# River Crossings

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## Status of Black Carp Listing

In a late January 2007 letter to the Editor of *River Crossings*, Dr. Mamie Parker, Assistant Director of Fisheries and Habitat Conservation for the U.S. Fish and Wildlife Service (FWS) provided the following comments with regard to the status of the listing of black carp under the Lacey Act.

*"I'd like to make a statement regarding a U.S. Fish and Wildlife Service news item that appeared as your Sept/Oct 2006 cover story. The article was based largely on a news release outlining the Service's proposed rule for listing the silver and largescale silver carp as injurious species under the Lacey Act. An editorial comment added to the end of the article stated the Service had not taken action on listing another Asian carp, the black carp.*

*'The Service has taken action to list the black carp – an Asian species distinct from the silver and largescale silver carp – as an injurious species in response to a MICRA request submitted in 2000. We have committed an enormous amount of staff time to the issue and have conducted, and had open for comment, an environmental assessment and economic analysis for a black carp listing. We are continuing to gather scientific and economic data to help determine the best course of action in dealing with this, and other, aquatic invasive species and will provide periodic updates to MICRA and other stakeholders in the future."*

***Black carp captured in Horseshoe Lake, a backwater of the Mississippi River, near the Ohio River confluence in March 2003.***

The black carp was introduced into the U.S. by federal scientists at the Stuttgart, Arkansas Fish Farming Experiment Station in the 1970s, and has been used in recent years by fish farmers in several southern states to control snails in catfish ponds. The snails serve as an intermediate host for a trematode parasite which infects catfish flesh and reduces its marketability. MICRA petitioned the FWS to list the black carp as injurious because of concerns that if the species escaped captivity (as the grass, bighead and silver carps already had) that it would prey on threatened and endangered native mussels and snails, reducing their populations even further. The black carp can reach lengths of up to 4.5 feet and achieve weights of up to 150 lbs. The primary prey of black carp are snails and mussels, and these fish consume huge amounts of food to achieve and maintain these large body sizes.

We appreciate Dr. Parker's clarification of our Sept/Oct issue's cover story, but the fact remains that seven years after MICRA petitioned to list the black carp the listing remains under review, a situation some

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might call "paralysis by analysis". And now, judging from catches made by commercial fishermen in Louisiana (River Crossings Vol. 13, No. 4, 2004), it is almost certain that the black carp has escaped captivity and established wild populations in certain reaches of the mainstream and tributaries of the lower Mississippi River Basin.


*Photo of Danube River paddlefish. Source: Simonovic et al. 2006.*

In 2005 Congressman Mark Green (R/WI) attempted to bypass the federal listing process by introducing legislation to list the bighead, silver and black carp as injurious species under the Lacey Act, but his bill never reached the floor of Congress. And now in 2007, Congresswoman Judy Biggert (R/IL) has taken similar action introducing legislation (H.R. 83) to so list the black, bighead, silver and largescale silver carp. Senator Carl Levin (D/MI) has introduced similar legislation (S. 726) in the Senate. But at this writing, the black carp remains unlisted.

## Paddlefish Invasion of the Danube River

Paddlefish *Polyodon spathula*, native to the Mississippi River Basin, are now established as an invasive species in Europe's Danube River. The species was first introduced into Russia in 1974. Then between 1992 and 1994 paddlefish were imported from the U.S. into Romania for rearing on fish farms. Today paddlefish are reared on fish farms in Germany, Austria, the Czech Republic and Bulgaria.

Now the species is reported to have escaped captivity and is known to be invading the lower Danube River. On May 10, 2006, two specimens, one male and one female, were caught downstream of the Iron Gate II near the village of Prahovo, Serbia, at Danube River kilometer 863-862 upstream from the Black sea. The paddlefish were caught by local fishermen using a drifting trammel net with mesh size of 3.5 cm. Sex was determined by dissection. Both fish measured 82 cm standard length (SL). The weight of the male was 5.5 kg. (weight of the female is not available). The paddle of the female was much longer than that of male (26 cm and 16 cm, respectively).

A third male paddlefish was caught on June 1, 2006 and delivered to the University of Belgrade. That specimen measured 97 cm and weighed 6.5 kg with a 29.5 cm. paddle length (See accompanying Figure).

These records come nearly six years after the first record of adult paddlefish from the Bulgarian part of the River (426 km. from the Black Sea). Considering that paddlefish occur exclusively in the lower Danube, biologists are almost certain that they are escapees from either Romanian, or Bulgarian fish farms. Juvenile paddlefish have also been reported in the lower Danube River, indicating that the species has already acclimatized.

In order to conserve Danube River sturgeon stocks, biologists recommend that both accidental or non-accidental introductions of alien sturgeon and paddlefish species be avoided by all means, due to the strong potential for hybridization. Although there are no available field data documenting hybridization between paddlefish and native sturgeon species of the Danube River, European biologists are concerned that there is a strong possibility that the species will share spawning sites because of their similar reproductive requirements (i.e., timing and spawning grounds habitat).

The Danube River shares another important feature with the Mississippi River; it also has populations of Asian carp, which also came as the result of escapees from fish farms. It seems that fish farming and other human activities are spreading invasive species all over the world. U.S. fish farmers are currently exporting

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paddlefish to China. We in the U.S. have little to complain about invasives coming into this country, when our own government is allowing export of our native species overseas, where in many cases they escape captivity and become invasive.

We need legislation to stop (or better control) these exchanges before rivers worldwide are contaminated with invasives from overseas and the natural fauna of our rivers are destroyed. The National Aquatic Invasive Species Act, currently before Congress addresses some of these important issues.

Source: Simonovic, P., et al. 2006. Occurrence of paddlefish *Polyodon spathula* (Walbaum, 1792) in the Serbian part of the lower River Danube. *Aquatic Invasions* (2006) Vol. 1, Issue 3:183-185.

## Beluga Sturgeon Trade Ban Lifted

The United Nations announced in early February the lifting of its one-year ban on international trade of beluga sturgeon eggs (caviar) because the nations that produce the valuable commodity agreed recently to reduce their catch quotas by 29% compared to 2005 levels. That means that 3.76 tons of beluga can be exported this year from Azerbaijan, Iran, Kazakhstan, Russia and Turkmenistan. Azerbaijan is allowed to export 300 kilograms, Iran 1 ton, Kazakhstan 1.76 tons, and Russia 700 kg. Turkmenistan's quota remained zero.

The U.N. Convention on International Trade in Endangered Species (CITES) imposed a ban on the export of the fish eggs last year because of fears of declining sturgeon stocks and over-exploitation by countries and poachers in its natural habitat in the Caspian Sea.

"The Caspian states have stepped up their efforts to control the caviar trade and to release millions of young fish into the sea, but the decline in populations cannot be allowed to continue," CITES Secretary General Willem Wijnstekers said. "Safeguarding the future of wild sturgeons depends on international collaboration and cooperation," he said. "Small quotas" should help reduce the depletion of sturgeon from the Caspian Sea, the source of more than 90% of the world's caviar, he said, urging restaurants, shops, airlines and consumers to buy only from established sources.

Besides the Caspian Sea limit, CITES said China and Russia had also agreed to an export limit of 3,237 kg (7,136 lb.) of amur sturgeon and 4,232 kg (9,330 lb) of kaluga sturgeon in the Heilongjiang/Amur river. No quotas for that river, which forms part of the Sino-Russian border, were given for several years because the states did not provide the required information, said David Morgan, head of scientific support at CITES, who called their new disclosure "a positive step."

Environmentalists estimate that Caspian Sea caviar stocks have plunged more than 90% since the late 1970s as a result of overfishing, both legal and illegal.

Sources: *Reuters*, 2/5 and 2/6/07; *Agence France-Presse*, 2/5/07; and *Greenwire*, 2/2/07

## U.S. Sturgeon Harvest and the Caviar Industry

When sturgeon populations in Europe and Asia collapsed after the fall of the Soviet Union, fishing pressure for U.S. sturgeon species increased significantly in many areas of the U.S., including the Mississippi River Basin to support the caviar trade. What to do about that situation with regard to the pallid and shovelnose sturgeon, and how to protect the two species from overharvest will be the topics of a MICRA meeting to be held on May 29-30 in Davenport, IA.

The home range of the shovelnose sturgeon stretches across much of the Mississippi River Basin, while the range of the pallid sturgeon is restricted to the Missouri River and the Mississippi River mainstem downstream from its confluence with the Missouri River. The two species are very similar in appearance, except that the pallid sturgeon can grow to much larger sizes (see accompanying photo), and the two are known to hybridize. Additionally, the pallid sturgeon has never been known to occur in large numbers and is listed as a protected species by most states where it occurs, and as an endangered species by the U.S. Fish and Wildlife Service (FWS).

Major federal actions are being taken by the FWS and U.S. Army, Corps of Engineers to restore viable populations of the pallid sturgeon to its former range. In the meantime, some states support commercial fisheries for the shovelnose sturgeon, and fishermen occasionally take pallid sturgeon in their nets and on their trot lines. Because of the similarity of appearance and difficulty in identification, some of these pallid sturgeon have shown up on the counters of commercial fish markets, creating an endangered species dilemma. Additionally, commercial fishermen are known to "check" both male and female fish for eggs by making a small incision in their body cavity, before releasing them and, in the process, killing an unknown number. Fishermen have also been reported to leave piles of decaying sturgeon carcasses in dumpsters and along shorelines after removing their eggs, disturbing concerned observers.

***Pallid sturgeon (above) and smaller Shovelnose sturgeon (below).***

To protect the pallid sturgeon, the FWS is considering listing the shovelnose as an endangered species because of its "similarity of appearance". Such listing is permitted under the Endangered Species Act. Meanwhile, some of the states wish to continue supporting a commercial shovelnose sturgeon fishery, while others would prefer to close the season altogether. All of these measures and their impact on sturgeon, commercial fishermen and the caviar industry will be discussed in detail at the MICRA meeting.

## No ESA Listing For American Eel

The U.S. Fish and Wildlife Service (FWS) announced on January 30 the completion of an extensive status review of the American eel, concluding that protecting

the eel as an endangered or threatened species under the Endangered Species Act (ESA) is not warranted. In completing the review, the FWS examined all available information about the American eel population from Greenland south along the North American coast to Brazil in South America, and as far inland as the Great Lakes and the Mississippi River drainage.

