# River Crossings

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## The Asian Carp Saga Continues

The Supreme Court in late April rejected Michigan's request to reopen a long-standing lawsuit over the management of Chicago-area waterways, adding that Great Lakes states will be barred from filing a new high-court lawsuit over the spread of invasive Asian carp. The Court, which considered Michigan's motion at a private conference, gave its decision in a two-sentence order without explaining its reasoning. Michigan, joined by Wisconsin, Indiana, Ohio, Pennsylvania, New York and Ontario, had asked to reopen a 1922 lawsuit that was filed after construction of waterways connecting the Great Lakes to the Mississippi River Basin.

The states claimed that Illinois had not done enough to prevent invasive species such as Asian carp from spreading through the waterways. Michigan had also asked the justices to close Chicago-area waterways at least temporarily, and possibly permanently — actions Illinois argued would impose an unfair burden on the state's shipping and boating industries. Citing worries about "the needless expense of increased flood damage", Indiana Gov. Mitch Daniels, split with the other Great Lakes states and sided with Illinois on the canal closure issue.

States and other parties could still file lawsuits in state court or lower federal courts, but Michigan Attorney General Mike Cox (R) has not yet decided whether to pursue a different venue, spokeswoman Joy Yearout said. "While President Obama has turned a blind eye to the millions of Great Lakes residents who do not happen to live in his home state of Illinois, it is now up to him to save thousands of Michigan jobs and our environment," Cox said.

But Nick Schroeck, executive director of the Detroit-based *Great Lakes Environmental Law Center* says the Supreme Court's decision is now likely to spawn new lawsuits from advocacy groups. He said environmental groups "held off" with any legal challenges once it became clear that Michigan was going to directly petition the Supreme Court. "This decision does not end the fight," said Henry Henderson, director of the *Natural Resources Defense Council's* (NRDC) *Midwest Program*. "We will certainly see this action moved to another legal venue. And I would guess, quickly." But NRDC has not yet decided whether it will file a lawsuit of its own, spokesman Josh Mogerman said. "Because this was within the context of the Supreme Court, it was between sovereigns. We filed an amicus brief, but we couldn't take part any further than that," Mogerman said. After today's decision, he said, "we're going to look at what options are out there."

***Illinois River commercial fisherman with a boatload of Asian carp.***

Derek Bailey, tribal chair of the Grand Traverse Band of Ottawa and Chippewa Indians, reflecting on the Native American principle of "*seven generations*", said that decisions made today should be made in the interest of children seven generations into the future. That principle has convinced the tribe to do what it can to stop the advance of the carp. Bailey says he believes that Native American tribes in Michigan who signed the 1836

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Treaty have a legal avenue that the states do not. In that treaty, the federal government agreed to be the trustee of natural resources for Native People. Allowing the carp to invade Lake Michigan would be a breach of that agreement, he said.

Meanwhile, since mid-February, a team of federal and state biologists and commercial fishers has been searching Chicago-area waterways for Asian carp, but have not turned up any of the invasive fish. But that doesn't surprise the scientists who designed the environmental DNA tests which first detected the carp above the electrical barrier. They have said all along that the number of fish that have breached the barrier could be too small to be found with traditional fish-sampling tools such as nets, poisons and fish shocking. But even though the latest round of searches has costs tens of thousands of dollars per week, the biologists plan to continue the search over the next three months as part of a $78.5 million Asian carp control strategy. These efforts included poisoning of a two mile reach of the Little Calumet River in late May which also turned up no Asian carp.

"We're going to be able to kill damn near everything in here," said Charlie Wooley, deputy regional director of the U.S. Fish and Wildlife Service (FWS). "It is critical that we have a better understanding of where Asian carp are in the Chicago Area Waterway System and a better idea of population size so we can better assess the risks to the Great Lakes," said John Rogner, assistant director of the Illinois Department of Natural Resources. Wooley (FWS) agrees, "We'd like physical evidence ... before we are willing to acknowledge that there are fish there," he said. "Intensifying our sampling and monitoring efforts in high-risk areas for Asian carp provides us with critical data on population dynamics, potential range expansion and movement of the species," Wooley said.

But the attorneys general of Michigan, Wisconsin, Minnesota, Ohio and Pennsylvania are not impressed. They still want the locks closed. "The migration of Asian carp remains an immediate and dire threat to the Great Lakes," the attorneys general wrote in a letter to Maj. Gen. John Peabody of the U.S. Army Corps of Engineers. "The [government's] response must be commensurate with the urgency and magnitude of that threat," they said.

Tom Marks, New York director of the *Great Lakes Sport Fishing Council* agreed "It (fish sampling) is a waste of time and money," he said, "I think they believe that a 'good show' with no results will prove what they have been saying — there are no carp above the barrier". Marks fears the longer crews fish without finding anything, the more it will take pressure off federal agencies to take more significant action to try to protect the Great Lakes.

Phil Moy, *Wisconsin Sea Grant*, believes that carp have already been in the lake for about a year. Moy says the DNA, which tested positive for silver and bighead carp in January, was collected between Sept. 23 and Oct. 1 near the O'Brien Lock, about 12 miles from Lake Michigan. And because of the slow turnaround time of the DNA analysis, it is hard to determine whether the carp are still present. "I think these fish have been in Lake Michigan for about a year, and all we were doing was analyzing the samples as the fish moved upstream," he said.

Meanwhile, there is an ongoing debate among biologists as to how well the carp might do in the Great Lakes. First the carp would need adequate food, and some biologists speculate that zebra and quagga mussels have removed so much plankton from Lake Michigan that the plankton feeding silver and bighead carp could not thrive. But Duane Chapman, an Asian carp expert with the USGS in Columbia, MO feels that the fish would adapt. He said that Lake Balaton in Hungary has both zebra mussels and Asian carp, and the carp are doing well in the low-plankton environment. Researchers there suspect the carp have changed their diet; and one possibility is that they are feeding on partially digested food called pseudofeces that's produced by zebra mussels, which are very similar to quagga mussels, he says.

The carp also need the right water temperatures. Lake Superior might be too cold for the carp, but the other Great Lakes would not present a problem. In fact in their native range the carp thrive at latitudes as far north as Siberia which in North America would equate to areas as far north as Hudson Bay in Canada. And as for potential predators


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like lake trout and salmon, the carp would only be available to them as prey during the earliest phases of their lives since the carp can grow to 12 inches in length in one year, rapidly reaching lengths beyond the size range usable as food by trout and salmon.

The carp also need the right habitat to reproduce — and this is where biologists see the greatest potential for keeping carp populations down if they do invade. Silver and bighead carp eggs are said to need to remain in suspension in the water column for about 30 hours before hatching so that they don't settle to the bottom and suffocate. After that, the carp larvae continue to drift for about 70 to 80 hours until they can begin swimming. Thus it is thought that the carp eggs and larvae need rivers with unimpeded flows of at least 60 miles in length to survive. The theory is that if a river runs too short or the current too slack the eggs and or larvae would sink to the bottom and die. At least a half dozen rivers flowing into Lake Michigan appear to meet this 60 mile criteria.

But in at least one known instance, carp eggs collected in the field and placed in a *Ziploc* bag have hatched in the laboratory, raising questions about the carp's adaptability to more stagnant conditions. Chapman's concern is that, just as with the fish adapting to a new food source in Hungary, carp might also be adaptable enough to hatch their eggs in less-than-ideal conditions. Could the eggs survive and hatch along the lake's wind swept shoreline? No one really knows. "One thing we know is that these fish have been introduced all over the world, and in no place have they been able to establish a population without approximately 60 miles of flowing water," Chapman says.

But Dr. Dan O'Keefe, a fish biologist with *Michigan Sea Grant*, based near Grand Haven says, "Speculating is very difficult." He poses the question: Would anybody have thought that when zebra and quagga mussels invaded, they'd clarify the water so much we'd have cladophora blooms, and those blooms would give rise to botulism, and that round gobies — another invasive — would become infected, and birds would eat the gobies and get botulism too, and we'd have thousands of birds dying from botulism because of a mussel invasion? "Perhaps changes due to Asian carp would not be this large, but they could be even larger — nobody can know," O'Keefe says. "It's best we don't find out."

O'Keefe's tale raises a key message that fisheries biologists fear is being lost with all the focus on the Asian carp: The Chicago waterways allow many forms of life through, going both ways — from the big lake to the big river and vice versa. The zebra mussel, round goby, spiny waterflea and other species all moved from Lake Michigan to the Mississippi through this waterway. And to be effective, we need a system that stops all of it, not just big fish heading to Lake Michigan. The electric barrier is too limited to achieve such a comprehensive fix. Case in point: it had to be adjusted after it was built because the electric jolt was not effective on small fish, like say, juvenile Asian carp. And the electric barrier has no effect at all on invasive mollusk larvae attached to barge hulls. Nor could it stop something really small, like the deadly fish virus *hemorrhagic septicemia*, which was transported from the East Coast to the Great Lakes and discovered in 2006. In a kind of sick irony, life moving through the system is only a problem of late because until now the canal waters were so polluted nothing could survive the 28-mile journey. Perhaps EPA and others should, at least temporarily, return a portion of the canal back to those anoxic conditions until a better solution can be found to stop the movement of invasive species.

Such concerns about all aquatic life forms explain why fisheries biologists are nearly unified in their belief that America must re-establish the separation between the Great Lakes and the Mississippi River system that existed until the Sanitary and Ship Canal was built at the dawn of the 20th century. But re-separating the Great Lakes system and the Mississippi River system will be a monumental undertaking and such a project is not likely to come easily or cheaply. Barge operators have raised concerns that such a change would add expense to their services, and tourist ferryboat operators worry that a barrier in the wrong place would kill their businesses.

Meanwhile, the *Alliance for the Great Lakes*, a Chicago-based Great Lakes advocacy group, is one of the only organizations to have published a rough plan for how to accomplish the holy grail of preserving the interests of both the environment and business. "This issue is not just about separating the Great Lakes and the Mississippi," says Joel Brammeier, president of the group. "It's about finding a better way to do business on water." His point: there are water junctions all over the world where invasions must be stopped, and the methods developed here could be exported. "This city was built by people who looked at massive new infrastructure as a world of possibility, and that is where we are at now. Chicago knows how to think big and build big. As long as we can keep in that mindset, we can solve this problem", he said.

Possible solutions being discussed include gigantic mechanisms that would lift barges over a permanent barrier, or locks that always drain water back to the original basin, or transferring cargo so that barges would never move between the two water systems (the surest way to prevent transfer of organisms that hitchhike on barge hulls). But even the most optimistic observers say it could be 15 years before massive new infrastructure solutions would be in place. In the meantime, a multi-agency task force called the *Asian Carp Workgroup* has published a draft strategy that employs a collection of techniques to stop the advance: poisonings, a beefed up electric barrier, acoustic bubble barriers, netting, expanded commercial fishing, etc.

Federal officials are also considering fighting a carp invasion with some of the same techniques used to fight the sea lamprey in the Great Lakes. Sea lamprey populations have been cut by about 90 percent in the Great Lakes, but control efforts have been long, costly, and without an end in sight. While it may be possible to control Asian carp populations in the Great Lakes, preventing their invasion is the only sure way to avoid their feared impacts on the ecosystem and fishing and recreational industries. Federal agencies have used toxic chemicals and barriers to keep lampreys at bay, as they are now attempting to do with Asian carp.

Researchers also use pheromones to attract or repel the lampreys, interfering with their spawning patterns. The USGS is developing the same technology to fight Asian carp, said Leon Carl, the agency's Midwest regional executive. Though the project was discontinued due to lack of funding, recent federal research funding through the *Great Lakes Restoration Initiative* will allow it to move forward, he said. If the lampreys provide precedent, though, the Asian carp response will remain expensive for decades. More than 60 years after lampreys first invaded the Great Lakes, the federal government continues to spend $20-30 million per year fighting them, Carl said.

Another part of the $78.5 million federal framework unveiled earlier this year to stop the spread of Asian carp, provides money dedicated toward efforts to grow the commercial market for the fish. And at least at the *Lockwood Restaurant and Bar* in down-

town Chicago, diners are being offered *carp carpaccio*, *carp chowder*, *carp ceviche* and *broiled carp with grilled fennel*. The dishes have been popular and *ceviche* has even been sold out, said Phillip Foss, the restaurant's chef. "Every guest loved it," he said. But the bony fish are hard to fillet and fairly expensive: about $15 a pound. Carp are a staple in Southeast Asia, but the fish have not caught on with U.S. consumers. Foss is trying to change that, and has been asked to teach other area chefs how to prepare and cook the fish.

USGS's Chapman said federal officials caution that a long-term increase in demand for Asian carp could be counterproductive by discouraging people from working to prevent the fish from spreading. But if increasing demand is understood to be part of a larger control strategy, Chapman said, "We'd like people to kill more of them." So would we!

Sources: Dan Egan, *Milwaukee Journal Sentinel*, 3/15, 3/29 and 5/19/10; Mark Guarino, *Christian Science Monitor*, 2/13/2010; John Flesher, *AP*, 3/29/2010; Emily Ann Holman • *Oshkosh Herald Times*, 3/11/10; Joel Hood, *Los Angeles Times*, 3/24/10; Jeff Smith, *MyNorth.com*, April 2010; Lauren Etter, *Wall Street Journal*, 4/26/10; Joel Hood, Chicago Tribune, 5/25/10; Gabriel Nelson, *Greenwire*, 4/26/10; and *Greenwire*, 3/15, 3/25, 4/26 and 5/21/10

## Coordination Among Stakeholders Needed to Ensure the MRB Future

*The Nature Conservancy* (TNC), through its *Great Rivers Partnership*, and the U.S. Army Corps of Engineers (USACE) Mississippi Valley Division in early May published research results that demonstrate a strong interest and perceived need among leaders in commercial navigation, agriculture, tourism, natural resources, non-government and government organizations to collaborate more effectively to ensure the long-term sustainability of the Mississippi River.

