



SALMON ARE FALLING FROM THE SKIES in Oregon's Mt. Hood National Forest. In an attempt to replace a critical link in the food web once provided by the salmon that swam, spawned, and then died in many Pacific Northwest rivers, wildlife managers are dropping thousands of pounds of dead coho—excess hatchery fish—into the rivers from helicopters. The plan is that the fish carcasses will recreate the basis of an entire food web. According to forest service researchers, at least 138 species of wildlife have some relationship with salmon. Eagles, bears, raccoons, minks, and otters feed directly on the fish or their bodies, while birds like the American dipper enjoy the extra insects the carcasses attract. The wildlife then pass those nutrients into the soil, fertilizing streamside vegetation, which in turn drops leaves into the river that becomes food for aquatic insects.

THE EXOTIC PIKE THREATENING LAKE DAVIS TROUT will soon meet their match, when Cal Fish & Game begins detonating a series of small explosions in the lake. The explosions are designed to burst the air bladders of any pike in the area (but will also kill other nearby fish and amphibians). A one-acre test detonation will be conducted in April. If the test goes as planned, the state will use clothesline-like detonation cords to eradicate areas of up to 10 acres where the pike congregate. After the explosion treatment is completed, the lake will be restocked with trout.

CAFFEINE, ANTIBIOTICS, DETERGENTS, perfumes, disinfectants, insecticides, pain killers, steroids, and many other personal care products and drugs are among the compounds pervading our nation's waterways at low concentrations (usually less than 1 part per billion), according to a recent study published in *Environmental Science & Technology*. The study is the result of more than two years of water sampling performed by the U.S. Geological Survey in 139 streams across 30 states. The California streams in the study had higher concentrations of some chemicals than many streams in other states, possibly because they were located downstream of dairies, agricultural land, and sewage treatment facilities. Survey scientist Ed Furlong says he hopes the study will provide objective scientific information that can be used to calibrate experiments on how to treat these ubiquitous micropollutants; he also hopes it will be useful for the wastewater industry to begin thinking about how to improve their systems.

Habitat Setback for West Coast Fish

Jeff McLain thought he had a pretty good argument to limit or even stop gravel mining along the Merced River, at least up until this March. The river is home to fall run salmon, but that species is only a candidate for the endangered species list and doesn't yet receive protection under the law. But the Merced River, which runs from Yosemite National Park, where it is a wild and scenic river, to California's Central Valley, may once have contained steelhead trout, which do receive protection under the Endangered Species Act as a threatened species. Even now, fishermen say they catch steelhead in the waters of the Merced, although none of their fish stories have been confirmed.

But McLain, a habitat restoration coordinator for U.S. Fish & Wildlife, knew one thing for sure: the Merced is a prime candidate for the steelhead reintroduction. Rainbow trout, which are the same species as steelhead but don't migrate to the ocean, already live in the river.

Because the National Marine Fisheries Service had designated the Merced River as critical habitat for steelhead, McLain felt that he had a good chance to protect the river so it could help in the recovery of the species.

But he hit a major roadblock this spring. In March, the National Marine Fisheries Service, under pressure from a lawsuit by the National Association of Homebuilders, offered to drop critical habitat designation for 19 threatened and endangered species of salmon and steelhead in California, Oregon, and Washington. The agency is going back to the drawing board to improve its analysis of potential economic effects of critical habitat designation. But with critical habitat on

hold, Merced County, which plans to mine for gravel along the river, no longer must meet the ESA's highest standard. Before they would have had to prove that their activity wouldn't interfere with recovery of the species. Now they must still consult with agencies, but they only have to show that their mining operation won't make the species go extinct.

This is only one of almost two dozen battles over critical habitat designation that are now in litigation, as business and water interests fight to win back territory lost to environmentalist lawsuits over the past decade. In all of these cases, critical habitat designation, which sets a higher standard for species protection, is being thrown out because of a faulty economic analysis, not because of any flaw in the government's science.

Critical habitat is a particularly litigious aspect of the federal Endangered Species Act, partly because there are so many gray areas related

to the concept. The law is very clear that science, not economics, should be the only criteria for listing species. But other factors, including economic considerations, must be taken into account when designating critical habitat, defined as an area deemed "essential to the conservation" of the species.

Put simply, critical habitat is where people's desire to preserve species runs smack into their backyards. Politicians have often preferred to dodge the issue, rather than confront it. During the Clinton era, officials took the position that critical habitat was redundant; they said, in effect, that habitat designation offered no additional protection to species.

In the 1990s, declining budgets for

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Critical habitat has stopped development outright in less than half a percent of cases

THE MONITOR

ALGAE AS MISSING LINK

Biologists recently got one step closer to solving the mystery of how methyl mercury moves up the aquatic food chain. A new study by Dartmouth College biologists suggests a link between the amount of algae in a water body and the amount of mercury passed up the food chain in that same water body and could explain why levels of mercury in water don't always correspond with those found in fish.

The study found that when lots of algae is present, methyl mercury is dispersed widely throughout the single-celled algae. Since the mercury is dispersed, the *daphnia* (water fleas) that eat it are not exposed to high levels of mercury. However, when there is less algae present, the mercury becomes more concentrated, and the *daphnia* take up more of it with each meal.

