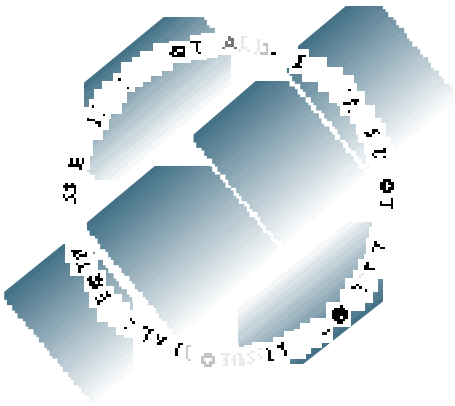

ESTUARY

YOUR BAY-DELTA NEWS CLEARINGHOUSE

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This bimonthly Bay-Delta water news clearinghouse will keep you up to speed on the latest scientific studies, policy debates, regulatory initiatives, lawsuits and environmental restoration projects up and down the Estuary.

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Hormonal Havoc

"Better living through chemistry" hasn't turned out to be the case for Florida alligators with subsized penises, Great Lakes fish with exploding thyroids and women worldwide with reduced fertility. Scientists are now increasingly pointing to such aberrations as evidence of the endocrine-disrupting effects of chemical pollution throughout our environment. They say PCBs, pesticides, dioxin and thousands of other common contaminants are mimicking natural hormones — most often estrogen — in fish, wildlife and humans.

"The food chain is the major route of exposure," says Citizens for a Better Environment's Greg Karras. Most endocrine-disruptors are fat soluble, accumulating in human and animal fat tissue over a lifetime. And most can cross the placental barrier from mother to fetus. Once inside the body, the chemical impostors masquerade as natural hormones, interacting with a receptor molecule like a key with a lock and triggering molecular activity that scrambles genetic messages, blocks or amplifies genetic activity or interferes with the hormonal system.

Often these effects don't show up as defects in adults — instead the adults either fail to reproduce or produce offspring that cannot thrive. For example, very few male western gulls frequented breeding colonies in a DDT-contaminated area off the Southern California coast. Avian toxicologist Dr. Michael Fry, who studied the colonies, hypothesized that pollutants in gull eggs were "chemically neutering" male embryos. His egg injection studies revealed males with partly ovarian testes. In the same area, female gulls nested with females, and together laid more than the usual number of eggs. Fry attributes all these abnormalities to DDT's estrogenic effects.

Similar effects are turning up in the heavily contaminated Great Lakes ecosystem — producing salmon that fail to mature, terns and cormorants born without eyes and eagle chicks whose twisted beaks keep them from eating. In humans, women whose mothers took the synthetic estrogen hormone DES during pregnancy suffer a host of reproductive disorders and cancers while DES-exposed sons show increased incidence of undescended testicles and lowered sperm counts.

Local scientists are starting to wonder whether similar chemical-induced chaos is occurring in the Bay-Delta ecosystem. "It seems plausible that pollutant concentrations in some parts of the Estuary could be high enough to cause endocrine disruption. Researchers just haven't looked for it," says Jay Davis, a Ph.D. candidate in Fry's laboratory at UC Davis' Center for Ecological Health Research. Davis took a first step across this research gap by doing a baseline study of the levels of dioxin-like compounds in double-crested cormorants. He found that the median concentration of these compounds in the birds is at the "threshold for toxicity," and that some individuals are "way above" this threshold. His data also show apparently high levels of egg mortality and/or infertility among cormorants nesting on the Richmond Bridge, but the scope of the study stopped short of linking these abberations to estrogenic effects.

Cormorants feed almost exclusively on fish, and it is here that Fry thinks Bay Area scientists should begin the search for estrogenic imposters. He points to a recent S.F. Regional Board study that found elevated levels of DDT, PCBs, dioxin/furans, dieldrin and chlordanes — all documented endocrine disruptors — in Bay-caught fish. "People should be concerned if they're eating fish. Cormorants are extremely good bioindicators for

- continued on page 2

COVER CONTINUED

humans — the only difference is they don't read the warnings against eating fish," says Fry.

