

Freeport McMoRan Must Protect NM Groundwater

In January, the New Mexico Water Quality Control Commission ruled that the state's Environment Department (NMED) had the authority to enforce the state Water Quality Act to protect groundwater at any site it regulates, including mines, dairies, and national laboratories.

Freeport McMoRan Copper and Gold had argued that the groundwater beneath the Tyrone Mine in Grant County was exempt from regulation under the Water Quality Act as long as the company did not allow contamination of off-site groundwater. NMED noted that such an exemption would create a groundwater "sacrifice zone," and the agency maintained its right to protect all aquifers in a state that derives 90 percent of its drinking water from groundwater.

The Commission's decision requires Freeport to protect groundwater and clean up pollution at the site. The case began in 2002 and has traveled through the NMED hearing officer, the Water Quality Control Commission, the Court of Appeals, and back to the Commission.

Visit www.nmenv.state.nm.us.

Fish Concerns Prompt Continued Pumping Restrictions

The U.S. Fish and Wildlife Service issued a biological opinion in December, finding that the continued operation of the federal Central Valley Project and the California State Water Project would jeopardize the existence of the delta smelt and adversely modify its designated critical habitat. These projects deliver water to 25 million Californians and three million acres of agricultural land by diverting water from northern rivers and moving it through the Sacramento-San Joaquin Delta to the southern part of the state.

The opinion contained measures to address the protection of the federally protected species, which the California Department of Water Resources (DWR) said would result in average water delivery cuts of 20 to 30 percent, possibly more under certain conditions. The opinion in effect makes permanent those reductions ordered in December 2007 by a federal court. The *San Francisco Chronicle* reported that the cuts could force mandatory water rationing.

The new ruling comes amidst California's third consecutive year of drought. In late February, Gov. Schwarzenegger declared a state of emergency to address California's water shortage, directing DWR to expedite water transfers, provide technical assistance to agricultural water users, and launch

a state-wide water-conservation campaign, among other things.

DWR Director Lester Snow expressed disappointment with the biological opinion, commenting that many other stressors cause havoc in the delta, including pollutants, invasive species, and climate impacts. Snow, along with the state water contractors and the California Department of Game in separate statements, expressed support for the Bay Delta Conservation Plan, under development by a group of public agencies and environmental organizations. The state water contractors said the plan will "provide a basis for addressing the many threats to the Delta needed for fishery and ecosystem recovery, while finding a way to continue to deliver water to Californians throughout the state."

The Family Farm Alliance filed a legal challenge, stating that the opinion acted on assumptions and prejudices rather than evidence or the best available information. The state water contractors also filed suit against the responsible government agencies.

Meanwhile the Delta Vision Committee, a panel of advisors to the governor, backed a plan to fix the delta that includes a peripheral canal, new dams, and restoring 100,000 acres of habitat. The plan calls for breaking ground on a new canal system in 2011 even without the approval of the California Legislature, reported the *Chronicle*. The Delta Vision plan has been endorsed by the Metropolitan Water District of Southern California, and The Nature Conservancy became the first environmental group to come out in support of a canal, provided a new and independent governing agency is formed.

A biological opinion related to salmon in the delta is expected by June, and may further or differently affect pumping from the delta.

Visit www.fws.gov, www.dwr.water.ca.gov, www.swc.org, www.familyfarmalliance.org, www.dfg.ca.gov, www.sfgate.com, www.deltavision.ca.gov, www.nature.org, and www.mwdh2o.com.

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HydroFacts

The World's Water, 2008-2009 (see page 40) reports on the amount of water required to produce common foods, beverages, and products. (The authors note that these data have significant uncertainties and limitations and are suitable only for simple comparisons.)

Beverages	liters of water	Crops	liters of water	Industrial products	liters of water
glass of water	~1	(per kilogram)		(per kilogram)	
glass of bottled water	3 to 4	potato	500-1,500	nitrogenous fertilizer	120
cup of tea	120	wheat	900-2,000	phosphatic fertilizer	150
cup of coffee	1,120	alfalfa	900-2,000	steel	260
Produced goods (per kilogram)		corn/maize	1,000-1,800	primary aluminum	410
bread	1,300	rice	1,900-5,000	primary copper	440
cheese	5,000	Animal Products (per kilogram)			
hamburger	16,000	eggs	3,300		
		chicken	3,500-5,700		
		lamb/mutton	6,100		
		beef	15,000-70,000		

Source: *The World's Water, 2008-2009*

Pesticide Exemption Overturned

In January, the 6th U.S. Circuit Court of Appeals vacated the U.S. Environmental Protection Agency's 2007 final rule that exempted pesticides from the Clean Water Act's (CWA) permitting requirements.

