

Runoff Rundown

A NEWSLETTER OF THE WATER EDUCATION FOUNDATION

Turning a Mess into a Model: Projects Develop Better Construction Sites

By RYAN McCARTHY

It was an aerial view of a 1,296-acre development site – and from the plane Danna Berchtold was concerned about what she saw.

Large disturbed soil areas remained unstabilized at the Whitney Ranch residential project in suburban Rocklin outside of Sacramento, reported Berchtold, an engineering associate for the stormwater unit of the Central Valley Regional Water Quality Control Board (Central Valley Board). Stormwater from the development was being discharged to tributaries of Orchard and Pleasant Grove creeks. A Rocklin city

official who saw the site from the ground said the stormwater looked like a lot of “chocolate milk” traveling into a creek tributary and to open space near a private university.

“It was a very muddy mess,” said Kent Foster, public works director for the city of Rocklin, an upscale community of 50,920.

The Dec. 9, 2004 plane ride Berchtold took to view Whitney Ranch from the air had followed her earlier on-the-ground inspections of the site. The property lacked best management practices (BMPs) to control erosion and sediment, she’d reported in October. A follow-up

inspection that month had found concrete washout water discharged to a nearby city’s stormwater conveyance system. And a later inspection found continued discharge of sediment-laden stormwater, the state agency staff member said.

The Central Valley Board wanted the Whitney Ranch development to provide a work plan, including measures to eliminate the sediment discharges.

This is a construction runoff story with a successful ending. The developer, Newland Communities, produced what Berchtold in 2007

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Dear Readers,

Construction site runoff is a major nonpoint source pollution problem in California. Stormwater runoff from such sites can wash dirt into nearby streams and rivers, hurting the ecosystem. State water quality officials rely on best management practices (BMPs) undertaken by builders to help control such runoff – with mixed results.

In this issue of *The California Runoff Rundown*, our new writer, Ryan McCarthy, profiles a major housing project near Sacramento that went from mess to model when a new construction manager took action to implement BMPs to control erosion and sediment from the 1,296-acre development site. These are exactly the examples we like to feature in this newsletter so that others can learn about pressing pollution problems – and how to address them.

Ryan joined us in January after a long career as a reporter at several California newspapers including the Tribune in San Luis Obispo County and the Mountain Democrat in El Dorado County. He is a quick study when it comes to water quality and this issue of *The California Runoff Rundown* also includes a feature on efforts to combat runoff at Empire Mine State Park as well as two articles about efforts to combat stormwater runoff – from a voter approved tax in Santa Monica to stricter restrictions in San Diego. ♦

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Tax to Improve Stormwater Treatment Wins in Santa Monica

Voter approval in November of a tax for urban runoff management in Santa Monica – along with the earlier passage of a \$500 million bond in the city of Los Angeles for stormwater projects – show that the public is prepared to pay for such measures, says a consultant to the ballot proposals.

“It’s significant any time you get a two-thirds vote,” said Denny Zane, a former mayor and council member in Santa Monica who worked as a consultant for the stormwater measures. Both the November ballot proposal and the 2004 vote in Los Angeles passed that required threshold.

The special tax in Santa Monica will fund improvement and environmental restoration of the city’s storm drainage system, according to the attorney for the municipality. It also will pay for stormwater management systems, storm drain conveyance system upgrades, and capital improvement projects to reduce urban flooding and runoff pollution, the city attorney said in an analysis of the ballot proposition.

The ordinance establishes an annual tax of \$84 for each parcel with one single family detached residence, the city attorney stated. “Rates for multi-family and commercial properties vary depending upon parcel size and a ‘runoff factor’ representing the amount of average storm drainage from a parcel for a particular land use category,” according to the city attorney’s analysis. Measure V passed with 19,568 “yes” votes and 9,630 “no” votes.

Zane said Santa Monica’s Measure V benefited by the city’s “environmental ethic” and its location next to the ocean. “It would certainly be more of a challenge inland,” he said of winning public approval for stormwater measures. “You don’t have the same history, the same sensitivity to the beach and ocean.” But Los Angeles County, which includes vast inland areas, is considering such an undertaking, he noted.

Michael Drennan is an engineer and vice-president of Brown and Caldwell, the Los Angeles environmental engineering and consulting firm that wrote the watershed

management plan for Santa Monica identifying work Measure V will undertake. Drennan said that just inland of the coastal city the San Gabriel and Los Angeles rivers face water quality problems because of too much bacteria. He said the benefit Measure V received because of Santa Monica’s location next to the beach is unlikely to be repeated with the Los Angeles River, a concrete-lined waterway. Hollywood movies including the car chase in the film *Terminator 2* and drag race in *Grease* were filmed there, Drennan noted.

Don Gray, of Santa Monica-based Bay Smart, an opponent of Measure V, said the proposal lacked a “yardstick of how to measure success.” Gray said, “There were absolutely no standards” in the ballot proposition detailing how the measure will improve water quality. “The science itself doesn’t exist,” he said. The ballot issue benefited by using popular buzzwords about environmental issues and had little public review in a city where “You can’t put up a stoplight” without three town hall-style meetings, Gray said.

Consultant Zane countered that, “The most aggressive way to seek public input is to put it before a vote for direct approval. The election is the strongest forum of resident voter participation.”