Algae may also explain why certain California water bodies like Clear Lake that have been impacted by mining and should have high levels of mercury in fish, don't.

"By all rights Clear Lake should have among the highest fish mercury in the world," says U.C. Davis' Darell Slotton. "But it doesn't—not nearly." What Clear Lake does have, says Slotton, is massive densities of algae and other suspended solids in the water column. Nearby Davis Creek Reservoir, says Slotton, has clearer water but three times the methyl mercury in identical fish. So while too much algae is ordinarily considered a water quality problem, in Clear Lake at least, it may be providing a benefit.

"If the algae problem was lessened, my prediction is that the mercury problem would get proportionally that much worse," he says. Slotton hopes that his CALFED study on Cache Creek, which will be completed this year, will clarify the mechanisms by which mercury is transferred. Contact: sue.knapp@dartmouth.edu; or dgslopton@ucdavis.edu

LOV

CRITICAL HABITAT CONTINUED

endangered species protection were one of many reasons officials gave for failing to keep up with an enormous backlog, both for critical habitat designation and for listing itself. Today, less than 20 percent of listed species have had critical habitat designated, despite the law's clear mandate to do so.

Because Clinton officials didn't believe critical habitat added protection for a species, the economic analyses produced by federal agencies during this period found that designating habitat had little or no economic impact. Now these analyses are falling like dominos under legal challenges, many from the National Association of Homebuilders and its local and regional affiliates.

Craig Wingert, supervisory fish biologist at the National Marine Fisheries Service, said the agency agreed to settle the case because of recent court decisions that had found similar economic analyses inadequate. "The handwriting was pretty much on the wall. We thought we were going to lose our case," says Wingert.

The decision to settle a case brought by the National Association of Homebuilders will affect mostly unoccupied habitat, particularly for steelhead, according to Wingert.

Unoccupied habitat, which may be crucial for recovering a species to a thriving population, can be protected when it is included in federally designated critical habitat. But when critical habitat hasn't been designated, many federal agencies take the position that consultation isn't needed.

This decision could be an important one for steelhead, particularly in places like southern California, the extreme edge of their range. Because steelhead are more adaptable than salmon, they are likely to show up unexpectedly in a stream or pool where they have never been seen before. Biologists say that 80 percent of steelhead habitat is already gone.

Wingert says he doesn't agree with the position that critical habitat doesn't provide any additional protection for species.

"Just based on some of my experiences, I think there are some situations where critical habitat is not of any great value and listing is enough," Wingert says. "Where you have occupied habitat and you can make the case that an activity affects habitat or reduces survival, that is good enough."

"But in areas that are unoccupied, you can't make the same argument. Not having critical habitat in place leaves you with one less regulatory tool."

The Endangered Species Act offers fairly wide latitude on the question of how much unoccupied habitat should be included in an



area designated as critical. The law states that while unoccupied habitat that would help to recover a species can be included in critical habitat, it categorically states that it does not require the inclusion of all unoccupied habitat. That leaves a lot of room for debate – and lawsuits.

One of the other things confusing for the public is the level of protection required in critical habitat areas. Designating a place as critical habitat merely invokes consultation with a wildlife management agency when a development has a federal nexus. Such a nexus might be when another federal agency – such as the U.S. Bureau of Reclamation or the U.S. Army Corps of Engineers – is planning a water development, wetland, flood control or similar project. Private interests are thus forced to consult with wildlife managers only when another federal law, such as the Clean Water Act, is invoked.

Critical habitat has stopped development outright in less than half a percent of cases, although sometimes projects are redesigned to reduce impacts on sensitive areas.

Duane Desiderio, counsel to the homebuilders, says his organization's members are concerned about the disproportionate effects of regulation on certain landowners. Desiderio says his organization is litigating about half a dozen critical habitat lawsuits, including cases involving the San Diego fairy shrimp, the red-legged frog, and the Alameda whipsnake.

According to Desiderio, environmentalists had developed a strategy to force the government to list species and designate critical habitat. Under pressure from court orders, "the agencies were doing a slipshod job," he says. "Broad critical habitat designation swept thousands and thousands of acres into a regulatory net."

"We don't oppose the Endangered Species Act," says Desiderio. "We oppose the irrational ESA regulations."

Desiderio points to a 2001 court victory, New Mexico Cattle Growers Association vs. U.S. Fish and Wildlife Service, where a federal judge ruled that the government's analysis of

SCIENCE

SILVER PLATTERS IN BLACK HOLES

Each spring, under the Vernalis Adaptive Management Plan, Delta export pumps suck less water from the San Joaquin River and Valley farmers relinquish some of their precious reserves in an effort to boost flows for young salmon moving downstream, past Old River and the pumps. But a preliminary study by the U.S. Geological Survey is raising questions about how the increased flows are affecting the river's geomorphology, and in turn, its fish.

Last May, as researchers eyed their laptop from a boat on the river, they were startled to see lots of big blips popping up on the screen, transmitted from a depth sounder. The shape and position of the blips in the water column—and the fact that fish bladders are good reflectors of acoustic energy—led the research team to suspect that the blips were large fish which can prey on young salmon. The large blips popped up every time the boat moved in the vicinity of the river's bends, explains researcher Jay Cuetara.

