ESTUARY NEWS

Bay-Delta News and Views from the San Francisco Estuary Partnership | Volume 17, No.4 | August 2009

FROM THE DIRECTOR

Summer is speeding by, and the Estuary Partnership staff is putting the final touches on our 9th Biennial State of the Estuary Conference, to be held this fall at a new transit-friendly venue, the Oakland City Center Marriott (see details, page 7). A few of the timely topics to be covered at the conference are previewed in these pages, including innovative green streets and other stormwater treatment projects and programs being implemented locally and in Portland, Oregon; our partner California Land Stewardship Institute's work in the Napa region to make vineyards more fish-friendly; new science about methylmercury and invasive species; and our partner Save the Bay's popular on-line campaign to reduce the plastic plague in the Estuary and its tributaries.

Also see page 4 for a review of the successful Creek Seekers Express train trip/children's art and poetry contest we sponsored as part of our National Estuaries Day celebrations.

How to best help the Estuary? Our "trim tab" contest (see April ESTUARY NEWS) netted three winning ideas:

- drought tolerant, native gardens for every backyard in the Estuary watershed (which would conserve water, require less chemicals, and provide much needed habitat for native birds, bugs, and other wildlife);
- green stormwater (natural drainage) projects for every city: San Mateo County is on its way to being a leader as is El Cerrito (see cover story and box on page 7 about our upcoming Green Streets tour); and
- a set of indicators of Estuary health (watch for our State of the Estuary report next year).

Fine ideas all, and we will be working on ways to implement them in the months and years ahead. Stay tuned, and mark your calendars for September 29 and 30 and October 1. See you at the conference!

—Judy Kelly

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SLOW IT, SPREAD IT, SINK IT

Brisbane City Hall's new rain garden

In San Mateo County, motorized vehicles are beginning to pay for their impacts on water quality, in six pilot "green stormwater" projects that will slow, spread, and sink urban runoff into rain gardens, swales, and green streets and parking lots. In 2005, the state legislature authorized up to $4 in increased registration fees for vehicles in San Mateo County. "It was important to us to have a nexus with the automobile," says City/County Association of Governments of San Mateo County's (C/CAG) Executive Director Richard Napier. "Why not have the autos that are putting the brake pads, the copper, the oil into the Bay pay for the programs that are trying to address their impacts?"

While other counties had attempted to get similar legislation passed, Napier says his agency's bill's success was due to the fact that it was pitched as a pilot project with a clear end date and involved a nominal amount of money. Plus, then-Assembly member Joe Simitian went to bat for the fee, says Napier, "and we had some luck." After C/CAG proved to the Governor's office that they were doing good work as a result of the initial bill, says Napier, the legislation was extended until 2013.

Half of the money raised with the increase goes toward congestion management, explains San Mateo Countywide Water Pollution Prevention Program's Matt Fabry, and the other half to

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BOOK IN HAND

Anyone contemplating a habitat restoration project would do well to have a look at *Digging In: A Guide to Community-Based Habitat Restoration,* available from the California Coastal Commission (www.coastal.ca.gov/publiced/UNBweb/diggingin.html).

The outgrowth of a successful restoration effort at Orange County's Upper Newport Bay, the book covers site selection and goal setting; site preparation; plant selection, propagation, and planting; engaging local stakeholders; and monitoring and maintenance. There are good discussions of how to attract media interest, work with nearby homeowners who may not see restoration as an aesthetic improvement, clarify jurisdiction with government agencies, and, perhaps most important, recruit and handle volunteers: "First and foremost, you have to keep in mind that volunteers are not your employees!"

