



THE LOST LEVIATHANS who wandered into the Delta’s labyrinth in May—and finally found their way out to sea again—may have been the largest wildlife celebrities in the Estuary in recent months, but they weren’t necessarily the most popular. In downtown Martinez, two beavers took up residence on Alhambra Creek, building a 4-by-8-foot dam, and a lodge, complete with a baby beaver. Like the whales, the beavers have become a tourist attraction. “The beavers have generated an amazing amount of interest and promoted environmental awareness like no speech or ad campaign could,” says Friends of Alhambra Creek’s Igor Skaredoff.

WITH THIS PAST WINTER the driest on record since 1988—as of late April the snowpack was 38 percent of average—water agencies are worried. The S.F. PUC, EBMUD, Zone 7 Water Agency (Pleasanton, Livermore, and Dublin), and Sonoma County Water Agency are all calling for voluntary conservation from customers. DWR has no plans to reduce water allocations to its 29 contractors; however, BurRec has cut water allocations to farmers south of the Delta by 50 percent. Cities south of the Delta will get 85 percent of their normal federal supply. Water managers caution that it is too early to panic about a drought, but admit that the dry winter could provide a sneak preview of the kinds of variable weather climate change may bring in the future.

BATTLE CREEK’S FISH may soon no longer have to battle upstream. The state will spend \$67 million to tear down five small dams on this tributary to the Sacramento River, the culmination of a two-decade effort to make the creek more hospitable to salmon and steelhead. The 12-15-foot concrete dams are all located between Manton and the Coleman National Fish Hatchery near Anderson; the dam removal opens up almost 50 miles of stream unavailable to the fish since the early 1900s, when eight dams were built to divert water to electricity-generating powerhouses. PG & E will replace the lost power with other sources, says DFG’s Mike Berry.

The project, funded by a Prop 50 CALFED grant, is the largest such restoration project ever undertaken by the state.

DELTA SHOWDOWN

In a frenzy of courtroom, boardroom, and legislative chamber activity, water managers, water, contractors, attorneys, judges, and enviros are desperately seeking to resolve the Delta’s most pressing issue: What level of “take”—fish kills—of salmonids and Delta smelt is acceptable while operating the state water project? As Estuary went to press, the answer to this question was zero, as smelt congregating at the pumps forced the temporary shutdown of the Harvey O. Banks Pumping Station.

The decline of the Delta smelt and other pelagic organisms—widely reported in 2005—is continuing at an unprecedented rate. The latest figures from the spring trawls of the juvenile population found the lowest number of fish ever recorded—only 25. Some of the trawls picked up no smelt. Overall, the population found in the trawls represents a 93 percent reduction from last year’s levels.

“Delta smelt are at extreme low levels of abundance in every survey we’ve done over six months,” says Bruce Herbold of the U.S. EPA.

While this precipitous drop is alarming news just by itself, it is also the sign of a larger problem: The demands on the Delta have outstripped the current abilities of agencies and stakeholders that use and manage it. The Banks Pumping Station in Tracy sends water from the Delta south for use by 24 million people, for urban and agricultural uses. At the same time, there must be enough water to manage salinity levels for drinking water in the East Bay and South Bay as well as ensure cool enough temperatures for fish. The May 31 shutdown keeps the pumps off for seven to ten days, except for maintaining health and safety. After this time, officials will see

if the smelt have finished migrating to the western Delta in search of cooler waters. If smelt remain in the path of the pumps, officials will have to decide whether they can run the pumps and keep from killing fish.

The California Sport Fishing Protection

Alliance’s Bill Jennings lays the blame for the smelt decline at the feet of the state water project and water exporters. “You can’t export 6 million acre feet from this Estuary and have the ecosystem remain intact; that’s the bottom line,” says Jennings.

But the pumps are not the only problem, says Peter Moyle, one of several researchers who worked on the CALFED Bay-Delta Authority’s Independent Science Board. “You can’t stop pumping and the fish will miraculously come back,” explains Moyle. “The

whole Delta ecosystem has changed dramatically in recent years.”

Chief among the causes of those dramatic changes has been global warming. Less snowfall and warmer temperatures have reduced the Sierra snow pack. So precipitation that once fell as snow and melted through the summer now falls as rain in the late winter and spring. This change has created storage problems and, most notably, increased Delta flows that have taxed the state’s levee system in recent winters. These conditions have set in motion a series of events that will force a new system of management on the Delta:

- In December, Jennings and the California Sport Fishing Protection Alliance sued the State Department of Water Resources to force them to obtain a permit for operating the Tracy pumps.

“You can’t export 6 million acre feet from this Estuary and have the ecosystem remain intact; that’s the bottom line.”

