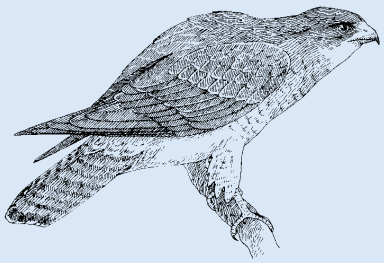

SPRAWL SQUEEZES HAWK

In the right parts of Solano, Yolo, San Joaquin, and Sacramento counties, it's not hard to spot the distinctive silhouette of the Swainson's hawk: wings broad but pointed, held just above the horizontal. These birds have lost considerable ground, though, with the conversion of native landscapes. And while they've adapted well to some kinds of agriculture, they can't find prey in a vineyard or a subdivision. That's made the status of the raptor "one of the most significant land use issues in the Central Valley," says biologist Jim Estep, current chair of the Swainson's Hawk Technical Advisory Committee.

Estep says almost all of California's estimated 1,000-1,500 Swainson's pairs breed in the Valley; this year's survey should clarify numbers and trends. They return from their wintering grounds south of the border in March to nest in tall oaks or cottonwoods, near farm fields where they can find voles for their young. In summer, their diet includes dragonflies (snagged on the wing) and grasshoppers.

Some are tolerant of human proximity. Sid England of U.C. Davis says 20 pairs nest on or near campus. One pair reared a brood just outside a busy classroom near two construction sites. They've also nested in the backyards of Davis, Woodland, and Stockton residents.

But their adaptability has limits. Judith Lamare, president of Friends of the Swainson's Hawk (FOSH), isn't reassured by apparently stable numbers: "You don't see impacts for several years, and then they're crashing. If you have a vulnerable population, you can have cumulative impacts beyond our ability to repair or arrest." She adds that her organization "sometimes finds itself fighting over quite small pieces of land next to preserves, but we see the cumulative impact of all the encroachment on preserves, and it's a worrisome trend. We're losing nesting sites and foraging habitat, and we can't compromise the preserves put in place to mitigate for those losses."

FOSH and other environmental groups have battled developer-driven urban growth in Sacramento's Natomas Basin for over a decade. They went to court over a flawed habitat conservation plan covering both the hawk and the endangered giant garter

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YOUR INDEPENDENT SOURCE FOR BAY-DELTA NEWS & VIEWS

ESTUARY

Feds Slam/Locals Open Doors to Steely Survivors

On March 5, when a neighbor living along Codornices Creek spotted two large steelhead trout—listed as threatened along California's central coast—spawning in the creek, he contacted his local advocacy group, Friends of Five Creeks. The news soon reached the Urban Creeks Council's Emma Guetzler, who went to the creek and found three steelhead—one measuring 24 inches; the other two, 17 and 15 inches. She had seen steelhead in the creek on many occasions—but none this large.

"These were clearly ocean- or Bay-going steelhead. It blew my mind," says Guetzler.

Time was that the positive identification of some endangered species in a creek or wild area would put that place on the path to receiving federal designation as "critical habitat" —the idea being that that place is needed for the endangered species to thrive and survive. But despite years of sweat equity on the part of residents, creek groups, and the cities of Albany and Berkeley to restore Codornices Creek for steelhead, hopes for an official critical habitat designation were dashed in January. That's when the Bush administration issued its new rules and listed critical habitat designations for West Coast salmon and steelhead. Not a single East Bay creek made the list, a fact the Alameda Creek Alliance's Jeff Miller finds exasperating.

"Excluding [creeks like Alameda and Codornices] from the critical habitat designation means they don't consider it important for the recovery of steelhead," says Miller.

The Endangered Species Act is intended to protect the land and water a dwindling species needs for survival. A critical habitat designation often includes areas where a species is spotted and where land is needed (in the case of fish, the riparian habitat alongside a stream as well as the stream itself) to support a future increased population, marking its recovery. Once an area is designated as critical, activities such as commercial logging or developing a housing tract are not supposed to degrade or destroy these habitats. Critics of the policy, including the National Association of Homebuilders, assert that far too much land is being taken out of use for development with little in the way of species recovery to show for it.

The Bush administration has been sympathetic to the viewpoint of developers, say enviros. It has employed an aggressive cost-benefit analysis that has served to reduce the size of critical habitat designations by 69%, according to a 2004 report from the National Wildlife Federation. This loss of critical habitat can have its own cost. Miller says his group and local and state agencies are prepared to put in about $10 million to restore Alameda Creek—including tie-ins for public safety and recreation trails. Millions of dollars are being spent in similar restoration efforts throughout the state, including on Codornices Creek, so the reduction in critical habitat designations

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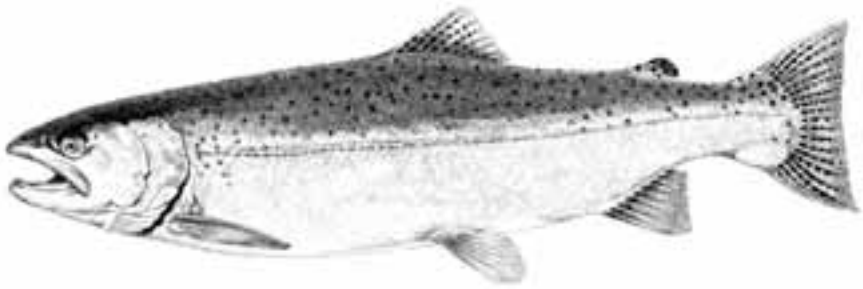

