs soil, corrodes surfaces or produces smoke and exhaust. Bay Area vehicles left behind 26 tons of PM₁₀ per day in the summer of 1990, according to the local air district, and over ten times that amount gets resuspended (just in case you didn’t get to breathe it the first time) by these vehicles daily as they travel the region’s paved roads (see chart p.6). An EPA analysis of PM₁₀ trends shows that while the overall amount generated decreased nationwide by 3% between 1983 and 1992, the amount contributed by highway drivers increased from 17 to 26% — a 50% jump attributed largely to an increase in vehicle miles traveled. To Brosseau, this is a “scary” trend.

“It’s not good for stormwater because increasing vehicle miles means more particulate matter coming from cars and thus more metals in our air that will end up in our water,” he says. Among the myriad possible sources of PM₁₀, vehicles are likely to generate higher concentrations of copper, lead, nickel and zinc. Federal highway administration studies show concentrations of heavy metals are 2-4 times higher in highway runoff than in general urban runoff.

Heavy metals are a primary target of stormwater pollution reduction programs. Indeed the copper contamination problem in South Bay waters has got stormwater officials pointing fingers not just at the car but more specifically at its brake pads. An October 1994 lab analysis of 20 different brake pads done by Woodward-Clyde for the Santa Clara Valley nonpoint program showed their copper content ranged from below detection

- continued on page 6



QUESTIONS & ANSWERS



LESTER SNOW
EXECUTIVE DIRECTOR
CALFED BAY-DELTA
PROGRAM

- Q:** *What is the purpose of your program?*
A: To devise a long-term solution for the problems plaguing the Bay-Delta Estuary and to balance the need for reliable water supplies with environmental restoration.
- Q:** *What status will the short-term Delta water quality standards set on December 15 have in the CALFED Program's effort to develop a long-term solution?*
A: "I look at those standards as a small piece of the whole environmental restoration picture. I think we'll find that we need to be buying land, recreating large areas of habitat, basically doing a lot more than just focusing on standards. This time we need to take an ecosystem approach and start from the habitat perspective, then see what that means to the hydrologic regime. This is probably our last chance to redefine how we, and even how the whole country, should deal with resource management in the 21st century."
- Q:** *Why is it our last chance?* **A:** "Because pressures have built up so greatly. In the past, most of the fights in the water wars were intellectual or policy oriented. Now they're fights about survival — the environmentalists to keep species from being lost forever, the urban users are fighting to maintain reliable supplies for businesses threatening to leave the state, agriculture to keep their water rights.... There's no resilience left in the system. If we fail, all this will get turned over to the lawyers."
"It's also our last chance because of the uniqueness of the December 15 accord. That type of cooperative spirit doesn't last forever. We've got a window of opportunity and we've got to go through it. What's also in our favor is the mood of the nation, which I interpret as a mood of people wanting government to stop bickering and get something done. Even if we repeal the Endangered Species Act, we still have to fix the Delta. Even among warring interests there remains genuine recognition we can't just legislate our problems away."

continued on back page

NEWS ROUND-UP

REBUILDING AN ACCIDENT-PLAGUED STRETCH OF HIGHWAY 37 COULD ENHANCE NORTH BAY WETLANDS if the Green Highway Project proposed by S.F. Bay Commission staff wins support. Last summer, the Commission's staff proposed an interagency agreement to "green" plans to widen the nine-mile section of undivided highway between Mare Island and Sears Point. The agency's Will Travis says a traditional approach to roadway improvement could significantly damage marshes, mudflats and wetlands on both sides of the levee-top route, but building part of the highway on a raised causeway could open sunken hayfields on the north side of the highway levee to tidal action and wetland restoration and provide access for a much-needed trail link. On May 17, the state's Senate Transportation Committee began hearings on options for the highway. At the hearing, committee members requested a feasibility report from Caltrans. (415)557-3686

A NEW SHORTLIST OF 12 BAY-DELTA RESTORATION PROJECT CANDIDATES FOR "CATEGORY III" FUNDING was completed this May after an ad hoc group of scientists winnowed down the list based on their potential biological value. The Category III fund was created through the CALFED Bay-Delta program to support non-flow related improvements to the estuarine ecosystem. The short list includes fish screens and ladders at Parrot Phelan, Patterson, Suisun Marsh and Butte Creek, as well as water hyacinth control, the BIOS pesticide reduction program for almond farmers, tidal wetland restoration on the Delta's Prospect Island, the restoration of base flows to Battle Creek, gravel for Sacramento River spawning berms, captive broodstock for the river's winter-run Chinook salmon and a water diversion assessment of impacts on outmigrating salmon smolt. The next step will be a feasibility review, which will further cull projects based on their readiness for immediate implementation (in 1995-1996) and the availability of matching funds. (408)265-2607 ext.2443