While the eel population has declined in some areas, the species' overall population is not in danger of extinction or likely to become so in the foreseeable future, the FWS decided. "The eel population as a whole shows significant resiliency. If we look at eels over time, we see fluctuations in the population numbers, so a decreasing number of eels right now does not necessarily forecast an irreversible trend," said Heather Bell, FWS fishery biologist.

***American Eel***

"Overfishing and hydropower turbines continue to impact eels in some regions, such as Lake Ontario and Chesapeake Bay, although these factors do not fully explain the reduced number of eels migrating up the St. Lawrence Seaway and into Lake Ontario," Bell said. Several actions have been taken in an effort to conserve eel populations including installation of eel ladders for upstream passage at hydropower projects, implementation of state harvest restrictions, and dam removals that open historic eel habitat. In addition, Canadian resource agencies have closed the harvest of eels in the Canadian portion of Lake Ontario. The *Committee on the Status of Endangered Wildlife in Canada* is considering designating the American eel a "species of special concern."

The Service initiated the status review in 2004 at the request of the Atlantic States Marine Fisheries Commission (ASMFC), representing 15 states from Maine to Florida. Following that request, Douglas Harold Watts of Augusta, ME, and Timothy Allan Watts of South Middleborough, MA, requested by petition that ESA protection be extended to the eel.

The FWS determined in 2005 that substantial biological information existed to warrant a more thorough examination and began a comprehensive review of all the available scientific and commercial information. The agency hosted two workshops to discuss threats and vulnerabilities with eel experts from federal and state agencies, nonprofit organizations, private industry, Native American tribes, academia, the ASMFC, the Great Lakes Fishery Commission, Canada, England and Japan.

American eels begin life in the Atlantic Ocean's Sargasso Sea near Bermuda. The larvae ride the Gulf Stream for several months until they make their way to Continental Shelf waters. Some eels grow to adulthood in the marine environment; some go into freshwater/saltwater estuaries; some migrate up rivers and streams; and some eels move from one habitat to another as they develop. Biologists believe this adaptability among various environments enhances the species' ability to survive despite threats in one or more environments.

During the next few months, the FWS will prepare suggested management measures to allow for eel fishery sustainability while ensuring adequate conservation measures for the species. The "Federal Register" notice with the status review on American eels was published on February 2. See http://www.archives.gov/federal-register/index.html. For additional information about American eels, see http://www.fws.gov/northeast/ameel

Source: *U.S. Fish and Wildlife Service News Release*, Great Lakes - Big Rivers Region, 1/30/07. Contact: Heather Bell, (413) 253-8654 or Diana Weaver, (413) 253-8329

## Longnose Sucker Denied Federal Protection

The longnose sucker, which exists only in selected tributaries of the Youghiogheny River, tributary to the Monongahela River, in MD, PA and WV has been denied federal listing as an endangered species. After a four-year delay, the U.S. Fish and Wildlife Service (FWS) in early March denied the listing, not because the small forage fish isn't rare in the Monongahela drainage area, but because the listing petition doesn't contain enough scientific evidence.

The petition cited acid mine drainage as a threat to the species. "We didn't say the longnose sucker isn't worthy of listing. We're saying the petition didn't provide enough information for us to make the determination that it's worth protecting," said Robert Anderson, a biologist in the agency's State College field office who did the analysis.

***Longnose sucker (www.roughfish.com photo)***

The longnose sucker, *Catostomus catostomus*, is one of a family of foraging fish, 6-24 inches in length, and commonly known as the freshwater mullet. While it is among the most widely distributed fish species in northern North America, it has almost disappeared from the Monongahela watershed.

The decision announced in the Federal Register responds to a petition filed in December 2002 by the Fisheries Technical Committee of the Pennsylvania Biological Survey. It sought federal listing for the fish by arguing they are a distinct sub-population, separated from other longnose sucker populations to the north and west for 15,000 years or more. The petition theorizes that such isolation — the nearest know population of the suckers is in the Lake Erie Basin 160 miles to the north — may have resulted in genetic differences but presents no supporting scientific data.

Longnose suckers are also found as far north as Canada and in Washington state, Alaska and Russia, federal officials said. The fish feed on the bottom of cool, clear rivers, streams and lakes. The petition requests that the FWS research the genetics of the Monongahela basin sucker, but that is not within the scope of the agency's work, which is limited due to funding. That lack of resources caused the delay of more than four years in reaching a decision on the listing petition.

The sucker is already listed as endangered by PA, MD and WV. Since 2000, longnose suckers have been collected only within four Casselman River tributary streams — Elklick, Flaugherty, Piney and Whites creeks, all in Somerset County, PA. The most recent collection in MD occurred in

1978 and the species is believed to be extirpated, or eliminated, from the state.

Source: Don Hopey, *Pittsburgh Post-Gazette*, 3/10/07; *AP/San Francisco Chronicle* online, 3/9/07; and *Greenwire*, 3/12/07

## New Endangered Species Policy

The Bush administration issued a new interpretation of the Endangered Species Act (ESA) in mid March that would allow it to protect plants and animals only in areas where they are struggling to survive, while ignoring places where they are healthy or have already died out. The Interior Department posted the opinion as a memorandum — a formal document that becomes agency policy — on its Web site without any announcement.

The memorandum does not alter the underlying ESA or agency regulations, but agency lawyers can now use it in court to bolster their positions. By dealing with the issue in a memo, rather than as a new regulation, Interior avoided public notice and comments. The administration will likely use the guidance the next time it deals with a related species lawsuit in court. But John Kostyack, *National Wildlife Federation*, said "Now at least they have some paper to point at, but it is questionable whether the paper will hold up."

U.S. Fish and Wildlife Service (FWS) Director Dale Hall said the new policy would allow his agency to focus on protecting species in areas where they are in trouble, rather than having to list a species over its entire range. "I think this will be a good tool from a biological standpoint," he said. "I think a lot of species might be affected in the future, especially species that are wideranging."

But Kieran Suckling, policy director for the *Center for Biological Diversity* in Tucson, said the new policy was a sophisticated effort by the Bush administration to gut the ESA by ignoring the loss of species from their historical range, making it easier to deny endangered species listings. If upheld by the courts, Suckling estimated the new policy would remove 80% of the roughly 1,300 species from threatened and endangered lists — because most species have at least one stronghold where they are doing well. "It's just so clearly illogical and anti-wildlife that I can't wait to get this before a federal judge," Suckling said. "They are rewarding industry for driving populations extinct. Because as soon as you drive a population extinct (in a certain area) it is no longer on the table. It no longer counts toward whether a species is endangered."

Conservation groups have regularly gone to court to get the Bush administration to protect species after FWS denied petitions to list them. Since at least 2000, Interior lawyers have gone to court claiming that a species could be listed based on a portion of its range only if disappearing from that portion of its range threatens its continued survival everywhere, Interior Solicitor David Bernhardt said. Interior has lost eight out of the 10 cases where they have used that argument, he said. "Lawyers should help their clients bat 1.000, and we're really below that here," he said.

The new policy defines the range of a species as the geographic area where it currently can be found, and not places where it once could be found — such as areas where destruction of habitat has driven it out. It also gives the secretary of Interior and the FWS broad discretion to define what a significant portion of the range is, and allows them to consider the biological significance of an area, not just the size of it. Hall said they would not review the some 1,300 species listed as threatened or endangered, but would evaluate petitions brought by the public. "If someone feels like (listing a species) throughout their range is too much, they can petition us to just look at the significant portion," he said. "We intend to use this as a move forward."

Suckling said courts have consistently ruled against the Bush administration, saying that if a species is imperiled in part of its range, it must be listed as threatened or endangered across its entire range. "Say I'm an irrigator," Suckling said. "Say there are 10 fish in a stream. That's a terribly low number. Someone looks at that and they would say the fish is imperiled. I'm going to go kill those 10 fish. Now they are part of the historical range, not the current range. It doesn't count. This policy will do more to promote the purposeful killing of imperiled species than anything else this administration has ever done."

The Interior Solicitor's Opinion can be found online at: http://www.doi.gov/solicitor/M37013.pdf

Source: Jeff Barnard, *AP/Coos Bay World*, 3/17/07; and ; and Allison Winter, *Greenwire*, 3/19/07

## Coastal Restoration Update

The Breaux Act Task Force on coastal restoration agreed in mid February to release $34.2 million federal and state dollars for construction of two wetlands restoration projects. Officials said that $15.2 million of the total will be used to dredge soil from Bayous Perot and Rigolettes to create or restore 504 acres of marsh in the adjacent Barataria Basin Land Bridge, located just south of Lake Salvador in Jefferson Parish. The filled-in space will be seeded with marsh grasses. The second project, costing $19 million, will use material dredged from the bottom of Lake Pontchartrain to re-create 566 acres of marsh in open water on the lake's north shore at Goose Point and Point Platte, on the southern edge of the Big Branch National Wildlife Refuge in St. Tammany Parish.

The Breaux Act Task Force also agreed to spend about $9 million to expand the size of an upcoming federal shoreline protection project. The Grand Lake Shoreline Protection project will be paid for mostly with $10.6 million from the federal *Coastal Impact Assistance Program*, a separate program that will provide the state with about $530 million in federal offshore oil money over four years for a variety of coastal restoration and infrastructure improvement projects. The Breaux Act money will be used to add protection to an additional section of the lake's shoreline and keep about $6 million available for the first three years of operating and repairing the project.

The task force decisions are in line with federal and state efforts to better coordinate their separate restoration efforts in ways that will result in projects being built as quickly as possible. The task force has also asked its staff to identify older projects that seem stuck in engineering design efforts, to determine whether the money allocated for them can be spent on the more than $250 million in Breaux Act projects that are now ready for construction, but are being delayed until money is available. Some of the older

projects were approved in 1991, the first year of the program.

The Breaux Act originally was designed to build small coastal restoration projects, but also has been used to design larger projects with the hopes that their construction eventually would be paid for by other federal or state programs. The program is underwritten with a tax on fuel used by small gasoline engines, which this year is expected to deliver $84 million to the program when combined with a 15% match in state money.

The program has spent $329 million of the $786 million in federal and state dollars received since 1991 on design and construction of projects, including 70 that have been completed, 18 that are being built this year, and 55 awaiting construction. Based on estimates of future tax collections, task force officials estimate another $1.6 billion in Breaux Act money will be available for restoration projects through fiscal year 2020, when the program is scheduled to expire.