After mapping the river's bottom, the team discovered that very deep holes had been scoured at many of the river's bends. While scour holes occur naturally at bends, the San Joaquin's meanders have been heavily armored with riprap, forcing the river to direct its energy downward rather than outward, which scours the holes deeper than they would be naturally, says Cuetara. At certain flow rates, strong back eddies—or recirculation zones—form in the holes. These deep whirlpools may

be providing the perfect hiding spots—and habitat—for predators.

According to Jon Burau, the eddies (or recirculation zones) are characterized by upstream flow on the outside of the bend, upwelling at the river banks, and downwelling where the recirculation zone interfaces with the river. Within the center of the zone, the water moves very slowly, if at all, creating still spots where predators don't even need to swim for their food, but just hang out and wait, says Burau. "The food comes on a silver platter."

Burau suspects that the strength of the eddies varies with the flows. "We know that these recirculation zones simply don't exist at very low or high flows," he says. "We suspect each scour hole has a range of flows for which zones exist, and that there is a specific rate that creates the strongest zone."

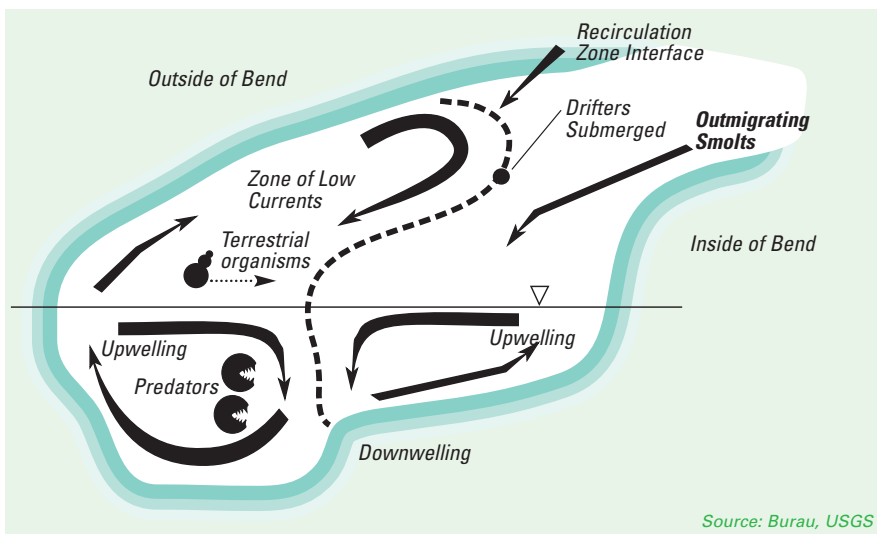
While the VAMP flows are designed to push salmon smolts out of the Delta and into the Bay, they may, ironically, fall within a range of flows that is actually hindering the salmon by helping their predators, says Burau. "This is an excellent example of an unexpected consequence of a management action that could alter the system over the long term," he says.

The researchers are quick to say they are not 100 percent sure the blips were predators. "But we know there's a ton of something down there," says Cuetara. Their suspicions were strengthened when they saw people catching bass and catfish at the holes.

Though the goal of the study was really to study the VAMP flows—and to try to quantify how many young fish make it past the culverts and barrier at Old River by

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VERTICAL SLICE THROUGH BEND



Source: Burau, USGS

SPECIES SPOT



SAVING SURFPERCH

State resource managers have their eye on the steadily declining population of surfperch, but they aren't the sort of fish that stand out in a crowd. The 19 species of the family *Embiotocidae* that inhabit California's coastal waters all share a basically elliptical shape and have forked tails. They come in a range of colors, most with some kind of bars or stripes, but there's nothing dramatic or unusual in their appearance that would catch your eye.

But surfperch do have a few characteristics atypical of their finny relatives, including some that may be getting them into trouble. Surfperch are one of the few kinds of fish that are viviparous, or "live bearing" and the females of many species migrate to shallow estuarine waters to give birth. When the fish are getting set to bear their young, they linger near piers and jetties that are popular with the rod and reel set. Since surfperch are prone to snagging a clam or crab dangling from a hook, they frequently find their way onto someone's dinner plate.

"They are really potentially susceptible to overharvesting pressures," says Cal Fish & Game's Kathy Hieb. Gestation lasts between three and six months, and any pregnant surfperch that are caught means the loss of its entire crop of young. Hieb notes that even if a fish is released, it may spontaneously abort its fetuses.

Researchers have collected fourteen surfperch species in the Estuary. The numbers of surfperch in San Francisco Bay have steadily declined since the 1980s (Hieb suspects that they may have been going down even before her agency began collecting surfperch data in 1980). White, pile, and barred surfperch are now rarely found in the Bay. Hieb says that in recent years, her sampling turns up few, if any, individuals of these species.