It's not just familiar contaminants like DDT that have scientists thinking. Kim Hooper of Cal EPA's Hazardous Materials Lab says scientists should examine another class of estrogenic chemicals — the alkylphenol polyethoxylate surfactants contained in everything from plastics and detergents to spermicides and cosmetics. Like PCBs and DDT, surfactants can bioaccumulate in fat tissues. But unlike the chlorinated compounds, surfactants are water soluble and biodegrade into nonylphenols, which are highly estrogenic. "The ambient concentration of nonylphenols in water can be quite low, but fish can easily take them up just by swimming around, making them available to the fish's own estrogen receptors and to anything that eats the fish," says Hooper. In England, male rainbow trout exposed to nonylphenols in sewage effluent became feminized — their testes shrank, their livers grew, and they began to produce egg yolk proteins, clear indications of estrogenic activity, says Hooper.

Conventional wastewater treatment doesn't remove nonylphenols from effluent — and routine monitoring doesn't look for them. "Nonylphenols could be a major source of contaminants to the Bay," says Hooper, "but they haven't been studied the way PCBs or dioxin have." Hooper says newly developed assays could inform needed studies, including a version that uses bioengineered yeast strains to mark estrogenic activity in water and sediments.

Dealing with this problem may require completely new models for environmental testing and monitoring, which typically don't measure endocrine-disrupting effects, and environmental risk assessment, which has historically focused on acute toxicity and cancer risk to directly exposed individuals. Traditional strategies for pollution prevention may come under scrutiny as well. "It's not economically feasible to chase these chemicals around the environment. The only safe solution is to stop production of them together," says Karras. Contacts: Jay Davis and Dr. Michael Fry (916)752-1201; Kim Hooper (510)540-3499; Greg Karras (415)243-8373 *KA*

NEWS ROUND-UP

OVER 650,000 ACRE-FEET OF BAY AREA WASTEWATER COULD BE RECYCLED according to a draft feasibility study (see Now in Print) recently completed by BurRec and 15 local water and wastewater agencies. The study surveyed local demand for recycled water and the costs of providing it, and also researched potential markets for the recycled water outside the Bay Area. Out of 30 different water use, storage, treatment and management options four were identified as the most technically and economically feasible. Each marries tertiary treatment of all wastewater and maximum local use of recycled water with export of the remaining water to one of four different areas: the Delta Mendota Canal Service area, the Delta itself, the Monterey Bay area and a combination of the latter two (see chart). Stakeholders and the interested public will discuss the new study at a meeting this August (see calendar). (510)251-2888 ext.3402

FOUR REGIONAL WATER RECYCLING ALTERNATIVES

Local Recycling Plus Export to:	Total Yield[2]	Yield for Exchange[2,3]	Unit Cost[1,4]
DMC	625,500	480,300	1,179
DELTA	630,100	630,100	1,197
Monterey	658,400	246,200	1,031
Monterey & Delta	675,700	466,900	1,070

1. Based on drought conditions.
2. Includes 205,000 AF/y for local reuse projects.
3. Amount recycled water available for exchange for freshwater from export areas.
4. Includes $222.4 million/y for local reuse projects. Unit costs for DMC and Monterey Bay alternatives include deductions for avoided effluent management costs.

A FAKE COFFIN AT THE FOOT OF THE UNOCAL CLOCK TOWER is where 150 costumed citizens, environmentalists, fisherpeople and refinery workers laid the oil company's toxic pollution policies symbolically to rest on July 5, according to local activists. The event — a rally and parade cosponsored by 29 different groups — was a kickoff for a new people's campaign to get Unocal to stop selenium and dioxin discharges to the Bay and to invest cleaner refining (see calendar). (415)243-8373

A RECENT AGREEMENT PROPOSING BROAD INSTITUTIONAL, FINANCIAL, STRUCTURAL AND OPERATIONAL CHANGES TO THE STATE WATER PROJECT has environmentalists worried on several counts. The Monterey Agreement lays out 14 principles which would revise the way the project's water is allocated and transferred among urban and agricultural contractors, delete a key clause in the contracts that acknowledges a state of permanent water shortage and reaffirm a long-standing commitment to complete the project (the original vision for a completed SWP included the never-built and environmentally controversial Peripheral Canal). In a comment letter on the May 1995 Draft EIS done on the agreement (see *Now in Print*), the Bay Institute's Gary Bobker criticizes the EIS for eliminating the "escape clause that could adjust contract entitlements downward to meet realities of water supply situation" and for falling far short of exploring all the fisheries and water quality impacts of "building out" the project (adding new storage and conveyance facilities). But according to Steve Macaulay of the State Water Contractors, the language in the agreement is "more of a commitment to meet water needs than a commitment to build X,Y and Z." (916)447-7357 or (415)721-7680