Mark Gold, executive director of Santa Monica-based Heal the Bay, which backed the ballot measure in the city, said of Gray’s statements that, “I’m ecstatic that Don’s opposition didn’t sway the voters.” Gold, who has a doctorate from the UCLA School of Public Health’s Environmental Science and Engineering Program, said residents don’t like the beaches closed because of contaminated waters.

“When you tie it to public health, people really care,” Gold said of winning support for the parcel tax. “Our beaches look like landfills after every rain.” ♦

Turning a Mess into a Model

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called “one of the best programs I’ve seen” to deal with construction runoff after the initial reported problems. The residential development opened in 2006.

A similar turnaround took place in San Diego on Caltrans’ \$176 million highway project – dubbed “bypass surgery” – at “The Merge,” where Interstates 5 and 805 meet, Rich Horner said.

“The first year I saw it, it was terrible,” Horner, a consultant and associate professor appointed by a federal court to monitor Clean Water Act compliance issues including stormwater at the Caltrans transportation site, said of his visit in 2003. Horner’s work came after the environmental group San Diego Coastkeeper had sued the state over untreated stormwater from highway construction and other matters.

Slopes near a series of lagoons showed erosion at the Caltrans construction site, recalled Horner, who teaches at the University of Washington in Seattle and traveled to the southern California site

yearly to monitor conditions. His trip to the freeway project in 2006 left him impressed.

After several years of progressive improvements, “I would regard it as a model for how Caltrans should approach stormwater management

at other construction sites,” he said of Caltrans controlling stormwater runoff at the site of the project, set for completion early this year.

Edward Cartagena, a public information officer for the state transportation agency, said of the problems the state first faced several years ago at its San Diego site that, “Our eyes were kind of slammed open – it was a wake-up call for us.”

Chiara Clemente, a senior environmental scientist for the San Diego Regional Water Quality Control Board (San Diego Board), said conditions at the highway project definitely have improved. But she wasn’t prepared to say the

“They worked with us. They understood the challenges we had. We responded to their suggestions.”

– Jeff Smith, *Newland Communities*

site is now a model for runoff control.

Construction sites and the oil, grease and heavy metals that can drain from them are among major sources of water pollution. Under measures that date back in

California to 1992, developers must prepare stormwater pollution prevention plans that inventory materials that can contribute pollutants.

What Horner says happened with the San Diego freeway project and what officials say took place at Whitney Ranch outside Sacramento suggests the difference a commitment can make in improving construction runoff measures.

“The resident engineer on the job just decided to do it right,” consultant Horner said of how construction runoff control at the San Diego freeway project went from terrible to quite satisfactory. “It requires somebody who has authority to push it.” No technological breakthroughs are needed to provide new methods of controlling runoff, he said. “It requires planning,” Horner said. “And following the plans.”

Central Valley Board staff member Berchtold traced early problems at Whitney Ranch outside Sacramento to the developer delegating construction runoff issues to a project manager who was unfamiliar with such matters and didn’t see them as important. When BMPs should have been sought to deal with runoff, Berchtold said, the overall project pushed forward.

Rocklin Public Works Director Foster recalled the project manager’s response when rains came in 2004 and problems arose. “It was, ‘Everything’s fine,’” Foster said. The original project manager planned to pump stormwater and sprinkle it on the ground. The hard

Wildcat Boulevard in Rocklin, Calif. shows uncontained, untreated runoff at development site before improvements.



Merton Cap soil in Rocklin, named for the granite quarries that were once a major industry in the community, wouldn't hold the water. "It's almost like trying to sprinkle it on concrete," Foster said of the stormwater runoff from the site.

Berchtold said an enforcement order by the Regional Board spurred the developer to undertake aggressive measures to correct runoff-related problems, including hiring a new construction manager.

"He had an attitude we liked," Kyle Masters, vice-president of operations for Newland Communities, said of Jeff Smith.

Smith said he took a "roll-your-sleeves-up and get to work" approach to construction site runoff. "It's not so much the methods," he said of erosion and sediment control measures, which don't vary widely for development sites.

Smith's we'll-do-it-right approach matched the corporation's commitment to resolving construction runoff issues, Masters said. "We're going to fix this. We're going to learn how to do this," Masters said of Newland's response to runoff problems at Whitney Ranch. "We're going to do everything we can to figure it out."

Central Valley Board officials proved to be a helpful partner in that goal, said construction manager Smith. "They worked with us," Smith said of the state agency. "They understood the challenges we had. We responded to their suggestions." Smith said showing the state regulatory agency that Whitney Ranch would do what it said it would do to control runoff was a key. "When you follow through on your promises," he noted, "you have a greater level of cooperation."

"They turned that site around," Public Works Director Foster said. "They did everything they said they would do."

Not every development site's construction runoff problems end the way Whitney Ranch and the



Before improvements, sediment-laden stormwater runs into detention area.

Caltrans freeway project did. The Central Valley Board executive officer issued a complaint in 2006 to the operators of a 1,678-acre construction project in Roseville, Calif., next to Rocklin, for what the Regional Board said were violations that included discharging sediment-laden stormwater into a vernal pool and creek. Not properly training site employees and inadequate erosion and storm control saved the project about \$240,000 in costs, the Central Valley Board said. The complaint was settled for \$375,000.

The Central Valley Board executive officer also issued a complaint in 2006 to the operators of a sepa-

rate 1,484-acre project in Roseville for repeated discharges of sediment laden stormwater and other pollutant into nearby waters, according to the Regional Board. The developer failed to provide adequate oversight over their contractors, the board said. The complaint was settled for \$700,000.