Key findings from the study, conducted by the *Meridian Institute*, suggest that greater cooperation at the scale of the entirety of the Mississippi River Basin (comprised of waterways in 31 states and two provinces) will be essential to addressing the many economic and ecological issues impacting America's largest watershed and to ensuring its long-term vitality. Research indicated that river users largely agree that ecological, social and economic factors must all be thoughtfully considered in the development of shared priorities for the river, which differs from the current approach which too often results in priorities developed through a more regional or even isolated interest approach.

Research also suggested that while current informal and formal partner coordination has been effective to a degree, a shared vision for ecosystem health and economic vitality across the whole basin is advisable to best serve the public interest. Respondents agreed that an enhanced, concentrated coordination of activities that impact the river and of federal and non-federal programs that manage the river can turn a shared vision into reality. In particular, interests with river responsibilities need to be more integrated across jurisdictions, agencies and interest sectors; more facile and responsive to today's problems; and able to foster the public interest by reference to nationally established goals and plans that best utilize and preserve this vital global resource.

Forty-three individuals whose interests represent the diverse make-up of stakeholders in the Mississippi River Basin were interviewed as part of the study. The research built upon a series of meetings that the USACE, the Mississippi River Commission, and other federal agencies concerned with the sustainable management of the river have held during the past two years to discuss the concept of a long-term, intergenerational shared vision. "The Mississippi River provides great value to the people of our nation, from clean water to navigation, flood control, agriculture and wildlife habitat," said Jim Hannon, deputy director of regional business for the USACE. "So one of our biggest challenges in the Mississippi Valley is finding the right balance among these sometimes competing uses of the river. No single entity, agency or organization has all the answers, but if we work collectively, we believe we will engage people and be able to instill a renewed recognition in the value that the Mississippi brings to our nation."

As a first step towards establishing a shared vision statement and management strategy for the watershed, there will be a session at the *America's Inner Coast Summit* in St. Louis from June 22-24th with a focus on generating discussion around the vision. The *Summit* will bring together diverse river stakeholders who have a vested interest in developing sustainable river projects and initiatives. "The time is right for this kind of collaborative thinking around the Mississippi," acknowledged Michael Reuter of *The Nature Conservancy* and director of the *Great Rivers Partnership*. "The challenges around water management are increasingly obvious, and we all have a very important stake in the health of the Mississippi River. We recognize that there are uncomfortable challenges associated with assessing trade-offs and creating a common vision, but no one wins if we lose the economic and ecological vitality of this river. So we need to work together to create more effective institutional structures and coordinate management across jurisdictions, agencies and interest sectors."

Study findings and recommendations can be found online at: http://www.nature.org/wherewework/greatrivers/files/meridian_findings.pdf.

Source: *Joint Nature Conservancy, USACE Press Release*, 5/5/10, Contact Chris Anderson, *The Nature Conservancy*, (612) 331-0747 or (612) 845-2744; or Robert Anderson, USACE, (601) 634-5760

## Georgia Looking to Other States to Solve Reservoir Water Use Issues

As Georgia wages a legal war against Florida and Alabama over its access to water in a federal reservoir (Lake Lanier), its politicians are trying to spur a national water-rights debate by spotlighting a list of 40 U.S. Army Corps of Engineers' (Corps) projects being tapped by utilities in 14 states without direct approval from Washington. But so far, those efforts have fizzled. Not only do water-utility officials around the country doubt that a federal court ruling last year against Georgia over its use of Lake Lanier would imperil their discretionary water allocations from the Corps, few lawmakers have a political interest in pressing the issue.

"Georgia's strategy, in my mind, is a Hail Mary pass," said Mark Crisp, a veteran water consultant at *C.H. Guernsey* in Atlanta. The state's bid to "sway public opinion" is falling flat, he explained, because Congress lacks "the appetite to set national water policy" by changing how surplus supplies are allocated. As it stands, authority to tap federal reservoirs comes largely from the Water Supply Act of 1958. That law allows the Corps to release water for purposes not originally authorized as long as the original uses of the project — hydropower or navigation, for example — are not "seriously" affected. But Congress has never weighed in on how to set a standard for such use.

When U.S. District Court Judge Paul Magnuson last October gave Georgia three years

to win Congressional approval for its use of Lake Lanier, which provides water to more than 3 million Atlantans, he warned that the Corps could face future disputes over its discretionary reallocations of supply. "The problems faced" by the states battling over Lanier, Magnuson wrote, "will continue to be repeated throughout this country as the population grows and more undeveloped land is developed." Indeed, a separate challenge to Georgia's ability to tap Lake Allatoona is currently pending in an Alabama federal court.

The Corps drew up a list of 40 reservoirs with questionable federal authorization at the request of Georgia's U.S. Senate delegation, Republicans Saxby Chambliss and Johnny Isakson. But several officials whose utilities draw water from reservoirs operating under the 1958 law said they had valid deals with the Corps. "We pay them every year," said John Glenn, CEO of Iowa's *Rathbun Regional Water Association*, which takes water from Rathbun Lake for its estimated 16,000 customers. Earl Lewis, assistant director of the Kansas Water Office, noted that his state has paid for water from their six lakes on the Corps list while Georgia resisted sharing the cost of constructing Lanier. "We're in a different situation than they are," Lewis said, citing consultations at the federal level.

Corps spokesman Eugene Pawlik echoed those assurances in a statement. "Local water authorities which have purchased storage in Corps of Engineers reservoirs may continue to withdraw water in accordance with the terms of their water storage agreements," Pawlik said in an e-mail. "No additional federal permission is needed." But that view is not universally shared. When told that other states considered their discretionary water agreements with the Corps inviolable, a spokesman for Georgia Gov. Sonny Perdue (R) replied, "So did we." Perdue aide Bert Brantley described his state as "a cautionary tale that just having a contract with the Corps doesn't mean a judge is going to take that as authorization." Now that the public knows how many areas lack explicit federal approval for their water supply, Brantley said, the governor hopes the uncertainty will no longer be seen as "a Georgia problem."

Perdue's office is not alone in predicting more conflict over rights to federal reservoirs. George Sherk, a professor at the Colorado School of Mines and former Department of Justice water-law attorney, said cities using water under the 1958 law are "operating under a cloud. "We've got multiple federal statutes, multiple agency mandates, and no way to reconcile them," Sherk said. "The way to reconcile them is to take them to Congress, but I'm not sure Congress could reconcile to go to lunch right now," he said.

Water-law professor Robert Abrams of Florida A&M University agreed that lawmakers lack the political will to enact broader reform of the process. Still, Abrams said, "everything's going to become more controversial, rather than less, because of climate-change effects. It's not necessarily that we're going to have less rain, but the timing ... and concentration is going to be different. The Corps is going to be whipsawed," he said.

The Congressional Research Service (CRS) reported in January that the Corps has stayed within its own guidance that defined a significant reallocation of water at 15 percent of available storage. Yet CRS sounded its own note of caution: "Whether Congress agrees with the Corps' interpretation and use of its discretionary authority is a policy issue of increasing relevance as interest grows in [municipal and industrial] reallocation at federal facilities." In addition to the prospect of climate change-induced droughts, growing demand for hydropower could spark future clashes over water supply. The Corps approved reallocations in the 1980s from Lake Texoma, on the Texas-Oklahoma border, that exceeded its 15 percent standard. But it did so only after consulting members of Congress and striking a deal to repay local hydropower interests. Charges of lost hydropower capacity were a central argument in the case against Georgia's use of Lake Lanier. *Southeastern Federal Power Customers*, a plaintiff in the suit, estimated in court filings that over the years, water taken from the reservoir cost $59 million in forfeited hydropower.

As concerns about water supplies rise, Sens. Chambliss and Isakson are rooting for a state-negotiated solution to the Lake Lanier battle that can win Congressional support before the judge's 2012 deadline. "We are pleased to hear that Georgia, Alabama and Florida are working together again toward a negotiated settlement that benefits all stakeholders in [the relevant] river basins," the senators said in a joint statement. "As we have always said, we believe the states are best-suited to find common ground on this issue, and we do not believe the interests of the stakeholders in the basin have to be mutually exclusive."

But Crisp, the Atlanta water consultant, was not convinced that Georgia's congressional delegation has given up hope for a congressional fix to Corps water rules. "I suspect they've been working behind the scenes," Crisp said. "They may have legislation they're just holding in their pocket if everything else falls through."

Source: Elana Schor, *Greenwire*, 3/25/10

## Kansas/Nebraska Water Battle Goes Back to the Supreme Court

Claiming that Nebraska has violated a 2002 compact over water from the Republican River, Kansas has gone back to the U.S. Supreme Court, which approved the agreement after five years of proceedings. Kansas, Nebraska and Colorado agreed under the 2002 water compact to impose a moratorium on new groundwater wells in the Republican River Basin, but Nebraska has continued to increase its water usage, Kansas Attorney General Steve Six (D) claimed in a petition filed in early May. The state exceeded its allocation by 78,960 acre-feet of water — about 25.7 billion gallons — in 2005 and 2006, the petition claims.

"Nebraska has failed to live up to the obligations under the compact, despite assurances given to the Supreme Court and our attempts to resolve this conflict through arbitration," Six said in a statement. "Kansas farmers and communities have been deprived of the water they rely upon in the past and will again under Nebraska's current policies", he said. The dispute that started in 1998 focused on a 1943 compact that gave Nebraska about 49 percent of the river's water, while allocating about 40 percent to Kansas and 11 percent to Colorado. Those allocations remained unchanged under the 2002 settlement, but the states agreed to factor the effects of wells into surface flows.

Nebraska Attorney General Jon Bruning (R) said he would "vigorously defend the state," claiming in a brief statement that the state has been in compliance with the water compact since 2006. "We are working with local natural resource districts to ensure we stay in compliance," he said. During arbitration proceedings that ended last year without resolving the conflict, Kansas asked Nebraska to shut down all wells installed after 1990 that are within 2.5 miles of the Republican River and its tributaries.

If the Supreme Court were to side with Kansas, it could force Nebraska to cut off irrigation to more than 500,000 acres of farmland. Kansas also seeks compensation

for Nebraska's economic gains, which were previously pegged by Kansas at $72 million. The state did not put a dollar figure on Nebraska's water use in its Supreme Court petition. "Nebraska has profited from violating the decree and proposes to retain those profits," the petition says. "Unless restrained by this court, Nebraska will undoubtedly continue to violate the court's decree."

Kansas' petition does not seek any relief for actions by Colorado.

Source: Gabriel Nelson, *Greenwire*, 5/5/10

## MO River Water Transfer Halted Over Invasive Species Concerns

Citing concerns over invasive species in the case of *Manitoba v. Salazar* , Judge Rosemary Collyer of the U.S. District Court for the District of Columbia ruled in favor of the Canadian province, which claimed in a 2002 lawsuit that the agency failed to take the necessary "hard look" at the project's environmental impact as required by the National Environmental Policy Act (NEPA).

The Bureau of Reclamation (BOR) project, called the *Northwest Area Water Supply Project*, would withdraw water from Lake Sakakawea, a Missouri River reservoir, and transfer it across the continental divide into Canada for use in Minot, ND and surrounding areas. The nearly finished 45- mile long joint federal-state project, designed to provide drinking water that meets the "secondary" standards of the Safe Water Drinking Act to local communities and rural water systems in eight to ten counties in North Dakota, would include the withdrawal of over 3.5 billion gallons of water each year.

Concern over the project stems from the fact that the water is taken from the Missouri River Basin and deposited into the Hudson Bay Basin. Because the basins have distinct ecological characteristics and contain different species of fish and other aquatic organisms, the withdrawal and transfer of untreated water from one Basin into another could result in the introduction of invasive species, which can harm or eliminate indigenous species.

"The Court is acutely aware that Reclamation and North Dakota have built miles of pipeline and that the citizens of the area want the Project completed. These facts do not excuse Reclamation's failure to follow the law," Collyer wrote in the opinion, issued in early March. "This case demonstrates the adage that it is better to do something right the first time. Reclamation has wasted years by cutting corners and looking for shortcuts," she said. Collyer wrote further that an existing injunction will be left in place as BOR studies the effects of the water withdrawals on Lake Sakakawea and the Missouri River. The State of Missouri, which filed suit separately in the case, expressed concerns about effects of the removal of 3.5 billion gallons of water from the river on water levels downstream. Collyer also required the BOR to study the consequences of potential species transfer into the Hudson Bay Basin, which includes central Canada and much of the northern Great Plains of the United States.

Environmentalists have expressed concerns about the spread of invasive species such as waterborne microbes. Several advocacy groups, including the *Great Lakes Environmental Law Center* and the *National Wildlife Federation*, submitted a friend-of-the-court brief saying the court should ensure that the project's environmental impact statement complies with NEPA. "Piping water across the continental divide will not solve the water crisis allegedly in existence in North Dakota. The trans basin diversion will simply create a new environmental crisis," the brief said.

BOR had claimed it was not required to conduct a study of the consequences of species transfer, arguing that such a transfer was unlikely and that federal law did not require the agency to examine potential environmental impacts in other countries. The agency also argued that a previous court order and recommendation from U.S. EPA had deemed the project's environmental safeguards adequate. But Collyer ordered BOR in 2005 to revisit its environmental finding. The agency announced last year that it had revised the pipeline project, incorporating a plan to disinfect the water within the Missouri River Basin before transferring it into the Hudson Bay Basin. "This decision marks another step in our efforts to bring reliable, quality water to northwest North Dakota," said Michael Ryan, BOR's Great Plains regional director, in a statement announcing the new pipeline plans.