BAY VS. BAG

In April, Save the Bay declared war on the disposable plastic bag. The campaign includes a new video (www.saveSFbay.org/bayvsbag) and assistance to cities like San Jose that are trying to eliminate bag use. Plastic bags were second only to cigarette butts among trash items picked up on last year's International Coastal Cleanup Day. They're potentially lethal to endangered leatherback turtles and other sea creatures, expensive to collect and dispose of ($25 million statewide every year), and rarely recycled (only 5%), and when they are, they notoriously snarl processing machinery. San Jose is considering a fee on single-use bags rather than an outright ban, an approach that reduced plastic-bag litter by 93% in a single year in Ireland. In Seattle, a 20-cent fee on plastic and paper bags was enacted in

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SLOW IT (CONTINUED FROM PAGE 1)

reducing stormwater impacts associated with vehicles and transportation infrastructure. With its half, the SMCWPPP produced an award-winning guidebook on developing green street and parking lot projects (available at www.flowstobay.org), and is funding six demonstration green stormwater projects—in Belmont, Brisbane, San Bruno, Burlingame, Daly City, and at the Fitzgerald Marine Reserve parking lot at Moss Beach in San Mateo County—all of which treat runoff with permeable landscaping. Brisbane and San Bruno are in the ground; the rest are in the planning stages.

In Brisbane, a rain garden and vegetated swale treat runoff from the parking lot and roof at city hall, plus beautify the area, says Fabry, adding that people are excited about the projects in part because of the green space they add. In San Bruno, a curb cut directs stormwater into a vegetated "bulb-out," aka "curb extension." "It was built where you'd normally have flow in the gutter line, but now the stormwater flows into the curb cut on one end; if overwhelmed, it will flow out other side," explains Fabry.

In Belmont, a series of cascading "stormwater planters" will parallel a steep street to capture and treat runoff; in Burlingame and Daly City, and at the Fitzgerald Marine Reserve, parking lot runoff will be captured in vegetated swales and rain gardens. The San Francisco Estuary Institute is monitoring pre- and post-project runoff at the Daly City project as part of a grant from the U.S. EPA through the Estuary Partnership. SFEI's Lester McKee says that so far, they have collected six baseline samples that will be analyzed for motor oil, diesel, gasoline, benzene, toluene, and xylene, cadmium, copper, total mercury, methyl mercury, dissolved mercury, nickel, zinc, PCBs, and other urban pollutants. Comparison samples will be collected after the project is completed, during the rainy season.

While they are thrilled with San Mateo's pilot green stormwater projects, Napier and Fabry are both frustrated that there are no larger, more permanent sources of funding. "If you look for money for traffic signals, there's plenty of funds, but no source of revenue for stormwater," says Napier. "Everyone says we have to try to meet Clean Water Act goals, but it's difficult to find a revenue stream to make that happen, which is very

A curb extension in San Bruno

unfortunate." Both men say Proposition 218, which limits increases on certain property assessments and fees without public approval, may need to be revisited. "Prop 218 has some restrictions in it and doesn't specifically exempt stormwater programs," says Napier. "We think this should be clarified by voters and that stormwater programs should also be exempted, like water, sewer, or garbage programs, which have less public approval requirements."

The issue of revenue need to be resolved, says Fabry, because innovative green stormwater projects, particularly retrofits in built-out cities, must be the way of the future. "It used to be that all of our stormwater infiltrated into the ground, but we've added so much impervious surface and so many pollutant types into the environment—realistically, the only way we're going to get a handle on it is to start dealing with things on a smaller scale, putting back the natural condition as much as possible and allowing water to infiltrate."

Fabry says he's seeing a push to look at stormwater as a resource—to let it slow, spread, and sink—instead of getting it "away" as fast as possible. "This is a more sustainable approach," he says, adding that even though retrofitting existing infrastructure with green stormwater projects is harder than building it as part of new development, "this is what we're going to have to do if we really want to deal with stormwater issues. And we have to create new projects and incentives to show that they work."