In El Dorado County, Calif., the developer of a residential project for seniors reached a \$300,000 settlement with the District Attorney's Office after construction site grading sent sediment into Carson Creek. An attorney for the developer said more than \$1.8 million

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Builder improvements show culvert with clean water.



was spent for erosion control measures and that extreme weather led to the stormwater violations.

Most construction projects don't face legal action by a DA's office or six-figure assessments by a water quality control board. Many development sites deal with more day-to-day issues, including correctly using measures developed to control runoff.

Bob Costa, public works manager for Placer County – which reaches from its border with Sacramento to Lake Tahoe, and in the past decade has consistently ranked among the five fastest growing in California, said wattles, the fiber rolls of straw used to capture sediment at building sites, are often misused. Wattles should be imbedded, properly anchored on the ground, and used in appropriate areas of a development, Costa said. But they're often tossed on top of the soil, and used inefficiently in the wrong places.

"Most contractors know the rules and play by the rules," he said. And, Costa added, some contractors try to avoid the rules to reduce construction costs. "Most water quality problems," the public works man-

ager said of controlling construction runoff, "are the result of improper use of a best management practice technique."

Sherryn Haynes, president of California Straw Works, which provides wattles, agreed with Costa that the product can be misused. "I see it all the time," Haynes said. Classes showing how wattles are correctly placed at a construction site mean there's almost no excuse for not knowing proper procedures, she added. But Haynes said workers at some development sites just put wattles on the ground. "If nobody inspects," she said, "they can throw them out there."

Carol Thornton conducts workshops in the Bay Area on erosion and sediment control measures and said some contractors remain uneasy with undertaking runoff control work such as using wattles. "There's still resistance and people who say they don't know why they

"They turned that site around. They did everything they said they would do."

– Kent Foster,
city of Rocklin

need to do this," said Thornton, a senior environmental planner for the San Francisco Estuary Project, which seeks to protect water quality and natural resources. Still, she recalled one contractor

who was initially skeptical of erosion control measures but went on to help conduct classes. "He saw the financial advantages of doing it the right way at the beginning," Thornton said.

The more than \$1 million spent to control construction runoff at Whitney High School, next to the residential development of the same name outside Sacramento, was a financial issue for the Rocklin Unified School District. The land and construction costs for the high school that opened in 2005 totaled about \$85 million.

"The requirements for mitigating stormwater runoff are quite severe," Sue Wesselius, director of facilities construction for the Rocklin school district, said of state runoff regulations. "And the associated cost is very expensive."

"We had to do a lot," Wesselius, said of undertaking such measures as erosion control. "We have a 50-acre site on a slope with adjacent wetlands."

Containing all runoff on the site included having an excavated soccer field as the main retention basin to hold stormwater – and the gunited school pool as overflow emergency backup, the facilities director recounted. During storms a technician stayed around the clock in a trailer to make sure measures to contain runoff were working, Wesselius said.

Rocklin Unified school board member Greg Daley said the stormwater issues at the school property were a surprise. "We were fortunate – under budget – and we

A protected drain inlet uses gravel bags and an internal filter bag to trap sediment.



had the funds. Otherwise it would have been more difficult," Daley said of the cost to the school district to address the runoff matters.

Jeff Grau, the architect for Whitney High School, said the \$1 million-plus-price-tag to protect water quality came from public tax funds. "We thought it was extremely high," Grau said of the cost. "Did it help the wetlands?" the architect asked. "You'd be hard pressed to say that it helped them a million dollars worth.

"It's very, very difficult to gauge," he added. An event off site from the high school, and outside the development's responsibility, ended up contaminating waters that the project had worked to protect, the architect said. "All the treatment we did really was for naught," Grau said.

Money spent to control construction runoff – and what he sees as imprecise measures of the success of such efforts – concerns S. Wayne Rosenbaum, a San Diego attorney who deals with stormwater issues when representing developers. "It has cost significantly more money," Rosenbaum said of erosion control and other measures addressing construction runoff. He asked, Will the millions spent make the water any cleaner? "My answer is probably not," the attorney said. "We have no good science to demonstrate that they really are effective."

Getting hard data to show the difference construction runoff control measures have made in water quality is difficult, defenders of the practices say. "Pinpointing the sources of pollution is not an easy task," said Ed Kimura, water specialist with the Sierra Club's San Diego chapter. Success, though, in getting contractors to better control runoff is apparent, Kimura added. "There's been a dramatic change around construction sites," he said.

Central Valley Board staff member Berchtold said steps to lessen sediment are not easily quantified. "You can't say this is going to take

out 80 percent," she said of a specific measure. Environmental planner Thornton of the San Francisco Estuary Project agreed that, "it's very hard to measure the success of erosion control measures." In the San Francisco region, she said, very little official monitoring has taken place. "We don't really have data," Thornton said.

But consultant Horner, who praised Caltrans' turnaround of the stormwater measures for the San Diego freeway project, said attorney Rosenbaum's comments questioning runoff control efforts overlook experience. "You can predict soil loss," Horner said of the impact of sediment damage and erosion when runoff is not controlled. "There's very good data and understanding of what this soil loss potential is.

In one year of poorly controlled construction, a site can discharge hundreds of times as much sediment as it did before disturbance. Where is the data that shows such huge changes in water quality don't harm aquatic ecosystems?"