The task force includes voting representatives of the U.S. Army Corps of Engineers, the EPA and the departments of Agriculture, Commerce and Interior, with a representative of the Louisiana governor serving as a nonvoting member.

Source: Mark Schleifstein, *New Orleans Times Picayunne*, 2/16/07 and *Greenwire*, 2/19/07

## Army Corps to Reissue Nationwide Permits

The U.S. Army Corps of Engineers (Corps) announced new regulations in mid March that revise and reissue nationwide dredge-and-fill permits for home construction, mining and utility maintenance. The new permits cover activities such as repairs of uplands, time-sensitive pipeline repairs, repairs to ditches and canals to control erosion, commercial aquaculture operations, reclamation of surface coal mining areas and underground coal mining.

Under Section 404 of the Clean Water Act (CWA), discharge of dredged or fill material into "navigable waters" requires a Corps permit. The nationwide general permit allows a landowner to fill as much as a half acre. The Corps reissued all the existing permits and added six new ones. Such permits are renewable every five years and are intended for activities that are similar and will cause "minimal" harm to the environment.

Ephemeral streams will see greater protection under the new permits, as the Corps is imposing a 300-linear-foot limit for losses of stream beds. However, district engineers will be able to waive the 300-linear-foot limit in some cases as long as "adverse effects on the aquatic environment will be minimal."

Environmentalists say that the new permits will harm the environment. Jan Goldman-Carter, a lawyer for the *National Wildlife Federation*, said the regulations weaken rules to allow development in flood-prone areas, threatening both human life and the environment. "They cut way back on the floodplain provision so it basically says that you have to comply with state and local floodplain restrictions," said Goldman-Carter. "There is no longer a prohibition from using the nationwides to build in floodplains."

Army Assistant Secretary John Paul Woodley said the new permits have simplified language "to provide clarity and certainty" while sustaining "essential levels of environmental protection." Corps' regional offices have the option of adding their own conditions to protect aquatic ecosystems such as fens or bottomland hardwoods, or to minimize damage to fish, shellfish spawning, wildlife nesting or other ecologically critical events.

The waiver option, Goldman-Carter said, "negates whatever [the Corps] is giving us in terms of increasing protection because they are allowing for the waiver of that limitation." And one of the permits for emergency repair, nationwide permit 45, does not have any limitation for impact "so things can be done under the guise of repair that actually would have additional impacts to streams," she said.

The Corps was supposed to release the permits in January to give states and regional offices 60 days to review them. But states that would have used the 60 days to create their own 401 water quality certification programs, now had to do so within a week — not enough time to allow for their own 30- or 60-day comment requirements. "This is an infringement of states' rights," said Jeanne Christie, executive director of the *Association of State Wetland Managers*, a nonprofit group that promotes wetland protection. "The fact that they did it this way and gave states no time to comment and put things in place is disturbing."

While about 20 states have set up their own nationwide permitting system and will not be affected by these changes, others will feel the burden, Christie said. Among those most affected are AL, LA, MS and GA. The *National Association of Home Builders* (NAHB) could also be pinched, said NAHB's Susan Asmus. Until states come up with blanket certifications, developers will be forced to ask states for individual help, she said.

With regard to mining, the Corps is still required to give mines written approval asserting that their activities will have a minimal effect on the environment, but the new permits waive environmental reviews for coal companies when they bury or reroute streams because environmental impacts are already reviewed by the office of Surface Mining Control and Reclamation under the Surface Mining Control and Reclamation Act (SMCRA), the Corps says. "It would be unnecessarily duplicative to separately require the same substantive analyses through an individual permit application as are already required under SMCRA," the Corps says.

*National Mining Association* spokesman Luke Popovich, said his organization approves of "this decision to continue the responsible use of [some permits] for remining and for underground mining." But *Sierra Club* director Carl Pope said that mining operations using nationwide permits have completely buried over 700 miles of streams in mining waste in Appalachia alone and another 500 stream miles have been "seriously harmed."

Under the law, in order to issue a nationwide permit the Army secretary has to make a factual determination that activities being allowed on a nationwide basis have minimal impacts, said Joan Mulhern, attorney for *Earthjustice*. The new permits could be in violation of the CWA, and a lawsuit "is certainly under discussion," she said.

The Corps' *Federal Register* notice can be found on line at: http://www.eenews.net/features/documents/2007/03/09/document_gw_02.pdf.

Source: Lucy Kafanov, *Greenwire*, 3/9 and 3/12/07

## New EPA Rules Limit Public Access to Discharge Data

Bush administration changes to reporting requirements for industrial chemical releases would shrink the availability of public information about toxic pollution, the Government Accountability Office (GAO) said in an early February report to a Senate panel. The report says the U.S. EPA failed to adhere to its own rulemaking guidelines when developing plans to change reporting requirements for the Toxic Release Inventory (TRI).

At issue is a restructured TRI rule that EPA finalized in December over the objections of environmentalists and congressional Democrats. The rule allows businesses to use a shorter, simpler reporting form if they handle no more than 5,000 pounds of a chemical and discharge no more than 2,000 pounds into air, water or soil.

The old rule required companies to report discharges of as little as 500 pounds of a chemical. About a third of the 24,000 facilities that file TRI reports would be eligible to use the shorter form, EPA says. John Stephenson, GAO's director for natural resources and the environment, told the Senate Environment and Public Works Committee that the rule would have a significant effect on public information. "We estimate that 3,565 facilities — including 50 in Oklahoma, 101 in New Jersey and 302 in California — would no longer have to report any quantitative information to the TRI," Stephenson said. "In addition, preliminary results from our survey of state TRI coordinators indicate that many believe the changes will negatively [affect] information available to the public and efforts to protect the environment."

And because of the shorter reporting form, the report says, "the public would no longer receive detailed information about a facility's releases and waste management practices for a specific chemical that the facility manufactured, processed or otherwise used."
Sens. Frank Lautenberg and Robert Menendez — both New Jersey Democrats — say they will offer legislation to prevent EPA from changing the reporting frequency and keep the reporting threshold at 500 pounds per chemical. A similar House bill has been proposed by Reps. Frank Pallone (D/NJ) and Hilda Solis (D/CA).

The Environment panel's ranking member, James Inhofe (R/OK), said he applauds the agency's TRI action because it encourages slashing toxic releases while limiting the "compliance burden" to business. "I appreciate the careful balance EPA has struck between burden reduction efforts and the agency's commitment to providing information to the public," Inhofe said.

Source: Lucy Kafanov, *Greenwire*, 2/7/07

## Arsenic in Poultry Wastes

Organic arsenic found in poultry-waste fertilizer can contaminate groundwater and the soil of fields at levels that are dangerous to human health, according to an *Environmental Science & Technology* study released in January. The study concludes that bacteria in fields where poultry waste is applied can accelerate the formation of organic arsenic into inorganic arsenic, causing more of the toxin to contaminate groundwater and soil than was previously thought.

Organic arsenic is added by farmers to the feed of 70% of the 7 billion chickens nationally. The chickens eat the feed and then produce the fertilizer waste, which contains varying levels of organic arsenic. Scientists previously thought that the organic arsenic in the fertilizer formed into inorganic arsenic slowly once it was applied to a field. But the study, carried out by scientists at Duquesne University, found that bacteria in the fields can cause the chemical to form in as little time as one week.

Duquesne biology professor and study lead author John Stolz said that the accelerated conversion of the arsenic causes higher quantities of the arsenic to leak into groundwater and soil. "What goes into the ground is very different from the compound in the chicken feed," Stolz said. "That the organic arsenic transforms much faster means we could get a bolus of the stuff going through the groundwater aquifer."

Chronic exposure to inorganic arsenic is known to cause cancer and is linked to heart disease, diabetes and decline in brain function.

Sources: Don Hopey, *Pittsburgh Post-Gazette*, 3/8/07, and *Greenwire*, 3/9/07

## Pollution Exemptions Considered for Farms

Farms would be exempted from key pollution reporting and cleanup rules under separate proposals being weighed on Capitol Hill and in the Bush administration. Bills introduced in the House and Senate in mid March say manure should not be classified as a hazardous waste under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), commonly known as Superfund.

Meanwhile, the U.S. EPA is planning to release regulations to exempt farms from some air pollution reporting requirements. Farm groups say the measures protect them from lawsuits under a law that was written to protect public health from industrial contamination. They are worried CERCLA could shut down small- or mid-sized farms with penalties of up to $27,500 a day for violations.

"Superfund is about toxic waste sites and chemical spills, not livestock manure on farms and ranches," said Stacey Katseanes, legislative affairs director at the *National Cattleman's Beef Association*. But environmentalists say the exemptions could prevent communities from taking recourse against huge concentrated animal operations whose emissions can exceed those of chemical plants.

Congress passed the Superfund law in 1980 to force companies to pay for cleaning up hazardous wastes, often via court action. It was first used for high-profile cases like Love Canal, the neighborhood poisoned by chemicals in Niagara Falls, NY. But as agriculture operations have grown larger, communities have used the law to force farms to clean up air and water emissions.

For example, Oklahoma Attorney General Drew Edmonson (D) filed a CERCLA lawsuit against Arkansas poultry companies that charges them with dumping waste in Oklahoma rivers and leaving a lake in the northeastern part of the state 70% oxygen dead. The *Sierra Club* also used CERCLA to successfully sue *Tyson* poultry farms in 2003; environmentalists have prevailed in suits against *Iowa Select* and Ohio's *Buckeye Egg*; and the city of Waco, TX, settled a lawsuit against cattle farms last year.

This legislation would stop such lawsuits by declaring that manure is not a hazardous waste. Farm groups note that agriculture operations are already regulated under the Clean Water and Clean Air acts. But environmentalists say Superfund is important, because it is the only law that can force operations to report their emissions or force them to help pay the cleanup costs of the waste. Responsible farming operations do not have to come under the hammer of the law, environmentalists argue, since it already has a specific exception for the "normal field application of fertilizer."

