YOUR INDEPENDENT SOURCE FOR BAY-DELTA NEWS & VIEWS

ESTUARY

DELTA PUMPS GRIND TO A HALT?

STATE WATER MANAGERS FELT THE GROUND SHIFT beneath their feet in March when Alameda County Superior Court Judge Frank Roesch gave them 60 days to find a way to stop killing endangered fish in the Delta pumps. The ruling was made in response to a 2006 lawsuit brought by the California Sportfishing Protection Alliance against the California Resources Agency, which oversees the Department of Water Resources and the State Water Project, alleging that the way the pumps are being operated are violating the California Endangered Species Act and state Fish and Game codes. Although DWR had contended that it was immune from those laws due to agreements it had made with Fish & Game, the judge disagreed, stating that the agreements did not constitute a permit to kill salmon and smelt. Says The Bay Institute's Tina Swanson, "This is an important and much-needed wakeup call for the state agencies to do a better job than they've done in the past managing endangered species in the system."

TOE TO TOE WITH PLASTIC

PLASTIC BOTTLE CAPS—61,000 of them—were plucked from California beaches, creek banks, and mudflats on Coastal Cleanup Day in 2005; in 2006, the plastic trash tally included 26,000 bags and 18,000 bottles, plus thousands of pounds of other plastic odds and ends. Recognizing the harm to wildlife—and to the state's tourism industry and public health—the California Ocean Protection Council recently resolved to put a stop to the plastic plague. In February it passed 13 "top priority" resolutions to reduce plastic debris. Those include creating better recycling opportunities for plastic containers; increasing anti-litter law enforcement; finding alternatives to plastic packaging; continuing and expanding watershed-based cleanups; providing more trash receptacles statewide; and increasing public education about plastic debris and litter.

INSIDE

NATURE'S CURVE BALL

Four decades ago, three determined women managed to keep the Bay from being squeezed around its edges by development and shrunk to the size of a small lake. But some Bay planners warn that by 2100, the Bay could have an equally unwelcome look. "Intertidal areas will be inundated and become Bay bottom," says BCDC's Will Travis, relying on projections provided by the California Climate Change Center. "The Bay by default will be a big reflecting pool, but not an estuarine system." Furthermore, the "pool" might have walls around it. "If we have a one-meter rise in sea level including the Bay in the next century, I think the default solution will be that the things that are perceived to have economic value will be protected. We'll build walls along the San Francisco waterfront, levees around airports; developed infrastructure will be protected." What won't be protected will be that which does not have high value in a generally understood economic sense, predicts Travis. "That means wetlands, buffer areas, etc. The water will rise until it finds that hard edge, until it finds something 'worth protecting.'"

In the meantime, billions of dollars are being spent restoring wetlands throughout the Estuary. If the Bay is destined to become a big pool, should we bother continuing to restore wetlands? Yes, say Travis and the Pacific Institute's Peter Gleick.

"We need to keep restoring wetlands; we've destroyed far too many already," says Gleick. "Sea level rise is happening, but it is happening slowly, while there is an immediate need to restore wetlands for ecosystem health." But Gleick says we need to plan restoration projects differently. "We have to incorporate a higher sea level into design. A bigger issue is that we need to expand the land behind the marshes—to give wetlands room to retreat landward." As both Gleick and Travis point out, we've built right up to the edge of the Bay in many places. "We need to stop building up to the edge and to save what's left," says Gleick. "Over time you buy and restore land that was previously developed and filled."

Travis points out that swaths of land like Hamilton in the North Bay and the South Bay salt ponds offer an opportunity to get more bang for the restoration buck. Because of their size, these areas will act like giant sponges, absorbing the brunt of higher sea levels, more intense storms, and increased runoff—all predicted to occur with climate change. Yet there are other smaller spots around the Bay, too, where we could still do it right, and that would help deal with the impacts of sea level rise and climate change. One of those is Breuner Marsh in North Richmond, says the Natural Heritage Institute's Rich Walkling. Although the East Bay Regional Park District is planning to acquire—by eminent domain—218 acres of wetlands (120 acres of which are already under water), 20 acres of uplands on the landward side remains up for grabs. Yet that 20 acres is the apple of developers' eyes, and they are appealing the eminent domain action in the courts.

Travis says BCDC's authority to keep developers off of uplands is limited. "If someone comes in here and says 'I'm going to build,' and we say 'you are going to be under water in 50 years,' we have no legal capacity to stop them. All we can do is make them provide public access, which, by the way, is going to be inundated." Says Gleick, "We need a regulatory system to make developers care, to do the right thing. But it's not happening anywhere."