Jonathan Deason, a stormwater consultant and professor of envi-

ronmental management at George Washington University in Washington, D.C., said the funds spent on a typical development site are worth the cost. California, as with many issues, is out front in the effort to control construction runoff, Deason added. "They're ahead of the game," he said. "Usually the rest of the country catches up."

Professor Deason likened regulatory enforcement of runoff control measures at construction sites – undertaken even though not every development can be completely monitored and inspected – to the deterrent that traffic tickets provide. "It's like driving on the highway," Deason said. "If you're speeding you probably won't get caught." But the possibility of punishment makes drivers follow speeding laws, he said.

Developers who are sure that others have to comply with the same regulations they face are more likely to accept the runoff rules, he added. "It's not a competitive disadvantage for the builder," Deason said, "if all the builders have to do that."

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Fiber rolls and grass-seeded slopes represent runoff control measures but sediment-laden water still entered the channel from upstream prior to BMPs.





Empire Strikes a Gold Mine of Water Issues

Getting a California gold mine comes at a cost, says the state agency that decades ago acquired the richest mining property in the Mother Lode and now must deal with myriad issues including runoff from the remains of a cyanide plant built in 1910 – as well as stormwater regulations for a new project to provide visitors underground access to the historic Empire Mine.

Discharge from a drain at the 856-acre Empire Mine property 50 miles northeast of Sacramento spurred a lawsuit by a San Francisco-based environmental group, Baykeeper, that led to the state agreeing in 2006 to apply for \$5 million in budget funds in connection with the mining property, to spend \$260,000 in cleanup work at the Empire Mine and pay at least \$205,000 to attorneys, consultants

and experts. The proposed 2007-08 state budget provides \$4.1 million and six positions for continued remediation and treatment measures at Empire Mine, whose drainage flows into Sierra foothills creeks and eventually reaches the Sacramento River, the biggest in the state.

“We never operated this mine,” Sheryl Watson, a state parks spokeswoman, said of the site in the city of Grass Valley. “We inherited this legacy. We’re doing the right thing by cleaning it up.”

Baykeeper, an environmental group that seeks to protect water “from the High Sierra to the Golden Gate,” filed its complaint in federal court in 2004 contending the state was violating the Clean Water Act (CWA) by discharging polluted stormwater from a drain at Empire Mine. State Parks and Recreation also hadn’t filed for a permit or prepared a stormwater pollution prevention plan for the mining property, Baykeeper said in the suit.

The Empire Mine ended operations in 1956 after 106 years of mining and producing 5.6 million ounces of gold. A total of 46,000 tons of tailings from the cyanide plant were taken in the late 1980s to a mining site in northern California.

“This has been a tough and demanding process,” Roy Stearns, deputy director of communications for the Department of Parks and Recreation, said of the agency’s \$1.2 million purchase in 1975 of Empire Mine in the Sierra Nevada foothills. “We have learned that while we have acquired an important part of California’s history – that story told to more than 100,000 visitors yearly – along with it have come serious expenses and responsibilities for clean up.

Discolored drainage – including levels of arsenic, iron, and thallium well above water quality standards – from the Magenta Drain still flowed

off the mining property, according to Baykeeper. The drainage, drawing from the network of underground mining tunnels at the Empire, enters into an unnamed creek that runs through a Grass Valley city park and near an elementary school, Baykeeper had said. A thick layer of ferric iron oxyhydroxide, commonly known as “yellow boy” coats the creek, Baykeeper said, citing a 2005 report undertaken for state parks.

State Parks and Recreation in 2006 sought and got the stormwater permit and plan. Ron Munson, superintendent of the Empire Mine Park, said best management practices – including fiber roles, berms and rocks – are among interim measures addressing runoff-related issues.

The stormwater plan for the park notes that only the building foundation of the cyanide plant, where sodium cyanide was once added to separate gold from crushed rock, remains. While mill tailings now may contain contaminants such as cyanide and mercury, lab results do not indicate significant levels of either substance, states the new stormwater management plan for the Empire. The cyanide, sensitive to sunlight, has degraded naturally, according to the state.

Soil testing, including use of an X-Ray Fluorescence spectrometer described by one state official as resembling a Star Wars gun pointed at the ground, was undertaken in the summer of 2006 at Empire Mine public trails. About 1.5 miles of the dozen miles of public trails at the park were closed because of elevated contaminant readings after test results were made public and submitted to the State Department of Toxic Control Substances.

Michael Miller owns Morning Glory Mines, the company that in 2006 completed the 750-foot-long tunnel portion of the underground access project known as the “adit.” The second phase is planned to add

the tramway rail line taking visitors underground. Miller said the site is safe and takes issue with the conclusion that the lesson of the state’s acquisition of the Empire Mine is not to acquire any more such properties.

“You cannot find one person, one dog, one bird or one insect that’s been harmed by this alleged toxic legacy of mining,” said Miller, who along with Morning Glory Mines is president of the Original Sixteen to One Mine, a working gold mine in Sierra County in northern California. Miller, awarded the state contract for the \$2 million tunnel project finished in October 2006, said he spent a half-day at the state Department of Toxic Substances office in Sacramento reading reports about Empire Mine. “There is absolutely no evidence of any toxicity getting in the way of a human’s health,” Miller said.

Former Grass Valley Mayor Gerard Tassone said Miller is probably right. “There really aren’t a lot of statistics.” But Tassone supports the state agency’s cleanup efforts at the park. “If I were the state I’d err on the side of caution,” he said. “That’s the smart thing to do.”