EPA Administrator Stephen Johnson said that the regulations, which are still in the drafting stage, are coming in response to requests from 26 state agencies to exempt farms. The poultry industry also petitioned EPA in 2005 to exempt them from reporting those air emissions. Agriculture air emissions include ammonia, nitrous oxide, nitric oxide, methane, volatile organic compounds, hydrogen sulfide and particulate matter. Farms already have temporary immunity from CERCLA for air emissions under an air compliance agreement that farm groups signed with EPA two years ago. The agreement gives participating farms amnesty from federal lawsuits for current and past air emissions until the agency finishes a study of the industry and develops best management practice guidelines. The research phase of the project has not started yet.

"They already get immunity and now the agency in advance is going to give them an outright exemption," said Michelle Merkel of the *Environmental Integrity Project*. "It is not clear the agency has any scientific basis for doing that."

Source; Allison Winter, *Greenwire*, 3/12/07

## Ethanol and CRP Lands

House Agriculture Committee members are cautiously eyeing the Conservation Reserve Program (CRP) to provide more acreage for corn, to feed the growing demand for ethanol. Lawmakers and Agriculture Department officials said in early March that a limited amount of acreage from CRP could go back into corn production, while still keeping millions of acres in the program. They also said cellulosic energy development would help relieve the pressure on corn.

House Agriculture Committee Chairman Collin Peterson (D/MN) said he would want to be careful not to spur an exodus from CRP that would put marginal or fragile land into production and cause "more problems." He said some have "overstated" the amount of CRP acreage that could be available. "CRP has been a great boon to wildlife and has protected a lot of marginal land that should not have been farmed in the first place," Peterson said.

Farmers will withdraw more than 4 million acres of land from CRP over the next three years — one of every seven acres that are up for re-enrollment, according to USDA. "We don't know the intended purposes, but we can assume some of that is intended for production," said Agriculture Deputy Secretary Chuck Conner. He said the acreage would help with the transition, as livestock producers adjust to rising corn prices.

But environmentalists are concerned that even more acres might come out of the program, as farmers see opportunities to plant corn and reap the benefits of skyrocketing prices fueled by demand for that crop from ethanol producers. More than a quarter of the land being taken out of the program is in major corn-producing states, the USDA says. The agency has been conducting open re-enrollments or extensions for conservation agreements on 28 million acres of CRP land that were set to expire between 2007 and 2010. About 8 million acres of land are still in ongoing contracts, plus the 23.9 million acres that have re-enrolled.

The 20-year-old program pays farmers to let cropland return to grasses for water conservation or wildlife habitat. Hunting and wildlife groups have called it the "holy grail" of wildlife, providing more habitat for birds and other species than all of the national wildlife refuges combined. "We've looked CRP up, down and sideways, but we still want to protect wildlife habitat," said Rep. Robin Hayes (R/NC), ranking member of the livestock subcommittee.

Livestock and poultry producers have been left to pay ever-increasing costs to feed their cows, pigs and chickens, so they are uniting to lobby Congress to consider their needs in the next farm bill and slow down federal support for ethanol production.

Source: Allison Winter, *E&E Daily and Energy & Environment*, 3/9/07

## Fish Friendly Farm Bill

*Trout Unlimited* (TU) is recommending that some fish friendly tweaks be made to existing programs under the 2007 Farm Bill, as well as creating a new fisheries program, similar to the existing Wildlife Habitat Incentives Program (WHIP), and funding it at $60 million annually. TU says this will create a much needed focus on important fish habitat and watershed restoration projects.

Healthy fisheries mean healthy communities, TU says. Fish and aquatic species are those most at risk of extinction, but proactive efforts to restore fish and fish habitat can contribute towards recovery of species listed pursuant to the Endangered Species Act and avoid listing for others. Such activities also provide new and expanded economic opportunities for producers and their families. Therefore, TU is respectfully requesting that Congress create this new fisheries program in the 2007 farm bill and make much needed fish friendly tweaks to some existing programs.

The Farm Bill provides $4 billion annually for restoration projects and initiatives that help farmers, ranchers, and private landowners address environmental challenges. It is the single biggest pot of money for conservation on private lands – no other federal program even comes close, TU says. Nonetheless, despite its tremendous potential, the Farm Bill has not traditionally been a significant source of funding for fishery restoration projects.

TU has determined, based on an analysis of available Natural Resources Conservation Service (NRCS) data, that funding directly benefiting fisheries and stream habitat represents less

than 4.5% of the allocations made from the Farm Bill conservation programs.

The TU report can be found on their web site at: TU.org, and they are urging members, fishermen and outdoor enthusiasts to "Tell Congress that we need a fish friendly farm bill."

Source: tu.org

## CBM Water Volumes Rise

Coalbed methane (CBM) production is on the rise in the Powder River Basin (WY), and along with it comes more wastewater. With the industry facing the problem of having more water than can be put to beneficial use, others are presenting some potential solutions.

The *Wyoming Pipeline Authority* (WPA) has set out to answer the question of whether it makes commercial sense to pipe water produced from coalbed methane wells to a treatment-and-injection site or to the Big Horn or North Platte rivers. Pipeline officials are seeking nonbinding estimates from CBM producers of how much water they could put into a water pipeline project.

During a meeting in Casper, WPA director Brain Jeffries said the scenario is based on piping 100 million barrels of water per day at a cost of $0.30/ barrel. "The reaction was that 30 cents seems on the high side of some of our current alternatives," Jeffries said.

However, there's some additional value in adding a water pipeline to the industry's water management methods. Jeffries said many companies like the fact that the pipeline would give them some regulatory certainty. The industry currently faces a great deal of uncertainty about water management requirements because of ongoing litigation between the states of Wyoming and Montana.

In addition, the Wyoming Environmental Quality Council recently adopted a rule that could place some water volume restrictions on the industry. "They said there was a regulatory certainty value attached to this project," Jeffries said. Several pending coal-gasification and coal-based power generation projects may also provide a good fit for some of the CBM water.

Bob Kayser of *Wyoming Gasification and Synfuels Co.* said his company is one of two finalists chosen to partner with the *Wyoming Infrastructure Authority* in an integrated gasification combined cycle, or IGCC, project. His company's proposed facility could consume about one-third of the estimated 100 million barrels per day pipeline capacity currently being considered.

The need to manage water is only becoming more intense in the Powder River Basin. Two natural gas pipeline companies are considering expansions based on projected growth in CBM production. And as more gas flows, more water flows to the surface from the producing coals.

***Dry Creek, tributary to the Powder River carrying CBM wastewater.***

*Wyoming Oil and Gas Conservation Commission* supervisor Don Likwartz said the industry produced more water in the first 10 months of 2006 than in all of 2005. Final water production for 2006 could top 680 million barrels. "It's going to be the highest year ever for water production," he said.

CBM is natural gas trapped in underground coal deposits that also store thousands of gallons of water. CBM extraction requires that the coal seams be drained of water, emptying aquifers that may take hundreds of years to refill. In the Powder River Basin, the average CBM well discharges 15,000 to 20,000 gallons of salty water per day, impacting surface soils, vegetation and aquatic animals. The Bureau of Land Management predicts that exploiting some 80,000 CBM wells in Wyoming and Montana will discharge at least four trillion gallons of water over the next 15 years.

Sources: Dustin Bleizeffer, *Casper Star Tribune*, 2/21/07 and *Greenwire*, 2/22/07

## North Dakota ````` Saltwater Spill Prompts Questions

A year after a ruptured pipeline spilled nearly 1 million gallons of saltwater into a northwestern North Dakota creek, Ned Hermanson is giving up. He intends to move his 400 cows to pastures far from the oil fields here, away from one of the biggest environmental disasters in state history. "I live day-to-day next to a neighbor that's an oil company, and they're a bad neighbor," said Hermanson. "Life is too short to be mad every day at them, so I'm leaving." Officials say the plight faced by Hermanson and a dozen other ranchers affected by the spill shows the need to pay more attention to wastewater pipelines nationwide.

Nathan Wiser, an environmental scientist with the U.S. EPA in Denver, said there are no specific federal regulations for saltwater disposal lines. "Standards don't exist," he said. "It makes sense to have better monitoring of these things and regulate them more tightly."

The spill near Alexander (far western North Dakota) has been described as the worst in the state's oil history. The saltwater, a by-product of oil production, flooded a stock pond and a beaver dam, and flowed into Charbonneau Creek, a tributary of the Yellowstone River. The spill — made up of water 10 times as salty as seawater — caused a massive die-off of fish, turtles and plants along the creek. Officials said no human drinking water sources were affected. The 18-mile-long pipeline that ruptured is just a fraction of the "perhaps hundreds of thousands of miles" of similar pipelines in the U.S., Wiser said.

Oil companies often don't have adequate monitoring for the pipelines because they aren't required to do so, Wiser said. "Wastewater pipelines are not given the same level attention as oil pipelines," he said. "You can bet your bottom dollar they monitor oil — because it's worth money and it's their life blood." Keith Hill, an operations manager for pipeline owner *Zenergy Inc*., said the company has spent about $1.8 million so far on the cleanup, which could take years to complete. The company has excavated tons of contaminated soil from the spill site, "a pile the size of a 3,000-square-foot home, 110 feet tall," said Kris Roberts, an environmental scientist with the North Dakota Health Department.

"It was a pretty big black eye," said Lynn Helms, director of the state Industrial Commission's oil and gas division. "Accidents like this will and do happen — the problem with this one was it took at least three weeks before it was detected." Helms said *Zenergy* did not have the proper monitoring equipment installed on the saltwater pipeline when it was built. The 3-inch plastic pipeline was fused by melting sections together, and one of the joints cracked, spewing the salty water, Hill said. A worker discovered the spill by accident. The pipeline was less than a year old, he said. "The monitoring system was being developed as the system was being developed," Hill said. "I don't think there are going to be any issues now. We have all the checks and balances in place."

Inspections after *Zenergy's* spill found 375 saltwater pipelines in the state "could potentially do the same thing," Helms said. Most of those systems now have monitoring in place but about 160 pipelines "still leave us vulnerable," Helms said. Operators of those systems have been told to install appropriate monitoring systems, he said.

Documents obtained by the *Associated Press* show that *Zenergy* was fined $82,500 for the spill. The company did not have to pay the money up front; it is allowed to work off the fine as it does its cleanup, Helms said. Hill said Charbonneau Creek is as clean now as it was before the spill, and has been repopulated with turtles and fish. Salt-tainted land has been reseeded, he said. But it's not enough for Hermanson, who leases several hundred acres of ranch land nestled within wind-carved buttes. Hermanson himself worked in the oil patch in the last boom some 30 years ago and is thankful for it. He used money he made working in there to start his ranch.

