

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

A MODEL JUNKYARD

BayKeeper's Daniel Cooper says that up until recently, Pick Your Part Auto Wrecking in Hayward was a "typical" junkyard. That is to say, it was pretty ugly. More than that, it was a serious environmental problem, especially for the sensitive wetlands of the Hayward Regional Shoreline next door.

There were hundreds of wrecked cars, many dripping brake fluid, transmission oil, glycol, motor oil and other toxics into the unpaved dirt. As a result, a huge contaminated groundwater plume extended into the Shoreline, and during the rainy season, pollutants washed into the nearby wetlands and Bay.

Last October, BayKeeper, alerted by citizen complaints, threatened to sue Pick Your Part if things weren't cleaned up. But instead of getting into a big legal battle, the two sides negotiated a deal to turn the 15-acre site into a "model" junkyard.

The company agreed to pave the entire yard, construct a covered area for its crusher, install a berm around the site perimeter and put in a stormwater treatment system. The changes, which are scheduled to be completed by the start of the 1996 rainy season, will allow all stormwater to be contained and treated on site, so only clean water will flow into the wetlands. Pick Your Part will also contribute \$50,000 to a Bay restoration fund.

Attorney Chuck Reed says that the company, which owns eight junkyards in California, had already been planning to do the work and was in the process of getting its permits and writing an EIR. Given current state and federal regulations, unpaved junkyards are a thing of the past, Reed says. "We've made a corporate decision that you can't do business on dirt any more." Contact: BayKeeper (415)567-4401 O'B

Construction Crack-Down

Every time it rains, Scott Stranzl pulls on his rubber boots and walks the 1100-acre, 960-housing-unit Five Canyons construction site in Castro Valley to see where the water's going. As the mudbuster and pollution policeman (he prefers the title "environmental compliance monitor") for Centex Homes, it's this consultant from Zander Associates' job to inspect the site before and after storms to make sure erosion and runoff control measures are working. He walks the creek corridors, notes any turbidity in runoff from the site and traces origins. He checks the site's numerous sediment catchment basins to see how full they are and looks for breaches. He examines silt curtains for collapses and storm drains for blockages and "proper inlet protection." All these measures are part of the stormwater management plan that Centex must carry out under the Clean Water Act. All are designed to keep sand, silt, mud and pollutants in runoff out of creeks, rivers, stormdrains and the Bay.

A prevention program like Five Canyons' will become the rule rather than the exception if the S.F. Regional Board has its way. According to the Board, the vast majority of the 400 construction projects over five acres in size now underway regionwide aren't carrying out adequate erosion control programs, and the Board doesn't like it.

The biggest construction culprit is grading. The denuded slopes laid open to the rains by extensive grading are a major source of runoff pollution, particularly from sediment. Once disturbed, earth can erode at 2-40,000 times the preconstruction rate. When the eroded material hits creeks and other surface waters, it can smother fauna in stream bottoms, reduce the water's clarity and thus inhibit photosynthesis, silt up gravel

beds where fish spawn, lower stream temperatures and increase nutrient loading and resulting algal growth. It can also increase flooding and impair navigation.

The Board's Hossain Kazemi says many developers get behind schedule and continue to grade right up until the first rain and beyond, when it's too late to plant vegetation to keep the soil in place. To be effective the developer has to finish most of the grading, then hydroseed, blanket or otherwise stabilize the soil on the graded area before, not after, the rainy season starts. "Plants aren't going to grow in one day," says Kazemi. "Plus stabilization costs increase ten-fold once the rain begins."



The Board views growing vegetation as the best and cheapest way to limit erosion, but this method does take careful planning and acceptance of seasonal timelines. Many developers prefer to build sediment catchment basins and to sandbag or silt fence problem areas. Kazemi says basins are often undersized and more often than not aren't regularly cleaned out. That's where people like Stranzl come in. "Consistent monitoring and maintenance are the best solutions," says Stranzl, whose spot checks lead to quick repairs of breaches and other problems.

But taking adequate steps to control erosion doesn't come cheap. Centex's Barry Crosby guesstimates he's spent \$300 per lot on erosion prevention, but says these costs are higher than normal because of the large size and heavy grading of the Five Canyons project.

To bring other developers into line, the Board recently began discussions with building industry reps, erosion control experts and urban creeks activists aimed at coming up with board specs that are simpler and clearer than the current tomes.

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CRACK DOWN CONTINUED

Kazemi hopes to bring this "straw proposal for minimum required specifications" to his Board for approval no later than July. The proposal could place new seasonal deadlines on grading work and site winterization.

"I'd rather see them make themselves more present, make contractors out in the field more aware of the Board's concerns, than reduce the work season," says Crosby.

He notes that Alameda County's public works inspector has been out at Five Canyons checking the grading almost every other day in recent weeks and that his presence reminds busy contractors to keep on top of erosion control.

ESTIMATED EFFECTIVENESS OF EROSION CONTROL MEASURES

CONTROL MEASURE	EROSION REDUCTION
Bare Soil	0 %
Established Native Grass	95 %
Hydraulic Mulch and Seed at 2 Tons/Acre	90 %
Sediment Basin	10 to 90 %
Straw Bale Barrier	20 %
Silt Fence	50 %

Source: S.F. Regional Board

But county inspectors have also sometimes been subject to the powerful political clout of many developers. "We've seen inspectors fired for doing their jobs too well," says the Board's Larry Kolb, whose agency doesn't have the dollars for an army of its own inspectors.

"Our inspectors are seeing only token efforts," says Kolb. "The Board's now decided to get aggressive and bring these construction projects up to snuff. Fines may go from three to six figures."

Contact: Hossain Kazemi
(510)286-1043 ARO

BULLETIN BOARD

A LIST OF 101 "SCIENTIFICALLY DEFENSIBLE" INDICATORS of the Estuary's health was completed at a January workshop, according to the Environmental Defense Fund's Rod Fujita. Scientists who participated in the workshop have been developing the list since October. To come up with it, Fujita says they divided the Estuary and its watershed into manageable areas for analysis, such as upstream tributaries or the greater San Francisco Bay, identified habitat types within those areas, then selected indicators based on such criteria as the amount of data available, relevance to important ecological processes and scientific validity. Fujita says the focus now is on defining target threshold levels for a set of the best indicators, so "we'll know what we're shooting for," a process he expects to take at least a year. Scientists are also discussing how to whittle the list of indicators down to two or three for each category — producing a short list of leading ecological indicators that can eventually be presented to the general public. (510)658-8008 or (415)721-7680

FILLING THE TAPS OF THE 49 MILLION PEOPLE expected to inhabit California by the year 2020 (a leap of 19 million from 1990) is one of the purposes of the proposed Water Resources and Delta Restoration Act of 1996. The act, numbered SB900 and championed by State Senator Jim Costa, would place a general obligation bond measure (for around \$500 million) on the November 1996 ballot designed to help finance a more reliable water system for the state, with emphasis on the implementation of core actions common to any comprehensive long-term solution to water supply and environmental problems confronting the Bay-Delta Estuary. According to Costa, the act is designed "to take the CALFED Bay-Delta process and complement and implement it" (see page 5). Among other things, the bond measure would fund fish and wildlife habitat restoration and protection measures, levee rehabilitation, low interest loans and grants for wastewater and ag drainage water treatment facilities, and relief for land retirement in San Joaquin Valley areas with poor drainage and high selenium levels. (916)445-4641