Carrie McNeil, the former director of the Deltakeeper chapter of Baykeeper, said the CWA requires establishing that water quality standards have been violated – not tracking down every example of pollution’s impact or scientifically proving harm. “The beauty of the act is that it recognizes that not only immediate, but long term exposure to toxins can cause problems,” added McNeil, a veterinarian.

Charles Alpers, a research chemist with the U.S. Geological Survey and author of studies on elevated levels

“We never operated this mine, we inherited this legacy. We’re doing the right thing by cleaning it up.”

*– Sheryl Watson,
state parks spokeswoman*

of mercury in fish in Sierra Nevada watersheds, said no clear-cut data base is available for the impact of contaminated sediments. “It’s a pretty complex and challenging topic in environmental science.”

Diana Winslow lived in Nevada County for 23 years and used to take her children to the city park where the creek – fed by the polluted stormwater Baykeeper cited as draining from the Empire Mine – runs. Winslow said she was surprised no warnings were posted until last year about the creek’s condition. “It felt to me like a communal resource,” Winslow said of Memorial Park in downtown Grass Valley. “I used it almost daily.”

“People aren’t dying yet,” Winslow said of the impact of the mining legacy. But, she added, “There isn’t any way that the 100 years of mining wouldn’t have an impact.” Winslow said the state park should be used to show what happened due to unregulated mining. “Why not use the site to look at the kind of things that never go away?” she asked. Rick Sanger, president of the Wolf Creek Community Alliance in Nevada County, said, “I’m only starting now to understand the level of contamination from this historical mining. It’s staggering.

“The ‘precautionary principle’ is another way of approaching environmental issues,” Sanger said. “Rather than waiting for human impacts to start taking lives and destroying the environment – rather than waiting for the science to show that this is actually occurring – we avoid action that might cause this in the first place,” Sanger said.

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Nonpoint Source News



Link Between Water and Land Use Set for Workshops

The Ahwahnee Water Principles – a blueprint linking water and land use that draws its name from the Yosemite hotel where such development policies were first presented – is among workshop subjects at an April 23 forum in Oakland. (See the Fall 2005 *California Runoff Rundown* for more information on the Ahwahnee principles.)

The Sacramento-based Local Government Commission and Bay Area Water Forum are presenting the event at the Harris State Office Building, 1515 Clay Street. You can register on the web at www2.lgc.org/events.

The California Water and Land Use Partnership, made up of government agencies, universities and private groups affiliated to improve water quality through better land use planning, will join participants at the event.

Al Wanger, deputy director of the Energy, Ocean Resources and Water Quality Division for the California Coastal Commission, works with the water and land use partnership. Wanger said the group acts as a clearinghouse for low impact development and resource based planning efforts represented by the Ahwahnee Water Principles.

"If you can retain water on site – much as the undeveloped landscape would do – you're less likely to generate polluted runoff," Wanger said. "You're not changing the local hydrology and reducing pollution in local waterways."

Clark Anderson, water and land use planning specialist with the Local Government Commission in

State Fair Site to Control Runoff

The site of the California State Fair will reduce pollutants discharged from washing horses, says the settlement of a lawsuit filed by the California Sportfishing Alliance contending the state property in Sacramento systematically polluted the American River.

The agreement, reached in December 2006, calls for the California Exposition and State Fair to begin measures including improved handling of animal wastes and soiled hays. Urine, fecal matter, litter and other pollutants were discharged, a problem worsened by stormwater runoff, according to the lawsuit by the sportfishing alliance.

A horse racetrack and stable areas are part of the 350-acre property, where about 900 horses are quartered in 26 barns, according to the lawsuit. Horses are washed down at the end of training.

The Sportfishing Alliance describes itself as a public trust advocate for California's fisheries.

An order by the State Water Resources Control Board required Cal Expo to submit a Storm Water Management Plan describing a program to protect water quality by reducing pollutants in runoff leaving Cal Expo.

Norbert J. Bartosik, Cal Expo CEO and general manager, said the State Fair is committed to reducing stormwater pollutants.

"We began implementing measures to reduce pollutants from stormwater discharges in 2001, with the assistance of the Central Valley Regional Water Quality Control Board," Bartosik said. "Since then over \$2 million has been spent to improve the water quality of storm water runoff." ♦

Sacramento, said cities and counties in California can align local land use decisions with sustainable water management efforts using strategies like the Ahwahnee Water Principles.

"There are advocates within cities and counties who want to do this stuff – elected officials, staff. People are open to new ideas, but we need to take a new approach" Anderson said. "Good planning is part of the solution, but that also means bad planning is a big part of the problem. We want to get people to think about the root causes of water quality issues and what they can do to minimize impacts in future development." ♦

Water and Land Use Center Starts Work

Tim Lawrence went from one end of the state to the other in March talking about development sites that protect water quality – and he'll study property where a European-style village will be built where a high-tech corporation once had offices.

Lawrence, director of the new Center for Water and Land Use in Davis, Calif., spoke in Eureka in northern California and later San Diego.

The half-dozen case studies the center will undertake include the site of the former Agilent Technologies campus in Rohnert Park, north of San Francisco. After Agilent outsourced operations to Malaysia, the property was auctioned. Sonoma Mountain Village, an ecologically sensitive mix of homes and businesses, is planned at the site.