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OFF THE STORMWATER GRID

Portland, Oregon's Clean River Rewards program, which gives the city's property owners a discount on their utility bills for encouraging rainwater to sink into the soil, be sucked up by plants, or transpired by trees—instead of shunting it into the stormwater or sewer system—is back by popular request. The program had its first incarnation in 1993, and originally targeted industrial sites, but was so much in demand by residential and other commercial property owners that it had to be phased out by 1998. Explains Portland's Bureau of Environmental Services' Amber Clayton, "We needed a utility billing system that could handle tiered and pro-rated disconnection amounts. We also needed a more thorough internal discussion about private property impacts to the public stormwater system to determine an appropriate discount for onsite controls, especially given that most of the stormwater utility fees go toward managing stormwater from public rights-of-way, flood protection, and watershed improvements."

By October 2006, a new billing system and program were online; today 34,000 residential and 1,000 commercial property owners are registered in the program. Rewards are given in the form of a utility bill discount based on how much stormwater ratepayers manage on their site (commercial discounts are pro-rated for water quality and flow control)—sometimes amounting to as much as 100% of the onsite stormwater fee. The layout of the utility bills was changed so that customers can better understand what they are—and aren't—paying for. "The stormwater utility fee used to be one single line. We split it into two lines—to show an onsite and offsite stormwater fee."

Depending on their soil type, property owners are retaining rain—and preventing runoff—by disconnecting their downspouts, by installing rain gardens and vegetated stormwater treatment systems like swales, or, in areas with well-draining soils, by using dry wells and soakage trenches (vertical perforated pipes similar to French drains). On sites with steep slopes and soils that don't drain well, participants are given credit for tree canopy cover and flow-through systems like stormwater planters and green roofs. The city offers technical assistance to property owners, both in registering for the program and coming up with concept plans for retaining their rain. For residential owners, says Clayton, the most common solutions are to install rain gardens and disconnect downspouts, although every site is obviously not appropriate for every solution. "We're very clear about when they should and should not do on-site retention," says Clayton. The city holds free public workshops for homeowners and design and construction professionals who want to get on a referral list. All workshops cover site design, sizing, permits, long-term maintenance, and financial incentives.

The program operates on the honor system: residents submit a form delineating the kinds of stormwater treatment projects they have on their property; multifamily and commercial properties fill out a more extensive registration form that requires sizing and source control information. The city conducts spot checks of residential properties and has completed audits at over one third of commercial sites. "Most participants have been very accurate; the errors we've caught were honest mistakes," says Clayton.

The actual dollar reward? Residential property owners save an average of $8 per month; commercial owners up to thousands of dollars per month. Eight dollars a month might not sound like a lot, but it really makes a difference when residents see their quarterly bill, says Clayton. Industrial property owners are "interested in reducing their regulatory burden or looking to better meet regulatory requirements," she explains. "They

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Photo courtesy of City of Portland

MERCURY MYSTERY CLUES

In a recent *Environmental Science and Technology* article, UC Santa Cruz and Stanford researchers documented a new source of methylmercury, the toxic form of the element that bioaccumulates in marine food webs, entering California's offshore waters. "Our study shows that submarine groundwater discharge is a potentially important source of methylmercury to coastal waters," says lead author Frank Black.

Building on previous studies by UC Santa Cruz's Adina Payton, Black's group sampled at Monterey County's Elkhorn Slough, where wetlands soil bacteria are known to produce methylmercury; and Marin County's Stinson Beach, near a residential area and the San Andreas Fault, where natural mercury deposits can weather out of rocks.

At both sites, the team found significant amounts of mercury discharging into the Pacific Ocean via groundwater. Atmospheric deposition has been considered the dominant mercury source for marine environments; Elkhorn Slough's groundwater mercury fluxes were 10 times higher than the atmospheric rate.

Black has two questions: "Where does the mercury in groundwater come from? Are human activities influencing that?" Researchers suspect that Elkhorn Slough's tidal action moves methylmercury from wetlands. Methylization may also happen deep in the soil. "Previous studies only focused on the upper 20 centimeters," Black explains. "We collected samples from wells and pits that were meters deep. To us this indicates that some of the groundwater might be getting methylmercury over a larger depth interval than previous studies suggested."