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OUTREACH

WILDLIFE FIGHT BACK

How to catch the attention of some of the Estuary's worst polluters—the 7-some million people who live in the Bay Area—was a question Save the Bay pondered recently. One way is to startle a captive audience out of their commute doldrums. For two months, ads on MUNI and BART trains showed wildlife species turning the tables on humans: a leopard shark dumps trash on an elderly couple's bed, a pelican chases children with a plastic six-pack ring, and a harbor seal pours motor oil into an office water cooler. The images—bearing the slogan “they don't do it to you”—are part of an aggressive new campaign by Save the Bay to stop the plastic and trash plague in the Estuary and its waterways. In April, a rally in S.F., complete with 11 “live” species of wildlife (Save the Bay staff in ani-



mal suits) and an appearance by Jared Blumenfeld with San Francisco's Department of the Environment bolstered the campaign and educated a large lunchtime crowd. Over 100 people signed a petition asking the S.F. Bay Regional Water Quality Control Board to include strong trash regulations in their new stormwater permits. The “wildlife” also handed out flyers with tips for reducing Bay pollution.

The campaign was designed with the help of San Francisco consulting firm TEAK and funding from the Coastal Commission's Whale Tail license plate program and Oracle Corporation. “We wanted to relate to people in their everyday environments—the bedroom, the office cooler—we tried to make the ads as realistic as possible,” says Save the Bay's Jessica Castelli. Save the Bay is seeking funding to continue the campaign.

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WETLANDS

GRAZING POOLS?

It can be hard to find a kind word for grazing livestock among environmentalists. But a study by Nature Conservancy ecologist Jaymee Marty, published two years ago in *Conservation Biology*, suggests that, at least in the case of Northern Sacramento Valley vernal pools, grazing may actually promote biodiversity.

Marty did her research on the Howard Ranch in Sacramento County, privately owned but with conservation easements protecting its vernal pools—seasonal wetlands that are home to unique annual plants and aquatic animals. The new easement holder, assuming that grazing is always bad for vernal pools, was about to fence out the cattle when Marty suggested an experiment.

She set up four different grazing regimes—continuous, wet-season, and dry-season grazing, plus ungrazed—in the ranch's vernal pool areas. For three years she measured native versus exotic plant cover, native plant species richness, and aquatic invertebrate biodiversity. The results: native plant cover was consistently higher in the continuous-grazing treatment, by 20 to 47 percent.

Exotic annual grass cover increased by up to 88 percent in the ungrazed pools, and a quarter of the native plant species in their edge and upland zones were lost. By the experiment's third year, ungrazed pools had the lowest invertebrate taxa richness. “I was surprised that the results were as clear as they were,” Marty says. “Typically you don't see effects like I did in such a short period of time.”

Marty's findings were no surprise to some vernal pool advocates, including vernal pool expert Carol Witham. “I've seen what happens when cattle are excluded, and it isn't pretty,” she says. Case in point: the Vina Plains preserve near Corning, where grazing stopped when The Nature Conservancy acquired the land. “Three years later it was nothing but weeds,” she recalls, “while the private hunting club across the road was solid wildflowers.” At Jepson



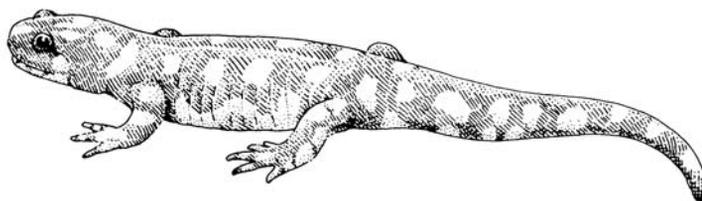
Prairie, grazing exclosures have “not a single native species growing in them.”

Why would grazing make such a dramatic difference? Marty found that ungrazed pools dried down faster, good news for exotic grasses but bad news for fairy shrimp, tiger salamanders, and spadefoot toads. “Vernal pools are a mini-watershed,” Marty explains. “There's a lot of water entering from the soil in the uplands. If exotic grasses are abundant, they'll be sucking up more water from the soil.” The hooves of grazers may also keep the soil more compacted so that it holds more water. Vernal pool ecosystems evolved with the Central Valley's great herds of pronghorn and tule elk, and the Pleistocene megafauna before them. Today, cattle may be the best available proxies.

According to Marty, reaction to the *Conservation Biology* paper was mostly positive, with some land managers telling her she had just quantified the obvious. She acknowledges that what holds for Sacramento Valley vernal pools may not for other ecosystems: “Other systems such as riparian are very different. I wouldn't say that grazing is always good; it needs to be well managed.”