LOCAL GOVERNMENTS MUST NOW RECOGNIZE THE LEGALITY OF PARCELS OF CREATED PRIOR TO 1893 (when state subdivision map act laws were first enacted) according to new 1995 appellate court rulings. The ruling forces Santa Clara County to recognize more existing legal lots in remote areas of the County's watersheds than could now be created under the County's General Plan and zoning laws, according to Santa Clara's Bill Shoe. He says the additional smaller lots could

entice more residential speculation than would occur on the larger lots still viable for ranching. Concerned about possible long-term, cumulative impacts, the County recently implemented a stop gap measure to reinstate discretionary review of individual building sites within the Coyote and Anderson Reservoir basins of the Diablo Range. Until the local water district's watershed planning efforts gain more momentum, development of homes in these watersheds will get closer scrutiny from agencies responsible for protecting the environmental resources within these two basins. (408)299-2521

MARSH RESTORATION GOT TOP BILLING FROM U.S. FISH & WILDLIFE'S S.F. BAY PROGRAM IN 1995, with \$145,000 in program funds supporting either planning work or on-the-ground restoration for Sonoma's Tolay Creek, Novato's Scottsdale Marsh, Hayward's Ora Loma Marsh and Vallejo's Cullinan Ranch. The five-year-old program, dedicated to protecting and restoring the natural resources of the Estuary, is now seeking proposals for future cooperative projects. Recent year total program funding has averaged \$250,000. In addition to restoration, the 1995 program supported studies on the migration of western sandpipers, the effects of ag drainage on Delta smelt, the value of tidal marshes to estuarine fish, and the effects of dredging-related contaminants on fish. Dollars also went to the S.F. Estuary Institute's "Teaching About Watersheds" conference, ESTUARY newsletter and U.S. Fish & Wildlife's participation in implementation of the S.F. Estuary Project's CCMP (see page 10). For more information on past projects, or to propose future projects, contact: Richard Morat (916)979-2116 ext. 334 or at Richard_Morat@mail.fws.gov.



A WHALE'S TAIL GRACES THE NEW COAST PROTECTION LICENSE PLATE offered by the California Coastal Commission. The tail is "a symbol for a clean, productive, healthy ocean," says the Commission's Amy Wiens. Proceeds from the plate sale will help support the highly successful Adopt-a-Beach and coast cleanup programs, which face major funding cuts, according to Wiens. She says Coast Cleanup Day 1995 got 37,000 people to California's shorelines to pick up 450,000 pounds of debris, including 500 tires, three cars and a cement truck abandoned on the Yuba River. The plates cost \$50 or more over the normal registration fee, depending on how personalized they are. To order call (800)COAST4U.

INSIDE THE AGENCIES

THE STATE BOARD HAS "MORE RECOMMENDATIONS THAN RESOURCES" after the eight public advisory task forces charged with developing recommendations for the state's *Inland Surface Waters Plan and Enclosed Bays and Estuaries Plan* completed their reports last October (see *Now in Print*). The recommendations were intended to assist the State Board in drafting new water quality control plans after a 1994 Superior Court judgment forced it to rescind the 1991 plans, leaving California out of compliance with the federal Clean Water Act. According to the Board's Gail Linck, most of the task forces "came a long way towards consensus" on such thorny issues as chemical- and site-specific water quality objectives, toxicity, agricultural waters, permitting and compliance and economic considerations. But Board staff are left with the "time-consuming" task of evaluating the numerous recommendations and then developing alternatives and assessing attainability and economic impacts for each, says Linck. A staff workshop planned for late March will give task force members and the public a chance to comment on which recommendations should receive priority implementation. (916)657-2188 KA

THE GOVERNOR'S PROPOSED 1996-1997 BUDGET CONTAINS A REDUCTION OF AT LEAST 36 "ENVIRONMENTAL SPECIALIST" (ES) POSITIONS from the State Board's water quality program — a program whose scientific staff do environmental and water quality monitoring and manage Musselwatch and toxics assessment efforts. Board upper management say the cuts reflect the fact that funding ("Old Bond" money) for the program and these particular positions has dried up. Exactly how many real people in seats (as opposed to vacant positions) may get cut or reassigned, or whether the ES designation is just a placeholder for less scientist-specific cuts, isn't all that clear due to the complexities of bureaucratic budgets. "If these cuts are real people then we'll see a wholesale reduction in the Board's scientific expertise," says Stefan Lorenzato, site union rep for scientists at the Board. (916)657-1247 ARO

BASE REUSE

ALAMEDA STATION'S FUTURE DECIDED — MAYBE

Plans for redeveloping the Alameda Naval Air Station are on their way to Washington, but several potentially divisive questions remain unanswered. On January 31, the Alameda Reuse and Redevelopment Authority approved the *Community Reuse Plan* for the base, which closes next year. The plan creates a half dozen "neighborhoods," each with a different blend of housing, light industry/ research and civic uses. Overall, the site will accommodate 6600 residents and provide over 17,000 jobs.

Now it's the feds' turn. The Navy will spend a year preparing environmental documents, and other agencies will also give their input before the Defense Department adds its final stamp of approval.

There are still two outstanding conflicts, however. U.S. Fish & Wildlife wants 595 acres for a wildlife refuge, plus an additional buffer zone, to protect the colony of endangered California least terns that uses the base airfield as a nesting site. But the Reuse Authority, mindful of Alameda's economic needs, only designated 390 acres for the purpose.



Environmentalists believe 390 acres won't be enough land to keep predators from decimating the colony. Talks aimed at reaching a compromise have been delayed by recent federal government shutdowns. Failure to reach agreement could "stop the entire process," says one local official.

So could a conflict between the Reuse Authority and the S.F. Bay Commission.

The authority wants to develop 220 acres along the northwestern shoreline as an international commerce center. But Bay Commission staff want to retain a "port priority" designation for the land, reserving it for up to 20 years to accommodate future shipping needs. Though the Commission's Will Travis urged the Authority to remain flexible, its members voted to oppose the designation.

Ultimately, the reuse plan must be consistent with the Commission's coastal management plan. Unless the Commission overrules the staff recommendation, or another solution is found, the feds could be blocked from turning the land over to the Authority. "I think this does put us in a bit of a bind," says the Authority's Kay Miller. Contact: (510) 263-2870 O'B

THE S.F. BAY COMMISSION (BCDC) WILL WORK "BETTER, FASTER AND SMOOTHER" now that it's implemented a host of guidelines aimed at improving its operational, planning and permitting functions says BCDC's Will Travis. The guidelines were jointly proposed in a recent letter to Secretary of Resources Doug Wheeler by the Bay Planning Coalition and Save the Bay, which joined forces to support BCDC after the governor threatened it with the budget ax last year. According to Travis, the two groups worked closely with BCDC staff to develop the guidelines, leading the agency to adopt most of them as part of its regulatory reform process. Improvements include: a new abbreviated regionwide permit (ARP) to speed approval of routine maintenance projects within the shoreline band, better collaboration among BCDC, Caltrans and area ports, and increased engineering expertise. (415)557-3686 KA

THE STATE BOARD AND THE ARMY CORPS RECEIVED AN INCH-THICK STACK OF COMMENTS ON THE DELTA WETLANDS PROJECT draft EIR/EIS and are now working on responses. The project would divert and store water on two Delta islands (Bacon Island and Webb Tract) and seasonally divert water to enhance wetlands and manage wildlife habitat on another two (Bouldin Island and Holland Tract). The State Board's Jim Sutton says that in addition, his agency is evaluating water rights "protests" and working with the Corps to negotiate endangered species issues raised by the project. He says fish and wildlife agencies will probably issue a biological opinion this spring. "Board management doesn't want to go into the water rights hearing for Delta Wetlands without the fisheries issues substantially resolved," he says. Contact: (916)657-2190 ARO

INSIDE THE AGENCIES

FUEL LEAKS LEFT TO NATURE?