One methylmercury source at Stinson Beach was a sewage-contaminated well. "That's not what we were looking for," Black says, "but something our data suggests may be important. If you have the bacteria in your groundwater and start pumping in a lot of nutrients from septic systems, you'll increase the rate of methylmercury production and ultimately have an increase in the transport of methylmercury to coastal waters."

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2008, but implementation was delayed by plastics industry opposition. Bag bans in Oakland and Manhattan Beach were countered with lawsuits, including one filed by an industry group called Save the Plastic Bag.

HYDROGEN PIPE ON HOLD

As part of a planned refinery expansion, Chevron intends to build a 21-mile-long hydrogen pipeline in Contra Costa County, extending from Richmond to the ConocoPhillips refinery in Rodeo and the Shell refinery in Martinez. More than half the pipeline would run through urban areas; it would also cross East Bay Regional Park District lands and watersheds from Rheem Creek to Alhambra Creek. Communities for a Better Environment (CBE) has called for an extension of the comment period for the pipeline EIR. In June, CBE won a round against Chevron when Contra Costa County Superior Court Judge Barbara Zuniga threw out the EIR for the expansion as a whole, which had been approved by the city of Richmond. Zuniga ruled that the project description was unclear as to whether it would allow Chevron to process a heavier, dirtier crude oil. Dr. Henry Clark of the West County Toxics Coalition called the decision "a historic environmental justice victory."

BARDS AND BEAVERS

Student winners of the Creek Seekers art and poetry contest (see ESTUARY NEWS, June 2009) and their escorts rode the Amtrak Creek Seekers Express from Oakland to Martinez on May 27. The outing was co-sponsored by the Estuary Partnership and River of Words. Along the way, Christopher Richards of the Oakland Museum named and talked about East Bay creeks as the train rattled over their trestles and shared details about the cultural and natural history of the surrounding landscape. In Martinez, the students read their poems, toured Alhambra Creek, and ducked into the cool of Armando's music club for a film and talk by Heidi Perryman of the beaver advocacy group Worth a Dam. Although the beavers, ac-

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Environment

NATURE'S LANDSCAPE ARCHITECTS

Long before the Martinez beavers became celebrities, *Castor canadensis* was a key shaper of California's wildlands. Beavers altered stream dynamics, provided habitat for other creatures, lured pre-Gold Rush adventurers, and were recruited as erosion-control agents. Alternately persecuted and protected, the big rodents are winning new appreciation for their ecosystem services.

Zoologists recognized three beaver subspecies in the state: the Shasta beaver (*C. c. shastensis*) in the Pit and Klamath river drainage; the Sonora beaver (*frondator*) along the Colorado; and the most widely distributed, the golden beaver (*subauratus*) in the Sacramento/San Joaquin river system and the Delta. *Subauratus* is the largest of the three, although nowhere near the bear-sized *Castoroides* of the Pleistocene.

Since stream channels were already deep and wood was scarce, golden beavers in the Delta didn't build dams or lodges. Elsewhere, though, beaver ponds attracted other wildlife species. Joseph Grinnell noticed in the 1920s that around Snelling, on the Merced River, "wood ducks are restricted almost entirely to beaver ponds… "

There's little documentation of the beaver's role in the lives of California Indians. It was a lineage totem for the Yokuts of the San Joaquin Valley, but they didn't use beaver pelts for clothing. Spanish colonists overlooked its economic potential. Rumors of California's abundance of beavers trickled out, though, and by the 1820s mountain men and Hudson's Bay Company hunters were on the scene.

James Ohio Pattie trapped beavers on the Colorado in 1827. The following year, Jedediah Smith found them from Tulare Lake to the Klamath, and the first Hudson's Bay brigade worked the Central Valley. The Delta was recognized early on as a beaver hot spot. Jean-Baptiste Mackay caught 4,000 there in a six-month period in 1830. As late as 1840, James Farnham wrote of the Delta: "There is probably no spot of equal extent on the whole continent of America, which contains so many of these much sought for animals." He estimated the annual yield as 5,000 to 10,000 skins. The Hudson's Bay Company dominated the trade, despite competition from John Sutter. But the Company shut down its California operations in 1846 as returns diminished. Then the gold frenzy eclipsed the pursuit of the golden beaver.