In December, the Fish and Game Commission voted to reduce the limits on surfperch catches year round, from twenty fish to a total of five per day. It also prohibited the taking of surfperch in the Bay from April 1 to July 31, the

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SPECIES SPOT

RAIL MYSTERY

Clapper rail numbers have crashed in some unexpected locations around the Bay, according to surveys of this secretive, short-tailed denizen of the salt marsh. Recent field studies reveal that rails in the more pristine North Bay marshes are faring less well than those in urbanized areas. The estimated 13 pairs present at Sonoma Creek in 1993 dropped to between just 1 and 3 pairs in 1998, and in 2001, no rails were found. In the White Slough marshes along the Napa River, an estimated 16-24 pairs surveyed in the 1990s dropped to 4 to 7 pairs in 2001, and the count may be even lower this year, according to rail expert Jules Evens, who headed up the surveys.

Ironically, the rail seems to be doing better in some of the Central and South Bay marshes, where their numbers have remained fairly stable over the past several years, according to Evens, and may even be increasing in places like the San Bruno Marsh and the San Leandro shoreline.

Since rails aren't known for their love of human proximity, what explains this surprising phenomenon? One theory, says Evens, is that there are more predators in the North Bay marshes: red foxes, mink, rats, and feral cats have all been spotted there. In the more urban sites, says Evens, these predators may not have as much of a refuge. Some of the urban sites have implemented predator control programs, which appear to be helping the rails: the rails made a comeback at the Don Edwards National Wildlife Refuge after such a program was put in place. Other potential problems in the North Bay include construction taking place adjacent to the marshes, and hydrological changes—such as late spring rains—that may be "freshening" the marsh. That theory is bolstered by the fact that Virginia rails, which prefer fresher conditions, appear to be increasing in the White Slough marshes, according to Evens.

While human activities at the urban sites likely affect rail breeding success and mortality too, he explains, those activities are not having the same scale of impact the predators are.

"Red fox in particular seem to key on marshes and are very efficient at finding and destroying nests and probably breeding adults," says Evens. Contact: Jules Evens: jevens@scn.net **LOV**

MITIGATION

TRIALS OVER TRAILS

Driving across the flat, concrete-strewn 200 acres of Richmond shoreline that he and two partners bought in 1999, Dave Guthridge enthusiastically describes his plans. He wants to construct a mix of tidal and seasonal wetlands, along with transitional uplands on the land, which lies directly south of the Point Pinole Regional Shoreline and harbors a variety of critters, including the endangered clapper rail, salt marsh harvest mice, shorebirds and raptors.

What he doesn't want to see is a boardwalk cutting through the middle of the new wetlands. Activists from nearby neighborhoods are pushing for the trail, which would lead to a small spit of land jutting into the Bay. The neighbors' position is supported by the East Bay Regional Park District, while some environmentalists and federal agencies support Guthridge's view.

Guthridge's company, Bay Area Wetlands, LLC actually wants to construct two projects on the land, known as the Breuner property. One is a 550,000 square foot technology park, consisting of two large buildings, and associated parking. The 200 acres of wetlands will be a mitigation bank. He says that the two projects are separate, and that the wetlands will be built first, in part because market conditions for office buildings are uncertain.

Guthridge explains that the new habitat won't be mitigation for the technology park, which will displace less than a half acre of wetlands. Instead, the company will sell credits to other area developers needing to mitigate projects they want to build on environmentally sensitive sites. He estimates the restoration work will cost \$30,000 an acre, enough to give the company a modest profit. He also hopes it will serve as a "showpiece" for similar projects his company would like to build in the future.

Even though it sticks out from the middle of Guthridge's property, the little spit of land is actually owned by the Park District. It commands a beautiful vista of the Bay and fine views of the land. Bruce Beyeart of the Trails for Richmond Action Committee says that the pathway would be one of the few points of shoreline access for residents of nearby low income neighborhoods. He adds that the proposed alignment is a long-hoped-for spur of the Bay Trail, and is also included in the city's general and specific plans for the area.

Guthridge says that the trail would cut across the heart of the wetlands, and would be an open invitation for dogs and hikers to strike out on their own across the delicate habitat.



Beyeart counters that a properly built and fenced path would protect the wetlands, and Bob Doyle of the Park District agrees, saying that there are "absolutely acceptable" ways to construct the trail.

Suzanne Jones of the Richmond Environmental Defense Fund says that her group has problems with the technology park, the concept of mitigation banks in general, the amount of grading that will take place (and possible impacts on the salt marsh harvest mouse), and the alignment of the proposed Bay Trail spur. "It's not an appropriate place to have people walking dogs," she says. Jones says that while public access is important and necessary, there are other places to put the trail on the site that would have fewer impacts.

The company has applied for an Army Corps permit to build the mitigation bank. The Corps' Molly Martindale says that a trail down the middle of the project "would certainly be a problem," though it might not totally derail the application. Martindale and Jones favor an alternative proposal ringing the edge of the technology park, farther back from the sensitive marsh areas. Says Martindale, "The developers have proposed an alternative alignment, situating the trail along the edge of the project, and including a pier that would extend out into the Bay. That would provide people with the opportunity to look back at the shoreline and out at the water." Says Guthridge, "We're not inclined to fight the federal government when we professionally agree with them." Beyeart notes that the look-out point would be just a few yards from duck blinds owned by a local rod and gun club. "It's a very scary, noisy place to be."