BIRDWATCH

VIRTUAL RAPTURE

The private lives of a pair of peregrine falcons captivated thousands of Internet users last year. For two years prior, the pair—nicknamed George and Gracie—had nested on a ledge of the PG&E building in downtown San Francisco. With funding from PG&E, the Santa Cruz Predatory Bird Research Group installed a Web cam at the 33rd-floor aerie. Gracie's four eggs hatched in April 2005; three youngsters fledged successfully. The Research Group's Brian Walton says a Yahoo group drew 2,500 people, in addition to all the visitors to the falcon cam Web site: "It became a little community."

Thirty years ago, peregrines had all but vanished from California; at their nadir, in 1970, only two breeding pairs remained. But with the banning of DDT in 1972, the falcons rebounded, aided by releases of birds raised in captivity. Old nest sites like Devil's Slide, vacant for decades, were reoccupied. There may now be 250 pairs statewide; the first comprehensive survey since 1992 is planned for this year. Peregrines were removed from the federal endangered species list in 1999, although they are still protected by California law.

Biologists estimate that there are between eight and 12 nesting pairs in the Bay Area. Peregrines have made their homes on the east span of the Bay Bridge and on the Golden Gate, Richmond-San Rafael, Antioch, and Carquinez bridges. Longtime falcon-watcher David Gregoire says nesting on the Bay Bridge was first confirmed in 1988 when a fledgling was found on an S.F. pier. Inland, there are two or three pairs in the Diablo Range, and another pair has been prospecting in downtown San Jose.

A bridge can be a risky place for a young peregrine. "They wind up in the water or flattened by vehicles," says Doug Bell of the East Bay Regional Park District. Young birds rescued from the bridges are taken to Southern California to augment the Channel Islands population. George (of the PG&E pair) was removed from the Bay Bridge in 1999 and released at San Gregorio, but found his way back to San Francisco.

This year, George and Gracie have started a family across the street, and the camera is being relocated. Stay tuned.

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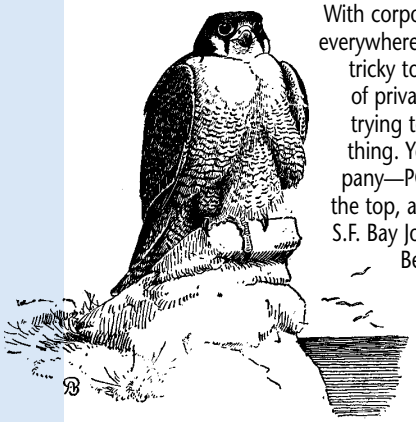
BUSINESS

PG & GREEN



With corporate greenwash everywhere, it can be tricky to find examples of private businesses trying to do the right thing. Yet one company—PG&E—floats to the top, according to the S.F. Bay Joint Venture's Beth Huning. PG&E is "doing a lot of the good stuff good corporations should be doing," says Huning: addressing global climate change, holding volunteer cleanup and stewardship days around the Bay, and supporting the work of nonprofits like the Bay Institute and Save the Bay—for which it built two native plant nurseries—to name just a few good deeds.

PG&E didn't turn its current shade of green overnight. Some of that green came in response to the many controversial hydroelectric relicensing and other legal processes it has gone through, during which it learned to listen to enviros and other stakeholders. After U.S. Fish & Wildlife filed a notice of violation over impacts to birds under the federal Migratory Bird Treaty Act, the company retrofitted more than 4,000 utility poles. It also worked with the wildlife agencies to create an alternative site for an osprey pair whose nest was causing power outages. Perhaps its best-known avian good deed was helping to install a "peregrine cam" on its San Francisco highrise (see sidebar).

But its biggest green act is probably the establishment of the Pacific Forest and Watershed Lands Stewardship Council, which will oversee the preservation and public use of approximately 140,000 acres of PG&E's watershed lands, primarily in the Sierra Nevada and Cascade mountains. The Council, a result of PG&E's 2003 bankruptcy settlement as well as previous work with agencies and groups interested in its watersheds, is made up of a diverse group of stakeholders—including the California Hydropower Reform Coalition, the Resources Agency, the Association of California Water Agencies, the Farm Bureau, and the Trust for Public Land, among many others. The Council will, over the next several years, help decide on the best use of PG&E's watershed lands. "There were stakeholders [during the bankruptcy proceedings] who were very aware of our land holdings and practices who said, 'If PG&E were to sell, someone else might get the land, and then what would happen?'" says PG&E's Mike Schonherr. In fact, those worries were more than worries, says Steve Wald, former director of the California Hydropower Reform Coalition, which represented enviros during the negotiations that established the Stewardship Council. "PG&E in fact sold off several parcels in the mid- to late 1990s. These lands had high recreational and habitat value, but they were being sold piece by piece, some to timber companies, who logged it and resold to developers," says Wald. (PG&E says it only sold land that was categorized as "protected timber zones" to timber companies and that it has no knowledge of any of that land being resold to developers.)