WHAT'S A WILDLIFE REFUGE WORTH? A new report by the Golden Gate Audubon Society says establishing a 575-acre refuge at the west end of the soon-to-be-closed Alameda Naval Air Station would generate up to \$10 million a year in local spending by some 120,000-240,000 projected visitors, topped by another \$500,000 from U.S. Fish & Wildlife for facility administration and maintenance. Creating a refuge would cost far less than building commercial or residential projects, says Audubon's Arthur Feinstein, adding that any new developments would require a thorough toxics cleanup as well as an expensive rebuilding of the island's infrastructure. The wildlife refuge would require little in the way of new construction, and use an existing air control tower as an observation post (510)843-2222



FLUSHING YOUR HEAD INTO THE BAY CAN HARM FISH according to clean boating guides recently published by the S.F. Estuary Project and California's Department of Boating & Waterways. The guides, one for the Bay and one for the Delta, list statistics on how untreated raw sewage discharged from boat heads (toilets) impacts the aquatic ecosystem and outline laws prohibiting such discharges within three miles of the shoreline (an area that includes the entire Estuary). The guides are part of California's public outreach follow up to the Clean Vessel Act of 1992, which identifies vessel sewage discharges as "a substantial contributor to localized degradation of water quality in the United States." The guides give boaters tips on how to use pumpouts and marine sanitation devices. They also offer beautiful color maps of pumpout and port-a-potty dump facilities throughout the region, as well as sensitive areas such as shellfish beds, herring spawning grounds and popular swim, ski and surf spots. For a free copy (510)286-0734

INSIDE THE AGENCIES

THE 404 PILOT

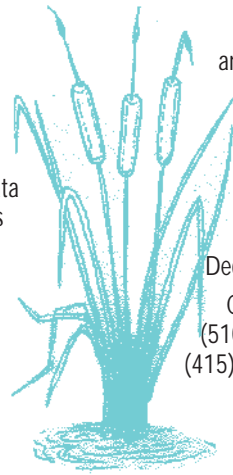
Outfalls, culverts, shoreline utility lines, creek-crossing roads — these are all facilities where builders would most likely have to apply for a “nationwide permit” for maintenance or construction activities involving the discharge of dredged or fill material into wetlands. Under section 404 of the Clean Water Act there are 35 categories of these small projects, considered — among the three types of 404 permits (individual, regional and nationwide) — to be those with the most negligible environmental impacts and thus worthy of expedited permitting. Sometime this summer, that permitting will become even more expedited when the Army Corps gives over primary responsibility for Bay Area nationwides to the S.F. Regional Board.

The delegation is a first phase, 12-month pilot designed to test efforts to streamline the local permit review process, a process which many business interests have long complained involves too many agencies and too much paperwork. But the Board sees other larger benefits to the takeover. According to the Board’s Michael Carlin, it’s a chance to integrate a variety of regulatory and planning programs in one fell swoop, as his agency is involved on a daily basis with a host of watershed-impacting programs outside the Corps’ purview — toxic clean up, stormwater management and sewage discharges to name only a few. “The current nationwide permit system is a blanket national policy for administering small fills of 10 acres or less,” says Carlin. “Through the pilot, we’ll be able to review these supposedly minimal impact projects in the context of our local regional perspective on environmental protection. A lot of activities in a small watershed can have a big impact.”

His agency’s careful tracking of the nationwide permits, says Carlin, will give everyone a better handle on just how detrimental these small projects are to individual watersheds. From there, the Regional Board will be able to evaluate

whether these types of permits should continue to be expedited or should go back to a more rigorous agency-by-agency review.

Carlin plans to load the new data on the nationwide permit projects into his GIS computer maps of regional watersheds. Once the information does a digital merge into the watershedwide picture, problem areas will be easier to pinpoint and highlight to local governments for land use planning purposes.



As ESTUARY went to press, Carlin and Corps counterparts were busy drafting a Memorandum of Agreement for the pilot. Carlin says a joint public notice should follow in July and that the experiment will run for at least 12 months before it’s evaluated in a December 1996 final report.