But those changes were not enough for Collyer, who ruled that while the agency may have taken steps to reduce the likely environmental impact of the project, it had not studied the potential consequences. "Reclamation did nothing in response to the court's order or [EPA's] recommendation," Collyer wrote. "Because Reclamation has not studied the potential consequences from pipeline leakage or breach — which are to be anticipated — it cannot evaluate whether its water treatment proposals sufficiently address and mitigate for such potential consequences as NEPA demands," she wrote.

Source: Gabriel Nelson, *Greenwire*, 3/9/10 and *SandBar* 9:1, April, 2010

## Missouri River Management and Louisiana Wetlands Concerns

As Louisiana embarks on a major program to rebuild state wetlands using sediment from the Mississippi River, state officials have become increasingly concerned about the effects management of the Missouri River by the U.S. Army, Corps of Engineers (Corps) is having on their interests. The Missouri contributes as much as 47 percent of the Mississippi River's flow during flood periods, and experts say that the Missouri River dams are capturing much of the sediment that they need to restore Louisiana wetlands.

"There's no doubt that a significant contribution to the sediment reduction in the Mississippi River today is attributable to the locks and dams on the upper river system," said Garret Graves, chairman of the Louisiana's Coastal Protection and Restoration Authority. Recent studies indicate that the Mississippi carries less than half the sediment it did 70 years ago, the result of more than 40,000 dams within its huge watershed. As much as half of that sediment is retained behind a half-dozen dams on the Missouri — the Mississippi's longest tributary, and its second-largest in terms of water volume. "Those dams are trapping sediment behind them, and are a significant influence on the actual volume of fresh water carried by the Mississippi," he said. "You have to treat the river's water and sediment budget with the same importance as your financial budget."

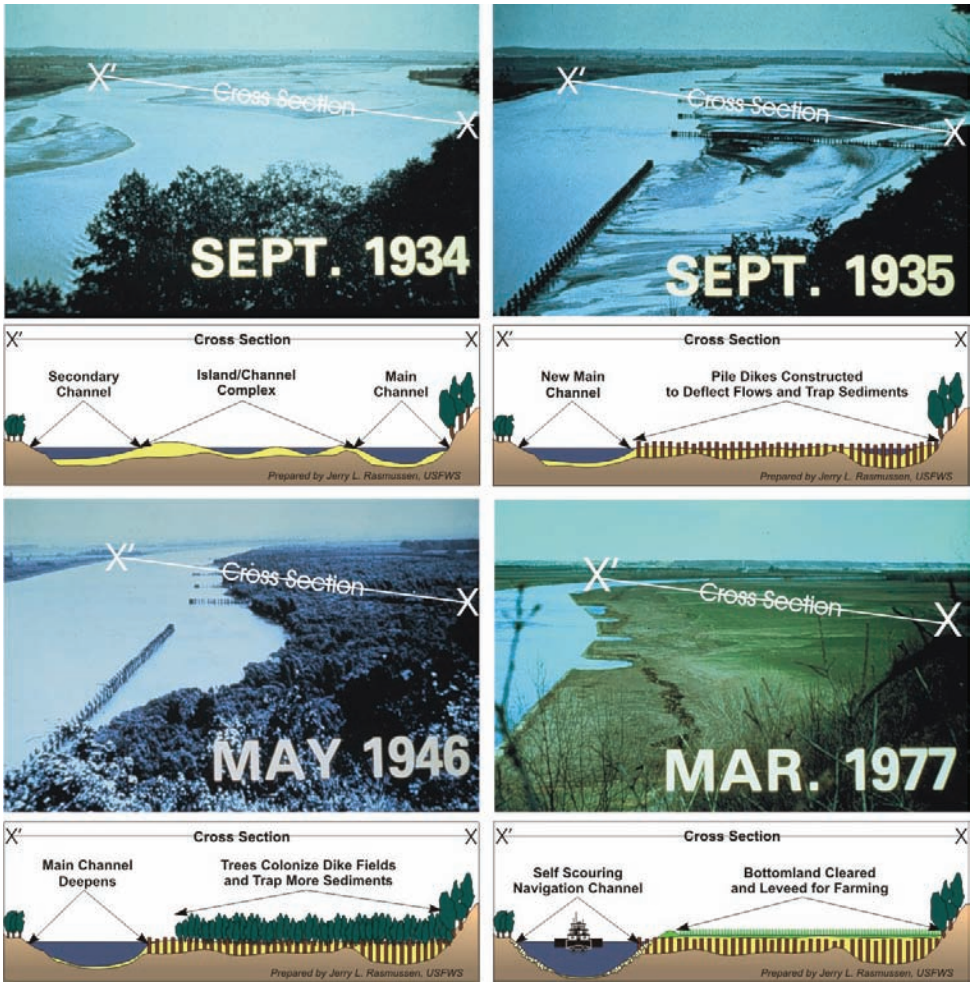
Louisiana environmental groups also say that channelization of the Missouri River, which began in the 1930s to ease navigation concerns (see photos on next page), is responsible for a major part of the nutrient pollution that causes springtime low-oxygen dead zones in the Gulf of Mexico along Louisiana's shoreline. Straightening the river's path and creating levees along its course destroyed thousands of acres of wetlands that once acted as a natural scrubbing machine to remove fertilizer running off farmland before it entered the river, they say. "It's the timing of the releases (from dams in

the spring)," said Matt Rota, director of the *Gulf Restoration Network's Water Resources Program*. "Is there a good way to manage those releases to mitigate their effects? Are there wetland restoration efforts in the upland basin that could help in removing the pollutants before they go down to the Gulf?"

Of concern to New Orleans shipping interests are upstream battles between recreational boaters, who want to keep more water in reservoirs, versus industries below the dams that need that water in their part of the Missouri to float barges to the Mississippi and the Gulf of Mexico, said Paul Johnston, spokesman for the Corps' Omaha District. "We've also had some interest groups on the upper ends of the reservoirs concerned about the amount of sediment (behind the dams) because it's affecting their groundwater," Johnston said. He also said that concerns about the loss of wetlands caused by channelization already has led to a restoration program that will return some oxbow lakes — old hairpin turns in the river — to the Missouri's path. But that has prompted fears from some downstream users that sediment dredged to reopen the former waterways will affect them long before it reaches Louisiana, he said.

Many of these issues were raised several years ago, when the Corps revised its master plan for operating dams along the Missouri River. But Congress last year approved legislation requiring the Corps to reconsider the eight purposes under which it has operated its Missouri River project since it was established by the 1944 Flood Control Act. The purposes listed in that law were simple: flood control, hydropower, water supply, irrigation, navigation, recreation, water quality, and fish and wildlife.

So the Corps has now embarked on a five-year study that will offer recommendations to Congress on whether and how to change Missouri River project purposes. As part of that process, the Corps has and will continue to sponsor public meetings (including in Louisiana) to discuss the study's direction. Assuring sediment for wetland rebuilding, reducing nutrients to lessen the size of the dead zone and guaranteeing the flow of water necessary for navigation are likely to be proposed as new project purposes.




***Channelization of the Missouri River at Indian Cave Bend near Rulo, NE between 1934 and 1977 with graphic cross sections depicting the process in action. USACE photos.***

Source: Mark Schleifstein, *The Times-Picayune*, 2/22/10

## Wetlands Restoration Urged in Wake of MR-GO Damage

The U.S. Army Corps of Engineers (Corps) should recommend that construction of a series of wetlands restoration projects be fast-tracked to mitigate for 50 years of environmental damage caused by the Mississippi River-Gulf Outlet (MR-GO) say representatives of 17 environmental and civic groups that make up the *MRGO Must Go Coalition*. Though the shipping short-cut between the Gulf of Mexico and the Industrial Canal — blamed by many for exacerbating flooding after Hurricane Katrina — has been blocked by a massive rock dam, debate continues over how to remedy the erosion, salt-water intrusion and habitat loss caused by the channel.

The coalition published its recommendations in a new report entitled, *"Mister Go Isn't Gone Yet: Creating Community and Environmental Resiliency in the Wake of a Man-Made Catastrophe."* Corps and state officials must quickly come to agreement on who will pay for the restoration efforts, which could cost more than $1 billion, said Juanita Constible, a spokeswoman for the *National Wildlife Federation*'s Louisiana operations.

The coalition supports state efforts to require that restoration to be financed with 100 percent federal money, rather than the traditional 65 percent federal and 35 percent state split. State officials contend that provisions in agreements between the state and federal government on building freshwater diversion projects to reverse MR-GO damage, and in legislation requiring the Corps to develop a restoration plan when Congress deauthorized the channel, require the Corps to pay for all restoration costs.

The coalition report is aimed at reinforcing recommendations the group has made as the Corps completes work on its own *MRGO Ecosystem Restoration Study*, due to be released by early summer. One of the top priorities, according to the coalition report, is construction of a "Violet" diversion, a diversion of freshwater from the Mississippi River either through the existing Violet diversion or through another location running into Lake Borgne. The Corps has proposed diverting an average 1,000 cubic feet per second (cfs) of water most of the year, with a four-week period in the spring when as much as 7,000 cfs would be pumped.

The coalition warns that might not be enough water, as the Corps design assumes that two other diversions would be built upriver at Blind River and the Hope Canal to add water to Lake Maurepas, which would then flow through Lake Pontchartrain into Lake Borgne. Only when the water from those diversions were added to the Violet project would the targets for salt in waters on the eastern side of the Mississippi and in Lake Borgne be met, and there's no guarantee they'd be finished for years, the report said.

Keeping salinity levels low is important to allow vegetation to take root and thrive, holding soils in place and reducing erosion. Thus, the Violet diversion should be built to allow a maximum flow of 7,500 to 15,000 cfs, and even higher flows in drought years, a target that is likely to draw the ire of oyster leaseholders and shrimpers that rely on existing salt levels in the area's waters. The group also proposes speeding plans to rebuild wetlands and cypress forest in the Central Wetlands, an area within the levee system bounded by the Gulf Intracoastal Waterway, the MR-GO, and the populated communities of the Lower 9th Ward, Arabi and Chalmette. Restoration of a healthy cypress forest and wetlands in the area, even though within the main hurricane levee system, would provide additional protection from winds and surge to those neighborhoods, and provide fishing and recreational opportunities to residents.

"Perhaps most importantly, the Central Wetlands could serve as an easily-accessible demonstration of what restoration can accomplish, engaging both citizens and decision makers from around the country in the future of coastal Louisiana," the report said. The coalition's full report is available on the Web at http://www.mrgomustgo.org/.

Source: Mark Schleifstein, *The New Orleans Times-Picayune*, 4/26/10

## Rent for MT Riverbeds

The Montana Supreme Court ruled in late March that *PPL Montana* owes the state $41 million for past use of public riverbeds to generate electric power — and said the state can charge *PPL* additional, ongoing rent for the company's 10 hydroelectric dams. The 5-2 decision means *PPL Montana*, which bought the dams from *Montana Power Co.* in 1999, may end up paying multimillion-dollar annual rent to the state from 2008 and into the future, as well as nearly $8 million in interest, state officials said.

"Today's decision is a victory for generations of Montanans and confirms what we've known all along: Our rivers belong to the people of Montana, not out-of-state corporations," Attorney General Steve Bullock said. "In the future, power companies that want to use our streambeds to make hundreds of millions of dollars will have to pay full-market value."

*PPL Montana* spokesman David Hoffman said the company is disappointed by the ruling, but was still examining the 107-page decision and dissent. "We're not sure how we'll react," he said. The $41 million owed by *PPL Montana* will go into the state's public land trust, but it hasn't been determined precisely how that money may be distributed, state officials said. The state Land Board now has the power to decide what rent *PPL* would pay from 2008 forward. State law also says 10 percent annual interest is charged on any judgment that isn't paid, so *PPL* appears to owe about $4 million a year on its $41 million in back rent, which was determined by a state district judge in June 2008.

The high court's decision ruled on many issues in the complex, 6-1/2-year-old case, but turned primarily on whether the state owned the riverbeds on which *PPL Montana's* dams were located. At issue was whether the Missouri, Madison and Clark Fork rivers were "navigable" at the time of Montana's 1889 statehood, thus granting state ownership of the streambed. District Judge Thomas Honzel of Helena ruled in the state's favor on the navigability issue in August 2007 and the Supreme Court upheld his decision. "The concept of navigability for title purposes is very liberally construed by the U.S. Supreme Court," Justice Pat Cotter wrote for the five-person majority. "A river does not have to experience 'actual use' at or before the time of statehood, so long as it was 'susceptible' of providing a channel for commerce."

But Justice Jim Rice wrote in his dissent that *PPL* provided plenty of contrary evidence showing that stretches of river straddled by the dams were not navigable, such as the Great Falls of the Missouri, the site of five of the present-day dams. The issue of navigability should have been decided after a trial that examined the conflicting evidence, rather than the District Court ruling for the state in a summary judgment, Rice said. "The (Supreme) Court's decision makes one wonder just what evidence the court would have considered sufficient for *PPL* to defeat summary judgment in this case," he wrote. "This court has steadfastly guarded against depriving a party of the right to trial by the improper entry of summary judgment. "Today, I believe we step back from the protection of that right."