A California-wide controversy has erupted over the Lawrence Livermore National Laboratory's *Recommendations to Improve the Cleanup Process for California's Leaking Underground Fuel Tanks (LUFTs)* — see *Now in Print*. If the State Board implements the report's recommendations, as a preliminary memo indicates it will, then thousands of fuel-contaminated sites will be left to the rejuvenating forces of nature.

According to the S.F. Regional Board's Kevin Graves, petroleum is a natural substance that degrades over time as petroleum-loving microorganisms eat away at it. This process, called bioremediation, is often as effective, and far less costly, than human-engineered processes. "Junkfood for bugs" is what another Board scientist calls the lighter, more toxic components of petroleum.

"Change in California's underground storage tank policy is long overdue."

on human health, the environment, or California's groundwater resources... The costs of cleaning up FHCs are often inappropriate when compared to the magnitude of the impact on groundwater resources." According to the Laboratory's calculations, in fact, California's cleanup expenditures place a value of \$637,000 per acre-foot on contaminated groundwater. "In comparison," the report says, "the current cost of developing a new water supply in California is estimated to be \$700 to \$900 per acre-foot."

The State Board commissioned the Livermore report to help update its LUFT policy. This update is also required by California Senate Bill 1764, legislation passed in 1994 that legally mandates the Board to develop underground storage

The Lawrence Livermore report says the microorganisms tend to "stabilize" contaminant plumes within 250 feet of the source, leading the report authors to conclude that "fuel hydrocarbons (FHCs) have limited impacts

tank (UST) cleanup regulations by March 1997. The State Board will use the report, as well as the recommendations of the SB1764 oversight committee, to make its final policy decision. In the meantime, however, the State Board's Walt Pettit issued a December memo to all his Regional Boards calling for an interim change in policy. On all low-risk groundwater sites, defined as sites with shallow groundwater and at least 250 feet from drinking water wells, staff were instructed to consider replacing active remediation with monitoring, in effect leaving the remaining contaminants to the bugs. Dave Deaner of the state's UST Cleanup Fund says, "The State Board is not saying to close these cases on a whim — it's saying, 'Let's take another look at these cases to reassess risks.'"

While the business community is cheering the state's interim policy change, environmentalists argue that it is rash and unnecessary. The Sierra Club's Bonnie Holmes explains that some regional boards, including San Francisco's, have been closing low-risk sites for years. "There is already flexibility in the law," she says. "We fear that a change in policy will encourage local agencies to leave contaminated sites behind all over the state."

Holmes and other critics argue that the new interim policy fails to account for the full spectrum of factors that determine how long a petroleum plume will take to naturally degrade — factors such as the composition of the petroleum at the site and the site's geology. They say there are some sites where biodegradation may not be happening at a significant enough rate to restore the aquifer to a beneficial use and others that may have reached a threshold where degradation is no longer occurring due to lack of organisms or nutrients.

Other criticisms center on the research informing the policy change. "If you review the Livermore report carefully, you'll find that it was done so quickly, and perhaps with the conclusions already in mind, that it turns the scientific method on its head," says Clearwater Group geologist Markus Niebanck.

But the S.F. Regional Board's Loretta Barsamian thinks the Livermore report's conclusions are sound. "They're certainly

LEGAL BRIEF

DENTISTS SUE OVER MERCURY

A lawsuit challenging recent amendments to the water quality control plan for the San Francisco Bay Basin was filed December 12 by the California Dental Association and the Friends of Industry, Safety and Health (FISH). Alleging that the plan's effluent limitations were "arbitrary, capricious and not scientifically based," that its implementation would create undue economic hardships to small businesses and that federal- and state-mandated laws and appropriate procedures were not followed, the plaintiffs are suing the S.F. Regional Board, which adopted the plan, the State Board and the state Office of Administrative Law. The plan's effluent limits for mercury discharges regulated by NPDES permits have dentists particularly concerned — a 1994 San Francisco public works study showed that dental amalgams make up 8-13% of the mercury-containing waste contributed to local sewage treatment facilities. Contact: Gary Grimm (510)286-0889 KA

in line with our case experience," she says, pointing out that her Regional Board was the first to create a separate, more flexible set of closure criteria for fuel sites in its 1994 Basin Plan amendments. She says the report's recommendations are being wrongly interpreted as a new approach, whereas in many cases they confirm present practice. "We think Walt Pettit got it right in urging that regulators be aware of the Livermore findings in making case closure decisions," she says.

What California's final fuel sites cleanup policy will be is now before the State Board. The SB1764 committee recommendations, due to the Board by the end of February, will have a significant impact on the policy process. After they are reviewed, the State Board plans to conduct public hearings and then, finally, decide on a course of action. Whatever the criticisms from various quarters, everyone seems to agree on one thing. As Niebanck puts it, "Change in California's underground storage tank policy is long overdue." Contact: Dave Deaner (916) 227-4360, Kevin Graves (510)286-0435 or Bonnie Holmes (916)557-1106 MB

CALFED BRIEF

20 OPTIONS ON THE WATER TABLE

California's search for a long-term solution to statewide conflicts over how to manage the Bay-Delta system to best benefit farmers, citydwellers, wetlands and endangered fish and wildlife drew closer to an end late this February. That's when the CALFED Bay-Delta Program, a cooperative state and federal program charged with coming up with that solution, released 20 different draft alternative solutions it developed via a process including both technical analysis and extensive interaction with the public and stakeholders. Each draft alternative is a combination of actions — such as operation and policy changes, habitat restoration and water flow adjustments — that together form a comprehensive solution to problems with ecosystem health, water quality, water supply and vulnerability to disaster in the Bay-Delta Estuary.

"We've tried to capture the full range of reasonable solutions," says CALFED's Lester Snow. Snow says these alternatives are far from being final products and are still subject to significant change based on further public input and technical analysis, including the possibility of combining portions of several alternatives to develop new ones.

"Given the diversity of the list, everyone will probably find some alternatives to like and some to dislike. One can dislike one or more alternatives but still believe that the list accurately represents the range of reasonable solutions," says Snow.

Snow's program will now winnow the 20 alternatives down to a more manageable 8-12 which in turn will be cut down to three by May 1996. These will undergo first a programmatic Environmental Impact Statement/Report evaluation and then a project level evaluation.

To help readers and reviewers differentiate the 20 alternatives, CALFED staff say they can be grouped into three basic categories of emphasis, (see chart, page 6).



Black Willow, a species common to creek banks and riparian corridors.

ALTERNATIVES AT A GLANCE

Here is a crude summary, reflecting only this ESTUARY writer's quick sense of what to emphasize, of CALFED's 20 draft alternatives. All 20 include "funded levee improvements" and "land side (of levee) buffer zones to reduce system vulnerability," so ESTUARY hasn't repeated this feature in the following summary. All 20 also include the core actions common to all of them shown at right. Much more comprehensive detail can be found in CALFED's 300-page alternatives overview which includes maps and descriptions of the features and benefits of each draft alternative. At the end of the each of the following alternatives, readers will find a "low," "moderate" or "high." These refer to the "level of resource improvement and conflict resolution" achieved by the alternative according to CALFED. A small glossary can be found on page 8.