But he's seen a shift in attitude about oil — "Everybody wants to cash-in today," he says. He worries about the long-term effects of the salt-polluted water and land. He tastes the water himself, and said it's not the same as before the spill. Mostly, he worries about his cattle. "Cows are picky but eventually, they'll drink whatever they can, even if it kills them," Hermanson said.

Source: James MacPherson, *San Francisco Chronicle*, 2/2/07

## Yellowstone River Cultural Study

A cultural study of the Yellowstone River found that while people have differing and complex views about its management, they agree the river is the most important natural resource in the region. Susan Gilbertz, an assistant professor of geography and the environment at Montana State University-Billings, and her study team last year interviewed 313 people living on or near the Yellowstone about the river's health and management.

***Yellowstone River***

Those interviewed included agriculture operators, civic leaders, recreationists, residents and American Indians from Gardiner to the river's confluence with the Missouri River in North Dakota. "Of greatest clarity across all groups is this notion: The Yellowstone River is the single most important natural resource of southern and Eastern Montana," Gilbertz said.

Gilbertz said that while people have fundamental differences of opinion about the river, the study shows that there are opportunities for the different groups to manage the river with partnerships. Groups could start by focusing on their overlapping interests and finding a middle ground on issues, she said. Water quality, for example, is important for recreationists, who want to keep the fisheries healthy, and for those in agriculture, who irrigate with river water.

The inventory also showed that one's view of the river can vary depending on location along the river, Gilbertz said. Study participants in the eastern stretch from the Powder River to the confluence with the Missouri tended not to have conflicts with recreation, wanted economic growth and did not view erosion as a problem, Gilbertz said.

Participants upriver between Gardiner and Springdale, where there was extensive flooding in 1996 and 1997, are informed about the river, she said. There are active watershed groups, and the river has been studied by a governor's task force after the flooding. But that doesn't mean everyone is going to agree on what is the best way to manage the river, she said.

People downstream also recognize that the river already has been used by people upstream. But beyond that, study participants focused mostly on the river in their own community rather than on the river as a whole, she said.

The *Yellowstone River Conservation District Council* sponsored the project and the U.S. Army Corps of Engineers provided $114,000 for funding. The cultural inventory is part of the council's comprehensive study that will develop voluntary management practices.

Sources: Claire Johnson, *Billings Gazette*, 2/27/07; and *Greenwire*, 3/1/07

## Colorado Oil and Gas Legislation to Protect Wildlife

Colorado hunters, anglers and outfitters packed a Capitol hearing room in late February in support of legislation (House Bill 1298) intended to minimize the oil-and-gas industry's impact on wildlife. The House Agriculture, Livestock and Natural Resources Committee passed the bill on a 13-0 vote.

The legislation would require the state Oil and Gas Conservation Commission to consult the state Division of Wildlife about the effects of drilling on everything from elk breeding to trout spawning to bowhunting. The legislation could result in fewer drilling pads and roads in prime wildlife habitat by requiring oil companies to drill more wells from one spot.

"We need oil and gas resources to heat our homes and to provide energy for our daily lives," said Clare Bastable, conservation director for the *Colorado Mountain Club*. "But it need not come at the expense of the wildlife habitat and hunting opportunities that have been part of Colorado's heritage for generations," she said.

In Wyoming, where the oil-and- gas boom began first, studies have documented the industry's impact on wildlife. One study funded by the oil-and- gas industry found

a 46% decline in migratory mule deer in a heavily drilled area near Pinedale. Studies also show that more than 2 miles of road per square mile leads to a 50% reduction in the elk population, Bastable said.

A coalition of more than 50 sportsmen and conservationist groups urged the state to protect wilderness and the hunting industry, which generates $2 billion a year in Colorado. The bill passed with support from the *Colorado Oil and Gas Association* (COGA) after some of its specifics were deleted, allowing room for the commission and the Division of Wildlife to develop a list of guidelines.

Several oil companies already are trying to minimize their impact on wildlife, said Ken Wonstolen, an attorney representing the COGA. *Williams Production Co.* has the technology to drill 22 wells from a single well pad. And *EnCana Corp.* is studying the industry's impact on sage grouse.

The legislation is not intended to diminish oil and gas production but to "reduce the footprint by the industry left on the land," said Bob Elderkin of the *Colorado Mule Deer Association*. "It's the constant shuffling around of men and equipment — that's what drives the game out," he said.

Colorado issued a record 5,904 oil and gas drilling permits in 2006, more than double the permit total from two years earlier. Oil and gas make for a $20 billion industry in Colorado, including a $4 billion payroll and 70,000 jobs.

Source: Jennifer Brown, *Denver Post*, 2/21/07; *Greenwire*, 2/22/07

## Western Water Law Challenged

Under water law in most Western states, surface water rights holders have priority over those with groundwater rights, although in practice groundwater uses greatly affect surface water availability. But in Idaho the state's conjunctive management system gives the Department of Water Resources (DWR) director discretion over how much water rights holders get.

The Idaho Supreme Court ruled in early March that the state can use discretion in allocating water resources, rather than going solely by first-come, first-served water rights. Previously, surface and groundwater supplies were administered as separate entities. But the court ruled in favor of the state's contention that its conjunctive water management policy, which conflicts with the state's prior allocation doctrine, is constitutional. The state was appealing a decision by 5th District Court Judge Barry Wood, who ruled against the DWR last year.

"Somewhere between the absolute right to use a decreed water right and the obligation to protect the public's interest in this valuable commodity lies an area for the exercise of discretion," wrote Justice Linda Copple-Trout for the unanimous court. Surface water rights holders who are typically senior to groundwater users argued that even if surface and water supplies are interconnected, "prior appropriation" principles guarantee them full water supplies before junior rights holders.

Gov. Butch Otter (R) said he would announce plans soon for a "water summit" between senior users — who get their water from canals and springs — and junior users, who take from wells sunk into the Eastern Snake River Plain Aquifer. Most state lawmakers said they were not surprised by the decision, which still leaves discretion up to them in cases of disagreements with the DWR. "I don't think this has settled anything as far as determining how we're going to work this out," said state Senate Minority Leader Clint Stennett (D).

Sources: Rocky Barker, *Idaho Statesman*, 3/6/07; Jared S. Hopkins, Twin Falls [Idaho] *Times-News*, 3/7/07; *Greenwire*, 3/7/07

## Federal Land Sales Proposed to Offset Deficit

Hidden deep in the Interior Department's fiscal 2008 budget request, the Bush administration has proposed to sell off public lands to help pay down the federal deficit. According to the White House Office of Management and Budget such sales could bring in $186 million over five years and $334 million over the next decade.

At issue is the Federal Lands Transactions Facilitation Act, which provides for selling U.S. Bureau of Land Management (BLM) lands classified for disposal under resource management plans at the time the law was signed in 2000. The law allows Interior to spend proceeds from such sales for acquisition of high-value lands in or adjacent to national parks, wildlife refuges and national monuments. Under its land management plans, BLM identifies lands the agency proposes to sell or exchange.

The Agriculture Department has also revived a plan to sell up to 300,000 acres of national forests. That proposal got a rough reception from key Democrats. "Selling off our public lands and forests and using budget gimmicks is no way to fund the preservation and use of our nation's natural, cultural and recreational resources," said House Parks, Forests and Public Lands Subcommittee Chairman Raul Grijalva (D/AZ).

House Interior Appropriations Subcommittee Chairman Norm Dicks (D/WA) pronounced the proposal "dead on arrival." "It's a sad commentary that the administration would completely ignore the overwhelming opposition that its misguided land sell-offs created last year by releasing a nearly identical proposal," said Michael Francis of the *Wilderness Society*. "The American people do not want their lands sold off to remedy the administration's poor fiscal decisions."

For the public lands the Bush administration decides to keep, Interior unveiled the "*Healthy Lands Initiative*," a plan to funnel money to areas in the Rocky Mountains scarred by the recent increases in oil and gas development. Interior is requesting $22 million in new funding for BLM, the Fish and Wildlife Service and U.S. Geological Survey that will help restore up to 500,000 acres. The administration hopes the funds will help attract an additional $10 million from state, local and tribal governments, as well as from conservation groups and the energy industry.

Rollin Sparrowe of the *Theodore Roosevelt Conservation Partnership* said the administration is asking the wrong people for the money. "It's striking that they're asking the Congress to pay for restoration measures when it should be the (energy) companies that are footing the bill," Sparrowe said. House Natural Resources Committee Chairman Nick Rahall (D/WV), who has opposed the increase in oil and gas drilling, said the program was the sign of an administration in denial, at best.

"It is heartening to see that the Bush administration recognizes it has a problem in these areas," Rahall said. "It's like the *'Five Stages of Grief.'* Our parks are crumbling and our public lands are under assault, so at least the establishment of these initiatives tells us the administration is now beyond the stage of denial."

With regard to oil and gas management the budget would increase $5.9 million to $121.2 million in fiscal 2008 as BLM continues to implement the 2005 Energy Policy Act. About $3 million of the increase is to support increased inspections and monitoring of oil and gas operations, "for BLM's oversight capabilities to match the pace of industry's on-the-ground operations," according to Interior.

However, the administration once again wants Congress to repeal a section of the Energy Policy Act. Interior called on Congress to repeal a last-minute provision from the energy bill that limits BLM's ability to increase charges for oil and gas drilling permit applications. The proposal could net the federal government about $20 million annually.

Source: Dan Berman and Ben Geman, *Greenwire* and *E&E Daily*, 2/6/07

## Frogs' Sex Changed by Pollutants

Frogs that begin life as male tadpoles can be changed into females by estrogen-like pollutants similar to those found in the environment, according to a new study. The results may shed light on one reason up to a third of frog species around the world are threatened with extinction. The study is set to appear in the journal *Environmental Toxicology and Chemistry* in May.

In a laboratory at Uppsala University in Sweden, scientists exposed two species of frogs to levels of estrogen similar to those detected in natural bodies of water in Europe, the U.S. and Canada. The results were startling: whereas the percentage of females in two control groups was under 50% — not unusual among frogs — the sex ratio in three pairs of groups maturing in water dosed with different levels of estrogen were significantly skewed.