The case began in 2003, when several parents of Montana schoolchildren, with the help of lawyers in Bozeman and Helena, sued *PPL* and other power-generators in federal court, seeking compensation for the power-generating company's use of Montana riverbeds at its 10 hydroelectric dams. The suit argued that the riverbeds are school trust lands and that anyone using them must pay rent to the state. The state joined the lawsuit in 2004 and later filed its own case in state court, seeking back rent from *PPL* and the right to charge rent in the future.

Two other power generators, *Avista Corp.* of Spokane, WA, and *PacifiCorp* of Portland, OR, settled with the state and agreed to pay rent on riverbeds occupied by their respective dams. *Avista* is paying $4 million a year for its Noxon Rapids dam on the Clark Fork River near the Montana-Idaho border and *PacifiCorp* pays a minimal rent for its small dam on the Swan River near Bigfork. But *PPL* decided to fight the issue in court. A year after Honzel ruled that the rivers involving *PPL* are navigable and therefore the streambeds are owned by the state, he ruled that the state had properly calculated $41 million in back rent that *PPL* owed from 2000-2007. The Supreme Court also upheld Honzel's ruling on the back rent calculation.

Sources: Mike Dennison, *Billings Gazette*, 3/30/10; and *Greenwire*, 3/31/10

## Coal Mining Pollution Linked to Higher Cancer Rates

People living near streams polluted by coal mining are more likely to die of cancer, according to a first-of-its kind study published by researchers at West Virginia University (WVU) and Virginia Tech. The study provides the first peer-reviewed look at the relationship between the biological health of Appalachian streams and public health of coalfield residents. Published in the scientific journal *EcoHealth*, the paper compares cancer death rates to population figures, coal production figures and a new index of how far people live from various types of coal-mining operations.

"We've known for years that stream organisms can be sentinels of environmental

quality," said study co-author Nathaniel Hitt, a Virginia Tech stream ecologist who now works for the USGS. "What we have now shown is that these organisms are also indicators of public health," he said. Hitt wrote the paper with Michael Hendryx, a WVU epidemiologist who has published a series of other scientific articles that linked mining to poor public health and found coal costs Appalachian more in premature deaths that the industry provides in economic benefits.

"We found that cancer rates are linked to environmental quality even after accounting for other major risks such as smoking," Hendryx said. "Furthermore, we saw that the most impaired streams were in close proximity to coal surface mines. This adds to the body of evidence that coal mining is harmful to ecosystems and human health."

The paper comes as the Obama administration continues a crackdown on mountaintop removal mining, a move industry officials say would harm the region's economy and is based on faulty arguments that mining damages the environment. Some coal industry officials have been especially critical of the U.S. EPA's efforts to tighten water quality guidelines for mining, saying it amounts to putting the health of mayflies ahead of jobs. But the new paper adds to what other scientists say is the growing evidence not only that mining damages forests and streams, but also that it threatens public health across the Appalachian coalfields.

"Regulation of coal mining is often portrayed as a choice between 'mayflies and miners'," said Emily Bernhardt, a Duke University biologist who has researched mining issues and testified on behalf of citizen groups. "However, this study shows how streams are important for the health and welfare of miners and their communities."

Sources: Ken Ward Jr., *Charleston (WV) Gazette*, 4/21/10; and *Greenwire*, 4/22/10

## Proposed New Mining Regulations

The Interior Department is writing new regulations for mountaintop-removal coal mining that would expand protection for waterways and require the restoration of dynamited areas. Christopher Holmes, spokesman for Interior's Office of Surface Mining Reclamation and Enforcement, said the agency is rewriting its "stream protection rule" to boost environmental safeguards.
The proposal being drafted, Holmes said, would:

- Establish a clear standard for restoring dynamited mountaintops. The 1977 Surface Mining Reclamation and Control Act requires that mountaintops be restored to their "approximate original contour," but defining the term has been left to individual states.
- Yank the right of state regulators to grant exceptions to the contour-restoration requirement. Federal authorities currently allow states to set their own standards for granting exemptions, and state standards vary widely.
- Set a federal definition for "material damage" to watersheds beyond permitting areas. The surface-mining law prohibits mountaintop-removal mines and other above-ground coal operations from damaging watersheds outside areas covered by mining permits, but the requirement has been difficult to enforce because "material damage" has never been defined.
- Require companies applying for mining permits to collect more information on the environmental health of watersheds where they intend to work and to monitor conditions during and after mining. Mines that inflict environmental damages beyond what is permitted would be required to change their operations or close.
- Clarify that seasonal streams and temporary streams are covered by the regulations, even when the streambed is dry.

The changes under consideration would apply to new applications for surface coal mining permits and would not apply to existing coal mines, Holmes said. The new stream rule would replace Interior's previous watershed-protection guidelines that banned mining activities within a 100-foot buffer of streams. The Bush administration in 2007 modified the stream-buffer zone rule to allow mining activities within the 100-foot buffer if it was deemed impractical to avoid such work. The change faced numerous lawsuits, and Interior Secretary Ken Salazar last April voluntarily retracted the rule and announced his department would issue its own rule for stream protection.

Mountaintop mining produces waste-rock even after mountains are rebuilt. When the mountaintops are blasted, the volume of waste material expands by about 25 percent and leaves mine operators with excess rock even after the area is restored. Waste rock is often dumped in valleys. About 1,200 miles of headwater streams have been buried in this way, according to the U.S. EPA. And in early April, EPA issued a set of water-quality guidelines for surface mining in Appalachia that agency officials said would ban the dumping practice, known as a "valley fill," in nearly all cases.

But the Interior Department's new stream protection rule is far from final, Holmes said. The Office of Surface Mining is planning to hire scientists and policy experts to assess the proposal's environmental impact. Agency officials are also holding closed-door meetings with mining companies, environmental groups, state regulators and the miners' union, and will incorporate feedback from the assessment and stakeholder meetings into a proposed rule, scheduled for publication in February. A final rule could be in effect by 2012, Holmes said.

Mining-industry groups say the Interior rules represent another part of the Obama administration's regulatory assault on coal mining. "At the core of [the Surface Mining Control and Reclamation Act] is balancing economic and environmental protection," said Luke Popovich, spokesman for the *National Mining Association*. "They seem to be tipping the balance in favor of environmental protection." Popovich expressed particular concern about provisions that would no longer allow state exemptions for restoration requirements, saying they would curb states' ability to build on reclaimed mine lands. In mountainous areas, states have built airports, golf courses and malls on former mountaintop removal mining sites, Popovich said. Holmes said the new rules were not aimed at curtailing such developments, but Popovich said he is skeptical of how the rule would play out. "This represents a clear strategic direction to wrest greater control of the regulatory program from states where it has traditionally resided," Popovich said.

The *Sierra Club's* director of environmental quality, Ed Hopkins, said his group had some concerns about the potential removal of a stream-buffer requirement. "There's inevitably some interpretation in enforcement, and that's why we like to see a bright-line standard like the one set under the Clinton administration," Hopkins said. But Hopkins said other proposed changes such as federal definitions for mountaintop restoration and damage to watersheds should yield positive environmental impacts. "The way [the federal reclamation law] has seemed to work, there seems to have been a tremendous amount of state discretion in interpreting federal rules," Hopkins said. "To the extent that these rules would hold states accountable, that seems like a good thing."

Sources: Patrick Reis, *Greenwire*, 4/19/10; and *E&ENews PM*, 4/1/10

## Manure Pollution Wreaking Havoc on Waterways

The amount of nitrogen entering the environment from animal manure has increased at least 60 percent since the 1970s causing systemic problems in the country's rivers and coastlines. Crowded together on mega-farms, livestock produce three times as much waste as people, more than can be recycled as fertilizer for nearby fields.

Unlike other types of pollution, such as human or industrial waste, manure waste has not been strictly regulated by the U.S. EPA. But as scientists have begun to highlight the impact of the nutrient, including 230 oxygen-free "dead zones" that have arisen in U.S. ocean waters, regulators have begun to take notice. When excess manure runs off into streams and rivers it creates high nutrient levels which lead to excessive algae growth and low dissolved oxygen levels. In the Chesapeake Bay, about one-fourth of the pollution that leads to dead zones can be traced to cows, pigs, chickens and turkeys. The excess manure also gives off air pollutants, and it is the country's fastest-growing large source of methane, a greenhouse gas.

So in late February, EPA announced that manure runoff will be one of its six "national enforcement initiatives." Rules have recently gone into effect to tighten manure restrictions on the largest animal farms, and in the Senate, Ben Cardin (D/MD) has proposed a bill that would impose a cap-and-trade system for nitrogen pollution in the Chesapeake Bay watershed, home to one of the country's largest dead zones. "We now know that we have more nutrient pollution from animals in the Chesapeake Bay watershed" than from human sewage, said J. Charles Fox, EPA's new Chesapeake chief.

But such rules could cripple small farmers, according to Don Parrish of the *American Farm Bureau Federation*, and the agriculture community has fought back against them. "It's clearly going to put a squeeze on people that they've always said they didn't want to squeeze," including family-run farms, he said.

But large "industrial" farms are a major concern, and in Missouri, for example, "local control" laws giving county governments control over the placement of large farms has pitted industrial farmers against neighbors worried about pollution and odors. More than a dozen of the state's 114 counties have such laws, which have prompted a response from Missouri Attorney General Chris Koster (D), who recently appealed a court decision that refused to give a permit to a farm that would house 4,800 pigs. "In the eyes of the agricultural community, this is starting to spin out of control," he said. In that case, a judge sided with residents of the town of Arrow Rock, who had filed a lawsuit in 2007 to block the farm. The judge ruled that the pig farmer should not receive a permit because the farm would produce "odors and volatile and dangerous airborne pollutants" and "decimate" tourism in Arrow Rock, a national historic landmark known for its 19th-century buildings and its role in westward expansion.

***Chicken confinement operation.***

Also, in Gentry County, MO a large pig farm was recently ordered by a jury to pay $11 million to 15 neighbors who complained that the odors from the farm's cesspits forced them to stay indoors and discouraged them from inviting guests to their homes. One cesspit had a 6-inch-thick matting of flies and maggots and caused a "constant belching-up" of chemicals and odors into the air, said Robert Lawrence, a Johns Hopkins University public health professor who gave expert testimony for the plaintiffs. "I have never, ever observed anything as extreme as the cesspits," Lawrence told the jury.

The facility, owned by Princeton, MO-based *Premium Standard Farms*, houses 200,000 pigs. The company previously paid $5.2 million in 1999 to 52 neighbors who had complained about the odors, but neighbors sued again because the problems had not been fixed, said Charlie Speer, a Kansas City attorney representing them. *Premium Standard*, which claims to have spent $39 million fixing the odor problem, said it plans to appeal the jury's verdict. "In light of this decision and in view of the continuing hostile environment toward live hog production, we have serious concerns whether we will ever make any future investments in the state of Missouri," the company said in a statement.

In other states, such as Iowa and Ohio, farmers have successfully defeated movements for local control of farm placement. "We will do everything we can in our power to preserve our exemption from local control," said Larry Gearhardt, director of local affairs at the *Ohio Farm Bureau*. "It's not a pretty fight".

Sources: David A. Fahrenthold, *Washington Post*, 3/1/10; Lauren Etter, *Wall Street Journal*, 3/3/10; Karen Dillon, *Kansas City Star*, 3/4/10;; and *Greenwire*, 3/1, 3/3; and 3/5/10

## USDA Finds Declining Soil Erosion and Rising Rural Development

Cropland soil erosion rates have declined by more than 40 percent over the past 25 years, according to a new assessment by the U.S. Department of Agriculture (USDA). But USDA's *Natural Resources Inventory* also found increasing development on rural lands, with more than a third of all building occurring in the past 25 years. Water erosion dropped from 4 tons/acre/year in 1982 to 2.7 tons/acre/year in 2007, and wind erosion rates dropped from 3.3 to 2.1 tons/acre/year in the same time period.

Conservation groups applauded the decrease in soil erosion but said the development findings serve as a warning that steps need to be taken to protect prime farmland and conservation areas. "The findings from the *2007 National Resources Inventory* serve as a stark reminder that our nation's agricultural land base — and the benefits it supplies — is threatened by poorly planned development," said Jon School, president of the *American Farmland Trust*.

More than 41 million acres were developed between 1982 and 2007, the most recent year covered by the report. The total area covered by new development is roughly the size of Illinois and New Jersey combined. Of that, most of the new building occurred in the Southeast. The biggest development surge occurred between 1992 and 1997, when nearly 11 million acres were converted. The new development included roads and railroads in rural areas and residential, commercial and industrial uses in more urban areas. More than half of the new development occurred on what had been active farmland.

The report's findings on erosion show that total cropland erosion has declined from 3.06 billion tons/year in 1982 to about 1.72 billion tons in 2007. Water, wind or gravity can cause soil to breakdown and detach. It

harms soil quality and crop productivity for farmers and can cause water and air pollution. USDA's Natural Resources Conservation Service, which released the report, attributes the diminished erosion to its projects and education efforts.

Source: Allison Winter, *Greenwire*, 4/28/10

## Anacostia River Bag Cleanup Success

The District of Columbia's 5-cent bag tax generated about $150,000 during January to help clean up the Anacostia River, even though residents dramatically scaled back their use of disposable bags, according to a report city officials issued in late March. In its first assessment of how the new law is working, the D.C. Office of Tax and Revenue estimated that food and grocery establishments gave out about 3 million bags in January. Before the bag tax took effect on January 1, an estimated 22.5 million bags were being issued monthly. Council member Tommy Wells (D/Ward 6), sponsor of the bag tax bill, said the new figures show that city residents are adapting to the law far more quickly than he or other city officials had expected. "While it's difficult to project the annual results based on just the first month's experience, the report shows that residents are making great strides in reducing disposable bag use," Wells said.