THE BUILDERS OF THE CONTROVERSIAL 11,000-HOME, CONTRA COSTA DOUGHERTY VALLEY PROJECT have agreed to make a "best effort" to obtain water via the Dublin-San Ramon water district instead of from the water-strapped and reluctant East Bay Municipal Utility District (EBMUD). If their efforts fail, EBMUD has agreed to accept annexation of the new development into its district, but not until the year 2002. The agreement was settled out of court and approved by the EBMUD Board on August 8. It disappointed environmentalists, in part because a decision at the appeals court level could have provided a statewide precedent for deciding similar conflicts between urban growth and water supply in the future. (510)867-3250

INSIDE THE AGENCIES

DIOXIN DEALINGS

"A permit to pollute" is what environmentalist Greg Karras called a settlement worked out between Tosco, a Martinez oil refinery that has been discharging more of the deadly pollutant dioxin than allowed, and the staff of the S.F. Regional Board, the agency charged with enforcing the standard. But the staff-brokered agreement was rejected by the seven-member board this July. The agreement would have set an interim effluent limit for the dioxin, allowed five years for compliance, capped violation fines at $50,000 and potentially shielded Tosco from citizen lawsuits.

"The Board correctly told companies that they can't go in and cut deals with agencies while trying to cut the public out of the process," says BayKeeper's Michael Lozeau.

The S.F. Board will revisit Tosco's permit at its September meeting, likely requiring the refinery to quickly comply with its permit conditions. But tracking down and closing off the contaminant's source may be difficult. Tosco has already tried pre-treatment at certain processing units. When water leaves the wastewater treatment system, there's no detectable level of dioxin, according to Tosco's Jim Simmons. The water then flows through an open canal before being piped to a Bay outfall. "Somewhere between the system and the pipe, something's coming in that adds dioxin," he says. That something could be releases from catch basins and lagoons or contaminated sediments in the canal itself. But Simmons thinks the largest source may turn out to be stormwater, which collects from the 2,200-acre refinery site and mingles with other water in the canal.

The S.F.Board's Lila Tang says her agency plans to ask all refineries to test their stormwater for dioxin sometime next year. "We're the pioneer here," says Simmons. "Other manufacturers haven't undertaken the kinds of tests we have. Once they do, we all may find out dioxin's a much greater issue than we thought. Then we as a society must decide what to do about it." Contact: Greg Karras (415)243-8373, Jim Simmons (510)602-4370; Lila Tang (510)286-0911 *KA*

H_2O QUALITY PLAN ATTRACTS SUITOR

A lawsuit contesting the state's new Water Quality Control Plan for the Delta was filed this June by the water agencies on San Joaquin River tributaries. The plaintiffs are unhappy about elements of the plan limiting use of the river's flows in critical fish migration periods — elements lifted straight out of the widely accepted December 15 Bay-Delta Accord — and the new spring flow standards for the San Joaquin, which they call "arbitrary, capricious and without support in the administrative record." The plaintiffs also argue that the new state plan should have endorsed a long-proposed fish barrier at the mouth of the Old River. Asked for his informal response to the suit, the state's Jerry Johns pointed out that the administrative record does contain support for the San Joaquin measures in U.S. Fish & Wildlife's Biological Opinion on what it will take to protect the endangered Delta smelt. The opinion contains the same flow standard as that adopted in the new state plan and expresses reservations about the barrier, which it says could help migrating fish like salmon but might hurt resident fish like smelt. Contact: Jerry Johns (916)657-1981 or Joel Moskowitz (plaintiffs' lawyer) (213)229-7673 *ARO*

EMERGING PESTICIDE REGS

Numerical objectives will be set for five widely used rice farm pesticides by the end of the year if the Central Valley Regional Board and the City of Sacramento have their way. The city sued the Board five years ago over a 1990 Basin Plan amendment, which the city felt didn't go far enough in terms of exploring options for preventing upstream pesticide pollution to the Sacramento River, one of the city's primary water sources. Pursuant to the lawsuit settlement, Board staff are now drafting a new amendment that would change pesticide regulation from a set of performance goals linked to a reduction timetable to numerical objectives for the amount of each pesticide that can be present in the river and other waterways. "We'll be revaluating our whole approach to controlling pesticide discharges to surface waters," says the Board's Rudy Schnagl. Contact: Rudy Schnagl (916)255-3101 *ARO*

CCMP BRIEF

CHANNEL ISLANDS WAKE-UP

Boat wakes and fast-moving water are scouring away at the Delta's channel islands — intertidal areas left behind in the center of some channels after they were dredged earlier this century.