Contact: Michael Carlin (510)286-1325 or Calvin Fong (Corps) (415)744-3036 ARO

BIG PLANS

A NEW ENFORCEMENT POLICY

Perpetrators of an illegal spill in San Diego might get a notice of violation but never pay a fine; the same spill in San Francisco could slap them with a simple \$100 ticket or a \$200,000 bill payable to the state’s Cleanup and Abatement Fund. In the past, what the penalty would be for breaking a water quality law has been entirely up to the discretion of the state’s nine regional boards. While the regional approach is one of the water quality program’s greatest strengths, in terms of its ability to respond to local specifics, enforcement actions have been sufficiently inconsistent from region to region to be “troubling,” according to the S.F. Bay Regional Board’s Larry Kolb. “You have to wonder how much is due to differences in water quality situations, versus how much is due to different enforcement philosophies,” says Kolb. Boards are governor appointed and political in nature.

Protecting that regional power while imposing some consistency statewide was the challenge before the State Water Resources Control Board — the parent of the nine regional boards — when it set out to develop a new statewide enforcement policy. According to the State Board’s Mark Bradley, the thrust was to create a policy framework rather than strict protocols dictating types of penalties for types of violations.

Luckily for the state, the S.F. Board had already gone through the drills. “We had so many unwritten rules of thumb around here

that it wasn’t automatic that we ourselves would keep them straight,” says Kolb, whose agency put those rules on paper in 1993 in the form of a regional-level enforcement policy.

That regional policy, plus a lot of feedback from other regional boards, created the shape of the draft statewide policy to be considered at a public hearing on June 29. The new policy targets two main areas of consistency: first, what degree and type of violation should trigger an immediate enforcement action on the part of a regional board; and second, what factors should be considered, and how much weight should they be given, in calculating an ACL (administrative civil liability penalty). The new policy also describes types of penalties ranging from cash fines to cease-and-desist orders to clean up and environmental restoration — the enforcement action of choice these days among regional boards. “It’s the first time that details on all these kinds of actions are showing up in one place on paper,” says Bradley.

The long-term issue is whether the State Board will have the backbone to make the do-nothing regional boards do some enforcement. Bradley says the policy offers many more avenues for regional board accountability, both to the state and to the public. Contacts: Mark Bradley (916)654-6498 or Larry Kolb (510)286-1307 ARO

SPECIES SPOT

AS NATIVE AS NATIVE GETS

Charli Danielsen cultivates not just rare plants, but their rare genes as well because she believes native species preservation is a matter of more than just the number of plants on the planet. Her non-profit California Native Here Nursery raises native plants for restoration projects in Alameda and Contra Costa counties using seeds found at the project site itself or, if the native landscape is too disturbed, within the same watershed.

"It's similar to getting a good match for an organ transplant patient," she notes. "When you introduce plants from elsewhere, the locally growing natives may hybridize with them. That kind of change can lead to disaster for the native population, though it may take years."

Danielsen says she's noticed that locally collected plants fare better than "outsiders." In fact, the idea for the nursery was inspired in part by a problem she ran into a few years back. A Berkeley Marina nursery was raising Toyon shrubs from seed taken from two sites: one coastal, one in the hills. "They were all doing fine till they got to be about four inches tall, when all of a sudden the hill ones all died," she says. "The coastal ones had apparently developed a genetic tolerance to salt spray."

Danielsen advises starting upstream when restoring native vegetation. "Creeks are always changing, and plants are continually washing away. So it's especially important to restore upstream or on tributaries, because the genetic material will wash downstream and may get a second chance."

Another piece of hard-won advice: start thinking about plant restoration early. Ferns in particular are slow growers. "When you start with spores, you don't get your first frond for at least eight months," she says. "Ideally, we should be collecting seeds for those plants up to four years before they're needed."

Besides selling plants, the California Native Here Nursery performs site evaluations, collects seeds and contracts to grow plants. Contact: Charli Danielsen (510)549-0211

LP

CCMP BRIEF

YOUNG HANDS REBUILD WETLANDS

Driftwood imported by winter flood waters and now clogging a Benicia marsh may soon be hauled away by school kids if the location is approved for the next and newly funded round of Friends of the S.F. Estuary public education efforts. This May, CalPIRG awarded Friends a sizable grant to continue to educate school kids and teachers about the Bay and Delta ecosystem and to give kids hands-on creek and wetland restoration experiences. The grant was one of 24 funded by Shell Oil's recent \$2.2 million settlement over its illegal selenium discharges into the Bay.