The tax, one of the first of its kind in the nation, is designed to change consumer behavior and limit pollution in the Chesapeake Bay watershed. Under regulations created by the D.C. Department of the Environment, bakeries, delicatessens, grocery stores, drugstores, convenience stores, department stores and any other "business that sells food items" must charge the tax on paper or plastic bags.

A *Washington Post* poll conducted in January found that residents were almost evenly split on whether they supported the tax, with 46 percent supporting it and 49 percent opposed to it. Support for the bag tax was highest in Northwest Washington, where about six in 10 residents supported it. District officials had estimated that the tax would generate $10 million over the next four years for environmental initiatives. The money will go to the newly created *Anacostia River Cleanup Fund*, which will spend it on various projects. But in January, the tax generated only $149,432, suggesting that it might fall short of revenue projections.

But despite the shortfall, Wells is pleased. "Not only are we reducing the number of disposable bags entering our environment, but we also have new resources flowing in to help with the cleanup of the Anacostia River," he said.

Sources: Tim Craig, *Washington Post*, 3/30/10; and *Greenwire*, 3/30/10

## Petition Seeks Protection for 404 Southeastern River Species

Environmental groups have petitioned the Obama administration to add 404 species from rivers in the southeastern United States to the Endangered Species List. Those plants and animals will go extinct unless their ecosystems are protected, the *Center for Biological Diversity* (CBD) and other environmental groups argue in the petition filed in late April. Dams and water diversions are changing rivers' water levels, while logging, farming and wetlands development are removing buffers that once protected rivers from run-off pollution, said Noah Greenwald, director of the CBD's endangered species program. "With unparalleled diversity and a variety of severe threats, the Southeast's rivers are the extinction capital of North America," Greenwald said. "These 404 species need Endangered Species Act (ESA) protection to have any chance at survival."

Species listed in the petition include 48 fish, 92 mussels and snails, 92 crustaceans, 82 plants, 13 reptiles, four mammals, 15 amphibians, 55 insects and three birds. Their homes are in Arkansas, Louisiana, Mississippi, Tennessee, Kentucky, Alabama, Georgia, West Virginia, Virginia, North Carolina, South Carolina and Florida. The petition is the second-largest ever, behind a 2007 action from *Wildearth Guardians* that sought to list 475 species in the Southwest. Of the 475, 399 were rejected, 71 are still under review and four were approved for federal protection.

The species are put at risk by rising temperatures and droughts that are stressing Southeastern rivers and by a growing human population that demands larger water supplies, said Cynthia Sarthou of the *Gulf Restoration Network*, one of several regional groups that signed on to the petition. ESA listings for aquatic animals and plants could bring critical habitat designations and land-use restrictions that require developers to minimize their potential impacts on natural resources.

The 404 listings sought by the petition is more than the U.S. Fish and Wildlife Service (FWS) is asked to review in most years and will overwhelm the agency's resources, FWS spokeswoman Valerie Fellows said. The ESA requires the FWS to determine whether species need federal protection within a year of receiving a petition, but actions of this magnitude make those targets impossible, she said. "The result is a vicious cycle of missed deadlines, litigation to enforce deadlines, court orders or settlement agreements that commit future resources, and even less unencumbered capacity to respond to new petitions," she said. The FWS had planned to move five species off the candidate list in 2010 and propose them for full ESA protection, Fellows said, but this petition may make that goal impossible.

The petition is part of the CBD's campaign to force listings and habitat protections this year for 1,000 of the "most imperiled" U.S. species. In February, the group filed a series of lawsuits attempting to force the administration to pick up the pace on listings for 93 plants and animals. The group is also suing the FWS in an attempt to force full ESA protections for "candidate species" — 252 animals and plants whose protection has been delayed while the agency focuses its attention elsewhere.

Source: Patrick Reis and Allison Winter, *Greenwire*, 4/21/10

## Study Links Herbicide With Frogs Sexual Abnormalities

Male frogs exposed to the herbicide A*trazine* can become female, produce eggs and mate with other males, scientists said in a study published online in early March in the *Proceedings of the National Academy of Sciences* (NAS). The report comes amid heated debate on atrazine's safety, and is the latest to link the herbicide to sexual abnormalities in frogs and fish.

The new study examined long-term effects of atrazine on reproductive development and function in 40 male African clawed frogs. Researchers placed tadpoles in water containing 2.5 parts per billion of atrazine, an amount within EPA's drinking water standards. They found 10 percent of male frogs exposed to the herbicide turned into completely functioning females that mated with males and produced eggs. The rest of the treated frogs were "chemically castrated," said lead researcher Tyrone Hayes, a professor at the University of California,

Berkeley. They had lower sperm counts and were less able to compete with nonexposed males, he said.

"In previous studies, all people have looked at is what the frogs looked like," Hayes said. "With juveniles, we didn't know whether hermaphrodites were males with ovaries or females with testes. It's different here because we have a molecular marker, so we know who's chromosomally male. If they're females, we know they were genetic males that have been converted."

In 2002, Hayes released research showing very low levels of exposure to atrazine can disrupt hormones and cause aberrant sexual development in male African clawed frogs, and that atrazine appears to make leopard frogs — the most common, widely distributed native American frog — hermaphrodites in the wild. But several industry-backed studies have failed to replicate his findings, including research finding no hermaphrodites among wild-caught males of the clawed frog in Africa. *Syngenta AG*, the leading atrazine manufacturer, points to the work of Werner Kloas, a professor at the Humboldt University in Berlin, who found atrazine did not affect frogs at concentrations up to much higher levels than observed by Hayes. Kloas also tried to replicate Hayes' previous work and found no change resulting from atrazine exposure.

In a statement, Kloas criticized Hayes' new study for having "obviously big flaws concerning experimental design and inadequate statistics." Keith Solomon, a professor emeritus at the University of Guelph in Canada, also questioned Hayes' findings. "When you look at the big picture, everything is against all the literature that's out there," Solomon said. "I'm not rushing off to say one thing or another — this is another small set of data that needs to be analyzed. I'll be interested to see if others can repeat these observations because I don't know if it's repeatable; there's less evidence of causality."

*Syngenta* also points to EPA's finding in 2007 that atrazine does not adversely affect amphibian gonadal development. "All of the scientific issues have been reviewed thoroughly by EPA," said Tim Pastoor, a *Syngenta* scientist. "EPA's response declared that the issue of frog sexual development had been resolved; atrazine does not cause adverse effects. This next study that was recently published did not add to that at all; it's based on the same shaky foundation and does not add to the scientific literature."

Pastoor criticized Hayes' decision to use just one dose rather than a range of doses, as well as the study's lack of a positive control group, which he called the study's "fundamental fatal flaw."

But Jason Rohr, an assistant professor at the University of South Florida, said there is growing data suggesting atrazine adversely affects amphibians, even without Hayes' work. Rohr last year examined more than 100 studies of the environmental effects of atrazine, finding that while the weed killer does not kill fish or amphibians, it can lead to changes in their reproductive, immune and other systems. "They [*Syngenta*] are partially correct -- there hasn't been a study that's been able to replicate Tyrone's results at given concentrations," Rohr said. "But there are studies that show evidence of endocrine disruption and gonadal abnormalities." He added that while there are statistical anomalies in Hayes' research, the science behind it is strong.

"There are some issues, but this is a fantastic piece of science," Rohr said. "Regardless of what sort of statistical violations there are, nothing can account for having a colony of 100 percent genetic males, and in the end resulting in animals that only have female gonads. "This is an impressive and important discovery in my mind because it suggests that endocrine disrupting chemicals have the potential to cause a complete sex reversal," Rohr added. What the research means for human health is unclear, Rohr said. "This," he added, "definitely warrants some future research.

"U.S. EPA is currently seeking feedback from a science advisory panel on its risk assessment for the herbicide. U.S. farmers apply 60 to 70 million pounds of atrazine each year, and it is one of the most common contaminants found in U.S. drinking water. *Syngenta* said it stands behind the safety of its product and expects EPA to make a positive decision based on sound science.

Source: Sara Goodman, *Greenwire*, 3/2/10

## Concerns Over Storm-water Ponds

Twin Cities, MN Metro communities from White Bear Lake and Maplewood to South St. Paul are discovering that their storm-water ponds are chemical soups of pesticides, fertilizers, pet wastes, oil, grease and other contaminants. With an estimated 20,000 public storm-water ponds in the metro area, and thousands more privately owned by industries and homeowner associations, state pollution officials say they expect the problem to be widespread.

"It took us aback, frankly," said Mark Burch, White Bear Lake's public works director. "Especially when we figured out how much it would cost" to clean up. He said contaminant levels in some of the ponds are so high that the soil needs to be trucked to a landfill for disposal. That would cost up to $250,000, he said, about three times the cost of extracting clean sediment, which could be re-used within the city for berms or fill.

So the city has adopted the state's first ordinance — and only the fourth in the nation — to ban coal-tar sealants spread on driveways and parking lots. Sealant industry officials opposed the ban and disputed studies that have identified their products as the main source of pollution. But the sealants, among the worst culprits in the contamination, contain chemical compounds that are classified as likely carcinogens, and are known as PAHs (polycyclic aromatic hydrocarbons). Sealants are shiny black coatings used to protect underlying pavement in driveways and low-traffic parking lots for churches, restaurants, shopping centers, playgrounds and trails. They are usually applied every three to five years.

The PAHs that are the most serious pollutant come from coal tar-based sealants, according to a "white paper" on the issue by the Minnesota Pollution Control Agency (MPCA). The compounds flake off as tiny dust particles as pavement weathers, said Judy Crane, the research scientist who coauthored the white paper. Those particles are carried into waterways, where they can kill aquatic insects, hurt frogs and other amphibians, and cause mouth tumors in fish. The main concern for humans is the potential for breathing the chemicals if sediment is dredged, dried and used in parks where children play. "I don't think we want to assume that every

***Storm-water Retention Pond - MN Pollution Control Agency Photo***

pond is contaminated," said Dale Thompson, supervisor of the municipal storm-water program for the MPCA, "but it's certainly widespread in the metro area, and we suspect it's going to be widespread outstate."

Burch said he can wait awhile to dredge the ponds, and hopes that research at the University of Minnesota may provide new ways to neutralize contaminated sediment to avoid costly disposal. But the state is facing hundreds of ponds that are nearly full, said Rep. Bev Scalze, DFL-Little Canada, and if they aren't dredged, oil, grease, coal tar and other wastes that run off streets will no longer be trapped and will flush into cleaner lakes and rivers. "The ponds have done their job and accumulated mud and chemicals and debris," she said. "It was the right thing to do to require them. The question is, where do we go from here?"

Scalze authored a bill passed in 2009 that requires state agencies to stop using the coal tar sealants on parking areas and trails effective July 1. It also requires more than 200 metro cities to inventory their storm-water ponds. "We have a great amount of pollution here in the ponds already," said Scalze. "But when you're talking about a possible carcinogen, it gets even more important." Scalze wants to ban the sealants throughout the state, and said that a readily available alternative — asphalt emulsion sealant — provides the same protection for pavement without the environmental runoff problems. Such a prohibition, now being considered in Michigan, would affect commercial applicators most, said Scalze; some large retail chains, such as *Lowe's* and *Home Depot*, stopped selling coal tar-based sealants in recent years.

Industry officials are closely tracking White Bear Lake's ordinance. Only four other communities have adopted similar ordinances: Austin, TX, and one of its suburbs; Dane County, WI, and Washington, D.C. Anne LeHuray, executive director for the *Pavement Coatings Technology Council*, a national trade association, said that PAHs come not only from coal tar, but also from natural sources and from incomplete combustion of many other coal and petroleum products, including oil, wood and even charcoal in barbecues. Some studies show that vehicle emissions — not coal tar — are the main source of PAHs in the environment, LeHuray said, which means that banning sealants won't prevent buildup in storm-water ponds. "Government is picking winners and losers in the marketplace, regardless of what the benefits are," said LeHuray. "If you try to ban a product that is not the source of the problem, you won't solve the problem." The MPCA's Crane acknowledged that there are many sources of PAHs in the environment, but "coal tar sealant is coming up as a very important source."

Randy Nugent, who owns a sealcoating firm in Hugo, said that a ban on coal tar sealants would not affect his business because he switched to the asphalt emulsion alternative years ago. The two products are basically the same in price and performance, he said, but his workers dislike coal tar because it burns their skin and smells bad. The only marginal advantage to coal tar, said Nugent, is that it can be applied in slightly cooler weather, adding a week or two to the work season in spring and fall. "I'm not a tree-hugger," he said, "but why ruin the grass and the water if you don't have to?"

Sources: Tom Meersman, *Minneapolis Star Tribune*, 4/26 and 4/28/10; and *Greenwire*, 4/27/10

## Road Salt Concerns

A Canadian investigation published in the journal *Sedimentary Geology* has found that road salt is polluting groundwater to the point that some streams have salinity levels just under those of the ocean during winter thaws. Researchers from the University of Toronto found elevated salt readings in Pickering as part of an investigation into salt on highways and other suburban roads. So much salt from the community is being fed into Frenchman's Bay, a lagoon on Lake Ontario, that it is being poisoned.

Lead researcher and geology professor Nick Eyles called his findings "a really bad-news story" about a "relentless chemical assault on a watershed." He noted that the high salt levels in the water can kill younger fish, severely damaging their populations or forcing them out into Lake Ontario. The findings suggest that the more than 5 million tons of road salt used in Canada have greater impact than originally thought.