"If we don't protect this unique habitat, it will eventually become nonexistent," says U.S. Fish & Wildlife's Rick Morat. But a cumbersome agency regulatory structure — particularly as it applies to restoration permits — coupled with interagency disagreement over whether a severe problem really exists currently hinder preservation efforts. To address these problems, a new interagency workgroup (Cal Fish & Game, U.S. Fish & Wildlife, the S.F. Estuary Project and others) is forming up under the auspices of the Estuary Project's Delta Geographic Subcommittee. The new workgroup plans to sponsor a consensus-building workshop this fall for agencies, elected officials, boaters, farmers and other interested parties.

The Estuary Project's Implementation Committee endorsed the channel island concept at its August meeting. The committee also agreed to support formation of a Brake Pad Task Force — as proposed by the South Bay Geographic Subcommittee — and to co-sponsor a State of the Estuary Conference in 1996. Contact: Marcia Brockbank (510)286-0780 *KA*

THE MONITOR

RESEARCH MOGULS REORIENT

Two programs charged with checking the Estuary's vital signs and reporting back to regulators on the status of its health are now updating their original goals and being pressed by policymakers and water users to expand their research and make more connections between the millions of bytes of data they collect.

The purview of one program is pollutants in the Bay — the Regional Monitoring Program (RMP) run by the S.F. Estuary Institute samples the levels of over a hundred different contaminants in sediments, water and transplanted bivalves at 22 stations around the Bay. The purview of the other is fishery and hydrologic conditions in the upper Estuary — the Interagency Ecological Program (IEP) has long monitored water salinity, temperature and flows in the Delta's major rivers and channels, as well as the impacts of freshwater flows, export pumping and other factors on fish.

But regulators, dischargers and water users are now asking these two programs to do much more, to not just sample conditions but also to draw conclusions that will inform short- and long-term environmental management decisions and to start making links between data collected upstream and downstream, and between fish, flows, contaminants, marshes, human disturbances and other areas of study.

"For every dollar we spend on dredging, we must spend another dollar on sediment testing," says Ellen Johnck, director of the business-oriented Bay Planning Coalition and a member of the RMP steering committee. "We want to make sure that money is well-spent, that we're doing the right tests, asking the right scientific questions and getting useful answers."

According to the Estuary Institute's Bruce Thompson, the two-year-old RMP has now collected enough baseline data to begin more integrative analyses. But that will take more staff and money, he says, and it's not within the original scope of the program. So this summer the Institute and RMP steering committee — which

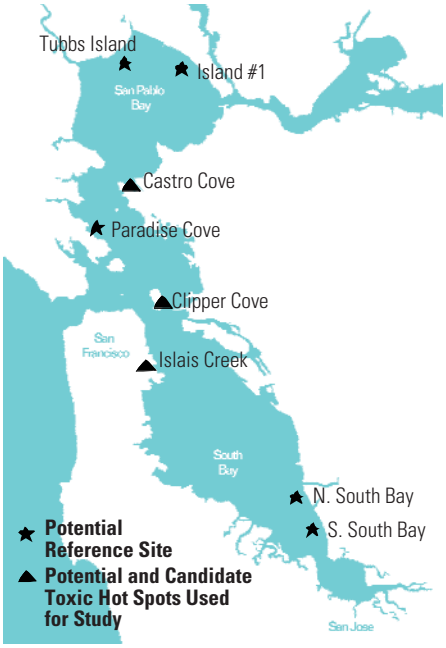
continued back page

HARD SCIENCE

A REFERENCE ENVELOPE

A hunt for some of the Bay's cleaner corners, as compared with its toxic hot spots, has yielded five good candidates to date. These candidate reference sites — whose sediments were run through 7-9 different toxicity tests both before and after last year's heavy rainfall and whose test results were then compared with results from 43 suspected toxic hot spots — showed consistently low contamination and toxicity to organisms, according to an S.F. Regional Board study still in progress.