Lawrence said the water and land use center in Davis, a university community outside of Sacramento,

will serve as a clearinghouse for how to integrate land use and water when building projects.

"Development can happen," he said. "It can happen in a way that has less of an impact on water

quality and water quantity."

Lawrence said plans have to respect regional differences. "What works in Davis," he said, "may not work in Emeryville," – a Bay Area suburb. ♦



Caviar Farm Wins Permit OK

The California site that is home to what's said to be the largest caviar farm in the United States received a cease and desist order – and a permit – March 15 after a Central Valley Regional Water Quality Control Board (Central Valley Board) hearing about discharge of the facility's wastewater that ultimately reaches the Sacramento-San Joaquin Delta.

Sterling Caviar, an aquaculture facility near Sacramento that yearly produces 313,000 pounds of white sturgeon raised for their caviar eggs, also generates algae, silt, fish fecal material and chemicals, according to the staff report by the water quality board.

Wastewater from fish production tanks passes through drum filters and a fluidized system before discharge to wetlands that are a tributary to the Sacramento River, according to the Central Valley Board report.

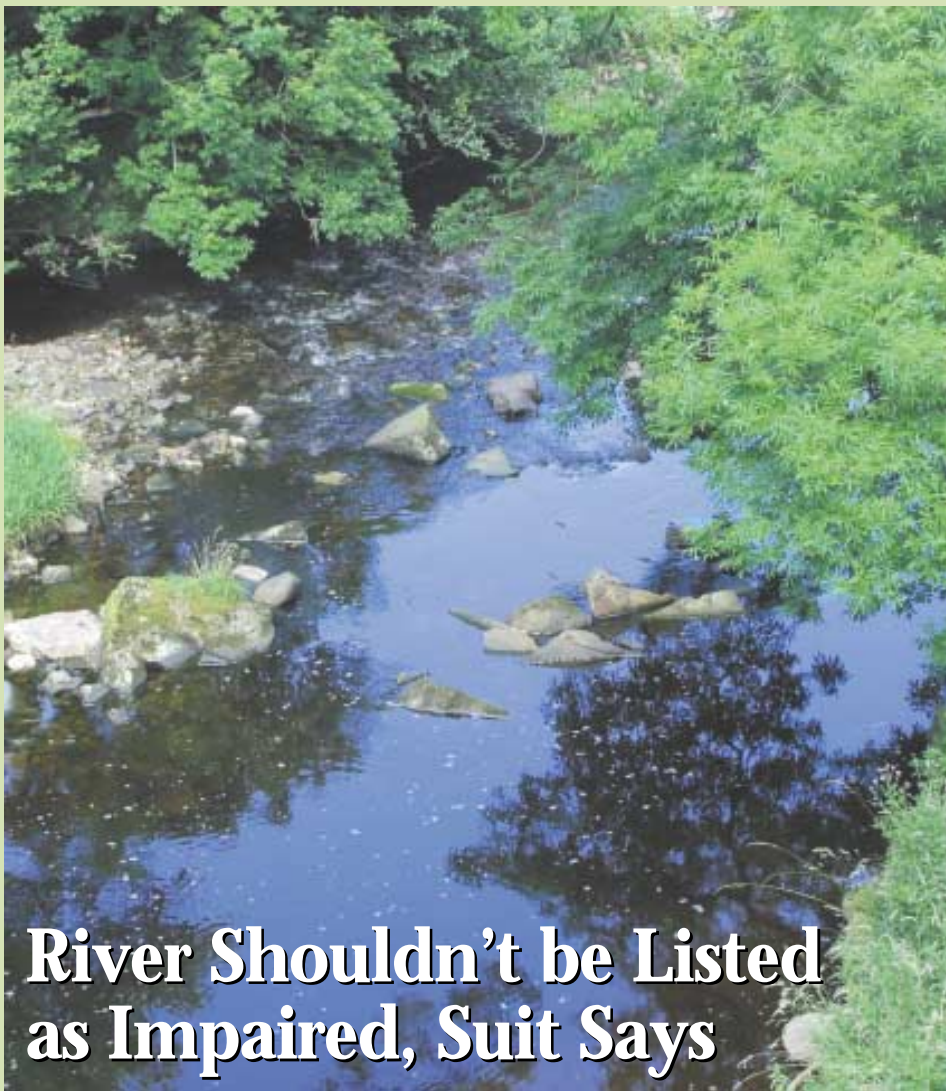
The Board approved the cease and desist order and National Pollutant Discharge Elimination

System permit at the same time because the order includes a compliance schedule to meet effluent limits for Sterling Caviar's operation.

The Stockton office of the California Sportfishing Alliance, in a separate action, filed suit in federal court in 2006 over Sterling Caviar's operations. That lawsuit was settled last year.

The Sportfishing Alliance said the aquaculture facility had operated without a permit.

A United Nations trade ban on most sturgeon has led to a boom in aquaculture facilities. Poaching the fish continues to be a problem. The California Department of Fish and Game arrested six people this year involving an alleged illegal white sturgeon meat and caviar sales operation. The state investigation began after citizens alerted officials that several anglers were allegedly taking sturgeons out of the Sacramento River daily. The fish is indigenous to the Sacramento River. ♦



River Shouldn't be Listed as Impaired, Suit Says

A lawsuit seeks to block enforcement of Total Maximum Daily Loads (TMDLs) for Redwood Creek near Eureka in northern California and set aside a state agency action listing the waterway as impaired from sediment and water temperature.