Photo by Cheryl Reynolds

Sporadic trapping continued, however, and by the turn of the twentieth century beaver numbers were ominously low. The species was first given state legal protection in 1911. Under pressure from Delta farmers who saw beavers as a threat to the new levee system, that law was amended in 1917 to allow trapping beavers that burrowed into levees. Wholesale trapping was legal from 1925 to 1933. Since then, the state has attempted to juggle protection, damage control, and commercial exploitation.

By most accounts, the Sierra Nevada was not beaver habitat. (There's an unsubstantiated report of beaver sign along the Carson River in the 1880s.) The range of the golden beaver stopped at the thousand-foot elevation. But some thought that deficiency should be remedied. It was beginning to be recognized, as Donald Tappe wrote in 1942, that "soil erosion and shortage of water in

some places resulted from the destruction of the beavers which formerly built, and kept in repair, dams on the upper reaches of many streams." Why not restock beavers in areas where they had been extirpated? For that matter, why not introduce them to "mountain meadows where the erosion problem is becoming serious?"

Toward that goal, beavers were live-trapped in Oregon and Idaho in the 1930s and 1940s and released in National Forest land east of the Sierra crest. The well-documented colony on Sagehen Creek was established in 1945. Results were mixed. Some transplanted beavers chewed down aspen groves before turning to less-preferred food sources like willows. In the 1950s, UC biologist Richard Gard found that brook and brown trout, both introduced, were thriving in beaver ponds on Sagehen Creek. However, natives like the Paiute cutthroat, Kern River rainbow, and California golden trout fared less well. Concern about sedimentation of spawning sites in dammed streams prompted the Department of Fish and Game to remove beavers from parts of the golden trout's range.

Meanwhile, beavers held on in the Delta and nearby bay shores. The Martinez beavers are most likely part of that population. Although their presence has been controversial (see ESTUARY NEWS, October 2008), residents have documented increased biodiversity on the dammed stretch of Alhambra Creek. Even elusive predators like mink have been spotted.

Throughout the Pacific Northwest, beaver advocates are spreading the word that water stored behind beaver dams can maintain summer stream flow and even recharge groundwater, among other ecological benefits. The Spokane-based Lands Council is working with the Washington Department of Ecology and private landowners to reintroduce beavers to eastern Washington (watch their engaging video, The Beaver Solution, on youtube). The era of concrete megadams may be over, but there is still a role for the creatures that invented the dam in the first place.

For updates on the Martinez beavers, visit www.martinezbeavers.org. For more on The Beaver Solution, see www.landscouncil.org/beaversolution. JE

Harmony **by Claudio Magobet, age 10, Oakland, California | Jefferson Elementary – Global Family School**
Teacher: Susan Walton | 2009 Creek Seeker Prize

invasive species

SOURCE AND SINK

San Francisco Bay, the world's most invaded estuary, may also be a source for marine organisms hitchhiking to the Columbia River and Puget Sound in ballast water.

University of Washington biologist Jeffery Cordell and colleagues have found three Asian copepod species, all previously established in San Francisco Bay, in the Columbia. One has spread upstream into reservoirs and may dominate the summer zooplankton community.

To understand how the copepods reached the Pacific Northwest, Cordell and colleagues sampled ballast of ships arriving in Puget Sound, noting the point of the last reported exchange. Federal and state laws require exchange at least 200 nautical miles from shore for transpacific ships, 50 nautical miles for coastal ships. Until recently, compliance verification mostly consisted of asking ship operators if they had obeyed the law.

The team concluded densities of potential invasives were higher in West Coast ships, most of which had obtained ballast water in California, and coastal ballast posed more invasion risk to Puget Sound than transpacific ballast.