Estuary education specialist Steve Cochrane says the two-year education program — which will involve at least 450 kids, 15 teachers and three restoration sites — helps to implement the CCMP (the S.F. Estuary Project's *Comprehensive Conservation & Management Plan* for the Bay and Delta). "Restoration and education are common themes throughout the CCMP," he says.

If the marsh at Benicia State Park becomes a program site, students, teachers and interested citizens will study this local natural habitat in depth, adopt it and carry out cleanup, weeding, planting and other restoration activities. Backing up their field work would be a 10-week study program using the Friends activity guide *Estuarine Encounters*.

According to Cochrane, two other project sites are under consideration — the Pinole/Hercules marshes and wetlands near the confluence of Adobe Creek and the Petaluma River. In choosing the sites, Cochrane looks for three things: a restoration need, friendly (public) landowners and a natural resource agent (such as a park official) available to supervise the technical aspects of environmental improvements.

The restoration thrust of Friends' five-year-old education program is responsive to demand, says Cochrane. "In past years, people supported environmental causes by sending money. Now the trend is to get out there and actually do something," he says. Contact: Steve Cochrane (510)286-0775

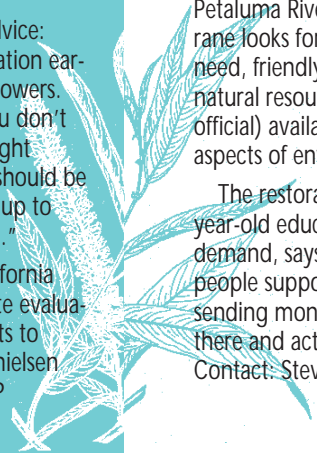
ARO

WETLANDS ON A ROLL

Early this June scientists gathered to explore before the eyes of the interested public just how few wetlands the region has left and just how many and of what types would best serve its ecological health in the future. The workshops, organized by the S.F. Estuary Institute as part of a regional effort co-sponsored by 15 government agencies, were designed to bring the 100-odd people gathered up to speed on progress toward developing a scientific basis for regional wetland habitat goals.

While there were a lot of "bells and whistles and fancy GIS map presentations," according to one onlooker, the workshops centered more on the nitty-gritty issues ahead. How will the nine planned focus teams and the senior scientists' group interact? What is the best way to keep the public involved? Will time and staff-strapped resource agencies be able to commit their top scientists to such a major project? After one presentation on bird use of wetlands, environmentalists in the audience pointed out an important shortfall in the data — i.e., it didn't include the region's seasonal wetlands. At another point it was suggested that flood control and mosquito abatement districts be invited to participate in the senior scientists' group. Exactly how this will all play out was still being worked out at press time. For the moment, organizers hope to have draft goals by the end of the year, which will, in turn, form the basis of a regional wetlands management plan and thus implement key actions in the CCMP.

While the scientists wrangle with goals, state and federal agencies and private conservation groups are preparing for follow-up wetlands expansion and acquisition programs by launching a San Francisco Bay Area Joint Venture (see calendar for first meeting date). This new public-private partnership is modeled on the successful Central Valley Habitat Joint Venture, which recently helped to acquire the Delta's Prospect Island and is now working on a plan to restore fish and wildlife habitat on the 1,228 acre property. The new venture's organizer Nancy Schaefer says its creation is especially timely as it will help accomplish specific CCMP goals such as the regional wetlands management plan. Contact: Peggy Olofson (Goals Project) (510)286-0427; Nancy Schaefer (Joint Venture) (510)370-7158 ARO & O'B