Researchers looked at Pickering because the area is compact and flows into a small watershed, making it easy to track the pollution. However, Eyles said the findings would be similar elsewhere. Environment Canada considered adding road salt to a list of the country's most toxic substances in 2001. Three years later, the government drew up a voluntary code of practices for cities to use less salt, but that has had little effect on volume.

The research, based on water monitoring between May 2002 and March 2003, found that streams with runoff from a major highway had double the concentration of salt than other waterways. All streams, however, saw a spike in salt. Environment Canada says it is reviewing whether voluntary practices have had any effect on salt use and may consider further regulatory steps.

Sources: Martin Mittelstaedt, *Toronto Globe and Mail*, 3/5/10; and *Greenwire*, 3/5/10

## Gallup Poll Finds Most Americans Support the Enviro Movement

As Earth Day marked its 40th birthday, a new *Gallup Poll* found that three-fifths of Americans consider themselves either active in or sympathetic to the environmental movement. Although the percentage of those favoring the green movement has declined about 10 percent since *Gallup* first measured it in 2000, it "remains high" at 61 percent, *Gallup* said.

Nineteen percent of Americans say they are active participants in the environmental movement, while 42 percent are sympathetic but not active. Another 28 percent are neutral, and 10 percent are unsympathetic. The poll showed similar levels of support for the environmental movement's impact. Sixty-two percent of Americans say the movement has definitely or probably done more good than harm, down from 75 percent in 2000. Roughly a third of the public said the movement has done more harm than good. Those most supportive of the environmental movement or its impact are the young, college graduates, Democrats and self-described liberals. While men and women are equally likely to believe the movement has done more good than harm, women are more likely to personally associate themselves with it.

*Gallup's* annual environmental survey has shown increased political polarization over environmental issues, particularly global warming. Republicans and conservatives are now significantly less likely than Democrats, moderates and liberals to be sympathetic to the environmental movement or to say it is doing more good than harm. Among self-identified Democrats there was a 3-point decline in positive orientation toward the movement over the past decade, from 77 percent to 74 percent. By contrast, there was a 13-point decline among Republicans, from

64 percent to 51 percent, and an 11-point drop among independents, from 70 percent to 59 percent.

The poll also showed that 90 percent of Americans have voluntarily recycled, 85 percent have reduced their household energy use and 76 percent have bought products specifically because they thought they were better for the environment over the past year. These numbers have remained steady since 2000.

The poll also found that over the past two years Americans have become less worried about the threat of global warming, less convinced that its effects are already happening and more likely to believe that scientists themselves are uncertain about its occurrence. However, a majority of Americans still agree that global warming is real, with 53 percent saying the effects of the problem have already begun or will do so in a few years, but that percentage is dwindling. And 48 percent of Americans now believe that the seriousness of global warming is generally exaggerated, up from 31 percent in 1997, when *Gallup* first asked the question.

Americans are more likely to say the United States should prioritize development of energy supplies than to say it should prioritize protecting the environment, the first time more have favored energy production in the question's 10-year history. Fifty percent said development of U.S. energy supplies like coal, oil and gas should be given priority even if the environment suffers to some extent, while 43 percent said environmental protection should be given priority even at the risk of limiting energy supplies. But at the same time, Americans continue to advocate greater energy conservation by consumers — at 52 percent — over greater production of oil, gas and coal supplies — at 36 percent — as a means of solving the nation's energy problems.

The poll was conducted a few weeks before President Obama came out in favor of oil exploration off some sections of the U.S. coast and shortly after he advocated the expanded use of nuclear power in the United States, but before the big BP oil spill off the Louisiana coast in the Gulf of Mexico.

Americans are less worried about each of eight specific environmental problems than they were a year ago, such as pollution and tropical forests. On all but global warming and maintenance of the nation's fresh water supply, concern is the lowest *Gallup* has measured. For example, in 1989, 72 percent of Americans said they worried a great deal about pollution of rivers, lakes, and reservoirs, but that has dropped to 46 percent today. But one major reason Americans may be less worried about environmental problems is that they perceive environmental conditions in the U.S. to be improving. Overall quality of the environment in the U.S. was rated "excellent" or "good" by 46 percent of those now surveyed, up from 39 percent in March 2009. Despite these shifts, the majority of 53 percent continue to rate current environmental conditions as only fair or poor.

The telephone poll with 1,014 adults was conducted from March 4-7, with an error margin of 4 percent.

Source: Noelle Straub, *Greenwire*, 4/22/10

## Climate Change Update

U.S. greenhouse gases (GHG) fell by 2.9 percent in 2008, according to a draft U.S. EPA report released in early March. The emissions decline was attributed to falling carbon dioxide ($CO_2$) emissions as energy consumption fell in the face of record-high oil prices and an economic recession. Total $CO_2$ emissions for the year were about 6.9 billion metric tons, an increase by 13.6 percent from 1990. EPA's *GHG Emissions Inventory* also calculates $CO_2$ emissions removed from the atmosphere by sinks like forests, soil and vegetation. Since 1990, the country has seen a 3.4 percent increase in the $CO_2$ absorbed by forests and land use, largely due to an increase in the rate of carbon accumulation in the forests, the report says. Fossil fuel combustion remained a primary source of $CO_2$ emissions in the U.S., accounting for 94 percent of such emissions in 2008. The inventory is prepared by EPA in collaboration with other agencies as part of U.S. obligations under the U.N. *Framework Convention on Climate Change*.

Then in 2009 according to the Energy Information Administration (EIA), U.S. $CO_2$ emissions from energy sources fell a record 7 percent. The decline marked the biggest annual drop in emissions since the statistics arm of the Energy Department started keeping energy records in 1950. EIA attributes the drop to the recession and more efficient use of fuel. U.S. consumption of petroleum-based fuels in 2009 fell to 13.3 million barrels per day, from 13.7 million barrels per day the previous year. Cheaper natural gas also contributed to the improved numbers.

Meanwhile pollution blowing across the Pacific Ocean from China and other developing Asian nations may confound efforts by states and cities in the U.S. West to meet federal air quality standards, according to a new study. The study, prepared by the *National Research Council* and published in *Nature* early this year, is landmark since it links ozone above the U.S. with Asian pollution for the first time, said Dan Jaffe, a professor of atmospheric and environmental chemistry at the University of Washington-Bothell and one of the study's authors. Ozone is the main component of smog. Previous studies have detected such pollutants from Asia as mercury, soot and PCBs reaching the U.S. "Any air pollutant with an atmospheric lifetime of at least three to four days may be transported across most of a continent, a week or two may get it across an ocean, a month or two can send it around the hemisphere and a year or two may deliver it anywhere on Earth," the *National Academy of Sciences* said last year. The new report said that the problem involves both trans-Pacific pollution and trans-Atlantic pollution with emissions from the U.S. reaching Europe.

Melting permafrost in the Arctic could contribute more to global warming than previously thought, according to a new study by researchers at the University of Copenhagen in Denmark. Nitrous oxide, a GHG included in the U.N. *Kyoto Protocol*, was previously thought to remain locked up in thawed soil while $CO_2$ and methane escaped into the atmosphere. But the new study of permafrost in Greenland, Norway and Canada found that about a third of the nitrous oxide produced during the melting process was released into the atmosphere. "Thawing and drainage of the soils had little impact on nitrous oxide production," according to a summary of the study, published in early April in the journal *Nature Geoscience*. "However, re-saturation of the drained soils with meltwater from the frozen soils — as would happen following thawing — increased nitrous oxide production by over 20 times." Though $CO_2$ and methane are significantly more prevalent and escape more easily into the atmosphere, the findings add to evidence that rising temperatures could compound the effects of climate change. Permafrost covers about a quarter of all land in the Northern Hemisphere.

Meanwhile, by releasing $CO_2$ that was previously trapped in trees, rocks and soil, mountaintop-removal coal mining has increased the carbon footprint of the Appalachian coal industry by as much as 17 percent, according to a study published in a recent issue of the

journal *Environmental Science and Technology*. Carbon capture and storage (CCS) could not mitigate one of the main sources of emissions within the process of generating power from coal, according to authors James Fox of the University of Kentucky and J. Elliott Campbell of the University of California, Merced. Between 1997 and 2006, coal-burning power plants produced more than a third of $CO_2$ emissions in the U.S. and worldwide. If CCS technology were implemented, it would shrink the coal industry's carbon footprint by two-thirds, leaving strip mining as its main contributor to the emissions thought to be causing global warming, the study says. "In order to agree on informed decision-making, the sustainability discussion begs the need for ongoing and future scientific research, discussion and thereafter management to address a sustainable trajectory for terrestrial carbon and coal production interactions," Fox and Campbell wrote. The authors suggest that some of mountaintop removal's effects could be mitigated by commercially logging the forests rather than bulldozing and burning them, which produces 12 percent more $CO_2$.

Another new study has highlighted the short-term resilience that Amazonian vegetation has to drought, suggesting rain forests may be able to survive the warmer temperatures that will accompany climate change better than previously expected — at least for one season. The study, funded by NASA, analyzed the worst drought to hit the Amazon in more than a century, in 2005. While that season saw rivers and lakes evaporate, causing rampant water shortage, researchers using satellite data found no major changes in forests' greenery levels, according to a study published in *Geophysical Research Letters*. The study casts some doubt on one claim found in the United Nations' *Intergovernmental Panel on Climate Change* (IPCC), which said that up to 40 percent of Amazonian forests "could react drastically to even a slight reduction in precipitation; this means that the tropical vegetation, hydrology and climate system in South America could change very rapidly to another steady state." While the study has refined how forests respond to short-term drought, like one dry season, long-term reductions in rainfall could have very different impacts, warned Simon Lewis, an expert on forest death at Leeds University.

The value of carbon capture as a tool against global warming has been greatly overstated because underground reservoirs would need to be much larger than is feasible, according to a new study by U.S. researchers. Trapping the $CO_2$ emissions from a single coal-fired power plant would require a reservoir the size of a small U.S. state, according to the study, which concluded that the technology "is not a practical means to provide any substantive reduction in $CO_2$ emissions, although it has been repeatedly presented as such by others." "It is like putting a bicycle pump up against a wall. It would be hard to inject $CO_2$ into a closed system without eventually producing so much pressure that it fractured the rock and allowed the carbon to migrate to other zones and possibly escape to the surface," said co-author Michael Economides, a chemical engineering professor at the University of Houston. Jeff Chapman, CEO of the *Carbon Capture and Storage Association*, said the study makes inappropriate assumptions and contradicts studies by the Lawrence Berkeley National Laboratory, the Pacific Northwest National Laboratory and the *American Petroleum Institute*. Some companies, such as Norwegian state-owned oil company *Statoil*, have already sequestered $CO_2$ in geological formations to demonstrate the viability of the technology, but Economides said large-scale storage would render the technology impractical.

One proposed geoengineering fix to help mitigate $CO_2$ in the atmosphere — dumping iron in the oceans to increase their $CO_2$ absorption — could potentially increase the production of a neurotoxin, researchers say. It has long been theorized that fertilizing the ocean with iron would lead to the growth of algae, which would in turn absorb $CO_2$. However, one algae likely to be stimulated by the iron would be of the genus *Pseudonitzschia*, which produces a toxin — domoic acid — poisonous to shellfish and mammals like sea lions. The study, conducted at a research platform anchored in the northeast Pacific and published in *Proceedings of the National Academy of Sciences*, shows the need to consider all the environmental implications of $CO_2$ fixes, said William Cochlan (San Francisco State University), an author of the study. "We saw some literature going around with claims like 'there is no indication of toxicity to sea life' — well, if you don't measure it, of course there's no indication, and we have to keep that kind of legalese out of science," he said. "If the end goal is to use it to fight climate warming, then we have to understand the consequences for marine life," he added. At least one firm exploring the use of iron fertilization, *Climos*, agreed that more research needs to be done on marine life impacts, according to a company spokesman.

A Colorado startup says it can suck $CO_2$ out of the air, creating compounds to be used in glass, resins and building materials. *New Sky Energy* says that with basic electrochemical technology and waste salts, the company can create "carbonates." *New Sky* and the Westlands Water District in Fresno, CA, plan to announce a joint venture to use the technology for a $3.2 million plant turning salty drain water into marketable products. "They are using technology that has been around for a hundred years ... to turn a waste stream into usable products," said Nigel Sammes, a professor of ceramic engineering at Colorado School of Mines (CSM). *New Sky* is funding a $200,000 research project with CSM to build a fully operating scalable model of its technology. The company uses electrolysis to split waste salts in water into acid and a hydrogen base. The hydroxide can react with the $CO_2$ in the air to create sodium carbonate, extracting the chemical from the air. While *New Sky* says its goal was to produce carbonate products, the process has additional appeal because of the carbon capture aspect.

Another research team has developed a microbe that secretes oil, potentially eliminating a major step for biofuel production. Xinyao Liu and Roy Curtiss of Arizona State University's *Biodesign Institute* have genetically engineered cyanobacteria to ooze fatty acids that can be used to make vehicle fuels, according to a paper published in the *Proceedings of the National Academy of Sciences*. Most approaches to making fuel from algae involve growing organisms that store oil inside their cell walls. When they have matured, the algae are harvested and pressed to collect the oil for further processing. But Liu and his colleagues say they have tweaked a strain of microbes to push the oil out through the exterior membrane, simplifying the harvesting process and allowing the oil to be collected without killing the microbe. "In China we have a saying ... we don't kill the hen to get the eggs," Liu said in a description of the work. "I use genes that can steal fatty acids from the lipid synthesis pathway" using a protein called theioesterase. The team also genetically modified the cell walls to let fatty acids pass through them more easily. Another change caused the microbes to over-produce fatty acids. Cyanobacteria, the microbe that Liu's team uses, is appealing for making biofuels because it can be grown in liquid containers, without relying on land that could otherwise be used for food or other purposes.