Several recent lawsuits filed by environmental groups under CEQA have argued that new development must take sea level rise into account, in examining all potential impacts. CEQA isn't the answer, says Travis. "We don't need to spend a lot of time crafting language for other lawyers to respond to. First we need to figure out in the Bay Area, what's vulnerable to flooding? Then we need to figure out how much it will cost to protect it and where that money's going to come from. There are things that have cultural, social, aesthetic, and environmental values that don't necessarily pencil out. But we have to put all of that into the equation." But

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WATERSHED

TAPPING THE TAPPERS

A few years ago, concerned about adding to the state's bond indebtedness, Michael Wellborn and his eclectic cohorts in the California Watershed Coalition—urban and rural, liberal and conservative—started looking for a way to generate a steady stream of funding for non-profit groups like the Salmonid Restoration Federation or the Urban Creeks Council that do the tough, on-the-ground work of restoring watersheds. With budget cuts to agencies like Cal Fish & Game, stewardship increasingly falls to cash-starved local agencies and small non-profit groups, says Wellborn. While bonds from Props 12 and 13 to Props 50 and 84 are great for big statewide projects, "for sustaining local efforts, these are not the path. And I'm not sure we're going to get more bonds," Wellborn adds.

The Coalition met with legislators and voiced their concerns. California State Senator Carol Migden proved a good listener and has proposed the idea of an extraction royalty fee aimed at bottled water companies. Senate Bill 917, known as the Watershed Conservation Protection Program, would work in similar fashion to extraction royalty fees paid by petroleum companies to states for access to and commercial use of natural resources. The idea of the bill, says Vern Goehring, a lobbyist representing the Coalition, is that it would generate a small but steady amount of funding for projects not ordinarily covered by the bigger bond measures. State bond monies generally go into capital construction, so dams and levees get paid for, says Goehring.

The bill will establish a state program to be administered through 10 or 11 regional "cooperative conservation partnerships" that will oversee planning of projects to protect watersheds. "We're looking into money for partnership building to do smaller but necessary projects," he says.

Those projects include protecting local water supplies, restoring fish and wildlife populations, revegetating riverbanks, and clearing trash and debris from creeks to improve flows and water quality. Watershed planning, community outreach, organizing, and education, monitoring and assessments, fixing local infrastructure like culverts and bridges, enforcement programs for the water boards and Fish & Game, and innovative stormwater projects would also be eligible for funding through the extraction fees.

But the bottled water industry is not keen to pony up the dough–at least not by itself. "To single out bottled water is unfair,"

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HOW I SEE IT

DELTA, FAST FORWARD

Mike Connor

If you haven't already read "Envisioning Futures" by UC Davis and the Public Policy Institute of California, you need to download it as fast as your fingers can type (www.ppic.org). It provides a framework for discussing future policy choices for the Delta, and is the best overall synthesis of the issues facing the Delta to date. Most reviews of the book have emphasized its nine solutions for the Delta, grouped into three broad categories: (1) managing the Delta as a homogenous freshwater system; (2) allowing Delta salinity to fluctuate; and (3) reducing water exports from the Delta. But while these solutions offer some upgraded old ideas and new twists, it is not the possible solutions that are the most important new insights by this report. It is the call to evaluate Delta solutions through a new set of water management and environmental criteria.

The report brought a number of new perspectives to my thinking about the Delta, including the concept that the economic consequences of reducing Delta exports are not insurmountable. This concept suddenly frees up the ability to consider tradeoffs between water exports and managing the system for other goals.

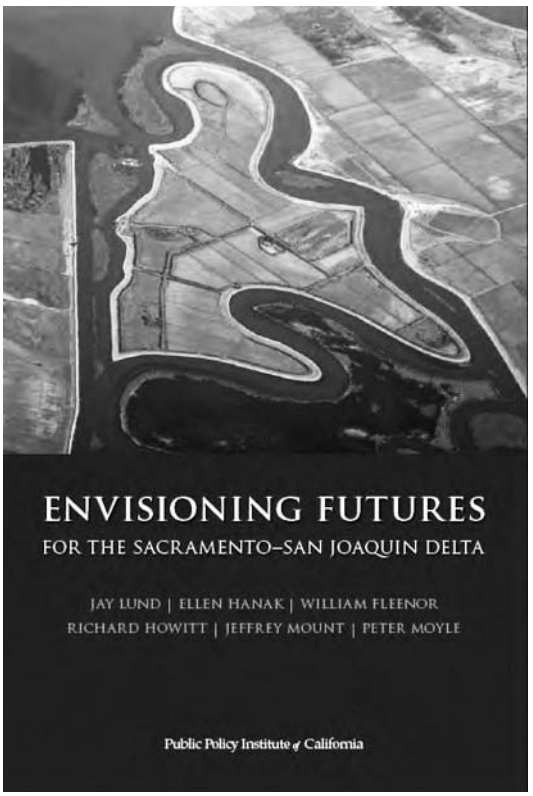
As an ecologist, though, I was most interested in two new paradigms posed by the book: (1) the Delta has fluctuated between a fresh and brackish water system; and (2) predicted climate change scenarios require that we revise our restoration goals from species-specific plans to providing a broad range of habitat types that offer a variety of ecosystem services.

The report argues that managing the Delta as a homogenous freshwater system has made the system vulnerable to invasion by non-native species that are replacing the indigenous flora and fauna. Historically, the Delta had seasons and years when salt water penetrated far into the system, and native species evolved to live in highly fluctuating environments. In all of the predicted scenarios for global sea level rise, the system will inevitably revert to increased brackishness in the future, and we would be smart to adapt.