REFERENCE STUDY SITES



The two-year study, a draft of which should materialize later this summer, aims to come up with better in-Bay reference sites and more realistic toxicity tests for use by Bay dredgers, dischargers, toxic clean-up planners and regulators. Part of the impetus for the study came in 1992, when tests at long-thought pristine reference sites in Tomales Bay and Bolinas Lagoon yielded wildly variable results (sediments proved toxic to 20-90% of test organisms). The variability raised questions about the suitability not only of the sites as a consistent reference for regional natural background conditions but also of the toxicity testing methods themselves. Hence the new research has focused on locating new reference sites, testing the sites and testing the tests.

The Board's KarenTaberski is still adding up all the numbers, but she says five good potential reference sites have emerged (see map), and two of the nine possible toxicity testing methods are proving the most useful and consistent. The first method places the amphipods *Eohaustorius* or *Ampelisca* (shrimp-like aquatic organisms) in sediments for ten days and measures their survival. The second method places sea urchin larvae in porewater (water centrifuged from sediments) and assesses their development. Researchers also experimented with a variation in which they placed the urchins in a series of tubes that more realistically mimic conditions at the sediment/water interface where many aquatic organisms live than the porewater test.

Comparing the two different exposures to the urchins, Taberski says they've found a good relationship — one test confirms the results of the other. The Board may decide to use the amphipod and sea urchin porewater tests for screening possible toxic hot spots and the urchin sediment/water interface test as a follow-up confirmation test.

By the time the study is finished, these new testing protocols and other details on how to use the reference sites will all become part of what Taberski calls a "reference envelope — a holistic way of evaluating what is toxic." Contact: Karen Taberksi (510)286-1346 *ARO*

SCIENCE CURRICULUM GETS AN "A"

A recent statewide grading of environmental education materials gave *Estuarine Encounters* As and Bs. Citing this habitat-based, interdisciplinary curriculum guide's "incredible scope" and "excellent format," California's Department of Education recommended it for both primary and secondary students. The guide teaches students about current pollution, wetlands and other Bay-Delta environmental issues through the study of organisms that live in eight major estuarine habitats. This highly regarded teaching tool was developed by the S.F. Estuary Project's education program. Contact: Steve Cochrane (510)286-0769 *ARO & KA*

NATURAL VENTURES

CONFLICT SPAWNS STEWARDSHIP

When Don Whetstone went to the local water authority to report sighting noxious materials in Saratoga Creek in 1992, he had little idea that his action would eventually pit neighbor against neighbor, citizen against government, and environmentalist against water manager in a conflict that lasted three years and ended with a lawsuit.

"The community began seeing the creek as a dividing rather than a unifying factor," says long-time stream preservation activist Mike Rigney, who followed the emerging conflict and who is now launching a model program to forestall similar outcomes in the future. That model will show citizens, teachers, students, officials and water managers in the Saratoga Creek zone how they can merge management and monitoring of the roughly 16-mile-long waterway's environmental conditions with community creek stewardship.

Two things are big news about the model program. First, it's the first time the region is trying out what Rigney calls an "integrated community involvement program for watersheds." What Rigney means is that the program will merge the volunteer-based citizen creek monitoring that his Coyote Creek Riparian Station is well-known for with the education efforts (signage, festivals, school curricula, etc.) that other groups such as the S.F. Estuary Institute have perfected. "We're trying to balance watershed assessment with watershed awareness," he says.

The second news item is that the program has just been funded — in part from the recent lawsuit settlement and part from the Bay Area Stormwater Management Agencies Association.

Key components of the 18-month-long model program include: an inventory of habitat, hydrology, water chemistry and stream channel characteristics along Saratoga Creek conducted by trained community volunteers (the inventory will also establish permanent sampling points and a data base); a community outreach program that trains volunteers to detect and report illegal waterway discharges and to distinguish between real pollution problems and natural stream processes; a watershed festival in conjunction with area schools and local political figures; and the development of a watershed-monitoring and stewardship-based curriculum for schoolchildren. The new program will also evaluate data collected along the creek to assess the effectiveness of the integrated model in improving the overall health of the watershed.