The final rule stated that pesticides applied in accordance with the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) do not require a National Pollutant Discharge Elimination System (NPDES) permit. EPA maintained that pesticides are generally not pollutants, and that although pesticide residuals and excess pesticides are pollutants, they need not be subject to NPDES because by the time the residue becomes a pollutant, it is no longer from a point source and cannot be regulated as such.

For different reasons, both environmental and industry petitioners argued that this rule exceeded EPA's authority: the environmental petitioners because pesticides were excluded from coverage, and the industry petitioners because the rule treated pesticides applied in compliance with FIFRA differently than the same pesticides applied in violation of FIFRA. The court found pesticide residue and biological pesticides to be covered as pollutants under the CWA definition that includes "chemical waste" and "biological materials." It further found that pesticide residuals *are* from a point source rather than a nonpoint source.

The court vacated the final rule, thereby requiring NPDES permits for virtually all pesticide applications over and around waterways. According to a press release by the Western Environmental Law Center, the NPDES permits will allow for local input, provide for accountability, and require regulatory agencies to evaluate impacts to fish and wildlife from both individual applications and cumulatively.

See the 6th Circuit decision at www.westernlaw.org/files-1/09a0004p-06.pdf.

EPA Punts Again on Perchlorate

In January the U.S. EPA announced that it would seek additional input from the National Academy of Sciences (NAS) before making a final determination on whether to issue a national regulation for perchlorate in drinking water under the Safe Drinking Water Act. EPA also issued an interim health advisory of 15 parts per billion (ppb), which will be considered when establishing cleanup levels for perchlorate at Superfund sites and replaces the previous preliminary remediation goal of 24.5 ppb.

In 2008, EPA issued a preliminary regulatory determination that there was not a "meaningful opportunity for health risk reduction" through national regulation of perchlorate. In response to more than 32,000 public comments and recommendations from advisory groups and EPA offices, EPA asked for additional evaluation from NAS.

Meanwhile in December, EPA's inspector general issued a report criticizing EPA's approach to characterizing the risk from perchlorate. The report stated that although EPA guidance recommends using cumulative risk assessment, in the case of perchlorate, EPA did not consider the cumulative impacts of multiple chemicals that, like perchlorate, affect the thyroid's ability to absorb iodide. The report noted that the "single chemical approach and remedy underestimates the complexity of the public health issue" and "inadequately captures the amount of risk to the public."

As part of its request to NAS, EPA asked how it should consider the role of perchlorate relative to other iodide uptake inhibitors and if there are other public health strategies that can be used to address this aspect of thyroid health. EPA also asked NAS to evaluate its derivation of the Health Reference Level of 15 ppb, the use of modeling to evaluate impacts on infants and young children, and the implication of recent biomonitoring studies.

California and Massachusetts already regulate perchlorate as a drinking water contaminant, with maximum contaminant levels of 6 ppb and 2 ppb, respectively.

Visit www.epa.gov, www.cdph.ca.gov, and www.mass.gov. See the inspector general's report: www.epa.gov/oigearth/reports/2009/20081230-2008-0010.pdf.

San Juan-Chama Dilutes Arsenic in Drinking Water

December marked the completion of the \$400 million San Juan-Chama Drinking Water Project, which delivers treated river water to homes throughout the Albuquerque area. The water not only helps conserve groundwater in the aquifer under Albuquerque, which is being pumped twice as fast as it is being replenished, but also allows the city to meet the federal arsenic requirement of 10 parts per billion (ppb).

The drinking-water project is part of a larger San Juan-Chama project, which has been transporting water from the Upper Colorado Basin in Colorado into the Upper Rio Grande Basin of New Mexico for years as part of the Upper Colorado River Compact, using diversions, conveyance channels, pipelines, tunnels, and a dam. Albuquerque contracted for rights to 48,200 acre-feet per year. The initial drinking-water blend is 25 percent surface water, with a plan to eventually ramp up to between 70 and 90 percent.

The natural concentration of arsenic in aquifers supplying Albuquerque's drinking water had averaged 13 ppb, with some local concentrations much higher. Using new distribution pipes, the Albuquerque Bernalillo County Water Authority can now move arsenic-free surface water and water from low-arsenic wells to parts of the city with high-arsenic groundwater. This strategy, combined with an arsenic removal demonstration plant completed in 2007, has resulted in a new average arsenic concentration of about 6 ppb.