Despite these conflicting versions of recent history, under the terms of the bankruptcy settlement agreement, all of PG&E's watershed lands will be protected with conservation easements, and as much as half could be donated—in fee—to the agency, community, or resource group the Council deems best capable of protecting beneficial public values. By 2007, the Council must produce a "land conservation plan" (signed off on by all stakeholders) that will be submitted to PG&E and then taken to the California Public Utilities Commission, the Federal Energy Regulatory Commission, and other authorities for approval—at which point environmental review under CEQA and NEPA will be triggered, says Schonherr. While the plan probably won't contain many detailed actions, it will include conceptual plans for particular watersheds, with goals and objectives. "It will say, 'Here's what we think the land use should be, here is who should receive the easements or lands, and here's how we plan to get there,'" says Schonherr.

While there is always a threat that someone could propose condos and subdivisions for these wild lands, says Schonherr, "Our mission is very clear, and I think there is enough community and regulatory will to prevent [condos and subdivisions]." Schonherr is also confident that the Council's consensus-based planning process will address such concerns.

Where do all of the greenbacks for these green programs come from? "It comes from our customers," says Schonherr. "Ten million dollars per year over the course of the next 10 years." Wald, who is highly supportive of the stewardship council, puts it this way: "The PUC recognized that California ratepayers have a broad, not narrow, interest in PG&E's hydropower system." Wald says the settlement acknowledges values of hydropower beyond energy production, that the lands around plants, reservoirs, and rivers can be protected and restored for open space, habitat, and recreation.

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POLLUTION

FIVE STEPS FORWARD

When Southern California officials found traces of Viagra, Valium, painkillers, and antidepressants in recycled water that was destined to become drinking water, the counties of Orange and Los Angeles decided to take action. They printed cards for pharmacies to give to their customers advising them to dispose of their unused, old, or unwanted pharmaceuticals either at a hazardous waste facility or by wrapping them up and putting them in the trash. But putting them in the trash just transfers the problem to another venue, says the City of Palo Alto's Karin North, and not all hazardous waste facilities take pharmaceuticals. "We're kind of in a pickle," says North. So this May, the Santa Clara Basin Watershed Management Emerging Contaminants Working Group and the Bay Area Pollution Prevention Group (BAPPG), an association of of publicly owned treatment works, will hold a large-scale pharmaceutical take-back event, in what North, one of the event coordinators, hopes is more of a "cradle-to-grave" approach. (North takes her old medications to work: The City of Palo Alto's treatment plant has a take-back program for residents.)

Illustration courtesy of Environmental Compliance Group, Palo Alto, California.

How to treat "PPCPs"—the pharmaceuticals and personal care products we put in and on our bodies every day—is a giant, complicated, and little-understood problem. Traces of these compounds are ending up in our wastewater—and ultimately our rivers and the Estuary, or our recycled water supply (see "Pandora's Cauldron," ESTUARY, October 2004)—making it clear that there really is no "away" anywhere. Yet neither regulators nor scientists know how much risk these trace amounts (individually or combined with other chemicals) pose to aquatic organisms, fish, wildlife, or humans. Still, U.S. EPA's Christian Daughton cautions that trace chemicals and chemical cocktails could cause "cumulative, insidious, adverse impacts" on aquatic ecosystems and organisms, including declines in reproductive and survival rates.

One piece of the PPCP problem that *can* be tackled is that of people flushing unused pharmaceuticals. An innovative solution proposed by a group of Stanford medical students was to collect unused, unopened meds from long-term care facilities and reissue them to low-income residents. The students' idea was sponsored by state Sen. Joe Simitian recently as Senate Bill 798, and signed into law. That program has begun in San Mateo County, and BAPPG is trying to figure out how to implement a similar one in Santa Clara County, says North.

BAPPG's most ambitious effort to date will be to sponsor the Bay Area's first "Safe Medicine Disposal Days" during the week of May 13-20. The take-backs will be held at various locations and advertised on BART and SamTrans, and in local papers (see calendar, page 7). Bay Area residents who need to dispose of old, unused, or unwanted medicines can take them to designated pharmacies, senior centers, or civic centers, says North. North thinks that even if people don't participate in the take-back event this time around, just seeing the ads may make them more aware that their medications could end up in the Estuary and its fish and wildlife.

The take-back event, modeled after similar programs on the East Coast, isn't the only effort BAPPG and others are making. Last July, they held three workshops for hospitals in San Francisco, central Contra Costa county, and South San Francisco. "Hospitals are probably going to be regulated eventually," says North. "We know it's something on the radar screen; we'd rather be proactive than reactive."

The issues surrounding pharmaceutical disposal are complex, says North, so while BAPPG is hoping to come up with more permanent solutions, it is moving forward carefully to make sure everything it does is in compliance with federal Drug Enforcement Administration regs—the DEA requires that all controlled substances stay in a "closed loop," meaning that law enforcement personnel must collect the pharmaceuticals at each take-back event (the drugs are later incinerated as medical waste). "Solutions seem really easy, but then they're not," says North. "We don't want to take five steps forward then two steps back."