Chinese President Hu Jintao said in mid April that his country will work "vigorously"

to develop a cleaner economy. Xie Zhenhua wrote in the *China Economic Herald* that the country will strengthen energy laws and will invest in research and development projects to cut carbon emissions. "The scale of economic destruction would be equivalent to that of the two world wars and the Great Depression combined" if global temperatures rose just 5.4 ºF, Xie wrote. Chinese officials say it is important for them to address the problem domestically to set an example for developing countries. China has promised to cut its $CO_2$ output by 40 percent of 2005 levels by 2020 but asserts that goal is voluntary and not based on international treaties.

But modeling released in late February by U.N. experts indicate that emission cuts pledges made by 60 countries will not be enough to keep the average global temperature rise at or below 2 ºC (3.6 ºF). Scientists have said that any warming should be limited to that target temperature to avoid devastating climate change. To stay clear of warming above the 2-degree goal, yearly GHG emissions should not be more than 40 and 48.3 gigatonnes of $CO_2$-equivalent in 2020, and countries' emissions would need to peak between 2015 and 2021, according to the *United Nations Environment Program*. Based on modeling by nine research centers, the report found that keeping within that range and cutting global emissions by between 48 percent and 72 percent between 2020 and 2050 would only give Earth about a 50 percent chance of staying within the 2-degree limit. The report said it was unlikely that the world would remain below those targets. Even if all the countries implement their promised cuts, the report said that the total amount of emissions produced would still be between 0.5 and 8.8 gigatonnes over what scientists see as tolerable.

And Yvo de Boer, the United Nations' chief negotiator on climate change, says there will not be a comprehensive pact to fight global warming this year. The next U.N. climate change conference will be held in December in Cancún, Mexico. But De Boer told reporters at an international climate meeting in Germany that the Cancún conference would simply offer a "first answer" on GHGs but "will not provide an answer that is good enough." The best outcome of Cancún, de Boer said, would be an agreement on an "operational architecture on climate change," with an actual treaty being drafted and signed later. He does expect an international treaty to be finished by the end of 2012, but even that would not be "the definitive answer."

Meanwhile, environmental groups attending the *Cochabamba Conference* in Bolivia have called on wealthy nations to cut their GHG emissions by 50 percent and establish an international court for climate crimes. Speaking at the conclusion of the *World People's Conference on Climate Change and the Rights of Mother Earth*, Bolivian President Evo Morales urged the U.N. to give the developing world a louder voice in climate negotiations. Groups at the conference opposed U.N. proposals such as the *Reducing Emissions from Deforestation and Forest Degradation* (REDD) initiative, which would provide carbon credits to nations that leave their forests intact. "REDD is branded as a friendly forest conservation program, yet it is backed by big polluters and climate profiteers. We cannot solve this crisis without addressing the root cause: a fossil fuel economy that disregards the rights of Mother Earth," said Alberto Saldamando, legal counsel for the *International Indian Treaty Council*. Organizers said about 30,000 people attended the *Cochabamba Conference*, billed as a counterpoint to December's climate talks in Copenhagen. The U.S. sent an observer to the celebrity-studded talks but did not formally participate. "This alternative has to succeed because the alternative to Cochabamba is Copenhagen," said Naomi Klein, a Canadian author and activist. "Copenhagen came out with a so-called solution to climate change that in no way meets the severity of the climate crisis."

A majority of U.S. voters believe Congress should take action on a climate and energy bill this year, but most are unwilling to pay for it, according to a *Rasmussen Reports* poll released in late April. The survey found 55 percent of voters say it is very or somewhat important for Congress to "pass major energy legislation aimed at reducing global warming this year," and 44 percent say such action is not important. When asked how much they would be willing to pay in higher taxes and utility bills to "generate cleaner energy and fight global warming," 56 percent said they are unwilling to pay anything. Nineteen percent said they would pay $100, and 10 percent said they would pay $300. Eight percent said they would be willing to pay $500 or more. Those numbers are in line with similar survey results from other pollsters that show the public generally supportive of legislation to curb GHG emissions and promote alternative energy but queasy about costs and economic impacts. The *Rasmussen Poll* asked separate questions about climate legislation. One asked, "Do you think Congress should take action on energy and climate this year?" The second asked whether the voter would "favor or oppose a major energy bill aimed at reducing global warming?" Thirty-nine percent of voters favor a major energy bill that would be aimed at reducing climate change, while 40 percent were opposed. Thirty-four percent said such a bill would help the economy, while 40 percent say it would hurt. As in other polls, the *Rasmussen Reports* survey reveals a major partisan divide on the issue. Sixty-six percent of Democrats support the passage of a climate bill, while 63 percent of Republicans are opposed. On the question of economic impact, 65 percent of Democratic voters say it will help the economy, while 61 percent of Republicans say it will hurt. Among independents, 33 percent favor climate legislation, and a slight majority, 51 percent, believe it will hurt the economy. The poll of 1,000 likely voters nationwide was conducted April 24-25 and has an error margin of 3 percentage points.

Prominent Republicans who previously supported climate change legislation have started questioning the evidence that humans are causing global warming, suggesting to analysts that the issue has become a powerful political tool as polls show falling public confidence in climate science. "The new political expediency is to be a global warming skeptic," said Marc Morano, executive editor of *ClimateDepot.com*. Morano is a former aide to noted climate skeptic Sen. James Inhofe (R/OK). Experts say the "Climategate" scandal involving leaked e-mails from climate researchers at the United Kingdom's University of East Anglia has made it easier for conservative politicians to voice skepticism.

Meanwhile, opponents of teaching evolution in U.S. classrooms have begun to add climate change contrarianism to their critiques, partially because of the natural progression of the anti-science movement and partially as a canny legal technique. Most recently, a bill introduced in the Kentucky Legislature would encourage teachers to discuss "the advantages and disadvantages of scientific theories," including "evolution, the origins of life, global warming and human cloning." The bill, which has not reached a vote, is patterned on efforts in states like Louisiana, which passed a law in 2008 saying education boards could assist teachers in advocating "critical thinking" on the topics. Religious groups opposed to evolution and climate change often feel "it is hubris to think that human beings could disrupt something that God created," said the Rev. Jim Ball, senior climate director at the *Evangelical Environmental Network*, which accepts the science

of global warming. This group already feels like scientists are attacking their faith and calling them idiots," Ball said, "so they are likely to be skeptical" about global warming. The climate science skepticism is a predictable offshoot of creationism, said Lawrence Krauss, a physicist who directs the *Origins Initiative* at Arizona State University. "Wherever there is a battle over evolution now," Krauss said, "there is a secondary battle to diminish other hot-button issues like Big Bang and, increasingly, climate change. It is all about casting doubt on the veracity of science — to say it is just one view of the world, just another story, no better or more valid than fundamentalism."

Finally, renowned scientist James Lovelock says humans are too stupid to prevent climate change from radically altering the planet in the coming decades. Humans' inertia and democracy are major obstacles to tackling a complex issue like climate change, Lovelock said. "I don't think we're yet evolved to the point where we're clever enough to handle as complex a situation as climate change." "The inertia of humans is so huge that you can't really do anything meaningful," Lovelock said. The situation may be so dire that democracy might need to set aside temporarily to address the problem, he added. "Even the best democracies agree that when a major war approaches, democracy must be put on hold for the time being," Lovelock said. The 90-year-old scientist believes the best way to combat climate change effects is to invest in adaptation measures, such as defenses around cities that are most vulnerable to sea-level rises. Forty years ago, Lovelock first developed the Gaia theory, which states that Earth is a giant, self-regulating organism.

Sources: Gardner/Doggett, *Reuters*, 5/5/10; Les Blumenthal, *McClatchy*, 2/21/10; *Reuters*, 4/4/10; Ken Ward Jr., *Charleston (WV) Gazette*, 3/17/10; Richard Gray, *London Telegraph*, 3/13/10; Terry Macalister, *London Guardian*, 4/25/10; Richard Black, *BBC News*, 3/16/10; Mark Jaffe, *Denver Post*, 3/18/10; Sills/van Loon, *Bloomberg*, 4/16/10; Andres Schipani, *London Guardian*, 4/23/10; *ClimateWire*, 4/15/10; *AP/Yahoo News*, 5/3/10; Jim Tankersley, *Los Angeles Times*, 3/9/10; Leslie Kaufman, *New York Times*, 3/3/10; Leo Hickman, *London Guardian*, 3/29/10; Sunanda Creagh, *Reuters*, 2/23/20; Paul Voosen, *Greenwire*, 3/9/10; Jenny Mandel, *Greenwire*, 3/30/10; Alex Kaplun, *Greenwire*, 4/27/10; and *Greenwire*, 2/22, 2/23, 3/4, 3/10, 3/15, 3/16, 3/18, 3/19, 3/29, 4/5, 4/16, 4/23, 4/26, 5/3, and 5/6/10

## Meetings of Interest

**Jul. 25-30:** Climate Change and Fish - Fisheries Society of the British Isles Conference. Belfast, Northern Ireland. See: www.fsbi.org.uk/events.htm

**Aug. 1-6:** 95th Annual Meeting of the Ecological Society of America. Pittsburgh, PA. See: www.esa.org/pittsburgh

**Aug. 29- Sep. 2:** 17th International Conference on Aquatic Invasive Species. San Diego, CA. See: http://www.icais.org/

**Sep. 1-2:** 3rd Annual Meeting of the North American Chapter of the World Sturgeon Conservation Society. Chico Hot Springs Resort near Livingston, MT. Contact: Mooly_Webb@fws.gov

**Sep. 5-9:** 6th International Symposium on Aquatic Animal Health. Tampa, FL. See: http://aquaticpath.epi.ufl.edu/isaah6

**Sep. 12-16:** American Fisheries Society 140th Annual Meeting. Pittsburgh, PA. See: www.fisheries.org

**Sep. 20-24:** Third International Symposium on Ecology and Biodiversity in Large Rivers of Northeast Asia and North America. Memphis, TN. See: http://yosemite.epa.gov/nerl/nerlreg.nsf/registration?openform

**Sep. 27-30:** Wild Trout Symposium. West Yellowstone, MT. See: www.montana.edu/cs/images/wild_trout/fish.jpg

**Sep. 27-30:** The Working Waterways and Waterfronts National Symposium on Water Access 2010. Portland, ME. See: http://www.wateraccessus.com/

**Oct. 11-14:** Potential Invasive Pests Workshop, Mayfair Hotel, Miami (Coconut Grove), FL. See: www.conference.ifas.ufl.edu/TSTAR

**Oct. 19-21:** Freshwater Mollusk Conservation Society 2010 Workshop - Regional Fauna Identification and Sampling. Kirkwood, MO. Contact Steve McMurray (573) 882-9909 or Heidi Dunn (636) 281-1982

**Dec. 12-15:** 71st Midwest Fish and Wildlife Conference. Minneapolis, MN. See: www.midwest2010.org

**Aug. 1-5, 2011:** 4th National Conference on Ecosystem Restoration (NCER), Baltimore, MD. See: www.conference.ifas.ufl.edu/NCER2011

## Congressional Action Pertinent to the Mississippi River Basin

**Climate Change**

**S. 137.** Brown (D/OH). Creates jobs and reduces U.S. dependence on foreign and unsustainable energy sources by promoting the production of green energy, and for other purposes.

**S. 1035.** Reid (D/NV) and 2 Co-sponsors and **H. R. 3727.** DeGette (D/CO) and 7 Co-sponsors. Enhances the ability of drinking water utilities in the U.S. to develop and implement climate change adaptation programs and policies, and for other purposes.

**S. 1667.** Collins, (R/ME) and 4 Co-sponsors. Provides for the development and coordination of a comprehensive and integrated U.S. research program that assists the people of the U.S. and the world to understand past, assess present, and predict future human-induced and natural processes of abrupt climate change, and for other purposes.

**S. 1733.** Kerry (D/MA) and Boxer (D/CA) and **H. R. 2998.** Waxman (D/CA) and Markey (D/MA). Creates clean energy jobs, achieves energy independence, reduces global warming pollution and transitions to a clean energy economy.

**S. 1933.** Bingaman (D/NM) and 3 Co-sponsors and **H. R. 2192.** Grijalva (D/AZ) and

9 Co-sponsors. Establishes an integrated Federal program to protect, restore, and conserve the Nation's natural resources in response to the threats of climate change and for other purposes.

**S. 2835.** Kerry (D/MA) and 4 Co-sponsors. Reduces global warming pollution through international climate finance, investment, and for other purposes.

**H. R. 232.** Baldwin (D/WI) and 3 Co-sponsors. Provides for creation of a Federal greenhouse gas (GHG) registry, and for other purposes.

**H. R. 391.** Blackburn (R/TN) and 9 Co-sponsors. Amends the Clean Air Act to provide that GHGs are not subject to the Act, and for other purposes.

**H. R. 594.** Stark (D/CA) and McDermott (D/WA) Amends the Internal Revenue Code of 1986 to reduce emissions of carbon dioxide by imposing a tax on primary fossil fuels based on their carbon content.

**H. R. 1438.** Fortenberry (R/NE). Prohibits any Federal agency or official, in carrying out any Act or program to reduce the effects of GHG emissions on climate change, from imposing a fee or tax on gaseous emissions emitted directly by livestock.