Marty hopes others will try to replicate the Howard Ranch experiments, and Witham mentions research in progress at Dales Lake and elsewhere. For now, Marty's results have helped vernal pool advocates and cattlemen find common ground in the Rangeland Conservation Coalition, whose Rangeland Resolution is supported by groups from the California Native Plant Society and Defenders of Wildlife to the California Farm Bureau Federation. “In order to save the vernal pool species, you have to make ranching economically viable,” Witham argues. If the ranchers can't make it, the developers are waiting.

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WATERWARS

DRAIN GAMES

The latest chapter in the long-running effort to solve drainage issues in the San Luis Unit has the U.S. Bureau of Reclamation considering handing over ownership of a large section of the Central Valley Project to farmers and water districts.

A 20-page proposal, "Concepts for Collaboration Drainage Resolution," proposed by Westlands, suggests that Westlands and other water districts on the west side of the San Joaquin Valley assume responsibility for developing a way to collect and dispose of the salty, selenium-laced water that drains off the land after irrigation. In exchange, Westlands would receive less water—1 million acre-feet instead of 1.4 million acre-feet per year. Westlands would be assigned a permit for a water right instead of a contract—the water right would no longer need review and renewal every 25 years unlike the water contract.

This change from a contract to a water right is one issue that concerns many CVP watchdogs. The California Water Impact Network's Tom Stokely says that by attaining a water right—vs. a contract—Westlands and the other San Luis water districts don't face the prospect of having deliveries of water cut to as little as zero—as agricultural service contractors do—in the event of a bad drought. In other words, says Stokely, they're becoming exchange contractors with higher water rights—and that poses a big problem for the Delta. "If [Westlands] gets a water right, are they then not responsible for Delta water quality?" asks Stokely.

But Westlands contends it will still have to submit to the environmental requirements of the CVP Improvement Act. "Do we still remain subject to precipitation regulations and what actually falls and makes it way through the Delta? It's exactly the same," says Westlands' Sara Woolf.

BurRec's Jeff McCracken says the San Luis Unit will own the canals from the pumps south. "We would still operate and manage the pumps . . . continue to operate under the Endangered Species Act. Basically, we have the pump and they have the bucket," says McCracken. McCracken adds that the San Luis Unit districts cannot become exchange contractors without the approval of Congress.

The proposal from Westlands came about a month before the final Record of Decision was approved by the Interior Department. The new ROD plans to retire 194,000 instead of the original proposal to retire 308,000 acres—roughly half of Westlands' total acreage—due to the projected economic hit to the valley.

"You can't just turn the land back into desert and not think about what that means in terms of the huge impacts to take that kind of an economy out of the system both locally and statewide," says Woolf. The costs to implement the ROD are estimated at \$2.2 billion, as treatment and waste disposal—including a system of reverse osmosis and evaporation ponds—will be needed to handle the waste water from 114,000 acres of drainage impaired lands.

In the proposal from Westlands, land retirement is mentioned, though no specific numbers are given. The district, with a total of 600,000 acres, has already taken roughly 40,000 acres out of production. As with the ROD, retirement would be combined with waste treatment and disposal via a system of sprinklers distribut-

ing wastewater on gravel. Proposals like this worry Stokely, who notes that other sprinkler-on-gravel projects have not worked well when sprinklers clogged. "The moral of this story is, be suspicious of 'miracle' technologies that show up at the last minute," he says.

Given the roughly 50 years that have passed since the San Luis Unit was constructed when the government first pledged to deal with everything—including drainage—it's time to move forward, says Woolf. "This is a very large undertaking at significant risk and a large investment for us, but if we don't take it on, it will continue to languish," she says.

So BurRec is moving ahead on what McCracken says are parallel tracks—one that's working to implement the ROD and one that's evaluating and negotiating the proposal from Westlands to create a Joint Powers Authority for the San Luis reservoir, canals, and drainage.

In return for assuming responsibility for drainage, Woolf says her district and others in the San Luis Unit want a reliable supply of water. They say they're giving up a big chunk of water—400,000 acre-feet—to the CVP to help meet environmental needs. The Bay Institute's Gary Bobker questions the amount, noting that although on paper Westlands is giving up

"Basically, we have the pump and they have the bucket."

ENVIROCLIP

BIG BOX OR BIRDS?

Beyond the familiar economic concerns about where to site "big box" stores, local opposition to a proposed new 168,000-square-foot Wal-Mart supercenter in Vallejo invokes environmental issues. Vallejoans for Responsible Growth, chaired by Vicki Gray, claims the store planned for the banks of White Slough would adversely affect wildlife, including special-status species.