Contact: Karin North (650)494-7629 LOV

http://www.cityofpaloalto.org/publicworks/documents/cb-PharmWhitePaper.pdf

SCIENCESPOT

Tyrone Hayes

IN THE MIX

The weed killer Atrazine is probably the most studied compound on the planet, says Tim Pastoor, toxicologist for manufacturer Syngenta. But U.C. Berkeley's Tyrone Hayes, a developmental endocrinologist, is studying Atrazine as part of a chemical soup, a mixture of pesticides and herbicides, like those typically found in runoff in agricultural areas.

His findings on the impacts on frogs are sobering. "With mixtures you get effects not predictable by looking at individual compounds," he says, "and when you mix neutral compounds with compounds that have adverse effects, those effects are enhanced." He has also looked beyond the obvious effects—acute toxicity, morbidity, and mortality—to uncover subtler changes.

Hayes found that frog larvae exposed to a mixture of Atrazine and another pesticide, metolachlor, and to a nine-pesticide mixture metamorphosed more slowly and were smaller after metamorphosis than those that weren't. This finding is significant because small frogs don't survive as well as large ones; as less effective predators, they are also more likely to be preyed upon. The pesticide mixtures also caused thymic damage, which resulted in immunosuppressive effects and increased disease rates.

Pastoor discounts Hayes's work. "In our view these studies contain anomalies that call into question the conclusions ... In addition, they largely ignore the tiered approach to frog research that was laid out in EPA's white paper." But U.C. Berkeley amphibian biologist David Wake counters. "Syngenta's criticisms fall into what I consider to be the nit-picking category. It may be that the specific protocols Hayes used were not the ones EPA wants for its regulatory studies. But the study was published in a leading journal because it is an outstanding piece of investigator-driven science."

Recently, U.S. EPA concluded that the available scientific studies do not refute the possibility that Atrazine causes developmental damage to amphibians, and it is requiring Syngenta to conduct new research following the recommendations of an EPA advisory panel. As a Syngenta spokesperson acknowledges, "Research on the effects of pesticides on amphibian biology is a new area, and the approaches are just being developed." For now, Atrazine and the other pesticides remain on the market.

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WATERQUALITY

TRANSIT-ORIENTED WETLANDS

The next time you're at the Fremont BART station, take a stroll around the neighborhood. Tucked between the BART station, a new apartment complex, and a busy street lined with strip malls and gas stations are Tyson's Lagoon, a 4,000-year-old aquifer-fed sag pond created by the Hayward Fault, and three tule ponds. The ponds, built in 1999 by the Alameda County Flood Control and Water Conservation District, are a hidden sanctuary for herons and egrets—and concrete-weary humans. Sited at the low point in the Mowry Slough watershed, the 17 acres of ponds also store flood waters, capture and treat stormwater, and draw students from around the East Bay for hands-on lessons in riparian habitat restoration.

Every Saturday, 30 or 40 high school students come to work, explains Joyce Blueford, of Math Science Nucleus, a non-profit science resource center for teachers. They dig up blackberry bushes, plant native willows and tules along the ponds, and tend tiny native seedlings in a greenhouse built by Eagle Scouts. The students recently carted sand out to an island in one of the ponds to fashion a cozy nesting spot for western pond turtles.

Meanwhile, the tules are hard at work removing particulates and heavy metals from the runoff, while booms—logs chained together—floating on the water hold back surface oils. But that is just the first step. After the ponds do their work, the stormwater passes into a creek that connects with the ancient lagoon. It then spreads out onto a floodplain, passes into Mowry Slough, and meanders out to the Bay.

"The stormwater is much cleaner when it enters the Bay than when it first flows into the ponds," says Hank Ackerman, Alameda County Flood Control, "and now the students are sampling the water to see how much cleaner. We're also looking at adding more clay to the ponds' bottoms, because the clay bonds with the heavy metals and extracts them."

Says Blueford, "It's a rare opportunity for urban youth to learn about working wetlands because it's unusual to have one in such an urban area—right next door to a transit station."

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STEELHEAD CONTINUED

could jeopardize this investment of public money if prime habitat is allowed to be developed or degraded.

For Miller, of particular concern in the Bush administration's ruling is the way the White House defined the West Coast steelhead population. Every year for the past nine years, Alameda Creek advocates have recorded the upstream migration of steelhead. Miller's group took fin clips to the leading fish genetics expert at the U.S. Geological Survey for analysis and found that while some trout remained in the creek and reservoirs and others swam out to the ocean and returned to spawn, they were all the same species—steelhead.

Miller says his group presented this evidence to the National Marine Fisheries Service, which proposed to include the resident steelhead trout in Alameda Creek as part of the threatened population. Such a distinction would have increased the chance that Alameda Creek would be designated as critical habitat.

Then the Bush administration weighed in: It didn't take the genetic evidence into account in its ruling. So oversight of the ocean-going fish was given to the National Marine Fisheries Service while the U.S. Fish & Wildlife Service was given jurisdiction over their creek- and reservoir-dwelling cousins. Miller likens the designation to treating various life phases of the same species as though they were radically different.

"It's like you listed the monarch butterfly but not the caterpillar," says Miller.