**H. R. 1666.** Doggett (D/TX) and 21 Co-sponsors. Amends the Internal Revenue Code of 1986 to establish an auction and revenue collection mechanism for a carbon market that ensures price stability with environmental integrity.

**H. R. 1760.** Inslee (D/WA) and 2 Co-sponsors. Mitigates the effects of black carbon emissions in the U.S. and throughout the world.

**H. R. 1862.** Van Hollen (D/MD) and 3 Co-sponsors. Caps the emissions of GHG through a requirement to purchase carbon permits, to distribute the proceeds of such purchases to eligible individuals, and for other purposes.

**H. R. 1905.** Capps (D/CA) and 3 Co-sponsors. Amends the Coastal Zone Management Act of 1972 to require the Secretary of Commerce to establish a coastal climate change adaptation planning and response program, and for other purposes.

**H. R. 2306.** Dicks (D/WA). Provides for the establishment of a National Climate Service, and for other purposes.

**H. R. 2407.** Gordon (D/TN). Establishes a National Climate Service at the National Oceanic and Atmospheric Administration.

**H. R. 2685.** Bordallo (D/GU) and 9 Co-sponsors. Establishes a National Oceanic and Atmospheric Administration and a National Climate Enterprise, and for other purposes.

**H. R. 2757.** Kind (D/WI) and 3 Co-sponsors. Requires the return to the American people all proceeds raised under any Federal climate change legislation.

**H. R. 3129.** Luetkemeyer (R/MO). Prohibits U.S. contributions to the Intergovernmental Panel on Climate Change.

**Conservation**

**S. 655.** Johnson (D/SD) and 3 Co-sponsors. Amends the Pittman-Robertson Wildlife Restoration Act to ensure adequate funding for conservation and restoration of wildlife, and for other purposes.

**S. 1214.** Lieberman (ID/CT) and 7 Co-sponsors and **H. R. 2565.** Kind (D/WI). Conserves fish and aquatic communities in the U.S. through partnerships that foster fish habitat conservation, to improve the quality of life for the people of the U.S., and for other purposes.

**H. R. 404.** Grijalva (D/AZ) and 23 Co-sponsors. Establishes the National Landscape Conservation System, and for other purposes.

**H. R. 631.** Matheson (D/UT). Increases research, development, education, and technology transfer activities related to water use efficiency and conservation technologies and practices at the U.S. EPA.

**H. R. 1080.** Bordallo (D/GU). Strengthens enforcement mechanisms to stop illegal, unreported, and unregulated fishing, and for other purposes.

**H. R. 1328.** Bishop (D/NY) and 2 Co-sponsors. Amends the Internal Revenue Code of 1986 to allow an unlimited exclusion from transfer taxes for certain farmland and land of conservation value, and for other purposes.

**H. R. 2188.** Kratovil (D/MD) and 3 Co-sponsors. Authorizes the Secretary of the Interior, through the U.S. Fish and Wildlife Service, to conduct a Joint Venture Program to protect, restore, enhance, and manage migratory bird populations, their habitats, and the ecosystems they rely on, through voluntary actions on public and private lands, and for other purposes.

**H. R. 2807.** Kind (D/WI) and Jones (R/NC). Sustains fish, plants, and wildlife on America's public lands.

**H. R. 3086.** Bordallo (D/GU). Coordinates authorities within the Department of the Interior and within the Federal Government to enhance the U.S.'s ability to conserve global wildlife and biological diversity, and for other purposes.

**Endangered Species Act (ESA)**

**S. 724.** Barrasso (R/WY) and Vitter (R/LA). Amends the ESA to temporarily prohibit the Secretary of the Interior from considering global climate change as a natural or man-made factor in determining whether a species is a threatened or endangered species, and for other purposes.

**S. 3146.** Crapo (R/ID) and 9 Co-sponsors. Amend the Internal Revenue Code to provide a tax credit to individuals who enter into agreements to protect the habitats of endangered and threatened species, and for other purposes.

**Energy**

**S. 531.** Bingaman (D/NM) and Murkowski (R/AK). Provides for the conduct of an in-depth analysis of the impact of energy development and production on the water resources of the U.S., and for other purposes.

**S. 539.** Reid (D/NV). Amends the Federal Power Act to require the President to designate certain geographical areas as national renewable energy zones, and for other purposes.

**H. R. 2227.** Murphy (R/PA) and 6 Co-sponsors. Greatly enhances America's path toward energy independence and economic and national security, to conserve energy use, to promote innovation, to achieve lower emissions, cleaner air, cleaner water, and cleaner land, and for other purposes.

**H. R. 2300.** Bishop (R/UT) and 34 Co-sponsors. Provides the U.S. with a comprehensive energy package to place Americans on a path to a secure economic future through increased energy innovation, conservation, and production.

**Federal Water Pollution Control Act (FWPCA)**

**S. 696.** Cardin (D/MD) and Alexander (R/TN). Amends the FWPCA to include a definition of fill material.

**S. 787.** Feingold (D/WI) and 23 Co-sponsors. Amends the FWPCA to clarify the jurisdiction of the U.S. over waters of the U.S.

**S. 1005.** Cardin (D/MD) and 3 Co-sponsors. Amends the FWPCA and the Safe Drinking Water Act to improve water and wastewater infrastructure in the U.S.

**H. R. 700.** McNerney (D/CA) and Tauscher (D/CA). Amends the FWPCA to extend the pilot program for alternative water source projects.

**H. R. 1262.** Oberstar (D/MN) and 9 Co-sponsors. Amends the FWPCA to authorize appropriations for State water pollution control revolving funds, and for other purposes.

**Invasive Species**

**S. 237.** Levin (D/MI) and 4 Co-sponsors and **H. R. 500.** Ehlers (R/MI) and 20 Co-sponsors. Establishes a collaborative program to protect the Great Lakes, and for other purposes.

**S. 462.** Boxer (D/CA) and Vitter (R/LA). Amends the Lacey Act Amendments of 1981 to prohibit the importation, exportation, transportation, and sale, receipt, acquisition, or purchase in interstate or foreign commerce, of any live animal of any prohibited wildlife species, and for other purposes.

**S. 594.** Casey (D/PA) and Stabenow (D/MI). Requires a report on invasive agricultural pests and diseases and sanitary and phytosanitary barriers to trade before initiating negotiations to enter into a free trade agreement, and for other purposes.

**S. 1713.** Reid (D/NV) and 4 Co-sponsors and **H. R. 3748.** Berkley (D/NV) and Titus (D/NV). Establishes loan guarantee programs to develop biochar technology using excess plant biomass, to establish biochar demonstration projects on public land, and for other purposes.

**S. 2946.** Stabenow (D/MI) and **H.R. 4472.** Camp (R/MI). Directs the Secretary of the Army to take action with respect to the Chicago waterway system to prevent the migration of bighead and silver carps into Lake Michigan, and for other purposes.

**S. 3063.** Reid (D/NV) and 7 Co-sponsors and **H. R. 4782.** Young (R/AK) and Berkley (D/NV). Directs the Secretary of the Interior to provide loans to certain organizations in certain States to address habitats and ecosystems and to address and prevent invasive species.

**H. R. 48.** Biggert (R/IL). Amends the Lacey Act, to add certain species of carp to the list of injurious species that are prohibited from being imported or shipped.

**H. R. 51.** Kirk (R/IL). Directs the Director of the USFWS to conduct a study of the feasibility of a variety of approaches to eradicating Asian carp from the Great Lakes and their tributary and connecting waters.

**H. R. 669.** Bordallo (D/GU) and 9 Co-sponsors. Prevents the introduction and establishment of nonnative wildlife species that negatively impact the economy, environment, or other animal species or human health, and for other purposes.

**Mining**

**S. 140.** Feinstein (D/CA) and **H. R. 699**. Rahall (D/WV) and 20 Co-sponsors. Modifies the requirements applicable to locatable minerals on public domain lands, consistent with the principles of self-initiation of mining claims, and for other purposes.

**S. 409.** Kyl (R/AZ) and McCain (R/AZ) and **H. R. 2509**. Kirkpatrick (D/MI) and Flake (R/AZ). Secures Federal ownership and management of significant natural, scenic, and recreational resources, to provide for the protection of cultural resources, to facilitate the efficient extraction of mineral resources by authorizing and directing an exchange of Federal and non-Federal land, and for other purposes.

**S. 796.** Bingaman (D/NM) and **H.R. 699.** Rahall (D/WV) and 20 Co-sponsors Modifies the requirements applicable to locatable minerals on public domain land, and for other purposes.

**S. 1777.** Udall (D/CO). Facilitates the remediation of abandoned hardrock mines, and for other purposes.

**S. 3053.** Specter (D/PA). Amends the Surface Mining Control and Reclamation Act of 1977 to permit the Abandoned Mine Reclamation Fund to be used for transportation and use of dredged materials for abandoned mine reclamation, and for other purposes.

**S. 3252**. Tester (D/MT). Amends the Surface Mining Control and Reclamation Act of 1977 to limit the liability of a State performing reclamation work under an approved State abandoned mine reclamation plan.

**H. R. 493.** Rahall (D/WV). Directs the Secretary of the Interior to promulgate regulations concerning the storage and disposal of matter referred to as ``other wastes'' in the Surface Mining Control and Reclamation Act of 1977, and for other purposes.

**H. R. 3203.** Lamborn (R/CO) and Bishop (R/UT). Promotes remediation of inactive and abandoned mines, and for other purposes.

**National Environmental Policy Act (NEPA)**

**S. 3230.** Inhofe (R/OK) and 6 Co-sponsors. Prohibits the use of NEPA to document, predict, or mitigate the climate effects of specific Federal actions.

**H. R. 585.** Lee (D/CA) and 5 Co-sponsors. Directs the President to enter into an arrangement with the *National Academy of Sciences* (NAS) to evaluate certain Federal rules and regulations for potentially harmful impacts on public health, air quality, water quality, plant and animal wildlife, global climate, or the environment; and to direct Federal departments and agencies to create plans to reverse those impacts that are determined to be harmful by the NAS.

**H. R. 996.** Nunes (R/CA) and McCarthy (R/CA). Temporarily exempts certain public and private development projects from any requirement for a review, statement, or analysis under the NEPA of 1969 (42 U.S.C. 4321 et seq.), and for other purposes.

**Public Lands**

**S. 22.** Bingaman (D/NM). Designates certain VA, WV and OR lands as components of the National Wilderness Preservation System, to authorize certain programs and activities in the Department of the Interior and the Department of Agriculture, and for other purposes.

**S. 32.** Spector (R/PA) and Casey (D/PA). Requires FERC to hold at least one public hearing before issuance of a permit affecting public or private land use in a locality.

**S. 452.** Crapo (R/ID) and Risch (R/ID) and

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**H. R. 2025.** Minnick (D/ID) and Simpson (R/ID). Ensures public access to Federal land and to the airspace over Federal land.

**S. 1470.** Tester (D/MT). Sustains the economic development and recreational use of National Forest System land and other public land in the State of Montana, to add certain land to the National Wilderness Preservation System, to release certain wilderness study areas, to designate new areas for recreation, and for other purposes.

**H. R. 1041.** Melancon (D/LA). Directs the Secretary of the Interior to study the suitability and feasibility of designating sites in the Lower Mississippi River Area in the State of Louisiana as a unit of the National Park System, and for other purposes.

**Public Service**

**S. 277.** Reid (D/NV) and 32 Co-sponsors. Amends the National and Community Service Act of 1990 to expand and improve opportunities for service, and for other purposes.

**S. 1442.** Bingaman (D/NM) and 2 Co-sponsors and **H. R. 1612.** Grijalva (D/AZ) and Rahall (D/WV). Amends the Public Lands Corps Act of 1993 to provide service-learning opportunities on public lands.

**Water Quality**

**H. R. 135.** Linder (R/GA) and 3 Co-sponsors. Establishes the *21st Century Water Commission* to study and develop recommendations for a comprehensive water strategy to address future water needs.

**H. R. 276.** Miller (R/MI). Directs the Administrator of the USEPA to convene a task force to develop recommendations on the proper disposal of unused pharmaceuticals, and for other purposes.

**H. R. 631.** Matheson (D/UT). Increases research, development, education, and technology transfer activities related to water use efficiency and conservation technologies and practices at the USEPA.

**H. R. 1145.** Gordon (D/TN). Implements a *National Water Research and Development Initiative*, and for other purposes.

**H. R. 3202.** Blumenauer (D/OR) and 3 Co-sponsors. Establishes a *Water Protection and Reinvestment Fund* to support investments in clean water and drinking water infrastructure, and for other purposes.

**H. R. 5124.** Ellison (D/MN). Prohibits the use, production, sale, importation, or exportation of any pesticide containing atrazine.

**Water Resources**

**S. 637.** Baucus (D/MT) and Tester (D/MT). Authorizes the construction of the *Dry-Redwater Regional Water Authority System* in the State of Montana and a portion of McKenzie County, North Dakota, and for other purposes.

**S. 1712.** Reid (D/NV), and 2 Co-sponsors and **H.R. 3747**. Berkley (D/NV) and Titus (D/NV). Promotes water efficiency, conservation, and adaptation, and for other purposes.

**S. 1122.** Barrasso (R/WY) and 5 Co-sponsors. Authorizes the Secretaries of Agriculture and Interior to enter into cooperative agreements with State foresters authorizing State foresters to provide certain forest, rangeland, and watershed restoration and protection services.

**H. R. 172.** Salazar (D/CO) and Markey (D/CO). Provides for the construction of the *Arkansas Valley Conduit* in CO.

Sources: http://www.gpoaccess.gov/bills/index.html; and http://thomas.loc.gov/cgi-bin/thomas