1. Reduce Delta diversions with demand management. This alternative focuses on reducing water use upstream, in the Delta, and in export areas. It would modify the timing of diversions and provide basic improvements in habitat, water quality and levee vulnerability. Some of its distinguishing features are: a shift in diversions away from the spring period; modification of Clifton Court Forebay operations to reduce fish entrainment; basic habitat restoration in the Delta and upstream; aggressive urban and agricultural water conservation; extensive water marketing and investment in water reclamation; and pollutant source control. **LOW**

2. Drought water management program. This alternative would develop the institutional mechanisms necessary to establish a long-term drought water bank to provide increased security for environmental uses and water users. Physical modifications to the Delta are limited to habitat improvements and levee and channel improvements for flood control. In addition to a long-term drought water bank program, distinguishing features include: water reclamation and conservation to reduce demand for Delta water; in-lieu groundwater banking facilities in the southern San Joaquin Valley to reduce demand for surface water during dry years; and increased conjunctive use in the Sacramento Valley. **LOW**

3. Ship channel conveyance. This alternative focuses on relocating export diversions to a point above critical Delta

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CORE ACTIONS

AT THE CORE OF CALFED'S TOP 20

The draft core actions listed below are actions common to all CALFED alternatives described opposite (and thus are not listed within each alternative). CALFED defines a core action as one that:

- Enjoys broad acceptance among stakeholders at core-level implementation;
- Provides a benefit to the entire Bay-Delta system;
- Is cost effective;
- Meets one or more program objectives; and
- Provides some progress toward a solution but is not a satisfactory solution by itself.

BAY-DELTA HABITAT RESTORATION

- Protect and enhance existing shallow-water habitat at the most feasible sites with highest value for aquatic habitat.
- Protect and enhance existing riverine habitat at the highest priority most cost-effective sites on channel islands.
- Include riverine elements at channel edges by modifying levee protection practices at highest priority and most feasible sites.
- Protect and enhance existing riparian habitat at highest priority and most feasible sites.
- Improve riparian habitat by modifying levee maintenance practices at sites along most important aquatic habitats.
- Improve degraded riparian habitats at highest priority and most feasible sites.
- Protect and enhance existing wetlands at highest priority sites.
- Expand wetland acquisition programs to procure highest priority sites in unprotected ownership.
- Protect and enhance existing upland habitat at most feasible sites with highest value, size and connectivity to important wetlands.
- Encourage wildlife-friendly agricultural practices by providing funding for dissemination of literature and staffing of outreach programs.
- Provide coordination and funding to preserve agricultural land uses providing habitat at highest priority sites.
- Improve regulations regarding ballast-water releases through promotion and coordination of California's interest in applying federal law.
- Improve border inspection practices through staff increases at borders to more intensively apply current regulations.
- Provide funding to establish a rapid response program for introduced species.

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CORE ACTIONS CONTINUED

UPSTREAM HABITAT RESTORATION

- Improve flows and temperatures in upstream habitats by funding state share of Shasta temperature control device, evaluation of Whiskeytown device and temperature control plans for Colusa drain and Sutter Slough.
- Maintain adequate spawning substrates by providing state share of funding for CVPIA provisions.
- Encourage gravel-mining practices that protect fish habitat by funding partnerships to protect high priority spawning and migratory areas.
- Modify fish passage at upstream dams and other barriers by providing state share of funding for CVPIA provisions.
- Modify natural barriers to improve fish passage such as Eagle Canyon on Battle Creek.
- Encourage appropriate livestock management in riparian habitats by seeking to extend and expand existing efforts by resource management agencies.
- Revegetate degraded riparian habitats at highest priority sites in state and federal plans.

REDUCTION IN THE EFFECTS OF DIVERSIONS

- Use real-time monitoring and adaptive management by expanding existing program to monitor more species and habitat conditions.
- Install screens on unscreened in-Delta diversions with highest potential for fish loss.
- Install or upgrade screens on upstream diversions with highest potential for loss of young salmon and steelhead.
- Evaluate experimental technology and implement appropriate barriers to anadromous fish movement by funding evaluation of Georgiana Slough acoustic barrier and, if warranted, continued operation.
- Provide funding for ongoing installation and operation of fish barrier on San Joaquin River at Merced River in fall.

MANAGEMENT OF ANADROMOUS FISH

- Modify hatchery operations to reduce effects on wild populations by promoting and funding activities such as annual tagging of a portion of hatchery fish.
- Support a reasonable effort to provide information needed to improve regulation of commercial harvest of wild and hatchery stocks.

REDUCTION IN EXPORT RELIANCE

- Encourage use of agricultural water conservation practices through incentives, loans or cost-sharing for voluntary implementation of efficient water management practices.
- Increase incentives for municipal and industrial conservation practices through low-interest loans to urban suppliers unable to afford best management practices.

continued opposite

CALFED BRIEF CONTINUED

smelt habitat by developing isolated conveyance facilities. It would relocate the diversion point to the west side of the Sacramento River above Sacramento near the Sacramento Weir, use existing infrastructure, such as the Sacramento Ship Channel or the Yolo Bypass, to create an isolated transfer facility to move 10,000 cfs of water, and create new storage facilities in the north and south Delta. Some of its other distinguishing features include: managing new storage to reduce fish entrainment and increase Delta outflow during critical periods; and purchasing approximately 100,000 acre-feet of water from the San Joaquin River or tributaries for environmental purposes. **MODERATE**

4. Habitat restoration. This alternative emphasizes increasing fish populations through natural production and reducing entrainment to the extent that fish take at diversions no longer has a significant effect on fish populations. It would also improve water supply reliability by reducing the frequency and duration of Endangered Species Act constraints on diversions. Some of its other distinguishing features include: restoration of 750-1,250 acres of tidal wetlands in Suisun Bay to improve fish production; screens at high priority diversions and a salmon bypass at Old River; fish habitat restoration and creation; pollutant source controls; and real-time monitoring and modified diversion operations to reduce fish loss. **LOW**

5. Habitat restoration with dedicated environmental water. This alternative has the same emphasis and ESA constraint changes, as well as similar basic features, as number four. However it would also purchase about 100,000 acre-feet of San Joaquin River water to improve fish transport through the Delta. It would restore more Suisun Bay fish habitat (1,500-2,500 acres of tidal wetlands) and also includes a new screened water intake at Italian Slough. **MODERATE**

6. Extensive habitat restoration with new storage. This alternative has the same emphasis and ESA constraint changes, as well as similar basic features including the 100,000 acre-feet water purchase, as number five, but would undertake much more extensive habitat restoration (4,000-6,000 acres of tidal wetlands in Suisun Bay). To further reduce fish entrainment losses, it would also convert south Delta island(s) to water storage facilities for 300,000-400,000 acre feet. **MODERATE TO HIGH**

7. Water management with environmental storage. This alternative focuses on increasing fish populations while attempting to maintain Delta diversions. Some of its distinguishing features include: conversion of one or more south Delta islands into storage facilities for environmental water and release of that water as needed to transport fish through the Delta; improved Delta conveyance channels to allow higher pumping rates during non-sensitive periods; improved fish

hatchery operations; and demand management implemented through conservation, reclamation and land retirement. **LOW TO MODERATE**

8. Chain of lakes isolated facility. This alternative revolves around construction of an isolated in-Delta facility comprising a series of Delta islands linked by siphons into a "chain of lakes." The new facility would hold 300,000-600,000 acre-feet of water collected at times and locations that cause the least environmental harm and used to reduce direct Delta diversions during times of high environmental sensitivity. Other distinguishing features include: operation of upstream reservoirs in conjunction with the new chain of lakes facility to increase water supply available for environmental and other uses; and procurement of 100,000 acre-feet of water from the San Joaquin River from willing sellers for environmental use. **MODERATE**