Myrna Hayes, co-founder of Vallejo's popular Flyway Festival, a celebration of birds and birding, describes the slough as "critical resting and feeding habitat" for shorebirds, ducks, and geese. White Slough is part of the Napa-Solano Marshes Important Bird Area. It's known as a hot spot for rare birds. And PRBO Conservation Science biologist Leonard Liu says he has detected endangered California clapper rails and threatened California black rails on the slough not far from the Wal-Mart site.

A central concern is the danger of polluted stormwater runoff from the supercenter entering the slough, carrying chemicals from bags of fertilizers, pesticides, and herbicides stored outside. Vallejoans for Responsible Growth says Wal-Mart has been cited by the U.S. EPA for violations of the Clean Water Act in nine states; other lawsuits have involved illegal discharges during construction.

Gray's group also says the Wal-Mart project violates the White Slough Specific Area Plan, which envisaged 523 acres of protected wetland bordered by site-appropriate development guided by habitat enhancement and open space preservation. A 1995 agreement among the city of Vallejo, Solano County, BCDC, and the U.S. Army Corps of Engineers restricts development to residential and small-scale commercial mixed use, limiting any slough-side buildings to less than a third of the proposed Wal-Mart footprint. The Vallejo City Council is closely divided on the issue.

Stopping Wal-Mart, Hayes says, could be the key to a cleaner, greener future for Vallejo: a "chance to shed its industrial-town image and jump with both feet into the multi-billion dollar birdwatching business."

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Illustration © Lisa Krieshok

SCIENCE SPOT

CONFRONTING COPPER

While California's salmon no longer run a gauntlet of hungry grizzly bears, they face more subtle dangers. According to recent research by NOAA Fisheries ecotoxicologist Nathaniel Scholz and his colleagues, salmon, particularly those in urban streams, are affected by chemicals that could compromise their ability to dodge obstacles, evade predators, capture prey, find mates, and locate their natal rivers at spawning time.

Although Scholz and his team have documented behavioral effects from diazinon, their work in the last few years has focused on copper. The element has been long known to disrupt the olfactory systems of salmonids and other fish, but no one had linked this to actual fish behavior. Dissolved copper from worn brake pads, roofing materials, treated wood, algicides, and fungicides is pervasive in urban runoff. Post-storm copper levels in northern California streams have ranged from 3.4 to 64.5 parts per billion (ppb), with an average of 15.8. Salmon avoid point sources of copper but are vulnerable to the diffuse copper in these storm pulses.

These fish have supersensitive olfactory systems, comparable to those of dogs. "The neurons in a fish's nose are in direct contact with the water, so the nose would be the first part in contact with the contaminants," says Oregon State University graduate student Jason Sandahl, who collaborated with Scholz on an article appearing in *Environmental Science & Technology* this spring. Earlier work demonstrated that exposure to dissolved copper levels at or above 25 ppb could kill salmon olfactory nerve cells, which could take weeks to regenerate. At lower levels, down to 5 ppb, the neurons don't die but become temporarily unresponsive.

Such doses aren't lethal to salmon but may dramatically reduce their chances of survival. In the 1930s Karl von Frisch, best known for his bee communication studies, discovered that European minnows release an alarm pheromone—von Frisch called it "Schreckstoff"—when attacked by a predator. It's a mechanical process, triggered by broken skin. Other fish of the same species take evasive action when they detect the chemical. Most widespread in the large order of fish that includes carp, catfish, and

RUNOFF

SEATTLE SEAS STREETS DIFFERENTLY

In a series of stormwater greening projects that began in 2000—each project increasing in scale—the city of Seattle is trying to mimic the permeable forest floor and pasture that once covered the land. Between 1972 and 1996, as the city grew and urbanized, its canopy cover shrank to 13 percent, while stormwater runoff increased by 7.5 million cubic feet. The increased stormwater load and the sediment, grease, oil, pesticides, and other urban pollutants it carries meant trouble for the Chinook, coho, chum, and sockeye salmon and cutthroat trout that live in Puget Sound and rear in its watersheds.