Even tadpoles exposed to the weakest concentration of the hormone were, in one of two groups, twice as likely to become females. The population of the two groups receiving the heaviest dose of estrogen became 95% female in one case, and 100% in the other. "The results are quite alarming," said co-author Cecilia Berg, "We see these dramatic changes by exposing the frogs to a single substance. In nature there could be lots of other compounds acting together."

Earlier studies in the U.S., Berg explained, linked a similar sex-reversal of *Rana pipiens* male frogs — one of the two species used in this experiment — in the wild to a pesticide (Atrazine) that produced estrogen-like compounds. "Pesticides and other industrial chemicals have the ability to act like estrogen in the body," Berg said. "That is what inspired us to do the experiment," she said referring to her collaborator and lead author of the article, Irina Pettersson, also a researcher at Uppsala.

The other species examined was the European common frog, *Rana temporaria*. Some of sex-altered males became fully functioning females, but others had ovaries but no oviducts, making them sterile, Berg explained. The study does not measure the potential impact of pollutant-driven sex change for frog species, but the implications, said Berg, are disquieting.

"Obviously if all the frogs become female it could have a detrimental effect on the population," she said. The only immediate remedy, she added, would be to improve sewage treatment (in areas where frogs and other amphibians might be affected) in order to filter out estrogen concentrations coming from contraceptive pills and from industrial pollutants.

Source: Marlowe Hood, *Agence France Presse*, 2/27/07

## Chytrid Fungus, Invasive Species, and Threats to Fish, Wildlife and Humans

The increasing threat to endangered amphibian species posed by the chytrid fungus requires that scientists create a $40 million project to ensure the survival of 500 frog species, scientists meeting in Atlanta said in mid February. The idea of an "amphibian ark" was proposed by scientists with the group *Amphibian Ark*. The group's Amphibian Program Officer Kevin Zippel said that zoos, aquariums and botanical gardens across the world should construct special bio-secure facilities for 500 amphibian species out of nearly 2,000 that are endangered, most of which are frogs.

The chytrid fungus is linked to many amphibian extinctions, including frogs. It clings to the skins of amphibians causing a disease called chytridiomycosis, which kills the animals in a way scientists still do not understand. "This is a mass extinction never before seen in human history," *Zoo Atlanta* Curator of Herpetology and *International Union for Conservation of Nature and Natural Resources* Executive Director Joseph Mendelson said at the meeting. "From a purely cold-hearted scientific perspective, it's a fascinating thing to document when we're still guessing what happened to dinosaurs."

"Bringing [frogs] into an amphibian ark is really the last option," Chester, England, Zoo Director of Herpetology and Kevin Buley said. "Everyone is aware of endangered pandas and tigers, but no one is making noise about these tiny creatures that have lived for 200 million years. Think of them as the canaries in the coal mine". Conservationists estimate that 170 frog species have become extinct in the past two decades and suspect that another 1,900 are on the way out, largely due to the chytrid fungus."

The sudden appearance of chytridiomycosis suggests that its etiologic agent, the amphibian chytrid *Batrachochytrium dendrobatidis*, was introduced into the affected regions. In a search for the origin of this virulent pathogen a survey was conducted by Che Weldon of North-West University in South Africa and his colleagues in Australia of 697 archived specimens of 3 species of *Xenopus* frogs collected from 1879 to 1999 in southern Africa in which

the histologic features of the interdigital webbing were analyzed. The earliest case of chytridiomycosis found was in a *Xenopus laevis* frog in 1938, and overall prevalence was 2.7%. The prevalence showed no significant differences between species, regions, season, or time period.

Chytridiomycosis was a stable endemic infection in southern Africa for 23 years before any positive specimen was found outside Africa. Weldon and his associates propose that Africa is the origin of the amphibian chytrid and that the international trade in *X. laevis* that began in the mid-1930s was the means of dissemination.

Soon after discovery of the *Xenopus Pregnancy Assay* for humans in 1934, enormous quantities of *X. laevis* were caught in the wild in southern Africa and exported around the world. The pregnancy assay is based on the principle that ovulation in *X. laevis* is induced by injection with urine from pregnant women because of high levels of gonadotropic hormones in the urine. *X. laevis* was selected as the most suitable amphibian for investigating the mechanism of the mating reflex because of the relative ease with which the animal can be maintained in captivity.

For 34 years, the trade in *X. laevis* in South Africa was controlled by the then Cape of Good Hope Inland Fisheries Department (Western Cape Nature Conservation Board) at the Jonkershoek Fish Hatchery. As an indication of the numbers involved in this trade, 10,866 frogs were distributed in 1949, of which 3,803 (35%) were exported, and of the 20,942 frogs distributed in 1970, a total of 4,950 (24%) were shipped abroad.

After the introduction of nonbiologic pregnancy tests, *X. laevis* became important as a model for the scientific study of immunity and later embryology and molecular biology. The concern is that *X. laevis* could have carried the disease globally, particularly if the prevalence was similar to that seen in wild-caught *X. laevis* today. In the importing country, escaped frogs, the water they lived in, or both, could have come into contact with local amphibian species, and subsequent transmission of the disease could have followed. The establishment of feral populations of *X. laevis* in Ascension Island, the United Kingdom, the U.S., and Chile in 1944, 1962, the 1960s, and 1985, respectively, show that transmission could have become ongoing if these feral populations were infected."

Further implicating *Xenopus* frogs in the spread of disease, Kurt Reed and associates at the Marshfield, WI research labs found that more than 90% of a breeding colony of clawed frogs (*Xenopus tropicalis)* imported to the U.S. from western Africa died in an epizootic of chlamydiosis. Chlamydial inclusions were observed by light and electron microscopy in the liver of an infected frog. *Chlamydia pneumoniae* was isolated in cell cultures from four frogs. A cutaneous infection by a chytridiomycete fungus observed in two frogs could have been a cofactor in the die-off.

***African clawed frog*** (*Xenopus tropicalis)*, a common aquarium pet.

*Chlamydia* infections cause disease in humans, birds, and mammals. Of the four currently recognized *Chlamydia* species, *C. psittaci* is the most important animal pathogen. *Psittacosis*, which can manifest as severe enteric and respiratory illness in many avian species, is highly contagious and can be transmitted to humans and many other mammals. *C. pecorum*, the newest species to be recognized, appears to have a highly restricted host range. Infections due to *C. pecorum* have been associated with sporadic encephalitis, polyarthritis, pneumonia, and conjunctivitis in pigs, sheep, cattle, and koalas. *C. trachomatis*, an agent responsible for millions of cases of ocular and urogenital infections (STDs) worldwide, causes most chlamydial infections in humans. *C. pneumoniae*, an acute respiratory tract pathogen of cosmopolitan distribution, may be linked with chronic diseases such as coronary atherosclerosis and multiple sclerosis.

Reed and associates state that the pipid frog *X. tropicalis* has a diploid genome and short generation time, which make it an ideal model organism for multigenerational genetic analysis. They state further that current demand for this species is higher than most biologic supply companies can meet, and continued importation of *X. tropicalis* and other amphibians from regions of the world experiencing poorly understood population declines raises concern about the inadvertent spread of virulent pathogens to naive populations of amphibians and reptiles, as well as transmission of these agents to mammals.

Until more is known about the epidemiology and prevention of these infections, Reed and associates state that, "…caution must be exercised in transportation, husbandry, and human contact with these animals." Clearly, the importation of foreign and invasive species and their diseases not only posses a threat to native fish and wildlife species, but to humans as well.

Sources: Jenny Jarvie, *Los Angeles Times*, 2/16/07; Lewis Smith, London *Times*, 2/16/07; and *Greenwire*, 2/16/07; Weldon C, du Preez LH, Hyatt AD, Muller R, Speare R. 2004. Origin of the amphibian chytrid fungus. Emerg Infect Dis [serial on the Internet]. Available from http://www.cdc.gov/ncidod/EID/vol10no12/03-0804.htm; and K.D. Reed, G.R. Ruth,† J.A. Meyer, and S.K. Shukla. 2000. Chlamydia pneumoniae Infection in a Breeding Colony of African Clawed Frogs (Xenopus tropicalis). Emerg Infect Dis [serial on the Internet]. Available from http://www.cdc.gov/ncidod/EID/vol6no2/03-0804.htm

## Bush Administration Defends Against Censorship Allegations

The director of the federal climate research program defended Bush administration policies on allowing scientists to speak to reporters at a Senate Commerce Committee hearing held in early February to probe allegations about political appointees censoring or changing the work of federal researchers. "The administration takes the concerns of its scientists very seriously, and each department and agency is reviewing — and modifying, if necessary — its policies to ensure government scientists do not face censorship on any scientific matter," Bill Brennan, acting director of the *Climate Change Science Program*, told the Committee.

But Committee Chairman Daniel Inouye (D/HI) expressed concerns about censorship allegations, citing a report released a week before by two advocacy groups, the *Union of Concerned Scientists* and the *Government Accountability Project*. "Before we can even begin debate on climate change, we must investigate the numerous allegations that our federal scientists are being constrained from conveying their research findings and conclusions," Inouye said as the hearing began.

The groups' survey, released at a House Oversight and Government Reform Committee hearing, said there have been more than 400 incidents of altered or suppressed government climate reports over the last five years. Meanwhile, a coalition of First Amendment watchdog groups issued a statement praising congressional efforts to investigate censorship and suppression claims.

The House hearing "revealed a widespread pattern of political interference in the operations of federal scientific activities," said the *American Civil Liberties Union*, the *American Library Association* and other groups. "These charges raise profoundly important questions about the basis for public policies that rely on sound science, the government's respect for fundamental constitutional rights and privileges, and the effective operation of our democracy," the groups said.

Source: Lauren Morello, *Greenwire*, 2/7/07

## Climate Change Update

This winter was the warmest ever recorded worldwide since record keeping began in 1880, the National Oceanic and Atmospheric Administration (NOAA) announced in mid March. The next warmest winter on record was in 2004, and the third warmest was in 1998, the agency said. This winter's combined temperature for December-February was 1.3 °F above the 20th century average. Temperatures were above average during those months in Asia, Europe, the northeast half of the U.S., southeastern Brazil and western Africa. But there were cooler-than-average conditions in parts of Saudi Arabia and the central U.S.