Barnum Timber, represented by the Pacific Legal Foundation (PLF) of Sacramento, contends the river's impaired designation by the North Coast Regional Water Quality Control Board (North Coast Board) stems from "a scientific-sounding assertion based only on fishing tales and boosterism."

The state Attorney General's office opposes PLF's effort, stating in court papers that at most, the lawyers representing landowners

Barnum Timber have "shown that there were a variety of scientific and lay opinions placed in the record during the regional state board's 303(d) listing process" for Redwood Creek.

Zeke Grader, executive director of the Pacific Coast Federation of Fishermen's Associations, disputes PLF's account of how Redwood Creek was designated as impaired and said the PLF lawyers are "not a group of scientists."

Instead, the Foundation represents landowners around Redwood Creek who don't want to do anything to improve conditions, Grader said.

Redwood Creek runs through the forest near Eureka, Calif. and empties into the Pacific Ocean near

Orick, Calif. The State Water Resources Control Board in 2006 relisted Redwood as impaired. The North Coast Regional Board had so listed the creek in 2002.

PLF states the listing decreases the value of the family-owned Barnum Timber property, imposes severe restrictions on the land and forces the timber company to alter its land management practices. "Before the state of California commits itself to imposing multi-million dollar burdens on its landowners and the public coffers, it should be sure that there is a problem which needs to be remedied," the suit states.

Redwood Creek is not impaired by sediment and has a healthy fish habitat with record populations, the suit contends. The creek is historically rich in sediment, according to the suit. Redwood Creek conditions are well within the range of the natural dynamic conditions of the stream and the sediment, both natural and human caused, has no lasting adverse effects on fish reproduction, the legal foundation asserts. The river is regularly flooded, causing large amounts of sediment to flow into the waterway, according to PLF.

A state agency's assertion that the present salmon and trout population in the river is far below historic levels "turns out to be a mere collection of misty, water colored memories and sepia-toned news prints from long ago days," the PLF states in court papers. Attorneys cite a 1913 newspaper account that the fishing on the Redwood Creek was first class, a report PLF says was used to support claims of current lower salmon population in the river.

Groups including the Humboldt Watershed Council have countered that the TMDL program is an important tool to assure that logging is controlled. The program will reduce the severe water pollution the practice traditionally causes, the watershed council says. ♦

Turning a Mess into a Model

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Ed Hopkins, director of the environmental quality program for the Sierra Club in Washington, D.C., said we are paying for a past of poor practices in controlling construction runoff. Before the regulatory measures that began in the 1990s, Hopkins said, nothing was required in most places. "That's how our water got in the shape it's in," he said.

Kira Schmidt, executive director of Santa Barbara Channel Keepers, which seeks to protect streams and watersheds along with the channel, said builders complying with BMPs to control construction runoff is a major concern of the environmental group. The manuals and handbooks detailing how to deal with stormwater provide developers with effective measures, she said.

"There's a whole world of science behind this that says, 'These things work,'" Schmidt noted.

Rocklin Public Works Director Foster recounted how some builders – confronted with runoff control measures aimed at protecting water quality – cite the Sacramento River and say it's a muddy, brown river that still has salmon swimming up it. Experts in fish biology, Foster noted, counter that when laying eggs salmon need clear water that provides sufficient oxygen.

Attorney Daniel Cooper with the San Francisco-based Lawyers for Clean Water took issue with those builders who cite Sacramento River conditions when questioning the need for construction site runoff control measures. "Who is some contractor to tell me about spawning habitat?" Cooper said. "They just view environmental regulations as a hurdle to be jumped over and a cost to be avoided."

Paul Betancourt, a board member of the Central Valley Board, spoke at a Sacramento conference in January on agricultural water and talked about the need for "good data to make good policy." Betancourt, a

TMDL Roundup

San Francisco Bay (Region 2)

Regional Board approved Jan. 23, 2007 a TMDL for mercury in Walker Creek

Contact Jill Marshall (510) 622-2397

www.waterboards.ca.gov/sanfranciscobay/TMDL/walkermercurytml.htm

Regional board approved Jan. 23, 2007 a TMDL for sediment in the Napa River

Contact Mike Napolitano (510) 622-2397

www.waterboards.ca.gov/sanfranciscobay/TMDL/napariversedimenttml.htm

family farmer and Fresno area school board member who quoted Phillip Howard's book *The Death of Common Sense*, referred to the dangers of policymaking without facts. He compared such an effort to playing darts in the dark. "It's difficult and it's dangerous," Betancourt.

However, he told *The California Runoff Rundown* that state regulation of construction runoff hasn't involved shooting darts in an unlit room. "We've got a system that works," Betancourt said. "It's effective. It's a clear set of rules." ♦

Empire Strikes a Gold Mine of Water Issues

CONTINUED FROM PAGE 9

"For example, rather than dumping mercury, cyanide, PCB's and nuclear waste into the environment and waiting for someone to notice the effect, we just don't do it in the first place because it might just have an effect. I hear the Indians call this the 'duh' principle."

Layne Friedrich, an attorney representing Baykeeper in the

environmental group's lawsuit against the State Parks and Recreation Department said of Gold Rush-era mining practices that, "Back then it was just dump it by the creek" when disposing of mining byproducts.