9. Expand export capacity and south of Delta storage. This alternative focuses on shifting the timing of a large portion of Delta diversions to a period of reduced impacts on the Delta environment. Export facilities would pump at capacity during winter months. This modified diversion timing, plus construction of an off-stream storage facility (1-1.5 maf)

MAJOR APPROACHES

	E M P H										M an
	System Reoperation and Continued Reliance on Existing Facilities										
	1	2	4	5	6	7	9	17	19	3	10
Water Supply											
Reduce Demand	●	●									●
Channel Capacity Improvements							●				
Small Isolated Conveyance											●
Large Isolated Conveyance											●
Upstream Surface Storage											●
In-Delta Surface Storage						●				●	●
Downstream Surface Storage								●			●
Conjunctive Use/Groundwater Banking	●	●					●	●	●	●	●
Water Transfers	●	●					●	●	●	●	●
Water Quality											
Basic Pollutant Source Control	●	●	●	●	●	●	●	●	●	●	●
Extensive Pollutant Source Control					●	●	●	●	●	●	●
Increase Flows for Water Quality										●	
Ecosystem Quality											
Bay/Delta Habitat Restoration	●	●	●	●	●	●	●	●	●	●	●
San Joaquin River Improvements						●	●	●			●
Upper Sacramento Restoration						●					
Obtain Water for Environment					●	●	●			●	●
Store Water for Environment	●	●	●	●	●	●	●	●	●	●	●
Relocate Export Diversion Point											●
Screen Diversions	●	●	●	●	●	●	●	●	●	●	●
System Vulnerability											
Basic Levee Improvements	●	●	●				●	●	●		
Moderate Levee Improvements						●		●			●
Extensive Levee Improvements						●					

CORE ACTIONS CONTINUED

- Educate small agencies about conservation and reclamation feasibility by providing technical and planning support to small water suppliers in Delta and export areas.
- Establish incentives for conjunctive use by providing funding to reduce supply deficiencies during droughts.
- Ease institutional barriers to encourage conjunctive use where most feasible and in most need of modification.

INCREASING H₂O SUPPLY PREDICTABILITY

- Ease institutional obstacles to facilitate water transfers where most feasible and highest priority.
- Promote and coordinate the most cost-effective procedural improvements for water transfer permitting.
- Coordinate diversion and conveyance of water transfers in the highest priority and most cost-effective ways.
- Promote and coordinate most feasible mechanisms for brokering water transfers.
- Manage water resources data and information for the Bay-Delta system by funding the state share of CVPIA activities.
- Fund long-term drought planning with districts where supply reliability would substantially benefit.

MANAGEMENT OF WATER QUALITY

- Establish incentives for retiring lands with the most severe drainage problems and where most cost-effective.
- Expand and extend existing programs to provide incentives for pollution source control on agricultural lands.
- Encourage management of riparian zones to protect water quality by finding a cooperative program in watersheds of reservoirs operated by participating water districts.
- Encourage management of land uses to protect water quality by improving land use practices in watersheds of reservoirs operated by participating water districts.

IMPROVEMENTS TO SYSTEM RELIABILITY

- Monitor, evaluate, maintain and stabilize existing levees on highest priority sites.
- Modify agricultural practices to reduce subsidence through a program to cease agricultural production adjacent to levee interiors for islands dominated by peat soils.
- Investigate techniques for beneficial reuse of dredged materials by funding a pilot program to evaluate techniques for beneficial reuse of dredged materials.
- Establish an emergency levee management plan for highest priority Delta islands.
- Provide funding for levee maintenance and stabilization to maintain current level of flood protection for highest priority sites.



on the west side of the San Joaquin Valley, would increase supply for all uses. Some of this alternative's other distinguishing features include: in-lieu groundwater banking in the San Joaquin basin; the procurement of about 100,000 acre-feet of San Joaquin River basin water for environmental purposes; and increased hatchery production on the San Joaquin River or its tributaries to help re-establish natural fall-run salmon populations. MODERATE

10. Small east-side conveyance. This alternative combines habitat restoration, system reliability improvements and water supply augmentation actions and would reduce diversion effects on fish by constructing a small, isolated conveyance facility (5,000-7,000 cfs) around the eastern and southeastern edges of the Delta between the Sacramento River and the export pumps. Some of its other distinguishing features include: a new screened diversion on the Sacramento River; a bypass facility at Old River; new storage (1-2 maf) to augment water supply for all uses; the procurement of

100,000 acre-feet of San Joaquin River water for environmental uses; expanded water conservation and reclamation; and moderate habitat restoration. MODERATE

11. Through Delta conveyance improvement. This alternative would increase through-Delta water conveyance, and thus reduce cross-Delta diversion of Sacramento River fish by improving north Delta channels (by dredging, levee reinforcement and gradient control facilities). Some of its other distinguishing features include: construction of a screened intake on the Sacramento River near Hood; modification of Clifton Court Forebay operations and real-time monitoring to reduce fish entrainment; pollutant source control for urban, industrial, agricultural and mine discharges; procurement of 100,000 acre-feet of San Joaquin River water for environmental uses; and permit approval allowing pumping flexibility. MODERATE

12. Dual conveyance. This alternative combines the through-Delta conveyance improvements of number eleven with construction of both a new, water diversion facility on the Sacramento River upstream of the Delta (to screen water diversion from both

Delta and isolated transport) and a small, isolated conveyance facility. It would also close the Delta cross channel. It shares the following distinguishing features with the prior alternative: the 100,000 acre-feet of San Joaquin River water, the pollutant source control, the real-time monitoring and the permit approval for pumping flexibility. MODERATE

13. East-side foothills conveyance. This alternative would construct an isolated conveyance facility on the east side of the Sacramento and San Joaquin valleys to an ultimate connection with the California Aqueduct in Kern County. It would also relocate a portion of state and federal water project diversions north of the Sacramento/Feather Rivers confluence. The new facility would operate in winter and spring to capture flood flows for groundwater recharge and banking and subsequent use. Some other distinguishing features include: moderate habitat restoration and screens at high and moderate priority diversions. MODERATE

14. Small west-side conveyance facility. This alternative focuses on reducing export entrainment and increasing water supplies by shifting the location and timing of a portion of water exports. Some of its distinguishing features include: new diversions at Thermalito Afterbay on the Feather River and Red Bluff on the Sacramento River; creation of west-side Sacramento Valley off-stream storage (2 maf) with connections to selected agricultural canals; creation of an isolated conveyance facility (5,000-10,000 cfs) connected with the export pumps; water reclamation, groundwater banking and 100,000 acre-feet of San Joaquin River water for environmental use. Diversions through the Tehama and Colusa Canal would be at capacity year-round. Diversions from Thermalito Afterbay would take place during surplus conditions. MODERATE

15. Large west-side storage and conveyance. This alternative consolidates all major diversions on the Sacramento River and in the Delta to Shasta Lake and the Thermalito Afterbay by creating two new diversion facilities. It would also create a new isolated conveyance facility to move the water between these diversions along the west side of the Sacramento Valley to new offstream storage reservoirs, to groundwater storage and to south Delta pumps. Some of its other distinguishing features include: management of reservoirs to provide improved flows and temperatures for fish; retention of stormwater runoff and construction of wetlands to improve water

continued on page 8

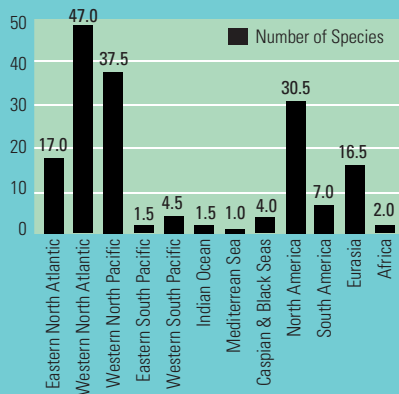
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SPECIES SPOT

LEGISLATING AWAY AQUATIC INVADERS

Though alien invasions is the topic of a Washington DC conference planned for March 22, the experts flown in from the far corners of the nation won't be discussing green men and flying saucers. Mitten crabs from China, zebra mussels from Europe — these are the aliens invading the nation's coastal waters and inland lakes and wreaking havoc on estuarine ecosystems. The extent of this havoc, and how to stop it, will be the subject of several coordinated events in late March — the conference, introduction of the reauthorization proposal for the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, and release of a definitive new U.S. Fish & Wildlife study on Bay Area invasions (see *Now in Print*). Indeed Bay Area invasions have become such a big concern that California water and environmental activists are now lobbying to amend the act to include prevention measures for the entire Pacific Coast.