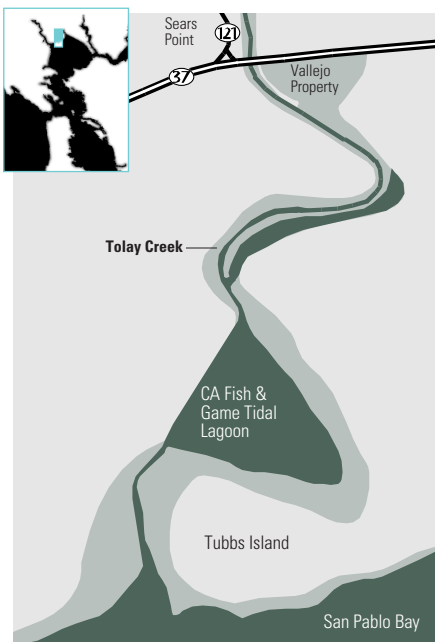
NATURAL VENTURES

ALL-OUT FOR TOLAY

The 35 farmers and landowners in the Sonoma Creek and Petaluma River basins applied for their usual "general permit" for dredging in 1990. The dredging, which had been going on for close to a century, was necessary to maintain the 40 miles of levees that protected their lands from flooding. For the past two decades, the permit renewal had gone off without cost or hitch. But this time, for the first time, a consultation with U.S. Fish & Wildlife required them to create a new tidal marsh as mitigation for potential disturbance of an endangered bird and mouse. "A greatly diminished population of the California clapper rail caused us to start taking a closer look at the range of activities affecting estuarine habitat," says Fish & Wildlife's Ruth Pratt.

The landowners, not exactly rich developer types, felt hard pressed to meet these new terms. Permitting costs alone for the group swelled from approximately \$100 in 1985 to \$10,000 in 1990, according to landowner Norm Yenni. "We struggled through the paperwork for two years, but didn't get anywhere," says Tish

TOLAY CREEK RESTORATION



Source: NRCS/Americorp

Ward of the local Resource Conservation District, which represented the 35 landowners. In 1993, they went to Congresswoman Lynn Woolsey for help. Woolsey brought the interested parties together, 20 in all, and spent 18 months negotiating an agreement that singled out Tolay Creek and its environs as their mitigation solution.


A hundred years ago, Tolay Creek (see map) was a tidal slough big enough for barges to reach a rock quarry over three miles from San Pablo Bay. But since farms and levees have grown up around the creek, limiting its tidal sustenance, a portion has shrunk to a narrow channel choked with peppergrass and surrounded by dry, dead marsh. For several years, this area has been a restoration target for state and federal agencies, especially because it overlaps with the San Pablo Bay Wildlife Refuge. When the mitigation project came up, it made sense to fold it in with these existing restoration plans.

Officials say the final project, which will total 350 acres including the mitigation marsh, will represent one of the largest North Bay restorations to date. The mitigation part will be achieved by Cal Fish & Game, not the landowners, buying 53 acres of farmland from the Vallejo Sanitation District (see map) and allowing it to revert back to tidal marshland. According to the agency's Carl Wilcox, the acreage will provide "a critical tidal prism needed to keep the restored Tolay Creek channel scoured." Seasonal dredging restrictions outside nesting periods on a small part of the project area satisfy concerns of impacts to clapper rails, and the 53 acres permanently mitigates habitat loss to the salt marsh harvest mouse.

Everyone has chipped in to fund this \$450,000 project and help minimize the financial burden on the landowners. To date, Fish & Wildlife and Cal Fish & Game have each agreed to fund a third of the total. In addition, \$90,000 will come from the Shell Oil Spill fund; \$50,000 from Save the Bay; \$25,000 from the Mosquito Abatement District and two smaller amounts from the Sonoma County Community Foundation and the Sonoma County Fish & Wildlife Advisory Board. The landowners and the Resource Conservation District will provide in-kind services such as surveying.

HARD SCIENCE

BROCCOLI CURE-ALL



Broccoli may help clean up selenium-contaminated soil, according to U.C. plant biology professor Norman Terry. Terry has found that several common crop plants — especially broccoli, rice, and cabbage — have the ability "volatilize" selenium by absorbing the substance into their root systems and converting it to a gas which is then dispersed into the atmosphere. The gas, dimethyl selenide, is 500 to 700 times less toxic than the soluble form of selenium, and since the plants retain virtually no selenium in their stems and leaves, they pose no threat to wildlife and don't need to be carted off to a hazardous waste dump. "The great thing about volatilization is that it's a way of getting the selenium completely out of the ecosystem," Terry says. Plants like broccoli are inexpensive to grow and have literally miles of roots probing every cubic millimeter of soil. Terry predicts they could prove to be especially useful in situations where large areas have been contaminated with relatively low levels of toxics. "They can pull stuff out of the soil better than anything we can devise," he says. (510)642-3510 O'B

"It was a hard decision for my board to grant \$50,000 to pay for what otherwise would have been landowner responsibility," says Save the Bay's Marc Holmes. "In this case, the historical precedent, 100 years of private dredging and the exorbitant costs of mitigation in proportion to the project and landowner resources caused us to rethink our usual policy."