Besides managing for a fluctuating environment, the report reminds us that Delta habitats will be radically altered by global temperature and rainfall changes associated with global climate change. Because we cannot anticipate the optimal habitat needs of the species that will be using the Delta in 50 years, our best bet is to provide a variety of habitat types that will allow opportunities for indigenous species to remain and popular introduced species like striped bass to thrive, or provide habitats into which southern species can expand into as they migrate northward with the changing climate.

These two issues are the visionary thrust of the new PPIC report and set forth a changing paradigm for resource and water managers of 2050. Because "Envisioning Futures" is so well-written and accessible, there is a danger that it will define the baseline for debating the Delta. Its new paradigms should be debated at this point, not blindly accepted. Criteria for evaluating the future of the Delta have been simplified into three categories: cost, water export capability, and environmental fluctuations/habitat availability. These criteria shouldn't limit our thinking about the debate, but merely serve as an opening gambit to articulate the important attributes of the Delta that must be evaluated in the Delta visioning process.

Mike Connor is Executive Director of the S.F. Estuary Institute.



ENVIRONMENT

PATCHING THE LEAKY ARK

With proliferating articles and conferences, "reconciliation ecology" is an increasingly common phrase in environmental circles. But what's it about? Who or what is being reconciled? Is it just a new label for concepts going back to Gifford Pinchot—or could it be a nascent movement that may change the way we all relate to the natural world?

If it's a movement, ecologist Michael Rosenzweig of the University of Arizona is its prophet. (Peter Raven, director of the Missouri Botanical Garden, says: "He talks like a prophet, he looks like a prophet, and he's very inspirational to be around.") Rosenzweig, who introduced the term in his 2003 book *Win-Win Ecology,* gives a capsule definition: "Reconciliation ecology is the science of inventing, deploying, and managing new habitats for the purpose of conserving species diversity in places where people continue to live, to work, and to play." He contrasts it with the older paradigms of reservation ecology (setting aside natural areas in reserves or parks) and restoration ecology (attempting to recover a pristine baseline condition). Reconciliation ecology, he says, deals with the places people use for a living—and it offers our best hope of staving off the worst mass extinction since the demise of the dinosaurs.

Rosenzweig describes his insight, while struggling to write a graduate textbook on biological diversity, that the species-area relationship was the key to conservation strategy. The smaller the area—whether an island or an isolated patch of continent—the faster it will lose species: diversity will fall in proportion to loss of habitat. He sees traditional reserves as a fleet of leaky arks. And that's not even factoring in how such habitat fragments will be impacted by global warming. Because of species-area dynamics, Rosenzweig sees reserve-based conservation as only a piece of the real struggle.

Although conceding that some species, like large carnivores, need wilderness reserves, Rosenzweig is most interested in a middle landscape where humans and other species can coexist. His book and articles give a litany of examples. Some are planned habitats; others unintended outcomes of projects that had nothing to do with biodiversity. Eglin Air Force Base in Florida, where massive bombs are tested in a managed longleaf pine forest that harbors endangered red-cockaded woodpeckers, is one of his favorite success stories. Others include shade coffee plantations with their wealth of songbirds, the Turkey Point reactor in Florida that has become a refuge for rare American crocodiles, an artificial salt marsh near Israel's port of Eilat, South Indian cardamom plantations, Golden Gate Park, backyard wildlife habitat. What these diverse stories have in common is a hands-on approach. Ultimately, says Rosenzweig, reconciliation ecology is about the adaptive management of the natural world.

UC Davis' Peter Moyle, who favors the idea of "integrating habitat for organisms into the human-built environment," sees a large-scale reconciliation ecology success story close to home: the Yolo Bypass. Strictly a flood control project at its inception in the 1920s, this farmed floodplain of the Sacramento River has become prime habitat for wintering waterfowl. Recent studies also show it as a crucial rearing area for Chinook salmon and Sacramento splittail. "It's a totally artificial habitat graded for draining, yet at the same time an increasingly good area for fish and wildlife," says Moyle. He sees the Bypass as a model for future flood control efforts on the San Joaquin that would benefit that river's salmon runs.

No stranger to controversy (he was the Quincy Library Group's academic ecologist), Rosenzweig said he expected "an immense amount of opposition" to his ideas from the conservation community. But by and large that hasn't happened. Mainstream groups like the Nature Conservancy, Audubon, and Environmental Defense have been supportive. The exception: Tucson's Southwestern Center for Biological Diversity, which relies heavily on litigation. Rosenzweig feels environmentalists spend too much time and money in court: "I've really lost confidence in the courts' ability to do very much that's very useful." He sees his own approach as reducing social and political conflict over environmental issues.

Not all scientists and environmental activists have bought into reconciliation ecology. According to coastal plant ecologist Peter Baye, it has been perceived as "a euphemism for a

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INVASIVESPECIES

QUAGGA-MIRE

In a great leap for mollusckind, exotic quagga mussels *(Dreissena bugensis)* have hitchhiked from the Great Lakes across the Continental Divide to colonize reservoirs on the Colorado River.