The land was for sale for a decade, and Guthridge points out that the Park District and several nonprofits unsuccessfully tried to purchase it from the Breuner family. Doyle confirms that worries over suspected toxic plumes from nearby industrial plants caused the District to back off. Guthridge says that his own investigations found no serious contamination, and full CEQA review is underway. Documents should be available at the end of April.

Doyle says that his agency has broader concerns about the project. The District spent \$50 million to acquire and restore Point Pinole. "It's all one hydrology and all one shoreline. We're not opposed to mitigation banks at all," he maintains. But he says that there has been little, if any, communication between the company and the District. Doyle says that the district will act to protect the park, but he remains optimistic. "There's no question there's a compromise that can work for everybody."

O'B

LEGAL

CVPIA WATER DOWN FOR THE COUNT

California's elaborate water system has been called everything from an aqueduct empire to a mirage. These days, it's looking disturbingly like a house of cards.

On February 5, a federal judge reversed a federal policy on counting water allocated for environmental purposes in the Bay-Delta system. Although this sounds like a technicality, the decision reduces by 200,000-300,000 acre-feet the amount of water available for fish and wildlife.

The lawsuit brought by the San Luis & Delta-Mendota Water Authority questioned the definition of what is generally known as "B2 water" — the 800,000 acre-feet of water allocated to fish and wildlife under the 1992 Central Valley Protection Improvement Act or CVPIA. Under a Clinton administration policy, water released from a reservoir for environmental purposes was not charged as B2 water in high rainfall years when the reservoir filled up again. This left more water available for the environment. Now that water — called reset water — will be charged against the environmental side. A number of other technical questions related to this kind of "checkbook balancing" of water allocation were also decided by the judge.

The B2 water, as counted under the Clinton policy, is an integral part of the CALFED program, the multi-billion dollar effort to balance the needs of water users and wildlife. The larger amount of water was included in sophisticated computer modeling that provided baselines ensuring protection for salmon and other fish under CALFED, says Tina Swanson of the Bay Institute.

"What this change means is that a substantial portion of CALFED's foundational or baseline level of protection has been reduced," says Swanson. "That now has a number of other implications."

One of the key questions is whether wildlife management agencies can now provide the "assurances" to water users that are another key part of CALFED. CALFED set up a program called the Environmental Water Account, which allows officials to buy and bank water for fish. With that program in place, water users are assured that there will be no cutbacks in their water supply for environmental reasons.

But officials decided on the size of the Environmental Water Account based on their expectations that CVPIA water would be available in quantities determined by the Clinton

policy. Now there is a greater burden on the Environmental Water Account. In addition, about 10 percent of the EWA is supplied directly by water allocated under CVPIA.

This year, wildlife agencies were able to provide assurances to water users that their water supplies would remain intact. But that's no guarantee that there will be enough water in coming years.

Patrick Wright, CALFED's executive director, says the size of the EWA may have to be increased. "There's a short term answer and a long-term answer," Wright said. "The short-term answer is that it is possible this year to provide regulatory assurances, even with the loss of water. There are a couple of reasons for that. One is simply the fact that the agencies were so conservative this year in using their assets.

"But the question is what about next year and the following year," Wright continued.

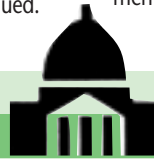
"I think there's a common understanding about the agencies that we need to reevaluate the Environmental Water Account and figure out whether, given this loss of water, we need to increase its size."

Increasing the Environmental Water Account may be difficult. So far, CALFED reauthorization has hit a roadblock in Congress and federal funding for CALFED is not meeting projections. But there may be alternatives to simply purchasing water, Wright says. These include expanding pumping capacity at the State Water Project and developing groundwater storage projects south of the Delta.

Cynthia Koehler of Environmental Defense, lead attorney for the environmental coalition that brought the lawsuit, expects the coalition to appeal the court's decision. "Congress directed the government to reallocate 800,000 acre-feet of

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CAPITAL BEAT



NEW LAYERS OF DELTA GOVERNMENT?

Two bills important to water and Delta interests are working their way through the State Senate.

SB 1854, authored by Stockton Democrat Michael Machado, would set up a Delta Conservancy, similar in some ways to the Coastal Conservancy, the Lake Tahoe Conservancy and others throughout the state.

Machado notes that currently there are an array of agencies and programs receiving funds for Delta related projects. The new conservancy would be a "single gate" to oversee and coordinate the diverse range of programs. Like the others, it would become a part of the Resources Agency, but its role would differ in several ways, he says. "We need to step beyond just focusing on the acquisition of property." Since the Delta's economy is heavily dependant on agriculture, it's important to keep the acreage productive and on the tax rolls. He wants the Conservancy to focus on supporting environmentally friendly farming projects, as well as those which enhance water quality and supply, and levee stability.

Machado emphasizes that the bill is still in the formative stages, and that he's soliciting input from all stakeholders. "This is a tool," he says. "The tool is still being forged."

Senator Jim Costa (D-Fresno) is sponsoring SB 1653 to create a new agency to carry out

implementation of CALFED's August 2000 record of decision. Among other responsibilities, the Bay-Delta Commission would prepare environmental documents, hold regulatory permits, establish a public advisory commission, and issue an annual report. It would be funded by both state and federal money.