Dennis McEwan of Cal Fish & Game says that this split jurisdiction—long the status quo in the federal government—isn't justified. In other words, a steelhead is a steelhead, but it can have a variety of lifestyles. McEwan says research examining the chemical makeup of the inner ear bone or otolith of the trout gives clues as to those lifestyles. This test is not easily or often done as it's performed only on dead trout. Using the otolith method, scientists look for strontium—a chemical similar to calcium—which is present in higher concentrations in the ocean than in freshwater. An otolith with lots of strontium indicates that a trout is ocean-going.

The otolith also carries the signature of the mother's egg. Inside that signature, scientists also look for strontium. What they're finding, says McEwan, is that parentage doesn't necessarily determine whether a trout will remain in freshwater or go out to the ocean. So a progeny of two resident steelhead—often called rainbow trout—can be another resident trout or an ocean-going fish. Even two progeny from the same parents can be different—one ocean-going and the other resident.

"It risks disassociating species from their habitat in the public's mind, and that's a recipe for extinction."

Sound confusing? McEwan says developers with land use proposals and others have exploited common misperceptions over whether a resident fish is a "real" steelhead in order to get their plans approved. "The fallacy of that argument from a biological standpoint is that you'll have juvenile fish included in the count and even that fish doesn't know what it is. Its life history fate has yet to be determined," he explains.

Differences in steelhead lifestyle aside, the efforts to bring back central California coast steelhead have been dealt a great blow by the Bush administration's critical habitat ruling. The very listing of steelhead as threatened protects the fish itself, but steelhead that call the California central coast home need more than that, says McEwan, adding that by cutting critical habitat, the government is downplaying the important of habitat to a species' survival. "It risks disassociating species from their habitat in the public's mind, and that's a recipe for extinction."

Meanwhile, residents along Codornices Creek—spurred on by the news of the steelhead spawning—are going to do their best to treat the creek as critical habitat even though the federal government may not. The size of the steelhead in the creek, they say, is evidence that recovery efforts pay off and are worth supporting. Friends of Five Creeks' Susan Schwartz, who captured spawning and sleeping steelhead on film and posted the clip to her group's Web site, recalls what she thought while witnessing the fish.

"To see that in your backyard makes you realize that if you open the door, nature will come back."

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PLANNING

MARSH ON THE MOVE

Earlier this year, as winter rains doused Northern California, federal and state agencies found themselves thigh-high in flood protection and water quality issues at Suisun Marsh, which underscored the need to make serious headway on the Suisun Marsh Plan. The plan, which has slowly been developing—some would say at a snail's pace—since the early 1970s, will address water quality, endangered species, and other wildlife concerns, and guide protection and restoration of thousands of acres of managed and tidal wetlands. Leaving behind the painstaking pace of the past, the seven agencies that make up the Suisun Marsh Charter have ratcheted the plan into high gear.

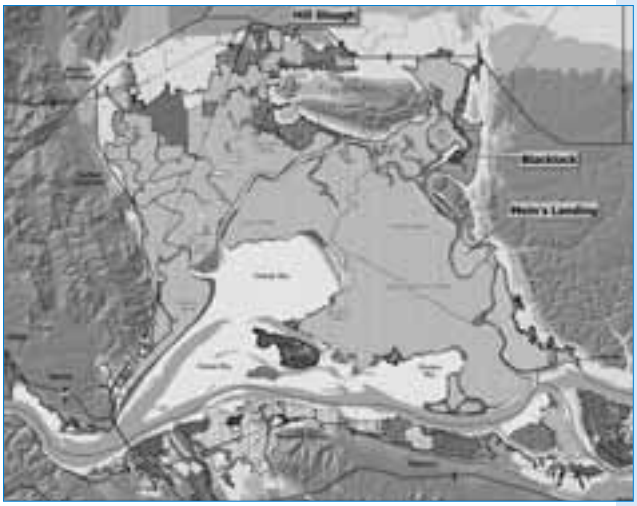
In early January, the Charter reissued a request for proposals for a programmatic EIR/EIS to guide work in the marsh. While the EIR/EIS, which will require reviewing plans and documents and the scientific research that will feed into the plan, is expected to take at least two more years, a few restoration projects are already underway (see sidebar). "I think these projects will jumpstart efforts on endangered species recovery and facilitate more restoration projects," says Stuart Siegel, science adviser for the plan.

Part of the bigger management picture for the marsh, says Siegel, is not only to provide recovery for listed species as speedily as possible, but also to promote restoration while maintaining the economic and cultural values that managed wetlands provide for duck clubs and other public uses. "The key to tidal marsh restoration is finding willing landowners at sites well suited to tidal conversion with a minimum of effort, and addressing duck club concerns, such as flood control," says Siegel.

Alternatives under consideration for the Suisun Marsh Plan include meeting CALFED's goal of restoring 5,000-7,000 acres or more of tidal wetlands, and enhancing and improving management of 40,000-50,000 acres of managed wetlands—the exact mosaic and acreages still to be worked out. For folks like the Suisun Resource Conservation District's Steve Chappell, who represents landowner and duck club interests, it's important to remember that the success of any plans for restoration on most of the land under consideration relies on the willing participation of landowners. "There's a lot of reluctance from private landowners when they think the government is coming up with a big plan for their property," says Chappell.