Since the mussels were first detected in Lake Mead on January 6, state and federal authorities have mobilized to survey other water bodies, inspect boats that could be transporting the invaders, and educate boaters.

The quagga discovery was a surprise in more ways than one. For close to two decades the U.S. Fish & Wildlife Service's 100th Meridian Initiative had been on the lookout for the closely related zebra mussel *(D. polymorpha)*. But *D. bugensis*, named for an extinct African relative of the zebras, reached the West first. Both are small striped freshwater mollusks that reached North America from Eastern Europe in the ballast water of commercial vessels. And both are capable of prodigious population growth: in the Great Lakes, zebras have become a billion-dollar nuisance to the power industry by clogging underwater intake pipes. They also overgrow native mussels and foul docks and boats.

Quaggas and zebras have different habitat preferences. Quaggas prefer deeper, cooler water and thrive on muddy or sandy substrates. Surveys in Lake Mead had not gone deep enough until recently to detect the quaggas, which were first identified by a diver. The mussels may have been present for two or three years. They also turned up in Lake Mohave and at the Whitsett Intake south of Lake Havasu. Lower Colorado sites below Whitsett appear clean.

However, 800 mussels were discovered in mid-March in Metropolitan Water District's Colorado River aqueduct, in Riverside County. Surveys so far have looked for adult mussels; the microscopic larvae are much harder to detect.

Under a 45-day emergency order, California water agencies also surveyed reservoirs and canals south of the Tehachapis. Cal Fish and Game's Information Officer Troy Swauger says northern California water bodies—including the Shasta and Trinity reservoirs, where houseboats from Mead and Havasu have been transported—were being inspected as

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QUAGGA-MIRE, CONTINUED

of mid-March. If funding remained available, the northern and southern teams planned to meet in the Delta.

Meanwhile, inspection stations at Yermo, Needles, and Vidal Junction have been running round the clock. Swauger says 1,864 boats had been checked; 184 needed water in live wells or elsewhere drained, and several were quarantined for Fish & Game scrutiny. And the California Department of Boating and Waterways has a flyer going out to 1.2 million registered boat owners. Gloria Sandoval of DBW says recommendations include cleaning any boat that has been in contact with Colorado River water with a high-pressure hose, draining all onboard water, and keeping the boat dry and out of water for at least five days—the quagga mussel's window of survival. Special legislation may be pending, but no details were available at press time.

What can be done to contain this new invader? Swauger says small clusters can be dealt with through physical removal, chemical applications, or blanketing the substrate. It may be too late for such measures at Lake Mead, though. There are natural barriers to the quagga's spread, like the salinity of the lower Delta. Andrew Cohen of the San Francisco Estuary Institute says calcium levels in Sierran streams and lakes are below the requirements of zebra mussels; it's unclear whether this also applies to quaggas. There's little hope of control by predators: diving ducks have barely made a dent in the Great Lakes zebra and quagga populations.

Like the overbite clam, quaggas are super-efficient plankton filterers. "The thought of another massively filter-feeding bivalve upstream, in the Delta, is causing great concern," Cohen told *High Country News*. "We might end up with a system that's good for a couple species of clams, and things that feed on clams, but not much else."

CONTACT: Troy Swauger, tswauger@dfg.ca.gov; Gloria Sandoval, gsandoval@dbw.ca.gov. DFG's toll-free number for quagga mussel reports: (866)440-9530. JE

U.S. Fish & Wildlife Service

strategy of damage reduction, resignation, and rehabilitation." Rosenzweig says he's often asked whether reconciliation ecology efforts would suck money away from traditional parks and refuges. No, he says, because it's not a zero-sum game: the principle of shifting baselines means that environmental improvements build larger expectations.

To some critics, Rosenzweig views a darkening environmental scene through rose-colored glasses; they feel he overstates the ease of reconciling environmental and economic goals, pays insufficient attention to the poorer countries where the biodiversity crisis is most acute, and fails to provide a roadmap to the future he envisions. On that last count, he agrees: "We've been harvesting the low-growing fruit so far. How do we take a complex human society and empower it to reorganize itself on the basis of biological diversity?"

"The higher your annual income, the more species of birds in your neighborhood…"

"The answer is in the doing," Rosenzweig says, "on the ground, in relatively small regions: back yards, neighborhoods, counties, watersheds." For the past three years, he has been building an Alliance for Restoration Ecology in Tucson, drawing in academics, politicians, businesspeople, landscape architects, urban planners, neighborhood groups, environmental organizations. Payoffs so far include what he considers "the best bird census of any city in the world" and backyard experiments in fostering hummingbird diversity.

Lately Rosenzweig has been thinking about the links between economic justice and biological diversity: "What we noticed is that rich people buy nature." According to an Arizona State University study of Phoenix, "the higher your annual income, the more species of birds in your neighborhood"—a relationship that holds up in Tucson, Washington DC, Berlin, Florence, and Chiba City—"and the only thing that can turn this around is reconciliation ecology." His idea of a model program: South Africa's Working for Water, which provides badly needed jobs clearing heathlands of invasive alien plants that threaten a botanical hot spot of diversity and endemism.