Dan Sullivan of the Sierra Club says environmentalists have several concerns about the Costa bill. His group favors having the Commission administered by a consortium of agencies, much as is being done now with CALFED. The alternative, setting up an appointed board similar to the Bay Conservation and Development Commission or the Coastal Commission, would be problematic because the agency will have to serve constituencies from Trinity River environmentalists to Southern California water developers. "It's hard to imagine a commission that would be able to manage this whole interconnected range of interests," he says. The bill passed the Senate Agriculture and Water Resources Committee on April 3, and will next be heard by the Appropriations Committee. In the meantime, issues such as the role of the existing Delta Protection Commission and other stakeholders in the new agencies, are still being worked out.

Contacts: Machado's office (916)445-2407; Costa's office (916)445-4641 **O'B**

CRITICAL HABITAT CONTINUED

the economic impacts of critical habitat designation for the southwestern willow flycatcher was inadequate. The government had shown virtually no economic impact from critical habitat designation – the same conclusion that NMFS had put forward for anadromous fish on the West Coast.

The judge's ruling that the economic analysis was inadequate, "had an impact throughout the Bush administration," says Desiderio.

Kieran Suckling, the executive director of the Center for Biological Diversity, couldn't agree more. The Center for Biological Diversity is the group that has most aggressively pursued litigation to force federal agencies to designate critical habitat. Like his foes, Suckling believes that critical habitat designation has some impacts – but he predicts the Bush administration will overstate rather than understate the economic impacts of designating critical habitat, radically changing course from previous administrations.

"These decisions play into the hands of the Bush administration," says Suckling. "They have been given a green light to grossly exaggerate the impacts."

NMFS' Craig Wingert says it may take the agency several years to come up with a new and more legally defensible critical habitat designation approach. In the meantime, yet another lawsuit – this one brought by the Association of California Water Agencies – brings a separate set of challenges to critical habitat designation in California. In this case, which federal attorneys are hoping will be resolved once a final decision comes down in the homebuilders case, water agencies go a step further, asking the judge to establish specific criteria for economic analyses.

That case sets the stage for the next round of battles, as agencies get to work on new, court-ordered iterations of critical habitat designation. A recent decision by a federal court in Alabama found that critical habitat must use the higher "recovery" standard rather than simply preventing jeopardy to a species. That implies the protection of enough unoccupied habitat to recover — eg., delist a species — which might be perceived as a threat to commercial activity in places like the Merced River.

Environmentalists also are concerned about what will happen to salmon and steelhead if the agency withdraws critical habitat protections while it goes back to revamp its economic analysis. In Tucson, Arizona, critical habitat designation of 731,712 acres for the

endangered cactus ferruginous pygmy owl was thrown out because of a similar court challenge by the homebuilders. The judge did not require that critical habitat protection remain in place while the agency revised its economic analysis. Real estate development has now reached record highs as developers race to take advantage of the window of opportunity.

What's startling is how little analysis of the economic effects of critical habitat designation has been done. In Tucson, *Arizona Daily Star* reporter Tony Davis showed some economic impacts on mass-graded developments, but also revealed that individual landowners' property values appeared to rise during the period that critical habitat was in effect.

Zeke Grader of the Pacific Coast Association of Fishermen's Associations, fears if critical habitat designation is lifted while the agency conducts an economic analysis, coastal California will also see a real estate boom while the opportunity exists.

"The problem we have is we're going to have this hiatus and it's going to basically leave everything wide open. And a lot of damage can be done," says Grader. "I think this action sort of highlights what our fear was with this administration, that there would not be a head-on attack on most environmental regulations, they would not go in and try to do away with the ESA, Magnuson-Stevens, or the Clean Water Act. This is the most insidious attack on environmental laws that are absolutely critical for our industries, sport fishing and commercial fishing."

Seattle-based Earthjustice attorney Patti Goldman is on the legal team arguing that, in the case of salmon and steelhead, critical habitat protections should remain in place while the agency goes back to conduct a better economic analysis.

Goldman points out that critical habitat designation has already been approved through the regulatory process, which includes publication in the federal register and a public comment period. "The overriding point we made is that the government can agree to do more analysis but it cannot undo a protection by fiat," says Goldman.

The judge has ordered the National Marine Fisheries Service and the National Association of Homebuilders — the two parties who reached the agreement suspending critical habitat designation in early March — to respond to Earthjustice's questions regarding interim protection. **SZ**

**SURFPERCH CONTINUED**

months when the pregnant females are most likely to be found in the shallows.

The decision raised one controversy. The commission originally included shiner surfperch in the new regulations. Shiners, however, are very popular baitfish. The action drew loud protests, and in March the commission rescinded the summer ban for taking the species. In addition it reinstated the previous twenty fish per day limit on shiners. (The limits for the other species remain in place).

Some commercial fisheries along the coast take surfperch, but in the Bay almost all of them are caught by individuals fishing from the shore or piers. Many of those who fish from the Bay shoreline are low income people, who use what they catch as a major source of protein. They are often non English speaking immigrants, which poses difficulties for Fish & Game officials trying to get the word out about the ban. The agency has publicized the ban in its handouts, and has sent press releases to papers serving Latino and Asian communities.