Evidence of global warming is "unequivocal" and human activities are the major factor driving the temperature rise, according to the long-anticipated *Intergovernmental Panel on Climate Change* (IPCC) report released in early February. IPCC Chairman Rajendra Pachauri and other IPCC officials said the picture painted by the new report is much clearer and backed up by more and better scientific evidence than was available during the writing of the panel's third report, released in 2001. "We are seven steps beyond what was possible" in 2001, Pachauri said. The new report demonstrates "that we are ... in a sense, doing things [to the climate] that perhaps have not happened in 650,000 years, based on the scientific evidence that is placed before you," he added.

The new report names human influence on climate as the primary driver of climate change seen since the mid-20th century — but with at least a 90% certainty, compared with the 66-90% certainty estimate included in the 2001 report. "Discernible human influences now extend to other aspects of climate, including ocean warming, continental-average temperatures, temperature extremes and wind patterns," the report adds.

About 2,500 scientists from more than 100 countries have worked to put the report together over the last six years. The report concludes with 90% certainty that human-caused greenhouse gas (GHG) emissions have been the primary factor in the Earth's overall temperature rise since 1950 prompting calls from world political and scientific leaders for immediate action to address global warming. A *Summary for Policymakers* of the IPCC is available online at: http://www.ipcc.ch/SPM2feb07.pdf.

Calling it "an inescapable reality," U.N. Secretary General Ban Ki-moon vowed in early March to make global warming a top priority during his tenure. Giving his most detailed explanation of global warming since assuming his post earlier this year, Ban said the phenomenon was a "grave and growing problem" on par with threat of nuclear war in the 20th century. "For my generation, coming of age at the height of the Cold War, fear of nuclear winter seemed the leading existential threat on the horizon," Ban said. "But the danger posed by war to all humanity — and to our planet — is at least matched by climate change".

There may be a need to create a "World Environment Organization" so that global efforts to combat climate change can be organized efficiently, former World Bank Chief economist Nicholas Stern and *Columbia University Earth Institute* director Jeffrey Sachs said in mid February. "We probably will need some kind of organization," Stern said. "But we can't wait for such an organization. We have to get on with it now." Earlier in February, French President Jacques Chirac called on the United Nations to replace the U.N. Environment Programme with an agency that has more power to oversee environmental matters.

Scientists at the Colorado-based *National Snow and Ice Data Center* (NSIDC) said in an article published in mid March in the journal *Science* that the North Pole could have iceless summers by 2100. Loss of the ice each summer would lead to a dramatic reshaping of the Arctic that would accelerate the warming of the oceans and potentially change precipitation patterns worldwide. If the Arctic sea ice continues to shrink, Colorado and other western states will see less rain and snow and may suffer more frequent droughts, NSIDC scientist Mark Serreze said.

Global warming could thus make the Colorado River's drought worse than it already is, threatening a key water source for seven states, according to a report released in late February by the *National Academy of Sciences*. By examining tree-ring data and computer models, the *National Research Council* (NRC) concluded that wet conditions in the early 20th century were exceptional, and that the river is more prone to severe drought than was previously thought. The river system, which supplies water to 25 million people and several million acres of crop and ranch land, has been suffering from drought since 2000.

Ohio State University (OSU) researchers said the Qori Kalis glacier on the Quelccaya ice cap in the Andes has been retreating at a rate of 200 feet per year over the past 10 years. In the previous decade, it had melted 20 feet per year. OSU researcher Lonnie Thompson told the *American Association for the Advancement of Science* that the glacier was retreating faster than at any other

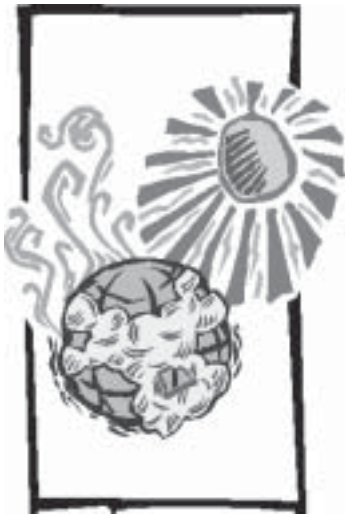
time in the past 50,000 years. The Quelccaya ice cap is the world's largest tropical ice mass, at 44,000 square kilometers. Qori Kalis has receded by at least 1.1 kilometers since 1963, Thompson said, adding that it could be gone by 2012. "This widespread retreat of mountain glaciers may be our clearest evidence of global warming as they integrate many climate variables," he said

Climate change has also taken its toll on the Himalaya's 46,000 glaciers. The glacier on the world's highest peak, Mount Everest, decreased 9% in recent years. In Qamdo, Eastern Tibet, the temperatures reached a record 71°F on Jan. 5. The warmer weather is clearing snow-covered mountain paths that shepherds once had to herd their flocks of sheep and goats through, as well as reducing the loss of animals to the elements. "I have heard of global warming, though I don't really understand what it means," said Tashi, a shepherd in the Karo-la Pass in Tibet. "But you can see there is less snow on the mountains. In the old days, all those rocks would be covered. I don't have to take my sheep so far away from the mountain in lambing season now".

Brazil could lose a number of animal and plant species to drought, disease and rainstorms as temperatures rise, according to several studies released in late February. One study conducted by Brazilian space agency INPE found that Amazon rainforest temperatures could rise as much as 8 °C this century. Others predicted that the Pantanal wetlands could dry up and turn to savannah, and that rising ocean levels could flood islands and estuaries with salt water, killing fish. Environment Minister Marina Silva said she pressed President Luiz Inacio Lula da Silva to bring up cutting GHG emissions with U.S. President Bush during his visit Brazil in March. "…all of humanity needs President Bush to show more commitment to reducing GHGs," she said.

In India, the Sunderbans Tiger Reserve, the world's largest such preserve, is suffering from erosion and rising sea levels that are threatening the survival of the endangered tigers. The 10,000-square-mile area on the border with Bangladesh is losing its dense mangrove cover, and two of its islands have already disappeared under rising sea levels. It could hold between 250-270 tigers now, down from about 500 in the late 1960s, wildlife officials say. The tigers' prey is also being affected by mangrove destruction. Crocodiles, fish and large crabs are dying, according to former *World Wildlife Fund* (WWF) secretary Shakti Ranjan Banerjee.

Anote Tong, president of the Kiribati islands, said in February that efforts will come too late to stop rising sea levels from rendering the 33-island archipelago uninhabitable by the middle of the century. Kiribati has 1,143 kilometers of coastline and 21 of its islands are inhabited. In addition to changes in the weather, the sea level around Kiribati has risen 5.3 millimeters per year since 1993, forcing residents to flee closer into the islands' centers. Tong said the government is already looking at ways to permanently relocate the 105,000-person population off the islands. "We can't out-move the changes in the weather and the sea level rise," Tong said in Tarawa, the capital of Kiribati. "We have to consider leaving rather than wait".



A British government report released in early February said that Vietnam is likely to be hit worst by the effects of climate change. A one meter rise in ocean levels would submerge 12% of the country's land, home to 23% of the country's population.

Meanwhile, smog from coal-fired power plants and wood burning in Asia is causing the northwestern U.S. to be cloudier and stormier over time, which is increasing global warming, according to a study published in early March in the *Proceedings of the National Academy of Sciences*. The study concludes that air pollution from Asia worsened the severity, but not frequency, of Pacific U.S. storms by 20-50% from 1994 to 2005. The storms became more severe because the industrial outpouring of dust, sulfur, carbon grit and trace metals from Asia has an intercontinental cloud-seeding effect. As a result, the way in which rain droplets form is altered, fostering the creation of imposing cloud formations over the northern Pacific called deep convective clouds. The clouds create powerful updrafts that spawn fiercer thunderstorms and more intense rainfall, particularly during the winter months, the study researchers said. The study also suggests that the resulting storms from the increasing Asian smog could exacerbate global warming because stronger storms in any part of the world would increase the amount of heat flowing from the equator toward the North Pole.

Far-northern boreal forests, which contain nearly half the world's earth-contained carbon, could release their vast stores of $CO_2$ as global warming progresses, scientists are beginning to fear. Carbon and methane, which have been collecting in the ground since the last ice age, could be released as tundra and northern forests warm up, spawning fierce storms, elevated ocean levels and generally even worse conditions than are predicted under current $CO_2$ projections.

Extreme weather conditions caused by global warming are "likely to aggravate the loss situation" that led to $230 billion claimed in damages in 2005, insurer *Swiss Re* said in early March. While 2006 had about $48 billion in damages, 2005's fierce hurricanes were a harbinger of weather conditions to come, the company said. "Over the past decades, insured losses have shown a rising trend, due mainly to weather-related catastrophes," it said. Of the $15.9 billion paid out in catastrophe-related claims last year, natural disasters accounted for $11.8 billion, according to *Swiss Re*.

The world's largest general scientific society, the *American Association for the Advancement of Science* (AAAS) issued its first statement on climate change at its annual meeting saying, "The evidence is clear: Global climate change caused by human activities is occurring now". AAAS publishes the journal *Science* and serves 262 affiliated science associations.

Avoiding the worst effects of climate change requires immediate action to limit GHGs, says a report released in late February by the *U.N. Foundation* and *Sigma Xi*. "Significant harm from climate

change is already occurring, and further damages are a certainty," the report reads. "The challenge now is to keep climate change from becoming a catastrophe."

*Sigma Xi, The Scientific Research Society*, is a nonprofit membership society of nearly 60,000 scientists and engineers. Even with an immediate and aggressive effort to limit emissions, the world is likely to experience more severe droughts and storms, a significant rise in sea level and more acidic oceans, and shifts in the ranges of plant and animal species, the report predicts. "Two starkly different futures diverge from this time forward," it says. The report recommends several steps to adapt to climate change, including:

- Quadrupling public and private spending on energy research.
- Improving energy efficiency for cars and buildings.
- Expanding the use of biofuels and public transportation.
- Promoting reforestation and afforestation.
- Requiring new coal-fired power plants to be built in a way to allow eventual retrofitting for carbon capture and sequestration.

The report also urges governments to examine the regional effects of climate change, and to plan for "environmental refugees" who may need to flee areas greatly changed by global warming and to limit development in floodplains and on coastal land that is less than 1 meter — about three feet — above the present high tide.