Saratoga Creek offers a good proving ground, says Rigney, because of the high degree of community ambivalence and agency controversy surrounding its use and abuse, and because of the creek's mix of pristine open space and affluent residential and degraded urban areas along its banks. If the model can succeed with Saratoga, it will offer a sound strategy for other watersheds across the region, he says. Contact: Mike Rigney (408)262-9204 *ARO*

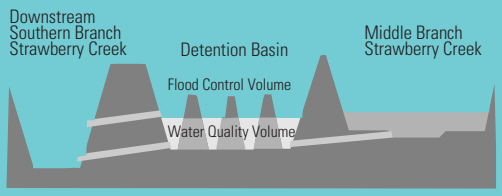
BUSINESS WISE

DOLLARS FOR DETENTION

Sacramento County is setting up seven new detention centers, but they're not for school bullies and truant teenagers, they're for stormwater pollutants. The bulldozers will complete the first of these large catchment basins for urban runoff this fall as part of a watershed-based county effort to minimize and manage anticipated stormwater pollution in the fast-developing South Sacramento area.

What's most interesting about the plans for the new basins is that their size, location and funding mechanisms are all designed to serve multiple new developments within a specific watershed — a much more efficient way to control stormwater pollution than putting in lots of little basins and runoff traps on a subdivision-by-subdivision basis, according to the county's Steve Pedretti. This way the basins serve 400-800 acres rather than 50 and are located at the best collection points based on the specific watershed's hydrological conditions.

STRAWBERRY CREEK DETENTION BASIN



The reason the county didn't do it this way in the past was financial. "It's one thing to ask a developer to channelize a creek, put in some stormwater pipes and wait five years for us to reimburse them for their efforts," says Pedretti. "It's quite another to ask them to purchase 4-5 acres of land for a large basin, then construct it. It's a bit too big of a financial burden, especially if it's only a 50-acre development. And it puts them at a competitive disadvantage with everyone else in the watershed who comes after them."

The bad news is that the county couldn't shoulder the burden either. It didn't have the big bucks necessary to purchase suitable land for watershed-based detention ponds in advance of the developments whose fees would pay for it. Nor could the county reserve the land without raising the ever unpopular "takings" issue, says Pedretti.

The good news is that the state just gave the county a $7.5 million, 20-year loan to solve this problem. The money will buy seven detention basins in three watersheds — Strawberry Creek, Jacinto Creek and Chicken Ranch Slough — although Pedretti says the specifics may change if other detention basins planned for other watersheds come on line sooner.

The plan for South Sacramento is just part of a countywide effort to develop master plans (four have been completed to date) for water quality and stormwater control for each of its 32 watersheds. The planning process also includes a design manual for control measures in other already built-up areas where land isn't available for big new catchment basins. The county's Doug Fraleigh says they will share the entire watershed planning model with surrounding cities and counties in the hopes of linking pollution prevention initiatives in a way that will benefit the Estuary as a whole. Contact: Steve Pedretti (916)440-6851 *ARO*

BIG PLANS

A SEAPORT STRATEGY FOR 2020

It was only a few years ago that planners thought the Bay shore's closing military bases, or any large flat area with deepwater access, would make perfect sites for new ports. But since the Bay Commission began updating its regional *Seaport Plan* last year, it's found that the majority of new cargo coming in will be via container, and that most of the defunct bases are poorly located to handle it — many lie on islands or peninsulas far from the major rail lines and highways that convey containers from ports to inland markets.

While the future emphasis on container shipping remains clear, less data is available on growth in non-container bulk cargo (newsprint, coffee, cars, etc.). "We got confusing signals about bulk commodities," says the Commission's Jennifer Ruffolo, referring to regional differences between San Francisco's underutilized bulk cargo piers and Oakland's request to close its Ninth Street bulk terminal and growth in bulk processing in Richmond and Redwood City. Ruffolo says more data is needed on trends in the bulk sector — data there are currently no funds to collect. Existing data, meanwhile, suggest that the Bay Area will need as many as 27 new container ship berths but only 9 new bulk carrier berths by the year 2020.

To meet such needs, the Commission had already designated certain areas of the shore for future port priority use. But the current staff report suggests that not nearly as much land is needed as is designated for port use and recommends removal or reduction of the designation from 13 shoreline areas, a large measure of which lie on the Hunter's Point, Alameda and Mare Island bases.