Seattle first tackled parts of the city that had old, "unimproved" gutter and ditch drainage systems, replacing them with vegetated swales and rain gardens in the public right-of-way along the street. In 2000, it installed its first "natural drainage systems" pilot project, known as SEA Street (for Street Edge Alternative Street) in an older neighborhood northwest of downtown Seattle. The city's transportation and public utilities departments collaborated to test the soils, meet with all neighbors (to make sure no one objected) and the fire department, and implement the project. After some initial hesitation and much discussion at kitchen tables with neighbors (all but one neighbor signed on) the residents of SEA Street helped decide on the species that would be planted in their swales and where to put them. Today the swales are lush and green, and bright with flowering currant and other natives, mixed in with a few drought-tolerant non-natives that grow well in the Pacific Northwest. "We're trying to make an urbanized environment think like it's still forested," says Bob Spencer, the city's Creek Steward. To allow fire trucks access, curbs are flat and "jumpable"; the street itself curves to echo the shape of the swales and to slow traffic. The narrower, curved street also meant that less pavement could be used, says the city's Jim Johnson. The project cost \$850,000, and was funded through drainage fees.

Two years later, the city moved a few blocks south and ripped out four blocks of a ditch and culvert system, replacing it with a series of vegetated pools that stair-step down a fairly steep hill. This project, known as "110th Cascade,



At the High Point redevelopment project, a vegetated swale in the public right-of-way slows and treats runoff. Photo courtesy of Peg Staeheli.

drains 21 acres of the Pipers Creek watershed. Here, there was less neighbor involvement because no homes faced onto the street; the project doubled the number of trees planted on the street.

The next project, Broadview Green Grid, was larger still, draining 32 acres of the Pipers Creek watershed, and encompassing 15 city blocks. Completed in 2004 at a cost of \$5.1 million, funded by drainage fees, it built upon what was learned at SEA Street and 110th Cascade, and incorporates swales on the north-south oriented streets and cascade step pools at the east-west boundary streets. In October, another similar-scale project—called Pinehurst Green Grid—was put in the ground.

Seattle is also applying natural drainage systems to more traditional neighborhoods with straight streets and conventional curbs. Phase one of the largest scale such project to date has just been completed—redevelopment of a 130-acre World War II-housing development called High Point, located south of downtown Seattle, with "mixed-income" homes. The project—a collaboration among the Seattle Housing

Authority, Seattle Public Utilities, and other city agencies—has followed the city's new low impact development guidelines, and uses porous pavement, disconnected downspouts, rain gardens, and swales; there was also a Herculean effort to preserve existing large trees. Its most impressive feature is the series of vegetated swales—modeled after SEA Street but put in next to traditional straight streets—growing between the sidewalk and street. The idea here was to fit natural drainage systems into a new urbanist framework, landscape architect Peg Staeheli says.

Although some grassy swales were used as well, the general consensus, says Staeheli, is that the vegetated swales, with their bunchgrasses, red-twig dogwood, and vine maples, among other species, are more attractive and popular and erode less than the grassy swales. Popular with more than humans, too: songbirds flit through the canopy, while the swales and rain gardens give the site a charm

rarely seen in large-scale new housing developments. Models predict that the natural drainage system here will detain and treat stormwater from the two-year storm event; at SEA Street, University of Washington monitoring has shown runoff from the two-year storm to be reduced by 99 percent—better than was expected. “The root mass and debris production [from the plants] has helped it function even better,” says Shane DeWald, with the city's transportation department, who spent lots of one-on-one time with residents of SEA Street, addressing their concerns. DeWald says the city has found that by maximizing the benefits for every dollar spent on drainage—adding a sidewalk, disabled access, etc.—the projects have become that much more attractive to neighbors.

Even in downtown Seattle, the city is making an effort to call attention to stormwater—this time, using art. On Vine Street, a giant cistern with a beckoning hand takes water from a downspout and carries it into a series of planters along the sidewalk. On that same street, a series of terraced water gardens step down a steep slope, slowing runoff before it enters a small jade pool (and the stormwater system). While the projects obviously can't mitigate runoff from the entire downtown area, they do have a huge public educational effect. Seattle's one-percent art tax helped fund these projects.

The cost of the natural drainage projects is “comparable to traditional gutter and ditch,” according to Spencer, who expects future projects to cost less as the city applies the lessons learned along the way. After maintaining the projects for three years—with help from the conservation corps—the city turns maintenance over to the neighbors (with occasional help from the city in the form of “mulch parties”).

“But you have to maintain pipes too,” says DeWald. “And pipes don't give you habitat, beauty, and livability and social benefits. We realized there was so much more to be gained by using a more natural mode.” **LOV**

CONFRONTING COPPER, CONTINUED

piranhas, chemical alarm signals were confirmed in rainbow and brook trout in the 1990s, although the nature of the mechanism in salmonids remains unclear.

Scholz and Sandahl, working with young coho salmon, found that the fish respond to alarm pheromones from a piece of coho skin smaller than a grain of rice in 100 liters of water. When skin solution is introduced to a clean tank, the salmon, which had been swimming actively, drops to the bottom and hovers in place. But after three hours' exposure to copper at a concentration of ten ppb, there's no reaction—a good way to become someone's dinner.