Some coastal ships reporting exchanges beyond the 50-mile limit had high densities of coastal zooplankton. Says the Estuary Partnership's Karen McDowell, "Some of these ships could be reporting they've done an exchange and they haven't." New technology being developed by the Smithsonian Environmental Research Center should help pinpoint exchange sites.

Cordell says the Washington Department of Fish and Wildlife has tightened monitoring practices. "Exchange has been shown to be highly effective [at reducing potential invasions] in controlled studies," he concludes. "We know it can be done right."

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tive mostly at dawn and dusk, didn't join the festivities, it was a splendid day for art and nature. See http://riverofwords.org/creekseekers/index.html.

WAKAME BAY

Finding wakame in your miso soup is good. Finding it in San Francisco Bay is a problem. The edible Asian kelp *Undaria pinnatifida* was discovered at the San Francisco Yacht Harbor and the South Beach Yacht Harbor in May by ecologists from the Smithsonian Environmental Research Center— the first detection north of Monterey. The invasive alga, "the gorse of the sea," is also established along the shores of Southern California, Australia, New Zealand, Argentina, England, Spain, and France. Capable of rapid growth, *Undaria* may compete with native kelp and interfere with mariculture operations. Divers began removing it from the two yacht harbors in July. Report any sightings to sercundaria@si.edu or (415) 435-7128.

FLUSH OR TOSS?

Yes, you can flush products like Cottonelle Fresh Flushable Moist Wipes and Charmin Fresh Mates. Then what? Studies by the city of Raleigh, North Carolina and Consumer Reports show that these wipes don't decompose like toilet tissue. (For that matter, neither does ordinary Kleenex. "You can stir it, beat on it, it's just not going to break down," says Raleigh lab supervisor Darrell Crews.) Both Raleigh and Sitka, Alaska have reported problems with wipes clogging pipes and entangling sewer machinery. A spokesperson for Kimberly-Clark, manufacturer of the allegedly flushable objects, insisted they could be flushed without compromising sewer systems—one or two at a time. But *Consumer Reports* recommends bagging them for disposal and tossing them in the trash. The Central Contra Costa Sanitation District concurs. Says CCSD's Bill Brennan, "When pumps are running slow at night, these products ball up inside the pump and clog it. We've had to change the screens at one pump station." RS

Stewardship

GOOD GRAPES

Photo courtesy of Alameda Creek Alliance

Ten years ago, Laurel Marcus enlisted a few vineyards in the Russian River watershed into her Fish Friendly Farming (FFF) environmental certification program. FFF now includes 120,000 acres in Mendocino, Sonoma, Napa, and Solano Counties; all of Beringer's 6,000 acres have been certified. Marcus has helped 260 growers develop, and get government approval for, farming plans aimed at conserving and improving salmon and steelhead habitat. FFF is now part of a new nonprofit, the California Land Stewardship Institute, which received a grant through the Estuary Partnership recently to develop more fish-friendly practices, including reducing the amount of water diverted from streams for frost control..

"Anadromous fish [fish that hatch and spawn in streams but mature in the ocean] have pretty precise water temperature and stream form requirements," Marcus says. "If you look at the areas of California where these fish still exist, they aren't urban; what you have is ranching, farming, and logging." Any of those can destroy shade plants that keep streams cool, or wash silt or toxics into the water. Marcus calls FFF "a collaborative, incentive-based program implementing better practices to create habitat. It's a long-term strategy for how to recover these fish using a different approach—not a regulatory approach."

The process begins when FFF scientists evaluate a vineyard's land management. "It's a really a great way to learn a lot about your property and develop an environmentally sensitive farming plan," says Remi Cohen of Merryvale Vineyards in St. Helena. Planning helps identify best management practices and set a time table to implement them; it can also assist with new vineyard design. Then the farm's conservation plan is reviewed for certification by NOAA Fisheries Service, the County Agricultural Commissioner, and the Regional Water Quality Control Board.

Vineyards are typically up for recertification in five years. "We require that 75% of the grapes be from certified sites," Marcus explains. "It's the same percentage as an appellation."