Rosenzweig sees the San Francisco Bay-Delta Estuary system as appropriate in scale for a Tucson-style effort. To Peter Baye, reconciliation ecology seems a good fit for our urbanized estuary: "Our refuges and reserves here are not pristine wilderness areas lacking the imprint of land use." What we're doing in the Estuary is really rehabilitation, he feels, even if it's called restoration. But he adds that there's concern that reconciliation ecology could be used "to rationalize increased management or exploitation, reducing the integrity of refuges within urban and agricultural land use."

Moyle has a more positive take. To him, "restoration" is problematic because it implies attaining a pristine condition: "The Delta system is now dominated by non-native species — including striped bass, now integral to the system and valued by fishermen. Rather than try to bring the pristine ecosystem back, we can pick aspects of the ecosystem that are desirable and compatible with human uses."

But Moyle differs with Rosenzweig on the political scale of ecosystem management. Rosenzweig, a believer in the European Union's "subsidiarity" principle, feels action should begin at the smallest local political unit and move up only as far as necessary: "Government can empower, help coordinate, give people a sense of what they can do themselves." Regulation is not one of his favorite words.

To Moyle, doing something about the Delta requires "a management entity with control over the entire Delta, equivalent to the Coastal Commission." He sees some degree of top-down control as a necessary evil: "The reality is that the efforts to manage biodiversity on a large scale have to come from both directions; we just can't rely entirely on local stakeholders to see beyond their own interests. Ultimately, some entity has to represent the greater public, people who are also stakeholders, even if they don't know it."

Bottom-up or top-down, it's clear that reaching the goals of reconciliation ecology would require changes in the way we deal with both natural areas and man-made habitats. And changing human behavior, as other prophets could attest, can be the hardest part of all.

CONTACT: Michael Rosenzweig, scarab@u.arizona.edu; Peter Moyle, pbmoyle@ucdavis.edu; Peter Baye, baye@earthlink.net. www.winwinecology.com. JE

PLANNING

PAY TO PLAY?

In 2002, voters passed Proposition 50, a $3.4 billion bond that, among other things, provided for upgrading water quality and management. It also created IRWMP—the Integrated Regional Water Management Program. IRWMP was intended to be a forum and process (facilitated by the Department of Water Resources) under which groups of stakeholders throughout the state could develop water management plans that would integrate water supply and quality, land use planning, and watershed management, and address water-related conflicts within a region. Eligible groups could receive funding for water planning grants and partial funding for implementing protects identified as priorities in the integrated regional water plans. Despite the best intentions of the program, however, not all stakeholders have felt welcome at the IRWMP table: BCDC's Will Travis says trying to get into the Bay Area IRWMP conversation has been easier for some groups than for others.

"You have one meeting room where the decisions get made," says Travis, "and then there's this reception area just outside where other groups hang out."

Two parties who *are* in the meeting room in the Bay Area are the Santa Clara Valley Water District and the East Bay Municipal Utilitiy District. Occasionally some of the staffers and consultants for these agencies come out, and, says Travis, "You can talk to them, but then they go back in to the room where the decisions are made and you're left outside."

Travis notes that resource management agencies like BCDC and regulatory bodies like the S.F. Bay Regional Water Quality Control Board, along with numerous non-profit organizations, have not been invited into the decision-making room. And that has Travis and others questioning the integrity of the water management planning process.

"This current method of participation may ultimately breed cynicism among [federal and state agencies and non-profits] familiar with investing time in public forums but not enabled to ultimately determine outcomes and participate in decision making," writes Bruce Wolfe of the S.F. Regional Board in a June 2, 2006 letter to the Santa Clara Valley Water District's Stan Williams.

And little about this process seemed to change from summer to fall. In a November 2006 mid-term assessment of IRWMP by the S.F. Regional Board, A. L. Riley wrote, "Because the Bay Area plan was directed by one centralized [committee] dominated by water agencies whose interests are mostly directed toward water supply and treatment, the process invited the perception that the process was one of 'pay to play.'"

Progress is being made to broaden the definition of stakeholders, yet even when everyone is at the table, some participants still find the process unfair because it scores projects that are ready to proceed—projects that already have permits and have undergone environmental review—higher than those that aren't yet at that stage. And that, says Joan Clayburgh of the Sierra Nevada Alliance, has meant that water agencies—which have project plans waiting on their shelves, plentiful revenue streams, and lots of money invested in permitting and environmental review—have held sway over regional plans. Plus, says Clayburgh, "The [state's] criteria have favored pipe and mortar projects. And it discourages innovation and collaboration."

Clayburgh's own group has participated in the Cosumnes American Bear Yuba IRWMP, which has included not only four water agencies but also four conservation groups. They produced a plan to study the effects of climate change on ecosystem health and water reliability in the region covered by the group. But they were turned down for funding in the 2006 round largely because they came up short in the ready-to-proceed category, Clayburgh believes.

With another round of funding set to begin, a much bigger pot is at stake. Prop 50 money will be followed with Prop 84 funds—yet another bond voters approved last fall. It has outdone Prop 50 as the largest water bond, dedicating $5.4 billion for water quality improvement, flood control, and waterway and natural resource protection, among other things.