State parks spokeswoman Watson said work is underway to develop an interpretive message about mining's legacy to add to the talk Empire Mine visitors now receive about the site's history. "There's another story that's emerging," she said of the impact mining had on the environment.

Public reaction to the soil testing and the issue of mining chemicals has been mixed, Empire Mine Superintendent Munson said. "You'll find some people who will tell you that there's nothing wrong," he said. Their family has been here for generations without harm from the historic mining, the parks superintendent said. On the other end of the spectrum are people who are very worried about exposure levels, Munson added.

"It's very complicated," Munson said of the mining property, stormwater regulations, the legacy of mining chemicals and the adit project. "But we're dealing with it. We have to." ♦

Stricter Stormwater Rules Win OK in San Diego

By RYAN McCARTHY

Tougher regulations on construction sites – which builders say go too far but environmentalists argue are needed because of San Diego’s persistent water quality problems at area beaches – have been adopted by the San Diego Regional Water Quality Control Board (San Diego Regional Board).

New requirements include phased grading for construction to minimize the size of disturbed areas and limiting the time that bare soil is exposed to erosion. Other new measures are advanced, three-part treatment for sediment-laden runoff

at construction sites determined to be an exceptional threat to water quality. Coagulation, sedimentation and polishing filtration are involved in advanced treatment.

Ed Kimura, water specialist for the San Diego chapter of the Sierra Club, praised San Diego Regional Board members for approving the new stormwater permit Jan. 24. “They stuck to their guns in terms of maintaining water quality,” he said.

However, San Diego Attorney S. Wayne Rosenbaum, who represents builders, said the new rules change

regulations from “productive to infeasible.” Rosenbaum said that, “As the regulations become more and more draconian you get more and more people involved.

“Will the new San Diego requirements have a positive impact on water quality?” he asked. “Developers are willing to spend money on solutions. What they object to are being guinea pigs for unproven and expensive technologies such as advanced treatment.”

That is why many groups have requested that before these new requirements are imposed on the



region, the San Diego Regional Board conduct a California Environmental Quality Act analysis, Rosenbaum said. If the Board refuses to analyze the environmental impacts of the new requirements, the attorney added, "I think that the people who are going to pay for those requirements, the citizens of San Diego County, have a right to be skeptical about the costs."

Michael D. Pattinson, president of Barratt American in San Diego County and a past president of the California Building Industry Association, said the regulations are an example of government measures helping to push the cost of a new single family home in San Diego to \$800,000. "It means," Pattinson said, "we have more people leaving San Diego than coming to San Diego."

Brad Barnum, vice-president of government relations for the Associated General Contractors of America, San Diego, said school builders contend the current stormwater permits add \$100,000 to the cost of a new elementary school and \$140,000 to a high school's cost. "We're concerned how much this is going to cost public agencies," Barnum said of the new measures.

Phil Hammer, an environmental scientist with the San Diego Regional Board, said the new requirements don't apply to school districts. Pattinson's concerns about the measures and home costs are misplaced, Hammer said. "Complying with the requirements is estimated to cost between 1 and 2 percent of a project's construction costs," he said.

Environmentalist Kimura said of the criticism of the new measures that, "We always hear somebody who says this is a non-funded mandate that's going to cost a lot of money." He cited a 2004 report prepared by professors from USC and UCLA for the Los Angeles Regional Water Quality Control Board. The study of controlling



stormwater in Los Angeles County concluded that best management practices (BMPs) along with a regional system of wetland and infiltration facilities are much cheaper than advanced treatment plants. Source control is always cheaper than cleaning pollutants, the report noted.

"I've found that the most people who have criticized the new regulations didn't understand what the permit involved," Kimura said of the San Diego measures. San Diego Regional Water Board members heard all the arguments of opponents to the new measures and "still said, we have to go ahead," Kimura added.

Historically it has been difficult to get good water quality data – not only for construction sites but also for urban runoff in general, the Sierra Club member said. The new measures strengthen water quality monitoring and reporting and significantly improve provisions for construction sites including ordinance and permit updates, BMPs, inspection, and enforcement, Kimura said.

The *San Diego Union-Tribune*, in an editorial the day the San Diego Regional Board met to consider the new measures, wrote that, "Beach closures remain chronic. Some lagoons are getting worse. So now the state agency wants to ratchet the regulations up a notch or two.

"City officials are bracing for new costs," the editorial read. "Most didn't enforce the old regulations with much vigor. San Diego Mayor Jerry Sanders says the city will try harder. Complying with the new regulations would cost \$164 million over four years, a tab not covered by proposed hikes in water and sewer rates. If the new regulations give us clean water, it will have been worth it."

John Robertus, executive officer of the San Diego Regional Water Board, said some speakers at the agency's January hearing asked for more time before adopting the revised stormwater measures. "This was thoroughly vetted," Robertus said of reviewing the measures. "We had already delayed the decision. We're a year late." ♦

If you would like to receive this newsletter electronically, please send your email address to: rmccarthy@watereducation.org

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Have an interesting story to tell about your nonpoint source pollution control or stormwater program? Why not share your experience with others through *The Runoff Rundown*? One of the goals of *The Runoff Rundown* is to be a forum for sharing ideas that have successfully reduced nonpoint source or urban runoff. These can be programs or policies initiated by cities, local and regional agencies, regional water boards, or in the private sector. To share your story, contact Ryan McCarthy, Water Education Foundation, at (916) 444-6240, or send e-mail to rmccarthy@watereducation.org.



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