Certified growers can add the FFF logo to their labels; this also requires approval by the federal Alcohol and Tobacco Tax and Trade Bureau. Solano's Winterhawk Winery was the first to do so.

FFF's guidelines are more stringent than Napa and Sonoma County regulations, which deal only with the vineyards on a property. The farm plans focus on keeping sediment out of permanent or seasonal creeks by minimizing other runoff, too. "We look at the whole site, not just the vineyard," Marcus says. "You can have a lot of fine sediments coming off old roads."

Recommended practices can include planting winter cover crops within vineyards, and grass filter strips between vineyards and creeks; stormproofing roads with water bars; and placing energy dissipators at culvert outlets. Photographs document what the grower has done. FFF also monitors water temperatures once a creek restoration plan is in place.

Marcus considers care in pesticide use a crucial part of each plan: "We look at the storage, mix, load, and application methods to make sure pesticides don't drift into the water. There are some chemicals we don't allow such as simizine and the atrazine family, as they leach into groundwater and there are better alternatives. We also look very closely at the use of organophosphates, pyrethrins, and copper as these have acute effects on fish and aquatic life."

FFF has also taken on restoration projects along wine country waterways, including a 10-mile stretch of the Napa River. Several have targeted the invasive giant reed *(Arundo donax),* whose thirsty roots can reduce stream flow. Others removed eucalyptus trees on Napa's Conn Creek and Rector Creek and planted native species like bigleaf maple and California buckeye.

Stricter water quality regulations have made the FFF certification process more attractive to growers, who can count on being in legal compliance if they're certified. But there's still as much carrot as stick.

"I'm a fan," says Alfred White, who manages La Ribera Vineyards on the Russian

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Places to Go and Things to Do

Conferences & Workshops

SEPTEMBER 9-11
WEDNESDAY-FRIDAY
CLIMATE CHANGE CONFERENCE
TOPIC: 6th Annual Climate Change Research Conference
LOCATION: Sacramento Convention Center
SPONSOR: California Energy Commission and California Environmental Protection Agency
http://www.climatechange.ca.gov/events/research.html

SEPTEMBER 26
SATURDAY
RICHMOND SHORELINE FESTIVAL
TOPIC: Celebrating Richmond's Bay shoreline
LOCATION: Point Pinole Regional Park
SPONSOR: North Richmond Shoreline Open Space Alliance
geoph.inglis@gmail.com

Hands On

SEPEMBER 19
SATURDAY
CALIFORNIA COASTAL CLEANUP DAY
TOPIC: Clean trash from marshes and creeks
LOCATION: Coastal locations statewide
SPONSOR: California Coastal Commission
coast4u@coastal.ca.gov; (800) COAST-4U

MERCURY MYSTERY (CONTINUED FROM 3)

Cynthia Gilmour of the Smithsonian Environmental Research Institute calls the findings consistent with "a growing consensus that coastal fishes are acquiring mercury from methylmercury production in the coastal zone." How to address this public health challenge remains an open question.

CONTACT: Frank Black, fblack@princeton.edu. JE

inprint & online

Energy Implications of Bottled Water by Peter Gleick and Heather Cooley. Pacific Institute, February 2009. http://www.pacinst.org/reports/bottled_water/index.htm

Flotsametrics and the Floating World. How One Man's Obsession with Runaway Sneakers and Rubber Ducks Revolutionized Ocean Science by Curtis Ebbesmeyer and Eric Scigliano. Harper Collins, March 2009.

Sanitary Sewage Overflow Incident Maps: http://www.waterboards.ca.gov/water_issues/programs/sso/sso_map/sso_pub.shtml

The World's Water 2008-2009. The Biennial Report on Freshwater Resources by Peter Gleick. Island Press, December 2008.

Unquenchable: America's Water Crisis and What to Do About It by Robert Glennon. Island Press, May 2009. www.islandpress.org/unquenchable

DON'T MISS IT!