The nose may not be the only sensory system at risk. Teleosts (bony fishes) rely on their lateral line—clusters of mechanosensory neurons strung along their sides—to detect vibrations in the water. This ability can be critical for shoaling, orientation to stream flow, predator and obstacle avoidance, and prey capture. “The toxicity of copper to the lateral line is more similar to the nose than to the classical pathway of toxicity mediated by the gills,” says Scholz. In zebra fish—a common lab surrogate—dissolved copper destroys the lateral line's specialized neurons, as it does olfactory neurons.

With funding from the EPA's Science to Achieve Results program, Scholz and a graduate student are now investigating how water chemistry interacts with copper to affect olfactory function. Studies of olfactory-based homing ability and comparisons of hatchery-reared and wild fish are planned.

Copper, of course, is only one ingredient in the chemical brew of urban stormwater, along with other metals, pesticides, and pharmaceuticals. “Our focus has been on known compounds and potential interactions,” Scholz explains.

Meanwhile, the research raises regulatory issues. “Of all the chemicals we have looked at, this effect was clearly happening at levels well below the current copper standards for water quality,” says OSU toxicologist Jeff Jenkins, another co-author of the recent article. “It raises the question of whether the current standards are as protective as we thought.”

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Downtown, a giant cistern captures stormwater and releases it slowly into a series of vegetated pools. Photo by Lisa Owens Viani.

RESOURCE REVIEW

CCMP'S NEW LOOK

For the past year and a half, over 80 volunteers from the environmental, regulatory, water agency, and business communities, plus other interested parties have caucused in meetings and hunched over keyboards, brows furrowed, frantically typing, re-writing and updating the 1993 CCMP—the Comprehensive and Conservation Management Plan—for the Estuary. As one participant put it, “The CCMP is a collaborative, consensus-based agreement about what we can do to protect and restore the Estuary, a road map for restoring the Estuary’s chemical, physical, and biological health.” Updates were made to seven CCMP program areas: aquatic resources management, wildlife, wetlands management, water use, pollution prevention and reduction, dredging and waterway modification, and land use/watershed management.

The new document reflects pressing issues that have surfaced since the original document was drawn up: climate change and sea level rise, emerging contaminants like PPCPs, methyl mercury and wetland restoration, the Delta’s ecological crisis, the need for better riparian protection and goals, and the trash epidemic in our waterways. It also celebrates CCMP successes since the first document was written, including greater public awareness of the Estuary (in part due to increased public access), a shift to a watershed approach in dealing with the Estuary’s problems, an exponential increase in volunteer activities, from adopting local creeks and growing native plants to cleaning up the coast, and achieving large-scale land acquisition and restoration goals.

On Friday, August 3, from 9:30 to 10:30 a.m., the Implementation Committee—40 members representing the broad Estuary community—will vote on approving the new document. Any interested members of the public are welcome. A workshop on the draft 2007 Report Card evaluating the past two years’ progress on implementing the goals of the CCMP will follow. For more information, contact Marcia Brockbank: (510) 622-2325 or Mbrockbank@waterboards.ca.gov **LOV**



DELTA SHOWDOWN, CONTINUED

- In February, the Public Policy Institute of California issued a sobering report describing a Delta in crisis with a crippled levee system, fish in failing health, and a dearth of leadership and authority for the state-federal institution charged with managing the Delta, CALFED.
- In March, a Superior Court judge in Alameda ordered DWR to obtain a state permit to allow them to kill smelt or get an endorsement of federal permits, a requirement of the California Endangered Species Act (CESA).
- On April 9, DWR requested that the California Department of Fish and Game determine whether federal and state biological opinions and incidental take statements from NOAA Fisheries and the U.S. Fish and Wildlife Service are following the law laid out in CESA.
- On April 18, Alameda Superior Court Judge Frank Roesch finalized the March order, requiring DWR to comply with CESA within 60 days or shut down the state water project.
- On April 26, U.S. District Court Judge Oliver Wanger questioned the legality of a federal endangered species permit during oral arguments in a lawsuit filed by enviros to overturn a state permit that allows Delta smelt to be harmed by the operations of the Central Valley Project and the SWP. A decision in this case is imminent.
- In May, DWR appealed the Superior Court decision, stopping the 60-day clock on the permitting process and buying time for the agency to comply with endangered species law.