INVASIONS TO SAN FRANCISCO BAY ESTUARY BY NATIVE REGION (FROM KNOWN SOURCES)



Source: *Nonindigenous Aquatic Species in a U.S. Estuary* (see *Now in Print*)

The 1990 act focused prevention measures on one region whose fisheries and water supply infrastructure were hard hit by invasions — the Great Lakes. It established, among other things, a Coast Guard-enforced program requiring ships to replace their ballast water out in the ocean before

continued opposite

CALFED BRIEF CONTINUED quality in the rivers and Delta; pollutant source controls and enforcement for agricultural drainage, the establishment of water quality BMPs, and remediation of on-site mine drainage. **HIGH**

16. Large east-side conveyance. This alternative would construct a large, isolated conveyance facility on the Delta's east side to serve multiple uses, including the state and federal water projects. It would also create new storage downstream in the Delta, a bypass facility on Old River and a new screened diversion on the Sacramento River. Some of its other distinguishing features include: a high level of habitat restoration in the Bay, Delta and rivers; management of reservoirs to provide improved flows and temperatures for fish; maintenance of Delta outflow to protect species of concern; procurement of 100,000 acre-feet of San Joaquin River water for environmental use; strong pollution controls as described in number 15 above; and new institutional mechanisms to implement water transfers. **HIGH**

17. Delta protection and water management. This alternative includes basic improvements to levees and channels, modification of upstream reservoir releases to improve water and habitat quality, installation of flow barriers in the south Delta (also to improve water quality), and basic aquatic and wetland habitat restoration in the Bay, Delta and rivers. Some other distinguishing features include: modification of Clifton Court Forebay operations to reduce entrainment and predation; pollutant controls and enforcement as described in 15 above; groundwater banking; and water conservation, reclamation and land retirement. **LOW**

18. Delta protection with storage. This alternative includes almost all of the same features (except the Forebay operations and land retirement) as the number 17 but takes habitat restoration and levee improvement from a basic to a moderate level. Additional distinguishing features include: new in-Delta and San Joaquin Valley storage to increase water supply flexibility; the purchase of 100,000 acre-feet of San Joaquin River water for environmental purposes; and water acquisition and desalination to increase stream flows. **MODERATE**

19. Improve Delta flow through operational changes. This alternative focuses on operational changes in the water distribution system and limits physical modifications to habitat improvements, levee and

channel improvements for flow control, and flow barriers to improve water stages and flow circulation. Some of its distinguishing features, in terms of operational changes, include: management of reservoirs to improve water quality and availability; real-time management to dilute pollutants and repel salinity; acquisition of water from willing sellers to increase the amount available for Delta uses; water conservation, reclamation, acquisition and desalination to increase stream flows; and groundwater banking and conjunctive use. It also includes pollutant source controls and enforcement for ag drainage, remediation of on-site mine drainage and new institutional mechanisms to implement water transfers. **LOW**

20. Improve Delta flow through added storage. This alternative includes the same reservoir management, real-time monitoring, pollutant controls, flow barriers, institutional mechanisms, and water conservation measures as number 19 but would create new reservoir storage to further increase the availability, reliability and quality of water supplies. It would also improve downstream channel capacities to reduce reservoir flood control capacity requirements and obtain 100,000 acre-feet of water from the San Joaquin River for environmental purposes. **MODERATE**

For a copy of the CALFED alternatives document call (916)657-2666 ARO

MINI CALFED GLOSSARY

Conjunctive use — The operation of a groundwater basin (for water storage) in conjunction with a surface water storage and conveyance system.

Conveyance — A pipeline, canal, natural channel or other similar facility that transports water from one location to another. An "isolated" conveyance facility keeps the transported water separate from Delta water.

Demand management — Programs that reduce demand for water through activities such as conservation, rate incentives, fallowing of ag fields, and drought rationing.

Entrainment — The drawing of fish into diversion pumps along with the water.

Groundwater banking — Storing water in groundwater basins for use during dry years. In-lieu banking replaces groundwater used by irrigators with surface water to save underground supplies for drought use.

Real-time monitoring — Continuous observation in multiple locations of biological conditions in order to adjust water management operations to protect fish and allow optimal operation of the water supply system.

BIG PLANS

A COUNTYWIDE MITIGATION MODEL

A new model for habitat conservation is emerging in Yolo County. Five years of public-private consensus building has produced a self-described "voluntary plan that mitigates the loss of biological resources from future urban and agricultural development."

The county's new draft *Habitat Conservation Plan* — developed cooperatively by a steering committee drawn from local governments, Cal Fish & Game, U.S. Fish & Wildlife and various stakeholders — seeks to provide an efficient and environmentally sound approach to protecting the habitat of 29 target species, 12 of which are currently on state or federal endangered species lists. These species' habitat is threatened by a predicted "build-out" around Yolo's four cities and four unincorporated towns that will result in the loss of 14,000 plus acres over the next 20 years. Under the new plan, developers must mitigate for every acre of development at a one-to-one ratio. Either they can pay a \$2,630 per acre fee, which will go towards securing conservation easements, or they can buy land of high habitat value that will be put aside in exchange for the land they develop.

While not replacing existing habitat mitigation procedures, the plan provides an option that removes the permit applicant from involvement with state and federal resource agencies. Dan Ramos, who represented the development community on the steering committee, says the existing process of getting approvals from all the various agencies is a "nightmare" and "very inefficient and costly." The new plan could smooth the process by providing up-front, uniform guidelines and a locally payable mitigation fee.



The Yolo County plan's major innovation lies in public-private consensus on how to preserve habitat values. Securing community support, however, was not easy. Many citizens, especially farmers, expressed fears of increased government involvement in their lives. Mark Hamblin, of Yolo County's Community Development Agency, aided by EIP Associates (the consultants who helped prepare the plan), spent a good deal of time trying to ease their concerns. "We're not here to take their land or even put additional restrictions on it," he says. A key aspect of the plan, says Hamblin, is its use of "active, productive agricultural fields as part of mitigation." Whereas other plans removed lands from production, this plan strives to maintain agricultural acreage at its present levels.

Use of ag lands for mitigation is possible because the main species of concern is the Swainson's hawk, a raptor that forages in crop fields and nests in large trees along creeks, sloughs, rivers and roadsides. But the Sierra Club's John Hopkins doesn't think the plan, by itself, is sufficient to provide Swainson's hawk recovery. "Recovery requires much more than mitigation for development," he says, "but the plan is a good first step."