Yet Chappell says there's a general acknowledgment among landowners that achieving a system-wide flood protection plan will require substantial collaboration among private landowners and agencies working to enhance the marsh. From the landowners' perspective, this means that the plan should balance providing habitat with sustainable levees. Chappell acknowledges that levee maintenance may disturb wildlife and ecological functions. "I think all of us are working to develop [the Suisun Marsh] plan to minimize this conflict," says Chappell. "The plan really needs to step out, to take a look at things in a more comprehensive view. My sense is that we can cost-effectively maintain levees where appropriate, and concurrently sustain wetland values and functions that support wildlife."

SUISUN MARSH RESTORATION SITES



The most time-critical element, says Chappell, is getting a consultant on board as soon as possible to help finalize the draft environmental documents for public review and to allow the soon-to-be-formed Suisun Science and Technical Advisory Panel, led by Siegel, to incorporate science into the plan.

"We're half the way there," says Chappell. "Hopefully the plan will give us a better road map for the future. I'd like to see us not get bogged down by conflict. My hope is that we'll continue to build collaborations so that we can all say that this is the direction we want to go. I'd like to see us do that on the permitting front; the regulatory front; the policy, science, and funding front."

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WETLANDS

BLACKLOCK OFF THE STARTING BLOCK

Although the ink on the Suisun Marsh Plan is far from dry, three projects—Blacklock, Hill Slough West, and Meins Landing—are getting a head start in their reincarnation as tidal marsh.

First up is the 70-acre Blacklock parcel. Because sediment supply and subsidence reversal are considered two of the biggest restoration challenges in the marsh, resource managers believe Blacklock could serve as a prototype for other projects. According to Stuart Siegel, the plan's science adviser, Blacklock is in a prime spot for accumulating sediment—and building marsh—because of its proximity to Little Honker Bay, which resource managers hope will supply sediment over the long term.

To speed the sedimentation process, the Department of Water Resources intends to orchestrate one or two planned levee breaches. It is possible that nature will beat them to the job, says the agency's Terri Gaines. "Either we're going to have a natural levee breach prior to our planned breach, or we'll gain the necessary permits in time to make the planned breaches occur this summer." Regardless, she adds, the site will be managed adaptively. "An unplanned breach does not preclude us from breaching in another location to achieve full tidal exchange." For now, the Department has been managing the parcel as a diked brackish wetland and maintaining a moist soil regime in an effort to promote the growth of dense vegetation, which will encourage sediment accumulation.

Meanwhile, a restoration and monitoring plan has been developed for Hill Slough West, a 200-acre parcel of diked wetlands owned by Cal Fish & Game in the Hill Slough Wildlife Area. While preliminary site surveys have been performed for vegetation and the presence of the salt marsh harvest mouse, the plan has yet to pass through the mire of permitting approvals. Fish & Game also wants to re-evaluate levee options in light of January's floods. Construction to convert the parcel to full tidal action is expected to begin later this year or sometime in 2007.

The most recent addition to the restoration bandwagon is Meins Landing, a 660-acre duck club on Montezuma Slough. The Department of Water Resources closed escrow on this property in December 2005 and is planning to restore it to tidal action. According to the Department's Kent Nelson, restoration could occur within the next two to three years. PC

HANDSON

POLISHING THE CCMP

The Comprehensive Conservation and Management Plan for the Bay-Delta Estuary, the action plan for saving fish, conserving water, protecting wetlands, reducing pollution, and promoting environmentally sound land-use decisions around the Estuary signed by more than 100 stakeholders in 1993, has begun to show its age, and the S.F. Estuary Project needs your help revitalizing it. The Estuary Project is seeking participation in the five areas below; the result will be a short addendum to the existing CCMP listing the critical issues and/or action items participants think are missing or need to be enhanced.

- Aquatic resources and wildlife: Facilitator – Rick Morat, U.S. Fish & Wildlife
- Pollution prevention and water quality: Facilitator – Steve Moore, S.F. Regional Board
- Water use and recycling: Facilitator – Cindy Darling, CALFED
- Watershed management (includes land use/economic incentives): Facilitators – Cathy Bleier, Resources Agency, and Rainer Hoenicke, S.F. Estuary Institute. Although Delta levee stability and ecosystem issues are being dealt with in many other agency venues, this group may consider adding objectives and action items for the Delta.
- Wetlands: Facilitator – Mike Monroe, U.S. EPA, Region 9

Members of the Long Term Management Strategy for Dredged Materials will be asked to review the dredging/waterway modification program area.

To get involved and find out about meeting dates, please contact Paula Trigueros, (510)622-2499 or ptrigueros@waterboards.ca.gov.

FISH

FLOWS FOIL FRY

The rug in Tim Horner's office is worn thin from his nervous pacing as he awaits the results of an American River fish census. Horner suspects that a late December gully washer that filled reservoirs and Folsom Dam to dangerously high levels—and forced BurRec to release thousands of cubic feet of water per second to stem flooding—may have killed many fall-run chinook and steelhead fry.

"Dam operators had to release water to protect citizens, but it was a bad time for the salmon eggs…just past the peak of spawning season," says Sacramento State's Horner.