Cal Fish & Game's Don Schultze believes that a number of factors, including pollution and habitat loss, probably played a role in the population decline. Those problems require long term, difficult fixes, he says. "Fishing is the only thing we have control over, so to speak." Because of their low reproductive rate, it will probably take two or three years before researchers start noticing any increase in the populations of surfperch species in the Bay as a result of the summertime ban and the new limits, Hieb says. Contact: Don Schultze (916)227-5670 **O'B**

OPPORTUNITIES

GRANT PROPOSALS sought by the Alameda Countywide Clean Water Program 2002-2003 Community Stewardship program Louise Cervantes (510)670-5529 or www.cleanwaterprogram.com

WATERKEEPERS NORTHERN CALIFORNIA formerly BayKeeper, seeks Executive Director. kerin@sfbaykeeper.org

CALFED SCIENCE PROGRAM offers fellowships to doctoral students and postdoctoral researchers in environmental science. Application deadline: May 1, 2002. Contact Shauna Oh (858)534-4440 www.csgc.ucsd.edu/EDUCATION/CALFED/CALFED_Fellows.html

PLACES TO GO & THINGS TO DO



WORKSHOPS & SEMINARS

MAY 2 THURS
S.F. BAY FISH FORUM
Topic: S.F. Bay fish consumption issues
Location: Fort Mason Center, San Francisco.
Sponsor: Save The Bay
 Cost: \$20
 (510) 452-9261 or dirk@savesfbay.org

MAY 4-5 SAT - SUN
S.F. BAY AMPHIBIANS
Topic: Identification, natural history, ecology, and conservation issues of amphibians occurring in the San Francisco Bay Area, including the California newts, salamanders, toads, and frogs.
Location: Sonoma State University, Rohnert Park, CA
Sponsor: West. Sect. of the Wildlife Soc.
www.tws-west.org/meetings.html#sfba or lobolady23@aol.com

MAY 7 TUES
WHY PAY FOR NEW SURFACE STORAGE?
Topic: Workshop on new results of statewide economic optimization study showing how water storage costs can be eliminated through regional solutions.
Sponsor: ACWA
Location: Monterey
 (916) 441-4545 or www.acwanet.com

MAY 15 WEDS
SEAFOOD FOR DINNER?
Topic: Sustainable seafood consumption
Sponsor: Monterey Bay Aquarium
Location: Monterey
www.montereybayaquarium.org or (831) 633-6565 (reservations required)

MAY 16-17 THURS - FRI
LOCAL GOVERNMENT STRATEGIES
Topic: Local government issues related to watershed protection and salmon recovery on the California coast and S.F. Bay Area
Sponsor: FishNet 4C
Location: Presidio, San Francisco
<http://fishnet.marin.org> or kallie@igc.org

MAY 20-23 MON - THURS
WATER QUALITY MONITORING CONFERENCE
Topic: Third national conference exploring collaborative monitoring efforts, new and emerging technologies, changing expectations of monitoring; results and successes; posters and presentations.
Sponsor: National Water Quality Monitoring Council
Location: Madison, Wisconsin
www.nwqmc.org or (410) 356-8993



HANDS ON

MAY 4-18 SATURDAYS
WETLAND RESTORATION
Topic: Help restore wetlands and remove non-native vegetation around the Bay (May 4 at Tolay Creek in North Bay; May 11 at the Martin Luther King Jr. Shoreline in Oakland; and May 18 at the mouth of San Francisquito Creek in Palo Alto). Families welcome.
Sponsor: Save the Bay
 510-452-9261
<http://www.savesfbay.org/cbrmain.html>

MAY 11 SAT
STEELHEAD FESTIVAL
Topic: Third annual steelhead and watershed awareness festival, with race/walk/run to benefit steelhead and salmon in Alameda Creek. Activities for kids, catch-and-release fly fishing, food and music.
Location: Niles Community Park (3rd and H Streets), Fremont
Sponsor: Alameda Creek Alliance
 (510) 657-6179 or (510) 845-4675

MAY 11 SAT
INTERNATIONAL MIGRATORY BIRD DAY
Topic: Bird walks for adults and kids, pine cone feeder making, live bird presentations, and bird banding.
Sponsor: S.F. Bay Nat'l Wildlife Ref. C'plex
Location: Environmental Ed. Center, Alviso
 (510)792-0222

MAY 11-18 SATURDAYS
NATIONAL RIVER CLEANUP WEEK
www.americaoutdoors.org/nrcw or (865) 558-3595



MEETINGS & HEARINGS

MAY 3 FRI
CCMP IMPLEMENTATION COMMITTEE
Sponsor: San Francisco Estuary Project
Topic: MTBE, oysters habitat, regional wetlands restoration planning and RMP pollutant update.
Location: 1515 Clay Street, 2nd Floor, Oakland, 10am-Noon
 (510) 622-2465

MAY 23-24 THURS - FRI
303(d) LIST PUBLIC HEARINGS
Topic: Proposed revisions to the federal Clean Water Act 303(d) list of impaired water bodies, associated pollutants and priority ranking for TMDL development.
Sponsor: State Water Resources Control Bd.
Location: 1001 'I' Street, Sacramento
 For draft report (916)341-5566 or www.swrcb.ca.gov/303dupdate.html