Commission staff are now undertaking an environmental assessment of the impacts of the recommended changes in port priority use designations throughout the region. Ruffolo says potential impacts range from Bay fill to build new marine terminals and dredging to accommodate more deep draft container ships to disturbance of nearby fish and wildlife habitat. The 220 acres designated for future terminals at Alameda Naval Air Station, for example, lie near endangered California least tern nesting grounds and offshore eelgrass beds, which might require buffer zones between them and any new port development. Commission staff hope to have the assessment completed soon and to present it to the Commission's Seaport Committee this October. Contact: Jennifer Ruffolo (415)557-9893 *ARO*

DREDGE SCOOP

MONTEZUMA PERMIT PROGRESS

The bovine species now gnashing the grass on 1,800 acres near the mouth of the Sacramento River will be supplanted by smaller and scarcer creatures if the final permit for the Montezuma Wetlands Project goes through. The project would use 20 million cubic yards of mud dredged from Bay harbors to raise the land level of these diked cow pastures back to tidal elevations, restore the area's long-lost wetlands and provide habitat for black-crowned night herons, white-faced ibis, river otter, mice, smelt and the tule pea.

A recent draft environmental impact report on the project examined impacts at Montezuma and two other alternative sites: Bel Marin Keys and Hamilton Air Force Base in Marin County. Though the report identified tidal salt marsh restoration at Hamilton as the "environmentally preferred alternative" (a project here would displace fewer existing seasonal wetlands and not disturb any endangered salt marsh harvest mice), it also stated that Montezuma, if successful, would have the greatest environmental benefits because it would restore brackish rather than salt marsh, and a lot more wetland in general (1,820 versus 840 acres). Also in Montezuma's favor is the fact that while public dollars would be needed to rehabilitate the Marin sites, the Solano County project is privately owned and sponsored by Levine-Fricke and Cattelus Corporation.

According to project director Stuart Siegel, there were several basic areas of feedback on the draft EIR. Reviewers want better guards against overfilling with "cover sediment" (dredged material that passes enough toxicity and leaching tests to be used to create marsh surface or as landfill cover) and to see a more conservative approach to managing any "non-cover" sediments (material that passes the leaching test but may contain traces of chemicals or metals). They also wanted more mitigation for loss of seasonal wetlands and more intensive monitoring. In response, Levine-Fricke will be lowering certain areas of the marsh (thus allowing for more natural sediment build up over time), placing non-cover sediments 3 feet below the surface (plant roots only reach down 2 feet) and beyond a 200-foot setback from tidal channels, actively managing upland drainages as replacement seasonal wetlands and developing what Siegel calls a "milestone-based monitoring plan to provide a level of comfort that everything is working every step of the way." Montezuma could get its Army Corps permit as early as this November. Contact: Stuart Siegel (510)652-4500 *ARO*

SIMPLIFIED PHASE I AND II RESTORATION

PLACES TO GO & THINGS TO DO

WORKSHOPS & SEMINARS

Bay-Delta Modeling Forum Workshop

FRI•8/25•All day
Topics: Toxics and water quality.
Sponsor: S.F. Estuary Institute
Lawrence Berkeley Laboratory, Berkeley
(510)231-9539

Internet and the Web: Training for Environmental Professionals

WED-THURS•9/6-7 & 9/20-21•All day
Topics: Building Internet and Web skills, searching for specialized natural resources and environmental management information, using GIS and communicating with peers.
Sponsor: UC Davis
Federal Building, Sacramento
Cost: $285 (916)757-8889

CALFED Public Workshop

THURS•9/14•All day
Topic: Intensive working session to discuss problem definition and program mission, goals and objectives.
Sponsor: CALFED
Hilton Hotel, Sacramento (916)657-2666

Alligators, Organics & You

SUN-TUES•9/17-19•All day
Topics: Endocrine-disrupting pesticides, community-supported agriculture, organic products and integrated pest management.
Sponsor: Pesticide Action Network
Vallombrosa Center, Menlo Park
Cost: $80 (415)541-9140

Decisionmakers' Conference

THURS•10/12•All day
Topics: Base reuse issues, including how-to session on buying and leasing Base Reuse Authority Commission property, and collaboration initiative between Bay Planning Coalition and Save the Bay on S.F. Bay Commission regulatory reform.
Sponsor: Bay Planning Coalition
Nimitz Conference Center, Treasure Island
Cost: $150 (415)397-2293