In addition, last year, Governor Arnold Schwarzenegger created the Delta Vision “Blue Ribbon” Task Force, headed up by former state Senator Phil Isenberg, charged with coming up with a plan for managing the Delta. A related group, the Bay Delta Conservation Steering Committee, is working on a Bay Delta Conservation Plan to hammer out how to better balance pumping operations with environmental needs. This plan is being developed by a team that includes one representative each from the state and federal wildlife and reclamation agencies, NOAA Fisheries, CALFED, six water agencies, including Westlands Water District and the Metropolitan Water District, five environmental groups including Environmental Defense, and one representative from the California Farm Bureau.

These groups are tasked with developing long-range plans—much like CALFED was when the Bay Delta Authority was created 12 years ago. This overlap frustrates Marc Holmes, a state Senate-appointed-at-large member of the Bay-

Delta Authority, who is among those who think the objectives of the Bay Delta Authority Record of Decision are unattainable. Neither does Holmes think the state needs another committee to study things. “By forming a blue ribbon panel to come up with a new plan, the Governor is just punting,” notes Holmes.

The Contra Costa Water District’s Greg Gartrell is also itching for the state to take action. “There are critical actions—on levees, water quality, and ecosystem issues—that can and should take place now that don’t preclude any Delta long-range planning,” says Gartrell, whose agency is helping develop the Bay Delta Conservation Plan.

One of those actions, says Gartrell, is the Franks Tract Project, which strives to improve water quality while helping prevent fish entrapment at the pumps. He says funding for projects like it are available through voter approved bonds for water quality and levee reinforcement. And then there’s also a bill introduced recently by State senator Joe Simitian that, among other things, calls on the state to find ways to move forward on five endorsed proposals in a study issued in February by the Public Policy Institute of California.

In *Envisioning Futures for the Sacramento-San Joaquin Delta*, a team of researchers from U.C. Davis, including Moyle and geologist Jeffrey Mount, give a bracing assessment of the Delta. The 1,100-mile levee system is increasingly vulnerable to failure from earthquakes, floods, or other forces, with potentially huge economic consequences—roughly \$30 to \$40 billion in losses due to disruptions in power, water exports, and shipping to the Port of Stockton. The ecosystem is threatened, and the Delta smelt faces extinction. And management of the Delta through the CALFED process has been a failure, primarily because CALFED has lacked independent authority or budget, according to the report.

At the same time, the report gives a prescription for what could be done. A part of what informs these recommendations comes from the CALFED science program, which, says Moyle, “has generated a lot of new information that’s allowing people to do a lot of decision making today.” One of the report’s key recommendations is to treat the Delta as a complex, fluctuating mosaic of uses (fresh and salt water) instead of the large, homogeneous, freshwater body it is regarded as presently. The bottom line in the report is that no one proposal will solve the crisis; instead, some hybrid solution will need to be worked out, preferably of the five alternatives it endorses, two of which call for an independent conveyance system.

PLACES TO GO & THINGS TO DO



WORKSHOPS & CONFERENCES

JULY
TUES-THURS
24-26

ASCE AND SAME LEEVE CONFERENCE

TOPIC: Still Battling the Inland Sea – Exploring Solutions for California's Complex Water Issues
LOCATION: Sacramento
SPONSORS: American Society of Civil Engineers and Society of American Military Engineers
<http://samesacramento.org/calendar/2007leveeconference.html>
Greg Zeiss, Greg.Zeiss@hdrinc.com; Vida Wright, vida.wright@veridicogroup.com

JULY
FRIDAY
27

DELTA VISION WORKSHOP

(free; complimentary lunch)
TOPIC: Provide input to key decision makers about the future of the Delta
LOCATION: Fresno
SPONSOR: Water Education Foundation
www.watereducation.org

AUG
SATURDAY
18

U.C. SEA GRANT EXTENSION WORKSHOP

TOPIC: Invasive species and what boaters can do to prevent them
LOCATION: San Francisco
SPONSOR: University of California Sea Grant Extension Program Vivian Matuk, (415)904-6905

SAVE THE DATE!

8TH BIENNIAL STATE OF THE ESTUARY CONFERENCE 2007

October 16,17, and 18, 2007
Scottish Rite Center
1547 Lakeside Drive Drive, Oakland
short walk from public transit!
<http://sfep.abag.ca.gov/soe/>
(510) 622-2398

CCMP AND JEAN AUER AWARDS

DEADLINE: FRIDAY, AUGUST 10, 2007

Send nominations to Joan Patton, S.F. Estuary Project, 1515 Clay Street, Suite 1400, Oakland, CA 94612; JEPESTUARY@aol.com; (510) 622-2406.

BOTH AWARDS WILL BE PRESENTED AT THE STATE OF THE ESTUARY CONFERENCE IN OCTOBER.