NOW IN PRINT & ON LINE

American River Watershed, California, Long-Term Study
<http://www.spk.usace.army.mil/cespk-pd/american-river/> or (916) 557-7245

CALFED Bay-Delta online newsletter
http://calfed.water.ca.gov/newsletter_0302.htm

California's Living Marine Resources
 Cal Fish & Game
 (800) 994-8849
<http://www.dfg.ca.gov/mrd/status/index.html>

Eastshore State Park: Draft Concept Plan
 California State Parks, East Bay Regional Park District, California State Coastal Conservancy
www.eastshorestatepark.org or (800) 988-PARK

Feasibility Analysis of South Bay Salt Pond Restoration, San Francisco Estuary, California.
 Stuart Siegel & Philip Bachand, Wetlands and Water Resources
www.swamthing.org (in print as of May 1)

Horse Keeping: A Guide to Land Management for Clean Water
 Council of Bay Area Resource Conservation Districts
 \$25 plus postage and handling
 707-794-1242, x 121

North Bay Wetlands Restoration and Enhancement Projects Map & CD
 Wetlands and Water Resources, 415-457-6746
www.swamthing.org

Proceedings of the 6th National Volunteer Monitoring Conference
www.epa.gov/owow/monitoring/vol.html
 (800) 490-9198

Protecting and Restoring America's Watersheds Status, Trends, and Initiatives
 (800) 490-9198

Pulse of the Estuary, Monitoring and Managing Contamination in the S.F. Estuary
 S.F. Estuary Institute
 (510)746-7334 or www.sfei.org

Tracy Fish Collection Facility Studies, April 2000-March 2001, Volume 17
 Bureau of Reclamation
 (502)255-9168 or crlist@aol.com

Water Supply & Development, A User's Guide to California Statutes
 Association of California Water Agencies
 (916) 441-4545; www.acwanet.com

SAVE THE DATE!

CALFED SCIENCE CONFERENCE 2003

January 14-16
 Sacramento conference on advances in science and restoration in the Bay, Delta, and watershed. Call for abstracts will be issued in May.
Elise.holland@tpl.org or lrbrown@usgs.gov

EDDIES CONTINUED

understanding the hydrodynamic processes in the river—the team became fascinated by what they saw at the river's bends.

"We're sort of raising the flag for the first time on this," says Burau. "Let's say there is predation in these holes. Is it a big deal, little deal? We simply don't know."

Between Mossdale and Stockton, there could be a dozen large holes, says Cuetara, with predators lurking in each one. By way of follow-up, researchers are now suggesting further studies to document the bathymetry (shape of the river bottom) of the holes, or to at least study one in detail, and to do some gill-netting to see what fish are down there.

"It's a fundamentally different way of looking at the problem," says Burau. "The VAMP studies drop a bunch of fish in upstream and then trawl down at Chipps Island, among other things. What's in-between is a kind of black hole." Burau suggests a joint study in which his agency studies the holes and state or CALFED biologists look more closely at the fish.

CVPIA CONTINUED

Central Valley Project water to the environment. That needs to be real water, not paper water."

Koehler is concerned that the Bush administration, which refused to allow U.S. Fish & Wildlife to testify on behalf of the water-counting policy, may not join in the appeal.

For Dan Nelson, executive director of the San Luis & Delta-Mendota Water Authority, the recent decision is a vindication. Nelson believes that the U.S. Department of Interior policy, which came out in 1999, violated the spirit of the 1994 Bay-Delta Accord, in which his organization was a participant. He believes that the policy allowed water managers to

use more than the legally mandated 800,000 acre-feet for environmental purposes.

"I really do think our folks haven't been treated fairly," Nelson said.

Nelson says CALFED officials were aware of the court case and should not have counted on CVPIA water in making baseline projections. Despite their courtroom challenges to this essential part of the program, the San Luis & Delta-Mendota Water Authority, which represents 32 groups of water users in the Central Valley, is still participating actively in the CALFED process. "We still think there's merit," Nelson said. Contact: Tina Swanson (530)756-9021 or Dan Nelson (209)826-9696 **SZ**

If their worst fears are confirmed—if predators are having a serious impact on young salmon—one eventual solution might be to allow the river to erode its bends again as it once did naturally, so that the deep holes will no longer be scoured out. Setback levees could be used to protect farms and other property, says Burau. One question for geomorphologists is how

far back the levees would need to be set. "In a relatively short time would the river bump up against the levees again?" wonders Burau. "Historically, the San Joaquin migrated across the entire San Joaquin Valley. But we don't really have the flows that move things around like they once did." Contact: Jon Burau (916) 278-3127 or Jay Cuetara (916) 278-3130 **LOV**

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Editorial Office: PO Box 791
Oakland, CA 94604
(510)622-2412
bayariel@earthlink.net

Estuary Web site at

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Subscription Q&A: (510)622-2321

STAFF

Managing Editor: Ariel Rubissow Okamoto
Senior Editor: Lisa Owens-Viani
Graphic Design: www.dcampeau.com
Contributing Writers: Bill O'Brien
Susan Zakin

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