With that much money on the table, Clayburgh's group and other non-profits and agencies have been working the halls of Sacramento, trying to get a hearing for a set of improvements to the IRWMP process, one that makes real the rhetoric of collaboration and innovation, says Clayburgh.

Among the improvements Clayburgh would like to see is a change in the scoring of projects, one that will give groups the incentive to be diverse. "It's all about points, really…five points for this, three points for that…if you just give more points for being a diverse group, then

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A curb cut directs stormwater into a curb extension "wetland." Courtesy of City of Portland.

RUNOFF

STORMWATER REVOLUTION

Stormwater swimming pools, schoolyard rain gardens, flow-through planters, tree wells, downspout sculptures, curb extensions, curvilinear streets with stormwater "pockets," detention pond parks, street-side channels, rainwater flowing into and through a building, beneath-building cisterns, green roofs, and even a former ironworks in Germany retro-fitted into a stormwater "waterworks" frequented by scuba divers were a few of the creative, greener solutions to slowing and treatment stormwater presented by the SF PUC's Rosey Jencks at a UC Berkeley environmental planning colloquium in March. Jencks traveled the world—literally—to look at innovative stormwater solutions with an eye to implementing some of the same ideas in San Francisco. Sighed Jencks, "In San Francisco, we're still flushing toilets with Hetch-Hetchy water."

Inspired by what she saw in Switzerland, Germany, Denmark, and—closer to home—Seattle and Portland, Jencks is trying to inspire Bay Area folks to follow these softer stormwater paths. The lessons she learned during her survey, said Jencks, include the need to treat stormwater differently based on its quality—in some places, having people interact with the water may be appropriate (such as the stormwater swimming pools she saw in Europe); that we should combine function with aesthetics (stormwater features can be very attractive); and that engineered solutions are o.k.—as long as they are green. If soils in a particular area do not have good infiltration capacity, said Jencks, stormwater projects can still treat stormwater—but in stages and layers—not in a quick "treat it once and be done with it" design. "The idea is to delay peak flows and reduce the volume," said Jencks.

Another important lesson is that maintenance is critical. In Seattle and Portland, the city public works departments signed MOUs with neighborhood groups in which neighbors agreed to maintain the projects after they were implemented. Maintenance doesn't seem to be a problem in either place, said Jencks. In Portland, "green streets" with their "curb extension" wetlands are so popular with neighborhoods, there is a waiting list. LOV

TAPPING THE TAPPERS, CONTINUED

says Joe Doss, President of the International Bottled Water Association.

Doss says drinking water bottlers are but a small user of public waterways. He cites figures from the Drinking Water Research Foundation stating that bottled water companies in the U.S. account for 0.02 percent of the total groundwater withdrawal in the United States. "We're taking minimal amounts to produce our products," Doss says.

"This is a specious argument," says Peter Gleick in a January 2007 Pacific Institute fact sheet on bottled water. "Concerns about groundwater withdrawals are local in nature …where a bottled water plant may be responsible for a substantial fraction of local groundwater use. The actual impacts will be site-specific and thus using national level data is inaccurate." Proponents of SB 917 point to the fact that the companies are getting the water for free to then sell at "highly inflated prices." They say that about 750 million gallons of water are bottled in California, most of which comes from groundwater. By bottling what could be plain tap water—where consumers pay $0.50 per cubic meter—the companies raise the cost considerably to $995 per cubic meter of water.

Goehring describes the amount of the royalty fee as minimal and says the main thing is to create a modest but steady funding source to go back into the communities where much of the water is being taken, including major metropolitan areas such as Los Angeles and San Diego, Orange and Alameda Counties as well as smaller communities: counties such as Calaveras, El Dorado, and Inyo as well as Siskiyou and Yuba—where small coalitions of volunteers do the heavy lifting to maintain watersheds.

Doss says his association will oppose the bill. What they could support, he says, would be something that would be more comprehensive and levy fees not only on the bottled water companies but also on other beverage and food companies and other users of a watershed. "We've supported numerous bills … in New Hampshire, Maine, the Great Lakes Basin where we say, 'Look, we're here and obviously, as users, we should be part of any overall scheme for groundwater management practices,"' says Doss.

Now that the bill has been introduced, it will have a couple of Senate committees to go through before it hits the floor of the Senate; it will have the same process to go through in the Assembly.

CONTACT: Vern Goehring (916)444-8194 KC

NATURE'S CURVE BALL, CONTINUED

environmental values might just pencil out, says Gleick. "New Orleans provides a warning of what happens when you destroy wetland buffers."

Some local agencies seem to be heeding that warning. Four that will have a big impact on the Estuary's future—BCDC, the Bay Area Air Quality Management District, Metropolitan Transportation Commission, and the Association of Bay Area Governments—have started working together to try to come up with some region-wide solutions, recognizing that their problems are interrelated. "As a result of the 'BAAQMD's air' getting warmer, 'BCDC's Bay' is getting bigger, which will flood transportation infrastructure so that people can't get from their homes to their jobs—ABAG's authority," quips Travis. "If 50 percent of the CO_2 emissions in the region is from cars on the road, we need to change transportation and land use structure, and probably put more ferries on the Bay. Climate change and sea level rise is the meteor from outer space that has brought us all together."