HANDS ON

JULY
SATURDAY
7

BIRD MONITORING

TOPIC: Help monitor birds in the Sausal Creek watershed.
LOCATION: Sequoia Arena, Joaquin Miller Park
SPONSOR: Friends of Sausal Creek Mark Rauzon (510) 531-3887

SEPT
SATURDAY
15

COASTAL CLEANUP DAY

TOPIC: Come with family and friends to clean up California beaches.
LOCATIONS: Beaches throughout the state
SPONSOR: California Coastal Commission
<http://www.coastal.ca.gov/publiced/ccd/ccd.html>

DELTA SHOWDOWN, CONTINUED

But the clock is ticking. And action needs to come soon. DWR's Jerry Johns is feeling the pressure as he works to resolve the endangered species issues surrounding the state water project. His agency is awaiting the District Court opinion on the federal Endangered Species Act while working on an updated biological opinion with state and federal fish agencies that will become the basis for getting a permit for the SWP. Many observers say this process will take until next April. Gartrell predicts the time frame at two years.

Johns sees a more optimistic schedule. He says BurRec has called for a draft biological assessment in October, but Johns says his agency could have the final biological opinion before then. "We're trying to push for this to happen earlier than this," he says.

Holmes says more of the same won't do. "State agencies have failed for more than 20 years to stabilize and reverse the decline of fish populations in the Delta, even though ordered by the court to do so. Why do we think they will succeed now? Meanwhile, the state has assembled the highest caliber team of scientists in the world to help solve the problem, yet hasn't even asked for the team's advice. Delta smelt don't need another permit, and they don't need another blue ribbon panel. Give it to the Independent Science Board and let them do their job."

CONTACT: Jerry Johns (916)653-8045; Greg Gartrell (925)688-8100; Bill Jennings (209)464-5067 **KC**

NOW & ON LINE

Background on Bottled Water Issues in California. 2007. Pacific Institute. www.pacinst.org, 510 251-1600.

Bird's Eye View of the North Richmond Shoreline. 2007. North Richmond Shoreline Academy. www.shorelineacademy.org.

Creek & Watershed Map of Daly City & Vicinity. 2007. Oakland Museum of California. www.museumca.org/creeks

Creek & Watershed Map of Richmond & Vicinity. 2006. Oakland Museum of California.

Experience the California Coast. May 2007. California Coastal Commission and U.C. Press Books. <http://www.ucpress.edu/books/pages/10749.html>

Integrated Watershed Management Discussion Forum (IWM-L). <http://www.freelists.org/list/iwm>

New Important Bird Areas (IBA). 2007. Audubon Society of California. ca.audubon.org/IBA

Our Valley. Our Choice. Building a Livable Future for the San Joaquin Valley. 2007. Great Valley Center (Modesto) and Heyday Books (Berkeley) (510) 549-3564

Rheem Creek and Breuner Marsh: A Promised Land. March 2007. DVD and book. Natural Heritage Institute, San Francisco.

Salmonid Field Protocols Handbook: Techniques for Assessing Status and Trends in Salmon and Trout Populations. Johnson, David H., et al. May 2007. American Fisheries Society. <http://www.afsbooks.org/55055p.html>

San Francisco Bay: Partnering with Government to Restore the Estuary (pdf). February 2007. San Francisco Bay Joint Venture. cwarner@sfbayjv.org





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DRAIN GAMES, CONTINUED

400,000 acre-feet of its contracted amount of 1.4 million acre-feet, it never receives its full contracted amount. On average, it receives around 800,000 acre-feet, so in Bobker's math, Westlands is locking down more water.

"What they're agreeing to is what they're getting now anyway," notes Bobker. "And so are they now getting more and causing cuts elsewhere in the system? This proposal only dangles the environmental benefit; it doesn't allocate water for the environment."

As proof that contractors are getting more, not less, Bobker says the draft plan reduces the San Luis Unit contractors' payments for habitat restoration—required under the CVPIA— by \$1 and change. Contractors pay by the acre-foot into this fund. And so on the one hand, Westlands, et al. say they're getting less water, but on the other, they're reducing their per-acre-foot payments for the benefit of the environment, says Bobker. "The answer is that they're not really getting less water," he says.

Details like these will need to be gone over with a fine tooth comb, says Bobker, who like other observers, sees a long, arduous process ahead. The first order of business: Add specifics. "It's extraordinarily complex, and it's extraordinarily vague," says Bobker. "It's not just dealing with drainage anymore...it's a very big proposal...not something that's going to turn into a deal in two weeks."

CONTACT: Gary Bobker (415)272-6616; Jeff McCracken (916)978-5100 **KC**



Story ideas or scoops?
Send to lowensvi@earthlink.net