At a permit signing for the Tolay restoration on June 2, speaker after speaker noted the project's significance as a national model, a "win-win solution." Though the landowners at the microphone seemed to embrace this interpretation, there remained a whisper of resignation in the air. "We still maintain we have the property rights out there," said Mitch Mulas at the ceremony. Contact: Grant Davis (Woolsey's office) (415)507-9554 SE

PM₁₀ CONTINUED

level (0.00625%) for Ford and General Motors pads to 20.5% for a Volkswagen. Several Japanese models showed up in the middle.

The million dollar question remains how much of the copper (not to mention the lead, nickel and zinc) in the PM₁₀ worn off brake pads ends up in the Bay. Officials say there are far too many variables to get a definite answer to this question right now. But a Woodward-Clyde simulation suggests that 19-75% of the copper in South Bay runoff comes from brake pads.

What stormwater agencies will do about PM₁₀ in general, and their heavy metal components in specific, is still very much up in the air. "Even the best streetsweepers can't pick up particles that small," says Brosseau.

On the South Bay copper issue, officials are looking further into the possibility of reducing the heavy metal content of brake pads. The Santa Clara program's Dave Drury says a three-way dialogue is now beginning between his program, EPA and the pad manufacturers. Meanwhile, a new inter-organizational brake pad task force may be launched under the auspices of the Executive Council charged with implementing the S.F. Estuary Project's CCMP. The proposed task force would explore potential methods of preventing pad-related impacts and work to educate stakeholders, according to the City of Palo Alto's Kelly

THE MONITOR

FISH SWIM SUPERHIGHWAY

Desk-bound researchers and decisionmakers can now find exactly where smelt, salmon, striped bass and over 40 other fish species have been in the Estuary's rivers and channels over the past few days without ever climbing into a boat. With just a few computer key strokes onto the information superhighway and the home page of Cal Fish & Game's Bay Delta & Special Water Projects Division they can click on items such as the recent daily average catch of different fish species per acre-foot at nine sampling sites throughout the Estuary.

"We're collecting fishery data out in the field and getting it to the world in one day," says Cal Fish & Game's Chuck Armor, who helped design the new "real-time monitoring" system. Real-time refers to what's actually happening in the water at any given time. The hope is that if Bay-Delta managers know within a matter of hours that a school of salmon was reported headed for the water export pumps (which gobble fish), they can change or temporarily halt pumping accordingly.

Armor says as soon as the daily field reports come in, they're entered in the computer, summarized and faxed to the new CALFED Operations Group (set up under the December

15 Bay-Delta accord). The summaries and information on emerging trends are then placed on the home page. Other newly accessible data include bar charts showing the last seven days' catch for salmon and smelt, and thus when fish pulses come and go, and a running total of how many "T&Es" have been picked up to date. T&Es are government shorthand for threatened and endangered species, says Armor, of which only a certain amount can be caught for scientific and management purposes. Armor says the speed at which they now get this particular information not only helps them adjust T&E takes immediately if they overstep their limit, but also helps watchdogs make sure the researchers are complying.

The new real-time data are already showing the effects of an unusually wet winter — the Delta smelt are hanging out much further downstream, and splittail (a species proposed for a T&E type listing) are thriving in the Southern Delta. By next year, Armor says the monitoring system could be sophisticated enough to tell people not only where the fish are in the Estuary, but also what the freshwater flows were at the time.

Contact: Chuck Armor (209)948-7800 or <http://www.delta.dfg.ca.gov> ARO

Moran. "The Estuary Project offers us a unique and proven structure for regional collaboration, one we county and local folks just don't have," says Moran.