HANDS ON

Send Unocal Back to School

TUES•9/5
Activity: Rallies at Bay Area schools for people's campaign to get Unocal to cut selenium and dioxin pollution from its Rodeo refinery.
Sponsor: Citizens for a Better Environment
Various Bay Area schools (415)243-8373

California Coastal Clean-Up Day

SAT•9/23•All day
Activity: Join other Californians in protecting our coasts from pollution.
Sponsor: California Coastal Commission
Various locations around the Bay Area & Delta
(800)COAST-4-U

National Fishing Day

SAT•9/23•All day
Activity: Fish without a license at various locations around the Bay-Delta region.
Sponsor: California Dept. of Fish & Game
(916)225-2146 or (916)351-0832

MEETINGS & HEARINGS

Water Quality Criteria Public Meeting

THUR•8/24•9 AM & 1 PM
Topic: Establishing water quality criteria for priority toxic pollutants in California.
EPA Region IX
75 Hawthorne, San Francisco (415)744-2004

Central California Regional Water Recycling Project

FRI•8/25•10 AM
Topic: Public workshop on draft feasibility report (see p.2).
Suite 1200, 1111 Broadway, Oakland
(510)251-2888, ext. 2149

S.F. Joint Venture

THURS•9/7•9:30 AM-12:30 PM
California Coastal Commission
1330 Broadway, Oakland (510)370-7158

Bay Commission

THUR•9/21•1 PM
Topics: Public hearing on permit amendment for Charleston Slough and on changes in regulations defining "subject to tidal action" and consideration of proposed BDN for proposed Bay Plan Seaport Policies and Designations.
Room 455, State Building, San Francisco
(415)557-3686

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Contaminant Levels in Fish Tissue from San Francisco Bay: Final Report
S.F. Regional Board, State Water Resources Control Board and Cal Fish and Game
Copies from (510)286-1255

Executive Summary of Administrative Draft Feasibility Report for Central California Regional Water Recycling Project
Copies from Randy Raines (510)251-2888, ext. 2149

Implementation of the Monterey Agreement: Draft EIR
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LTMS July1995 Status Report: Accomplishments and Tasks Ahead *(Long Term Management Strategy for Dredged Material in S.F. Bay Area)*
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CALFED Public Meeting

TUES•9/26•7-9 PM
Topics: Review work products and provide suggestions to program.
Sponsor: CALFED
Stockton Inn, Stockton
(916)657-2666

THE MONITOR FROM PAGE 4

includes the dischargers who foot the $2 million annual monitoring bill — are debating questions such as what the trade off is between routine monitoring and special studies, how big the RMP should get (should the program also sample in watersheds and wetlands or just stick to the Bay?) and how the program could better coordinate with other monitoring efforts. While the answers to these questions are still up in the air, Institute staff have recommended sticking to the original program goals of routine contaminant monitoring until 1997, when more thought, time and money can be given to program improvement.

The Estuary's other environmental monitoring mogul, IEP, has already asked itself enough similar questions to have a draft programwide review on paper (due for release September 15). According to the program's Pat Coulston, IEP managers and stakeholders launched the review when the recent Bay-Delta Accord and the new State Water Quality Plan placed new demands on the research program. The program is now not only being asked to measure flows and locate fish schools so that daily decisions can made about export pump operations, but also to assess water project impacts in the context of the whole Estuary and other human activities that affect it, he says. Coulston has already met with Thompson to discuss potential joint studies in the areas of fish contamination and marsh ecology.

Clearly the two monitoring moguls hope to provide more useful information on an ecosystemwide level. A step toward this synthesis may be the "contamination index" the Estuary Institute hopes to develop over the next year with the help of ecological risk assessment experts. The index would synthesize data on whether a wide array of pollutants are exceeding water quality objectives. This new pollution index could, if combined with striped bass and smelt indexes used by IEP upstream, fold into what everyone seems to be clamoring for — a single, overall index of the Estuary's health. Contact: Bruce Thompson (510)231-9539 or Pat Coulston (209)948-7800 *ARO*

ESTUARY

YOUR BAY-DELTA NEWS CLEARINGHOUSE

AUGUST 1995 VOLUME 4, NO. 4

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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 subscription*** *(six issues), mail a check payable to Friends of the S.F. Estuary for $30/individuals and $50/business or government to 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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