Visit www.abcwua.org.

Prescott, SRP Tangle Over Big Chino Aquifer

The Arizona Department of Water Resources (ADWR) ruled in December that Prescott can pump water from the Big Chino aquifer for part of its 100-year assured water supply, reported the *Arizona Republic*. However, lawsuits were predicted, and in January the *Prescott Daily Courier* reported that Salt River Project (SRP) had already filed a legal complaint.

SRP provides water to the city of Phoenix, and much of this water comes from the Verde River, with its headwaters immediately downstream of Big Chino. According to the reports, SRP believes Prescott's pumping of the aquifer will impair the utility's senior water rights by intercepting some of the river's source water. However, the December ruling limited appeals of the decision to residents of the area, preventing SRP from participating.

The ruling also stated that no link had been proved between the surface water and groundwater in the area, a determination that both SRP and environmental groups protested. The *Republic* reported that state law does not "recognize a direct link," but science can be used to prove a connection.

Prescott plans to use as much as 3 billion gallons per year from the aquifer to help meet the state's 100-year water supply rule. Prescott's lawyer told the *Republic* that "SRP's arguments ignore the rights of other communities to grow."

According to the *Prescott Daily Courier*, in early February a Maricopa County Superior Court judge agreed with ADWR that SRP was not eligible to object to ADWR's water supply decisions. The judge added that an administrative hearing in February to review ADWR's ruling was only about application for Assured Water Supply status and not anyone's downstream rights, although SRP would have a chance to argue in other legal forums. The February hearing ran out of time; a further hearing was scheduled for April.

Visit www.azcentral.com and www.dcourier.com.

Interior Scuffles Over Grand Canyon Flows

A memo issued in January by Grand Canyon National Park superintendent Steve Martin questions the legitimacy of the Department of the Interior's five-year experimental plan for flows on the Colorado River, which included one high flow in March 2008, normal dam operations during peak power-

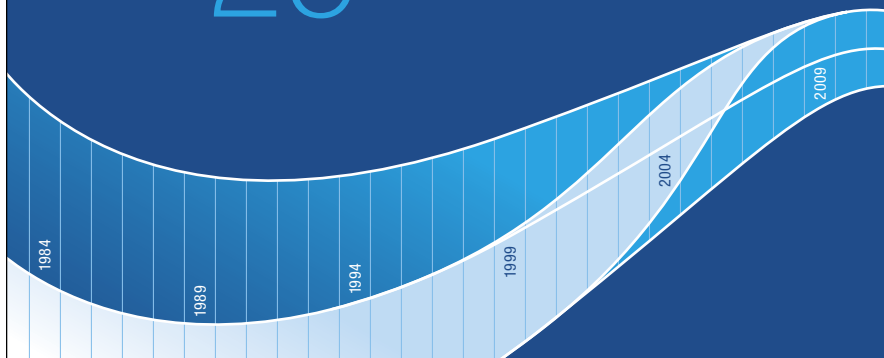
demand months, and steady flows during September and October through 2012.

According to the 2008 Bureau of Reclamation Environmental Assessment (EA) for the experiment, the releases are designed to help native fish and to conserve fine sediment while still providing water storage and hydropower. Martin previously submitted comments in response to the EA in which he noted that although the high flow is intended to evaluate sandbar building and backwater formation for use by the humpback chub, the reasons given for the two-month steady flows in the fall were contradictory and unclear. According to the *Arizona Republic*, steady flows are required immediately after the flood to allow backwater habitats to stabilize.

Martin wrote that during the five-year period, Interior, of which the National Park Service (NPS) is part, must consider additional high-flow tests and that based on scientific findings, a lack of more high flows "could lead to impairment of the resources of Grand Canyon National Park." In addition, dam operations affect power generation, and the *Republic* reported that federal officials have been pressured by western lawmakers to balance the competing demands on the river.

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In November the Grand Canyon Trust filed for summary judgment in its suit against the Department of the Interior related to river flows and the Endangered Species Act. In the January memo, Martin wrote that Interior's proposed response to the lawsuit "continues to misinterpret key scientific findings related to the humpback chub, status of downstream resources in Grand Canyon, and the need for the Secretary to acknowledge NPS authorities and responsibilities to protect resources under NPS administration." He also echoed his concerns about the EA and clarified that NPS agreed to the 2008 high flow but did not support the five-year plan as a whole.