"We've thrown a curve ball at nature…and nature has hit back over the fence."

If all else fails, maybe the Delta will be the new Estuary, says Travis. He thinks PPIC's new report on the Delta (see How I See It, page 2), which calls for the Delta to be replanned as an estuarine system is "right on the mark. If we're losing the estuarine system in the lower Bay, we should move it elsewhere." Travis says his position about the Bay's future is both "humbling and presumptuous. I don't think we should be focused on protecting or restoring the Bay; we should be designing the Bay. We've thrown a curve ball at nature with our CO_2 emissions, and nature has hit back over the fence," says Travis. "So we're going to have to try to adapt to those changing conditions and predict what's going to happen and design conditions that nature can take advantage of in providing an estuarine system."

Many enviros and resource managers are not ready to give up on the Bay as an estuarine system. In the South Bay, where salt pond production took up lots of land around the Estuary's edge, there is room for the marsh to retreat landward. "If it hadn't been for the salt ponds, we would have built right up to the edge there too," says the Coastal Conservancy's Steve Ritchie. "It's ironic." Ritchie thinks the South Bay restoration project will keep pace with climate change. The draft EIR/EIS just released for the project evaluates how the restored wetlands will fare under a .5 meter rise in sea level over the next 50 years (the Intergovernmental Panel on Climate Change's mid-range estimate). If that assessment is accurate, says Ritchie, marsh accretion will keep up with sea level rise, and the wetlands won't become Bay bottom. "But we'll be looking at their revised documents," says Ritchie, "and be prepared for something more rapid."

In fact, that is the danger—that environmental conditions and sea level rise could change more rapidly than predicted. University of New Orleans' Denise Reed stresses that the *rate* of sea level rise is the crucial factor—that if it is not too fast, marshes can keep up. "Marshes have a wonderful ability to build themselves vertically to keep pace with sea level rise," says Reed. "Sea level has been rising for a long time." Reed says the response of west coast marshes to sea level rise hasn't been studied extensively, but that studies show marshes in the southeastern United States to be keeping pace with a 1 cm rise in sea level per year. Reed also thinks planners should not give up on wetland restoration around the Bay or in the Delta and that in fact, we need to do more wetland restoration sooner rather than later, to give marsh plants plenty of time to establish themselves. "A lot depends on the conditions of the marsh to begin with," says Reed. "Once you've done the restoration and established the plant community and the natural processes of sediment deposition are occurring, then that marsh stands a chance of surviving. The longer we wait to do that—both in the Delta and the South Bay—the more difficult it is going to be to establish the plants." Reed points out that restoration can be done much more efficiently now than in 50 years when the water is deeper. Says Reed, "The key thing is that wetlands are sustainable under sea level rise; we need to give them a fighting chance, not walk away from them. If anything, this is a call for more urgent action."

CONTACT: Will Travis (415) 352-3653; Peter Gleick (510) 251-1600, ext. 105; Denise Reed (djreed@uno.edu); Steve Ritchie (510)384-4105; Rich Walkling (rpw@n-h-i.org) LOV

PLACES TO GO & THINGS TO DO

WORKSHOPS & CONFERENCES

MAY 8-11 TUES-FRI

WATER & POLITICS

TOPIC: Learn what you need to know about upcoming water issues.
LOCATION: Sacramento Convention Center
SPONSOR: ACWA www.acwa.com

MAY 11-12 FRI-SAT

WETLANDS COURSE

TOPIC: Tidal Wetlands Hydrology
LOCATION: Romberg Tiburon Center
SPONSOR: S.F. State University (916)444-6240 (Aimee Good); (415) 819-2073; wetlands@sfsu.edu; http://online.sfsu.edu/~wetlands/

JUNE 10-15 SUN-FRI

28TH ANNUAL MEETING, INTERNATIONAL SOCIETY OF WETLAND SCIENTISTS

TOPIC: Fundraiser and silent auction; annual meeting.
LOCATION: Sacramento Convention Center
SPONSOR: International Society of Wetland Scientists pablo.martos@lfr.com

Save the Bay Seeks Education Director
See www.saveSFbay.org

CALL FOR NOMINATIONS FOR CCMP AND JEAN AUER AWARDS

DEADLINE: FRIDAY, AUGUST 10, 2007

The S.F. Estuary Project seeks nominations for outstanding environmental projects that implement one or more actions in the S.F. Estuary Project's Comprehensive Conservation and Management Plan. (For a copy of the CCMP, call (510) 622-2465.) In memory of Jean Auer, you are also invited to nominate an individual from the public or private sector who has made a significant contribution toward enhancing the Bay-Delta Estuary environment. The nominee must be an environmental activist focused on water issues in the Bay-Delta region. 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