That release meant the scour and removal of untold numbers of eggs that salmon had buried in gravel redds, or nests. The releases sent 35,000 cfs down the river at a time when the normal flow hovers between 4,000 and 6,000 cfs. With nearly seven times that amount in the river, Horner says it's likely that many of the eggs were washed away.

From a study he and his students conducted last spring, Horner found that tracer rocks—rocks of different sizes and colors—moved great distances when flows were raised to 23,000 cfs. Many of these rocks were the medium-sized gravel found in the riffles where most salmon spawn. This gravel movement exposes eggs and kills fry.

But Horner also sees a bright spot—evolution at work. He says researchers know that high flows remove some fry, but that bigger fish put their eggs deeper in the gravel. And so the fry that survive will likely be from bigger parents—and that's a good thing in the long run.

"Salmon and fish are smaller now than they were historically, so maybe this is one of those events of nature where a particular size of fish is selected for or against," notes Horner.

Horner's chief concern is for listed species like steelhead. Horner says the river was flowing at 15,000 cfs at the peak of the steelhead's spawning season in mid- to late January. Water levels were unusually high at the time they dug their nests. So a spawning ground that was submerged in water was most likely exposed two or three weeks later when the level dropped. Horner worries because, in any given winter, there are only a few thousand steelhead in the American River. So a vast die off of fry will put a significant dent in their population.

"These are tough decisions—flood control of a city against a listed species," says Horner. River advocates like the American River Association's Felix Smith contend that better planning could balance the needs of public safety with the survival of fish.

"What it amounts to is that BurRec went into fall at flood control level, they held some of it back, held some of it back, held it back, and then they opened up the gates at the Sacramento weir and dumped it en mass," notes Smith.

But Fish & Game's Jim White says there was no type of advance planning that could have staved off the swelling of the reservoirs. "The storm was of a magnitude that no reasonable level of earlier release would have made sense to anybody."

Horner, however, is hopeful. New methods of weather forecasting and new river flow models coming down the pike will help dam and reservoir managers by giving them better information early enough, making advance planning possible. "These will give us more flexibility to think about the ecological concerns," he says.

Contact: Tim Horner (916)278-5635 KC

PLACES TO GO & THINGS TO DO

WORKSHOPS & CONFERENCES

MAY 1-15

PUBLIC WORKSHOPS AND CEQA SCOPING MEETINGS: BASIN PLAN AMENDMENT

TOPIC: The SF Bay Regional Quality Control Board seeks input from the public on a proposed amendment to its Basin Plan for the Bay that would protect stream and wetland systems, including riparian areas and flood-plains. Potential environmental impacts under CEQA will be discussed and Regional Board staff will present current research on the role of streams and wetlands in protecting water quality.
LOCATIONS: May 1: Elihu M. Harris State Building, 1515 Clay St., Oakland
May 9: Quinlan Community Center Cupertino Room, 10185 N. Stelling R., Cupertino
May 15: Marin Center Manzanita Room, 10 Avenue of the Flags, San Rafael
SPONSOR: S.F. Bay Regional Water Quality Control Board
Blivsey@waterboards.ca.gov
(510) 622-2308

MAY 9 TUESDAY

SAN FRANCISCO BAY SUBTIDAL HABITAT GOALS PUBLIC MEETING

TOPIC: The Subtidal Habitat Goals Project is a collaborative effort to establish a comprehensive, long-term management vision for protection, restoration, and appropriate use of the subtidal habitats of San Francisco Bay. The public is invited to provide input on the proposed scope, approach and outcomes of the project.
LOCATION: Aquarium of the Bay, Pier 39, Embarcadero at Beach Street, San Francisco
SPONSORS: NOAA Fisheries, BCDC, Coastal Conservancy, US EPA, San Francisco Estuary Project
Korie Schaeffer,
Korie.Schaeffer@noaa.gov

MAY 25 THRUSDAY

WETLANDS MONITORING WORKSHOP

TOPIC: California Rapid Assessment Method for Wetlands - providing a cost-effective ambient assessment of all wetland types throughout California, including 401 and 404 projects.
LOCATION: Elihu M. Harris State Bldg., 1515 Clay Street, Oakland
SPONSORS: US EPA, San Francisco Bay Regional Water Board, San Francisco Estuary Institute, San Francisco Estuary Project
Cristina Grosso, cristina@sfei.org

HANDS ON

APRIL 22 SATURDAY

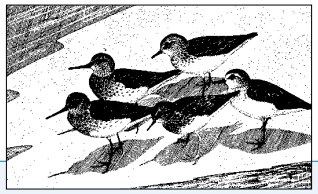
CELEBRATE THE 36TH EARTH DAY

TOPICS: Prepare for a salt pond breach, restore a creek, or take a wildflower walk.
LOCATIONS: Hayward (salt pond); Palo Alto (creek restoration); Corte Madera (wildflower walk)
SPONSORS: Save S.F. Bay, Restore America's Estuaries, NOAA Fisheries Restoration Center & Cal Fish & Game
Jocelyn Gretz, jgretz@savesfbay.org, (510)452-9261, ext. 109.
http://www.savesfbay.org/bayevents

MAY 13-20 SAT-SAT

SAFE MEDICINE DISPOSAL DAYS

TOPIC: Drop off expired or unwanted medications and learn about proper disposal.
LOCATIONS: Various throughout the Bay Area
SPONSOR: Bay Area Pollution Prevention Group
(650)494-7629
http://www.baywise.info/disposaldays/