The plan was released at a public meeting on January 11. After a sixty-day comment period, it will be finalized and presented to local city and county governments. If they approve it, Yolo's plan will be the first completed among dozens of similar plans on the drawing boards around California. "We were hoping to develop an ideal plan that would become a model for other counties and regions," says Cal Fish & Game's David Zezulak. "I think Yolo has succeeded in creating just that." Contact: David Zezulak (916)358-2919 MB

SPECIES SPOT CONTINUED

entering the lakes region. The theory was that ocean organisms were unlikely to survive when subsequently discharged in coastal or lake waters. (Ships take on and discharge ballast from port to port to balance shifting cargo loads.) The Great Lakes program has been quite successful, according to Allegra Cangelosi of the Great Lakes Task Force, which authored the 1990 bill. Meanwhile, studies Down Under confirm the effectiveness of such prevention measures. These found that the ballast water in Japanese ships coming into Australian mainland ports often contains several species of endemic Japanese copepods — a kind of planktonic crustacean — while ballast arriving at Tasmanian ports, which require mid-ocean replacement, contains none.

The new U.S. bill is likely to take a "middle ground," says Cangelosi. Rather than establishing mandatory programs on the Great Lakes model for the entire nation, she thinks it will include voluntary national guidelines for at-sea ballast exchange with mandatory reporting requirements — ships must report whether and how they have followed the guidelines. If ports and estuaries don't fall into line, however, the new bill should give the Coast Guard the clout to impose mandatory programs, she says.

In the Bay Area, there is widespread support for ballast exchange-based prevention measures. "It's easier to balance the needs of the Estuary and its endangered species with our needs for water supply if these exotics aren't in there competing," says Steve Hall of the Association of California Water Agencies, whose group will be working to make sure that better ballast management for California and, if possible, for the entire Pacific Coast, gets into the new bill.

Environmentalists are joining the water agencies in supporting the California push. Exotics control also has the backing of the CALFED Bay-Delta Program (see *CORE ACTIONS* page 5). Those interested in commenting on the bill reauthorization can write their members of Congress. Contact: Allegra Cangelosi (202) 544-5200 or Andy Cohen (510)848-1029 ARO

HOW
TO

12 STEPS TO LOCAL CCMP ACTION

Santa Clara County has incorporated many CCMP elements into its General Plan (see opposite). Based on this experience, Santa Clara suggests the following 12 steps for furthering implementation in other local jurisdictions.

1. Acquaint the legislative body (board, council) with the CCMP and its aims and state interest in enhanced relationships and coordination at the local government level.
2. Determine which, if any, key elected officials have a political and/or personal interest in achieving coordination, between local planning and the CCMP.
3. Identify key members of a jurisdiction's environmental and comprehensive planning staff who are 1) interested in coordination and 2) able to influence decisionmaking and work priorities.
4. Offer external staff support to locality and help organize/mobilize supportive constituencies to demonstrate public backing for Bay-Delta environmental quality issues.
5. Appoint one or two interested individuals from CCMP implementation subcommittees to act as liaisons to key staff.
6. Maintain personal involvement and ongoing presence at relevant meetings and hearings with decisionmakers.
7. Prioritize CCMP issues and focus efforts on the types of coordination and enhanced local implementation measures with greatest potential effectiveness.
8. Begin with evaluation of policy in general plan or adopted guidelines and become acquainted through local staff of political climate in which current planning and development regulation operate.
9. Review and assess consistency or lack thereof between CCMP and a jurisdiction's existing general plan, zoning ordinance, other development regulations (design review, grading ordinances, etc.) and guidelines — propose amendments to general plan, if local staff feel revisions are warranted, and provide a firm policy basis for whatever else is proposed.
10. If existing regulations seem inadequate, determine the extent of relevant local ordinances and codes and use whichever offer greatest potential for enforceable, new regulations.
11. Promote cooperative, non-regulatory, educational endeavors that involve all significant stakeholders, if political climate is not conducive to regulatory approaches.
12. Consult local conservation districts, local and regional environmental organizations, landowner organizations, etc. to ensure general awareness of endeavors and keep central staff informed of ongoing efforts.

Contact: Bill Shoe, Santa Clara Planning Department (408)299-2521

CCMP
UPDATE

LAND USE LOWDOWN

The Bay-Delta region will swell by over a million people within the next two decades, and resulting urban growth and land uses changes will have major impacts on Estuary health. How the 12-county region's 111 local governments can work together with regional, state and federal government, as well as with private interests, to manage growth in an environmentally and economically sustainable manner is the focus of 15 actions in the land use section of the S.F. Estuary Project's CCMP for the Bay and Delta.

It is three years since this consensus-based *Comprehensive Conservation and Management Plan* — developed by a 100-member committee drawn from diverse government and private interests — was published. This story is the first in a series to examine a specific section of the CCMP to highlight progress made toward implementation. While not all of the progress described below was carried out with CCMP implementation specifically in mind, it does all fit within the spirit of this wide-reaching plan.

The first action in the plan recommends that local General Plans should incorporate watershed, wetland and stream protection and seek to reduce pollutants in runoff. Santa Clara County was one of the first to do just that. The county's Bill Shoe says three things helped get key CCMP strategies incorporated to the county's General Plan: timing — a presentation from Estuary Project staff to the county's Board of Supervisors at just the time when the General Plan was being revised; emphasis on the part of CCMP presenters on those elements most relevant to Santa Clara County; and interest from county staff in developing a more regional perspective for the General Plan's conservation elements. The new planning approach is already producing results, with a comprehensive countywide watershed evaluation underway, with the reinstatement of a permitting process for building within certain watershed areas (see page 2), and with a

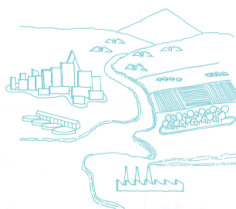
new county-sponsored roundtable designed to foster consensus about what should be done to protect the county's streams.

Other cities and counties are weaving the CCMP into their land use management as a result of the Association of Bay Area Government's (ABAG) subregional planning efforts. Subregional planning invites several cities and counties, for example, to work together to meet overlapping needs for roads, services, habitat loss mitigation and the like. In addition, it often offers a more appropriate scale for watershed- and other ecosystem-based land use management initiatives than do single jurisdictions. In 1994, ABAG published a *Menu of Subregional Land Use Policies* (see *Now in Print*) that includes sample natural wetland protection, watershed-based planning and compact growth policies explicitly called for in the CCMP's land use section.

With pilot grants from ABAG and the menu of options on the table, both the Tri-Valley area (six cities and two counties) and Sonoma County have published consensus-based subregional plans including CCMP elements. Sonoma's plan, for example, includes a commitment to coordinating best management practices for stormwater, to developing a waterways master plan to identify and save streams and wetlands, and to protecting contiguous "sustainable" habitat areas through mitigation banking and other means.