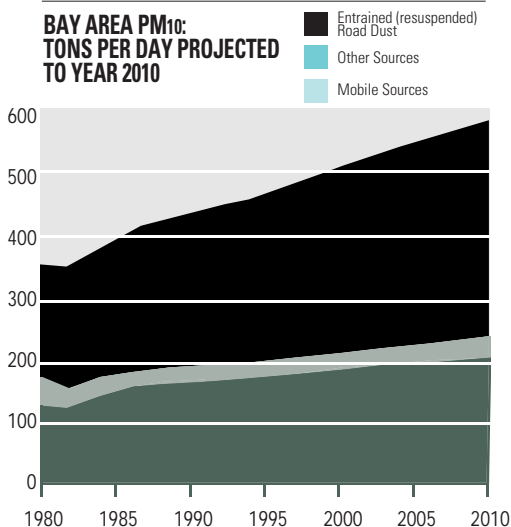
But the larger solution to the PM₁₀ problem — getting people to curb their wanton driving habits — has always been a very unpopular one. Ask Greg Karras about trying to do this and he'll tell you to put your energy somewhere else. In the late 1980s, Karras' organization, Citizens for a Better Environment, collected data pointing out the car as a major threat to water quality. But when that data, and the inevitable need to reduce vehicle miles traveled, were placed before the appropriate regulatory and planning agencies, they all backed away, he says. Since then, Karras has been focusing on easier-to-win fronts of the car-water wars, such as lobbying for cleaner fuels.

"It's not the technical but the political

and economic difficulties of radically restructuring our transportation system," he says. "We need to rip up streets, replace autos with mass transit, force companies to locate near their jobs base. In the current political climate, we probably shouldn't tackle this. To solve this problem, we'll need political leadership over generations," Karras says.

In this generation at least, Brosseau is offering a little leadership. He's made some contacts with researchers at the air district to see if they can share data collected and look for linkages. "I think we'll find particulate matter from cars is our common ground," he says. Contacts: Geoff Brosseau (510)286-0615; Dave Drury (408)927-0710; Greg Karras (415)243-8373 & Kelly Moran (415)329-2421 ARO

**BAY AREA PM₁₀:
TONS PER DAY PROJECTED
TO YEAR 2010**



PLACES TO GO & THINGS TO DO



MEETINGS & HEARINGS

State Water Resources Control Board Public Hearing

THURS•6/29•9 AM

Topic: Draft statewide enforcement policy.
Hearing Room, 901 "P" Street, Sacramento
(916)657-0990

SFEP South Bay Geographic Subcommittee

THURS•7/13•9:30 AM

S.F. Bay National Wildlife Refuge, Newark
(510)286-0924

SFEP Delta Geographic Subcommittee

WED•7/19•9:30 AM

Jean Harvie Community Center, Walnut Grove
(510)286-0924

S.F. Regional Board

WED•7/19•9:30 AM

Board Room, BART Headquarters Building
800 Madison Street, Oakland
(510)286-0533

Bay Commission

THUR•7/20•1 PM

Topics: Status report on Bay Management
Program Refinements (permit streamlining) and
consideration of 1995-96 and 1996-97
workplans.

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

State Water Resources Control Board

THURS•7/20 (Tentative)

Hearing Room, 901 "P" Street, Sacramento
(916)657-0990

Watershed Roundtable

TUES•7/25•9:30 AM

Topics: Updates on S.F. Estuary Project
Watershed Demonstration Projects.

Conference Room 4A, S.F. Regional Board,
Oakland (415)744-1990

Friends of the Estuary Board of Directors

FRI•7/28•9:30 AM-12:00 PM

Room 5A, S.F. Regional Board
2101 Webster, Oakland
(510)286-0734



WORKSHOPS & SEMINARS

Ecological Indicators Workshop

WED•6/28•All day

Topic: Determining the appropriate ecological
indicators for regional monitoring.

Sponsor: S.F. Estuary Institute
Richmond Field Station, Richmond
(510)231-9539

San Francisco Bay Joint Venture Inaugural Meeting

THURS•6/29•9:30 AM-12:30 PM

Topics: Introduce this cooperative project (see
page 4) for wetlands acquisition, restoration and
enhancement and select a steering committee.

Sponsors: S.F. Estuary Project & S.F. Reg. Bd
Room 5A, Regional Board
2101 Webster, Oakland
(510)370-7158

Regional Wetlands Habitat Goals Project Workshop

TUES•7/5•All day

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
Building 445, Richmond Field Station, Richmond
(510)286-0427

Kids In Creeks

TUES & WED•7/18 & 19•All day

Topic: One-day workshop prepares educators to
teach about creek ecology and restoration.

Sponsor: S.F. Estuary Institute
Sunol Regional Wilderness, Sunol
Cost: \$20 (510)231-9539

Attorneys Briefing

THURS-FRI•7/20-21•All day

Topic: Endangered Species Act, private property
and takings, the water rights phase of the Bay-
Delta process, and wetlands and the Section 404
process.