September 29-30, October 1
Tuesday-Thursday

State of the Estuary Conference

TOPIC: Ninth biennial conference; "Our Actions, Our Estuary" focuses on current and upcoming challenges to the Estuary and its wildlife and water quality; emphasis on how cities around the Bay can build healthy resilient watersheds in light of changing climate and precipitation patterns, and sea level rise.
LOCATION: Downtown Oakland Marriott, City Center 12th Street BART stop
SPONSOR: San Francisco Estuary Partnership, California Coastal Conservancy, and others

www.sfestuary.org

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Email lowensvi@sbcglobal.net for more details.

Green Streets/Resilient Watersheds Tour

Friday, October 9, 2009, 9:00am - 3:00pm

This Estuary Partnership -sponsored one-day tour is directed toward interested local government officials, including city planners, public works directors, landscape architects, city councilmembers, county supervisors, and/or interested legislators. Tour stops include:

- El Cerrito City Hall—green building with bioswales
- Creek daylighting project at Poinsett Park, El Cerrito
- Creek restoration site at Gateway Park, El Cerrito
- Soil bioengineering workshop in progress by Urban Creeks Council, Baxter Creek, Richmond
- Marsh remediation site in Richmond at mouth of Baxter Creek

Illustration courtesy of Gates and Associates

Speakers include: Keith Lichten and Ann Riley, S.F. Bay Regional Water Quality Control Board; Drew Goetting, Restoration Design Group; Karl Hans, UC Berkeley; and others

Tour is limited to 30 participants; soil bioengineering workshop to 20.

CONTACT: Lisa Owens Viani for tour info/signup (510) 622-2337; Mike Vukman, Urban Creeks Council for soil bioengineering workshop (510) 540-6669

ESTUARY NEWS

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SAN FRANCISCO ESTUARY PARTNERSHIP

ESTUARY NEWS is your news source on Bay-Delta water issues, estuarine restoration efforts, and the many programs, actions, voices, and viewpoints that contribute to implementation of the S.F. Estuary Partnership's Comprehensive Conservation and Management Plan (CCMP). Views expressed may not always reflect those of Estuary Partnership staff, advisors, or CCMP committee members. ESTUARY NEWS is published bimonthly and is funded by the San Francisco Estuary Partnership.

STORMWATER GRID (CONTINUED FROM 3)

can get all kinds of credit for reductions in TSS (total suspended solids) by designing a system that deals with source control. And if you've got a 150,000 square foot pickle processing plant, the savings can really add up."

In addition to a cleaner river, the city reaps other benefits when private property owners hold stormwater on their sites. "It allows us to forgo future infrastructure expansions and reduce future capital costs," says Clayton. "By removing stormwater from the system, we can often reduce the need to upsize pipes unnecessarily."

The program's success did not come without some growing pains. "It took us six years to get it technically, financially, and fiscally implemented," says Clayton. "We looked at how much of the [total] stormwater utility bill was due to private property contributions—did lots of engineering and modeling—and figured out that it is approximately 35%."

Critical to the current program's success was an 18% utility fee hike in 2006—"we wanted to make sure that this time around the program was financially stable and revenue neutral." Another key to success was messaging, in part an artifact of Portland's 20-year, $1.4 billion effort to rebuild its combined sewer/stormwater system.

"Our Clean Rivers message has been out there for a long time," says Clayton. "People were used to hearing about stormwater, CSOs, and green streets. By the time we launched the discount program, there was a history of outreach that connected with people. We've been branding the whole clean rivers message with all of our public works projects. 'Stormwater incentive discount program' doesn't exactly roll off your tongue. But 'clean rivers' resonates."

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River and was involved in the program's development. "To me, it's the best way to approach land uses compatible with other aspects of an environment. The reason it's such an effective program is that it's not a top-down kind of thing where someone comes along and says you should be doing this or should be doing that. They really bring the landowner the tools he needs to make good management decisions."

In one ironic way, the program's success is hard to quantify. Have the steelhead and salmon responded? "I'm not sure anyone knows," Marcus says. Because of funding constraints, "there's a real paucity of fish population data."

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