ABAG is not the only regional agency to weigh in on the land use action front. The S.F. Regional Board is reorganizing by watershed and working in Coyote Creek, for example, with three municipalities and stakeholders on a pilot local government pollution prevention project that includes land use measures. The S.F. Bay Commission is partnering with cities and counties on the North Bay rim — an area uniquely endowed with 40,000 acres of undeveloped historic baylands — to develop a legally enforceable blueprint for land use and wetland enhancement. The new Delta Protection Commission, meanwhile, produced its region's first comprehensive land use and resource management plan in 1995. The plan includes CCMP-style elements designed to safe-

continued on back page



PLACES TO GO & THINGS TO DO



MEETINGS & HEARINGS

Bay Commission

THUR•3/7•1 PM

Topics: Public hearings on consistency determination for Mare Island Reuse Plan, on White Slough special area plan and on regionwide permits and abbreviated regionwide permits. Vallejo, call for exact location (415)557-3686

State Water Resources Control Board Public Workshop

TUES-WED•3/12-13•9 AM

Topic: Receive comments on proposed alternative approaches to meeting requirements of the Water Quality Control Plan for the Bay-Delta Estuary in preparation for a draft EIR. 1st Floor Hearing Room 901 P Street, Sacramento (916)653-2516

Bay Commission

THUR•3/21•1 PM

Topics: Public hearings on MOU with the City and Port of Oakland regarding public access planning, on elimination of unnecessary regulations and on revised Bay Plan Seaport Policies and Designations.

MetroCenter - 101 Eighth Street, Oakland (415)557-3686

CVPIA Public Forum

FRI•3/29•1 PM

Topic: Public comment on CVPIA implementation.

Sacramento, call for exact location

Sponsor: U.S. Department of the Interior (415)721-7680

CALFED Public Scoping Meetings

8 Meetings from 4/9 to 4/25

Topic: Public discussion of CALFED-developed alternatives for long-term protection of the Bay/Delta and its beneficial uses (see page 5).

Sponsor: CALFED Bay-Delta Program

Call for place and times of meetings in Oakland, Walnut Grove, Red Bluff, Los Angeles, San Diego, Sacramento and Bakersfield. (916)654-9924

3rd Bay Area Volunteer Monitoring Conference

Friday, May 10 all day w/field trips May 11-12.

San Leandro Main Library

Sponsor: S.F. Estuary Institute (510)231-9566



WORKSHOPS & SEMINARS

Watershed Planning: Managing Water Quality and Preserving Natural Resources

FRI•3/8•All day

Topics: A step-by-step approach to watershed planning, including how to define problems, set protection goals, involve stakeholders and evaluate success.

Sponsor: UC Davis Extension

University Club, Old Davis Road, Davis

Cost: \$235 (800)752-0881

Building Partnerships in Water

WED•3/27•All day

Topics: The CALFED Bay-Delta Program and the future of water marketing, with emphasis on the lower Colorado River.

Sponsor: The Water Education Foundation
Radisson Hotel, Sacramento

Cost: \$175 (916)444-6240

Kids in Creeks

FRI & SAT•3/29-30, 4/6 & 4/13•All day

Topic: Workshop prepares educators to teach about creek ecology and restoration.

Sponsor: S.F. Estuary Institute
East Bay locations
(510)231-9539, ext. 655



HANDS ON

North Bay Birding Tours

SUN•3/10 & 3/31

Activity: Visit Hudeman Slough or Mare Island to view North Bay birds.

Sponsors: Madrone and Napa-Solano Audubon Societies and the Partnership for the San Pablo Baylands

Call for exact locations and times.
(707)644-1752

Berkeley Bay Festival

SAT•4/13•11 AM-4 PM

Activities: Meet exhibitors from environmental organizations, take a free sailboat ride, visit the Shorebird Nature Center or go on a tide pool tour.

Sponsor: City of Berkeley
Berkeley Marina Square, Berkeley
(510)644-8623

Environmental Education Center Open House

SAT•4/20•All day

Activity: Visit the S.F. Bay Wildlife Refuge's new environmental education pavilion and learn about Bay flora and fauna.

Sponsor: S.F. Bay Wildlife Refuge
1751 Grand Boulevard, Alviso

NOW IN PRINT

CIMIS Agricultural Resource Book

(How to get the most out of the California Irrigation Management Information System)
California Department of Water Resources
Copies from (916)653-1097

Fishing for Food in San Francisco Bay: An Environmental Health and Safety Report

Save San Francisco Bay Association
Copies from (510)452-9261

Improving Our Bay-Delta Estuary Through Local Plans and Programs: A Guidebook for City and County Governments

Prepared by ABAG for the S.F. Estuary Project
Copies from (510)286-0460

Insecticide Concentrations and Invertebrate Bioassay Mortality in Agricultural Return Water from the San Joaquin Basin

Christopher Foe, Central Valley Regional Board
Copies from (916)255-3113

Layperson's Guide to California Water

(updated version, including new sections on flood management and groundwater)
The Water Education Foundation
Copies at \$5 each from (916)444-6240

Menu of Subregional Land Use Policies

ABAG. Also: *Sonoma County Subregion Issues and Policies & Tri-Valley Subregional Planning Strategy*
Copies from (510)464-7961

Non-indigenous Aquatic Species in a U.S. Estuary: A Case Study of Bioinvasions of San Francisco Bay and Delta (Available in late March)

Prepared for U.S. Fish & Wildlife by Cohen and Carlton.
Copies from (510)848-1029

Progress Toward a Regional Water Agreement

(Draft principles toward a regional water plan for the Sacramento, Placer and Ed Dorado region)
The Sacramento Area Water Forum and the Foothill-Forum Water Group
Copies from (916)433-6276

Recommendations to Improve the Cleanup Process for California's Leaking Underground Fuel Tanks

Prepared for the State Water Resources Control Board by the Lawrence Livermore National Laboratory
Copies via FAX request to Rachel at (916)227-4349

Regional Monitoring Program for Trace Substances 1994 Annual Report

The S.F. Estuary Institute Report is free to program participants; \$30 others; discounted copies available for nonprofits and public agencies.
Copies from Gabrielle at (510)231-9539

CCMP UPDATE CONTINUED

guard water quality, improve levee maintenance and protect important farmlands and sensitive wildlife areas.

Beyond these policy level efforts, there has been much on-the-ground progress on the CCMP-emphasized watershed protection front. Public-private watershed planning and restoration programs are underway for Napa's Huichica Creek, the East Bay's Alameda and San Leandro creeks, Marin's Corte Madera Creek and the four-county-spanning Cosumnes River, to name only a few. Such programs involve everything from reducing runoff from cow pastures, timber cuts and neighboring cities to planting trees, removing trash, monitoring illegal discharges and restoring salmon habitat. Indeed watershed planning has reached as high up into the Estuary's headwaters as Deer Creek, where some of the last hold outs of spring-run salmon are threatened by ag diversions, forest cuts and dam proposals. To minimize these impacts while maintaining timber and farming business, landowners and environmentalists along this Tehama and Lassen county creek are undertaking watershed-scale planning.

Other, more specific, CCMP actions have also been taken. One calls for new decision-making tools to guide future land use planning and to this end, UC Berkeley now has GIS maps of the region's creeks, watersheds, wetlands and other features available on computer overlays. Another action calls for guidelines for site development to prevent impacts on waterways, such as the City of San Jose's new creek protection policy, for example. The policy recommends 100-foot setbacks for land uses along creeks and provides clear guidelines on toxics runoff control, restoration and planting procedures and building orientation. Another action calls for market-based incentives for private sector efforts to enhance the Estuary's health, such as the streamlined permitting offered to developers who meet Yolo County habitat conservation guidelines as described on page 10. Still another actions call for new educational tools, such as the new guidebook on watershed, stormwater and land use management for local government to be published this March (see *Now in Print*).

Less progress has been made at the state level on CCMP actions calling for integration of protection of the Estuary with other state land use initiatives and for amendments to the California Environmental Quality Act Guidelines for general plans.

A more comprehensive review of CCMP implementation progress on all fronts, including the land use arena, is now underway and slated for publication at the October 1996 State of the Estuary conference. ARO

ESTUARY



YOUR BAY - DELTA NEWS CLEARINGHOUSE

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