Sponsor: Water Education Foundation
Sir Francis Drake Hotel, San Francisco
(916)444-6240

NOW IN PRINT

Changing the Course of California's Water

The Lindsay Museum
Copies from (510)935-1978

Habitat Restoration Actions to Double Production of Anadromous Fish in the Central Valley of California (working paper)

U.S. Fish & Wildlife
Executive summary from (800)742-9474, ext. 542 or
http://www.delta.dfg.ca.gov/usfws/fws_home.html

1994 Annual Report for the Regional Monitoring Program

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

Sacramento Coordinated Water Quality Monitoring Program Annual Report

Prepared for the Sacramento Regional County
Sanitation District, the Sacramento County Water
Agency and the City of Sacramento by Larry Walker
Associates and Brown & Caldwell
Copies from (916)395-5433

The San Francisco Bay Shoreline Guide

The California State Coastal Conservancy, \$14.95
Copies from (510)286-1015

NOW ON LINE

Visit the San Francisco Estuary Project on the Web.

To reach us, point your browser to
http://www.abag.ca.gov/bay_area/flep/sfephome.html

Connect to the State Water Bulletin Board...

for water quality and water rights information,
notices of public hearing and meetings, agenda
items, staff reports and regulatory and reference
documents. Dial (916)657-9722 or point to
<http://www.swrcb.ca.gov>

Track the Movements of 40 Fish Species in the Delta

Real-time monitoring is at your fingertips at
<http://www.delta.dfg.ca.gov>

Find out what CALEPA's up to at:

<http://www.cahwnet.gov/epa>

Q&A CONTINUED FROM PAGE 2

Q: *How do the CVPIA, CCMP and your CALFED Program fit together?* **A:** "There's not 100% overlap, but clearly we need to coordinate a great deal among these activities. We need to make sure we're not reinventing the wheel where information and consensus already exist. That's why right now our whole mode of action revolves around high level coordination."

Q: *The rush to complete the Bay-Delta Accord excluded some interested parties from the final negotiations. Will CALFED be the same?* **A:** "The December 15 agreement was negotiated quickly to get a quick fix and buy us a three-year truce. Now we need to take the time to fix the Delta forever. The CALFED program can't get out ahead of interest groups and the public, otherwise it will fail. My theory about public involvement is that by the time you come up with a solution, the public should be saying 'Yeah, yeah get on with it.' When we finally get to the podium, we must have all the stakeholders behind the curtain or we'll lose credibility."

Q: *How is the new BDAC (Bay-Delta Advisory Council) different from the now defunct BDOC (Bay-Delta Oversight Council), and what is its role in the CALFED Program to develop long-term solutions for the Delta?* **A:** "BDAC will have two basic functions. First, to provide advice on the development of objectives for long-term alternatives and comments on whatever becomes the preferred alternative. Second, to provide a key vehicle for this to remain an open process and to facilitate public input. BDAC will be different from BDOC, not only because the latter group was all governor appointed, but also because BDOC was supposed to be a deliberative group with responsibility for coming up with a long-term fix. BDAC, on the other hand, doesn't have that responsibility except in an advisory capacity to CALFED."

Q: *What are the biggest challenges ahead?* **A:** "History and financing. Replaying history is something we do well in California. The challenge will be to keep ourselves and others from falling back into what many feel most comfortable with — lawsuits and warring. In terms of the financing challenge, any solution we come up with for the Delta is going to cost money. It's a difficult time to be trying to fund anything. I imagine we'll come up with a bunch of different ways to finance the Delta solution, and we'll probably need to do all of them. No single GO bond or water fee can fund this."

Q: *Why do you think they hired you for this job?* **A:** "Because I don't believe in 'decide, announce, defend.' Because I have a history professionally of building consensus, of working with people and trying to develop solutions that meet all their needs."

ESTUARY



YOUR BAY - DELTA NEWS CLEARINGHOUSE

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2101 Webster Street, Suite 500
Oakland, CA 94612

(510) 286-4392
(510) 286-0928 fax

S.F. Estuary Project (510)286-0460

Managing Editor
Ariel Rubissow Okamoto

Associate Editor
Kathryn Ankrum

Graphic Design
Darren Campeau

Contributing Writers
Suzanne Easton
Frank Hartzell
Bill O'Brien
Lori Pottinger

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San Francisco Estuary Project
2101 Webster Street, Suite 500
Oakland, CA 94612

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