NOW IN PRINT & ON LINE

California Water Plan Update 2005. Department of Water Resources. 2006. http://www.water-plan.water.ca.gov/cwpu2005/index.cfm

Indian Baskets of Central California: Art, Culture, and History. Ralph Shanks & Lisa Woo Shanks, Ed. Costano Books, University of Washington Press (800) 441-4115; http://www.washington.edu/uwpress

Measuring the Success of the Endangered Species Act: Recovery Trends in the Northeastern United States. Kieran Suckling. Center for Biological Diversity. March 2006. http://www.esasuccess.org

CALIFORNIA WATER 2030: AN EFFICIENT FUTURE

by Peter Gleick, Heather Cooley, and David Groves

Pacific Institute for Studies in Development, Environment, and Security. September 2005.

www.pacinst.org/reports

Peter Gleick writes that by the year 2030, the Golden State could satisfy a growing population, keep its agriculture sector satisfied, and support a strong economy while reducing human consumption of water by as much as 20 percent below 2000 levels. How is all of this possible? In *California Water 2030: An Efficient Future,* Gleick and others say the journey to this sanguine future is not without pain. Among the proposals they offer is the phase-out of water subsidies to the Central Valley Project and new standards for water efficiency for residential and commercial appliances. The authors walk the fine line between serving urban and agriculture customers and preserving the environment. Whether any of these proposals will creep into state policy is hard to say, but the report is a must read for those concerned about the state's water future. KC

CALL FOR ABSTRACTS **DEADLINE: FRIDAY, JUNE 2.** The Bay-Delta Program invites all interested researchers to submit abstracts for oral and poster presentations at its biennial science conference to be held in October. The theme for the conference is "Making Sense of Complexity: Science for a Changing Environment." CALFED seeks presentations in all four of the program's areas: ecosystem restoration, levee system integrity, water quality, and water supply reliability. All prospective presenters must submit their abstracts using the online form.http://science.calwater.ca.gov/conferences/conferences.shtml. You can also contact Mike Connor, mikec@sfei.org; Inge Werner, iwerner@ucdavis.edu; or kmcdowell@waterboards.ca.gov (510)622-2398.

SUISUN MARSH SEEKS EXPERTS Wanted: A broad range of technical expertise for the Science and Technical Advisory Panel for Suisun Marsh (see story, page 5). Panel will advise the Suisun Marsh Charter Group on the biological, physical, and chemical processes, ecosystems, and organisms of Suisun Marsh as they relate to anticipated tidal marsh restoration, managed wetlands enhancement, and levee maintenance in the marsh. Individuals with breadth of expertise are sought. Work will take place from June 2006 through fall 2007 and includes compensation. CONTACT: Stuart Siegel, Suisun Marsh Science Advisor (415) 457-0250; stuart@swampthing.org

HAWK CONTINUED

snake; Lamare says it allowed the city of Sacramento to pave over thousands of acres of the hawk's foraging habitat. U.S. district court judge David Levi threw out the original HCP in 2000, but upheld its successor last September. However, Levi cautioned that applicants for development permits "will face an uphill battle if they attempt to argue that additional development in the basin…will not result in jeopardy" to the threatened species. FOSH is working to ensure that HCPs for East Contra Costa County and elsewhere include adequate mitigation.

Meanwhile, Lamare's group has been pushing Yolo County to spend the $5 million in habitat-conservation fees collected from developers. "While the fees sit in this fund, the price of conservation easements goes up and up," FOSH attorney Jim Pachl told the Sacramento Bee, adding that 2,657 acres of hawk habitat have been lost since the program's creation. The county blames holdout landowners for the lag.

But Lamare concedes Yolo has come a long way toward closing loopholes in its mitigation program. FOSH is also working on mitigation issues with San Joaquin County ("not as far behind as Yolo"), and more recently with the city of Rancho Cordova, which has vernal-pool grasslands and grazing lands the hawks use. Other fronts include Elk Grove, where the city has designs on part of the Stone Lakes National Wildlife Refuge, and Fisherman's Lake in Natomas, where hawk advocates and developers have contested the width of a buffer zone.

Lamare hopes the "Katrina effect"—the Natomas Basin is ringed by levees with seepage problems—and the smart-growth philosophy will constrain further development in the hawk's core range. But she sees a vital role for citizen groups like FOSH: "Otherwise the private economic interests just roll over the scientists and planners by partnering with elected officials in the land-use development process."

State-listed as threatened, the hawk lacks federal protection—but that could change. Although most Swainson's hawks migrate to Argentina, recent radio-tagging studies found Central Valley birds stopping off in western Mexico, where they feed on insects in jicama and tobacco fields. This, along with behavioral traits and plumage variations, suggests there's something different about Valley Swainson's; they may not intermix with the much larger Great Basin and Plains populations. DNA analysis underway at Davis's Veterinary Genetics Laboratory should show whether the Valley birds are distinctive enough to support a federal listing petition.

Contact: Sid England, asengland@ucdavis.edu; Jim Estep, jim.estep@comcast.net; Judith Lamare, President@swainsonshawk.org JE

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