APRIL 29 SUNDAY

PADDLE THE BAY

TOPIC: California Canoe & Kayak trip to Brooks Island Regional Preserve. An easy, short paddle in stable, double kayaks across sheltered Bay water with spectacular Bay views; come ashore for a guided 2-mile hike to learn about this island's cultural history and natural resource values. $85 fee.
LOCATION: S.F. Bay
SPONSOR: California Canoe & Kayak (510)636-1684

APRIL 29 SUNDAY

FOURTH ANNUAL SOUTH BAY TOUR

TOPIC: Self-guided tours of South Bay native plant gardens
LOCATIONS: Various along San Francisco Peninsula and Santa Clara Valley
SPONSORS: Bay Area Water Supply and Conservation Agency, Mediterranean Garden Society, Native Habitats, Santa Clara Valley Water District, Watershed Watch Arvind Kumar, chhaprahiya@yahoo.com

MAY 19 SATURDAY

AMNESTY DAY FOR OLD PHARMACEUTICALS, THERMOMETERS, AND ELECTRONICS

TOPIC: Exchange mercury thermometer for new digital one. Also return unused prescriptions (with personal info marked out), unwanted TVs, fax machines, and other electronics.
LOCATION: 6475 Christie Way at 65th Emeryville, CA (Powell St. exit)
SPONSORS: EBMUD, City of Emeryville, Electronic Waste Management

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

Call for Poster Abstracts

for the 2007 State of the Estuary conference (October 16-18,2007) at http://wfep.abag.ca.gov/soe/

THE NATIONAL ESTUARY PROGRAM TURNS 20

SEVEN STATISTICS TO CELEBRATE

1. 28 estuaries in the United States—including the San Francisco Bay-Delta Estuary—are designated as Estuaries of National Significance because of their economic, ecological, recreational, and aesthetic values.
2. These 28 estuary projects cover more than 42 percent of the continental shoreline; 15 percent of all Americans live within NEP-designated watersheds.
3. Estuaries provide habitat for more than 75 percent of America's commercial fish catch and 80-90% of the recreational fish catch.
4. Estuarine-dependent fisheries are worth more than $1.9 billion nationwide.
5. Coastal recreation and tourism generate an additional $8 billion to $12 billion annually.
6. Through the efforts of the 28 national estuary projects, over 1 million acres of coastal habitat have been restored and protected since 2000.
7. Over 70,000 acres of tidal marsh and flats, seasonal wetlands, creeks, lakes, lagoons, salt ponds, and open and sub-tidal water habitat have been restored in and around San Francisco Bay since the San Francisco Estuary Project began.

S.F. BAY DELTA BENCHMARKS

1986: The "Bay Delta Project"—a partnership between EPA and the state of California—begins. EPA hires the League of Women voters to conduct public outreach and education about the Estuary.

1986: The Clean Water Act is passed by the 99th Congress.

1987: The S.F. Estuary Project is grandfathered into a reauthorized Clean Water Act under Section 320 (the National Estuary Program).

June 1992: A Comprehensive Conservation and Management Plan for the S.F. Bay-Delta Estuary is completed and sent out for public review and comment.

December 1993: The CCMP is approved by then Governor Pete Wilson and EPA Administrator Carol Browner.

2006-2007: The CCMP is updated; major restoration projects underway.

PAY TO PLAY?, CONTINUED

people will be forced to increase the diversity in the number of stakeholders," she says. In addition, she'd like to see more points granted for environmentally-beneficial projects, since current criteria still allow a proposal to be competitive even if it ignores environmental benefits.

The Bay Area was recently designated to receive $12.5 million for water recycling projects in the first IRWMP grant round. But Travis still feels like he's in the dark. "The whole IRWMP application was $25 million for all the projects they want to do, and I don't know what all the projects were," Travis explains. "And I don't know what projects will fall away now that the grant cuts the proposal in half."

For Travis and Clayburgh, the first round of IRWMP funding has demonstrated a close relationship between DWR and water agencies. This needs to change, they say. But DWR's John Woodling doesn't entirely agree. "I'll be the first to admit that we've generated a lot of controversy, but people will look to what proves their point," he says.

To prove his point, he cites the grant given to the Plumas County IRWMP, a diverse group of six partners that included a national forest, a flood control district, and two non-profits. Their proposal was for seven projects ranging from creek restoration to capping off abandoned wells.

Nonetheless, Woodling says his agency didn't set the bar as high as it could have for projects in the first round. "We needed to get money out there as an incentive for people to move ahead," he explains. But the next rounds of funding will look different. "In the future, we're looking for more collaboration, more integration, and more development of new projects rather than existing ones."

CONTACT: Will Travis (415)352-3653; Joan Clayburgh (530)542-4546; John Woodling woodling@water.ca.gov KC

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

YOUR INDEPENDENT SOURCE FOR BAY-DELTA NEWS & VIEWS

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Editorial Office: PO Box 791
Oakland, CA 94604
lowensvi@earthlink.net

Estuary Web site at
www.estuarynewsletter.com
To subscribe to/questions about ESTUARY:
(510)622-2499

STAFF

Managing Editor: Lisa Owens Viani
Associate Editor: Kristi Coale
Page Design: Bobbi Sloan
Contributing Writers: Joe Eaton

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