Mike Snyder, NPS intermountain regional director, told the *Washington Post* that he agreed with Martin's analysis and had attempted to spur a reexamination of the experiment by the Department of the Interior. He also said he was "counseled on the importance of having a single Department of Interior family response" to criticism of the flow experiments and especially lawsuits. Although he would not comment specifically on the Grand Canyon because of the lawsuit, the new Secretary of the Interior, Ken Salazar, told the *Post* that he would impart "the need to have sound science in all decision making in the Department of Interior."

Visit www.washingtonpost.com, www.azcentral.com, and www.peer.org. See the memo: media.washingtonpost.com/wp-srv/politics/documents/GCmemo.pdf. See the environmental assessment: www.usbr.gov/uc/emvdocs/ea/gc/2008hfe/GCDexprelEA.pdf. See Martin's comments on the EA at www.peer.org/docs/nps/08_27_2_park_service_grand_canyon_comments.pdf.

Supreme Court Ruling Protects Arizona Creek

The U.S. EPA cannot issue permits to mining companies that would add pollutants to already polluted streams, ruled the U.S. Supreme Court in January, according to the *East Valley Tribune*.

The *Tribune* reported that Carlota Copper Company, a subsidiary of Quadra Mining, planned to construct an open-

pit mine near Globe-Miami, Arizona, in the process diverting the copper-contaminated Pinto Creek around the mine. In 2000 EPA issued a permit on condition that another mine be cleaned up to offset any stormwater runoff from the new mine that might add to pollution already in Pinto Creek.

Environmental organizations sued, reported the paper, and in 2007 the 9th U.S. Circuit Court of Appeals ruled that just because a stream is already polluted, a new company cannot add more pollution. EPA could issue Carlota a permit only if the company planned to bring Pinto Creek's water quality into compliance with standards and then prevent new discharges from exceeding the standards. The January Supreme Court decision upheld the appellate ruling.

Visit www.eastvalleytribune.com.

Mississippi Overflow to Save the Colorado?

Water projects on a grand scale are not dead, at least to Pat Mulroy, the Southern Nevada Water Authority general manager. The Brookings Institution invited Mulroy to sit on a January panel about the nation's infrastructure, resulting in a memo to the President.

Before the panel, Mulroy told the *Las Vegas Review-Journal* that she planned to bring up the old idea of recharging the aquifer beneath the Central Plains with floodwater from the Mississippi River.

Although such a project could take more than a decade to build, Mulroy noted in the *Review-Journal* that it could create thousands of jobs and inject billions of dollars into the economy. Smaller water projects and exchanges could allow Denver and farmers east of the Rockies to stop pumping water across the Continental Divide, leaving more water in the Colorado River.

According to the *Review-Journal*, Mulroy believes that, especially with the

impacts of climate change, the only way to survive the Colorado River drought is to find more water to put in it. She added that this strategy would not impair anyone's water rights, but rather would benefit those living near the banks of the Mississippi by capturing floodwaters.

On the panel, Mulroy embedded the transfer idea in the notion of thinking in boxes larger than states and asked, "Where do threats represent opportunities in other parts of the country?"

Visit www.lvrj.com and www.brookings.edu. See the Brookings report at www.brookings.edu/~media/Files/events/2009/0112_infrastructure/20090112_infrastructure.pdf.

Budget Cuts Impact Arizona Remediation Program

Among the many programs impacted by cuts to Arizona's 2009 budget this spring, the Water Quality Assurance Revolving Fund (WQARF) used by the Arizona Department of Water Quality (ADEQ) to remediate soil, groundwater, and surface water contaminated by hazardous substances, was cut by \$8.9 million, wiping out all but about \$100,000 in the fund to carry over into the next fiscal year.

The WQARF program, also known as the state Superfund program, has 35 sites. The recent budget cut resulted in immediate stop-work orders for contractors at 22 sites under investigation, although ADEQ staff will continue to work on them. Work continued at the 13 most critical sites where remediation is ongoing.

Now \$179 million, ADEQ's total budget has been cut by \$138 million over the past two fiscal years. Further cuts under discussion for the next fiscal year would force the agency to turn administration of some programs, such as hazardous waste management and the national pollution discharge elimination system (NPDES) permitting over to U.S. EPA.

Visit www.azdeq.gov.