Nations should consider global warming as a human rights issue, representatives of the *Inuit Circumpolar Council* (ICC) told the *Organization of American States* (OAS) in early March. Rising temperatures in the Arctic are limiting the thickness, extent and duration of sea ice, threatening to end traditional Inuit hunting practices that have persisted for thousands of years, the former chairwoman of the ICC, Sheila Watt-Cloutier, told the OAS *Inter-American Commission on Human Rights*. The Inuit are asking the human rights commission to take action to protect several rights already recognized by international law, said Martin Wagner, a lawyer for *Earthjustice* who is helping the Inuit argue their case. Among them are the right to use and enjoy property; the right to life, liberty and personal security; the right to means of subsistence; and the right to enjoy the benefits of culture, Wagner said. As it now stands, "to survive [the effects of global warming], indigenous people are forced to assimilate to cultures they have not chosen," Wagner said.

A new global survey shows widespread agreement that global warming is a problem but a sharp divide over how to address the situation. A majority of citizens in 10 countries polled — including the U.S., Australia, Mexico, China and India — said they believed that climate change is an "important" or "critical" threat. The country that saw global warming as the biggest threat was Australia, where 69% of those surveyed called it a "critical" problem, compared with 46% of U.S. respondents. Respondents in Ukraine were least concerned about global warming, with just 33% calling it a "critical" issue. Of the 12 countries asked about how they believed governments should address global warming, Australia had the largest proportion of citizens — 69% — calling for "taking steps now, even if this involves significant costs." Forty-three percent of Americans said they believed in taking immediate steps, while 37% said they preferred taking gradual steps "that are low in cost," and 17% said the country should not take steps with economic consequences "until we are sure [global warming] is really a problem." Citizens of India were most cautious, with just 19% calling for immediate action, 30% endorsing gradual steps, and 24% calling for more information before taking action. More than 20,000 people participated in the global poll, representing 17 countries that account for 55% of the world's population. Conducted by the *Chicago Council on Public Affairs* and *WorldPublicOpinion.org* between June and December, the country surveys had margins of error between 3 and 4%.

Meanwhile, the *American Enterprise Institute* (AEI) offered American and British scientists $10,000 each to write articles emphasizing the shortcomings of the IPCC Report according to the London *Guardian*. AEI visiting scholar Kenneth Green sent the letters to scientists, economists and policy analysts offering them money and travel expenses to write essays that "thoughtfully explore the limitations of climate model outputs." The letters accused the IPCC of being "resistant to reasonable criticism and dissent and prone to summary conclusions that are poorly supported by the analytical work." Green said he sent the letters because "right now, the whole [climate change] debate is polarized. One group says that anyone with any doubts whatsoever are deniers and the other group is saying that anyone who wants to take action is alarmist. We don't think that approach has a lot of utility for intelligent policy." AEI has received more than $1.6 million from *Exxon Mobil*, and former *Exxon* CEO Lee Raymond is vice-chairman of the group's board of trustees. Also, more than 20 AEI employees have served as consultants to the Bush administration.

But when the IPCC report was released, *Exxon Mobil Corp*. punctuated its slowly changing rhetoric on global warming with an abrupt switch to advocacy. "There is no question that human activity is the source of carbon dioxide emissions," Kenneth Cohen, *Exxon's* vice president of public affairs, said in remarking on the IPCC report. "The appropriate debate isn't on whether climate is changing, but rather should be on what we should be doing about it," he said. *Exxon* spent $16 million between 1998 and 2005 to fund 43 small nonprofit groups that question the science behind global warming, according to a report released in January by the *Union of Concerned Scientists*.

Another major oil company, *BP*, has been more specific about its climate policy goals. *BP America* is part of the *U.S. Climate Action Partnership*, a group of 10 companies and some environmental groups that says U.S. emissions should be lowered to between 60 and 80% of today's levels by 2050. The group's principles include support for a cap-and-trade system phased in over several decades. The group includes *DuPont, Alcoa, General Electric, Duke Energy* and several other companies.

The *Edison Electric Institute* (EEI), *Electric Power Supply Association* (EPSA), *American Gas Association* (AGA), and *American Public Power Association* (APPA) in February and March all announced their support for stronger global warming policies. EEI and EPSA both said that their positions were developed as a result of their own deliberations on the issue after seeing the growing patchwork of state regulations and laws in the Northeast and California. AGA said the shift in their perspective

was driven by the Democrats' emphasis on climate change and energy. And the APPA position encourages lawmakers to "consider the financial impact on and the ability of consumers to afford any proposed GHG reduction program".

The AFL-CIO, in late February also offered its first-ever stance on global climate change saying that it "…supports balanced measures to combat global warming. However, the federation opposes extreme measures that would undermine economic growth, harm particular sectors or [place] ourselves at a disadvantage to other nations." The labor group — representing some 10 million Americans — goes into specific detail about its preference for climate change legislation. Among other things, the AFL-CIO proposal suggests lawmakers focus on controlling emissions on an "upstream" basis, meaning from fossil fuel producers as opposed to a power plant's smokestack or automobile's tailpipe. It also cautioned that U.S. efforts should only advance if international trading partners and developing countries go forward, as well.

Also, some 284 large institutional investors, including *Wachovia*, *BP Investment Management Ltd.* and the *California Public Employees' Retirement System*, are calling upon the world's 2,400 biggest publicly traded companies to make it clear to shareholders how climate change could affect their firms' stock price. Collectively the institutions have more than $41 trillion in assets under management. To date, more than 1,000 companies have reported their GHG emissions and other climate-related data through the collective, making it the world's largest emissions registry, said Zoe Riddell, a *Carbon Disclosure Project* managing director in New York.

The governors of five Western states signed a global warming agreement in late February linking up their efforts to cut GHG emissions. Like their counterparts in the Northeast, AZ, CA, NM, OR and WA are also on track to launch a regional cap-and-trade program addressing major industrial and commercial sources of global warming pollution. Each of the states has already taken action individually to reduce their pollution, and state officials said they plan to continue implementing all of their existing laws and regulations. But the latest decision — coming in the form of a Memorandum of Understanding — joins them together into a "*Western Regional Climate Action Initiative*." A coalition of 10 Northeast and mid-Atlantic states are also on track to limit GHGs through their "*Regional Greenhouse Gas Initiative*".

Montana Gov. Brian Schweitzer (D) urged Congress in late February to establish a national cap-and-trade program to limit GHG emissions. The first-term governor insisted that a national approach to global warming is necessary to avoid the "balkanization" of climate programs being assembled in separate states. Senate Finance Committee Chairman Max Baucus (D/MT) has previously called for such a national cap-and-trade system to avoid the state patchwork.

In one of the biggest strides against global warming taken by a state, New Jersey Gov. Jon Corzine (D) signed an executive order in mid February with the goal to reduce his state's emissions by 80% by 2050. The order gives the state Department of Environmental Protection six months to sculpt a plan to reduce New Jersey's emissions. Also in mid February, Illinois Gov. Rod Blagojevich (D) asked an advisory group to cut the state's production of GHGs to 1990 levels by 2020 and 60% below 1990 levels by 2050.

Australia announced plans in late February to phase out the use of incandescent light bulbs in favor of more-efficient fluorescent bulbs by 2010. The plan, announced by Environment Minister Malcolm Turnbull, is expected to reduce Australia's GHG emissions by 4 million metric tons per year by 2015. Turnbull said that if the whole world were to discontinue using incandescent bulbs it would save the equivalent of five times Australia's entire annual energy consumption.

Environmental groups filed petitions in early February with the U.S. EPA and the departments of Agriculture, Commerce, Defense, Energy, Interior and Transportation seeking more coordinated planning and responses to global warming, including an assessment of how climate change will affect thousands of the world's species. The *Center for Biological Diversity* is the lead author of the petition, which asks the government to factor climate change into everything from habitat designations to road building and permit approval for new energy projects. The groups insist that climate change and natural habitat destruction threaten as much as one quarter of the world's species.

Meanwhile, several conservative Christian group leaders have asked the *National Association of Evangelicals'* (NAE) top policy director in Washington, D.C. to stop focusing on climate change. In a letter sent in late February, the leaders accuse Rev. Richard Cizik, the group's vice president for government affairs, of not putting enough emphasis on what the leaders deem to be "the great moral issues of our time" like abortion and homosexuality. The leaders said those are the issues that deserve more campaigning on his part than global warming and that if Cizik cannot make those issues a priority then he should resign. Last year Cizik launched a campaign to frame climate change in a religious context, calling it a moral issue that Christians have a responsibility to prevent The leaders who signed the letter include James C. Dobson, chairman of *Focus on the Family*; Gary L. Bauer, once a Republican presidential candidate and now president of *Coalitions for America*; Tony Perkins, president of the *Family Research Council*; and Paul Weyrich, a longtime political strategist who is chairman of *American Values.*

Meanwhile, *Virgin Corp.* CEO Richard Branson and former Vice President Al Gore announced in early February that they would offer $25 million in prizes to encourage inventors to come up with ways to remove 1 billion metric tons of GHGs per year from the atmosphere. Branson said a panel of judges, including NASA scientist James Hansen and Australian author Tim Flannery, would meet annually to evaluate projects submitted over the course of each year. If a project is found to remove emissions and contribute materially to the planet's climate stability, it will receive $5 million, with the rest paid 10 years later if the project's goals are achieved.

Aquifers could be ideal for long-term storage of $CO_2$ emissions, researchers at the Massachusetts Institute of Technology said in early February. An MIT study analyzed the potential of storing $CO_2$ in saline aquifers, one of the three geological formations studied as possible storage sites. The other two are depleted oil and natural gas fields along with unminable coal seams. The researchers found that after injecting the $CO_2$ into the aquifers, the gas could be stored for centuries. Eventually the gas

would dissolve, leaving a small amount of that will adhere to the rock of the aquifer as iron and magnesium carbonates. The research was published as a report in a recent issue of the journal *Water Resources Research.*

Meanwhile, researchers from more than 60 countries are preparing to launch a massive multi-year research effort at the Earth's poles which is designed to help scientists understand the increasingly rapid pace of climate change in the Arctic and Antarctica. More than 50,000 people are expected to participate in the International Polar Year (IPY), which began in late February. Cosponsored by the *World Meteorological Organization* and *the International Council for Science*, the research effort will touch on topics ranging from the mapping and modeling of permafrost thawing, the effects of climate change on the migratory patterns of reindeer and other wildlife, the collection of ice cores, and social studies of indigenous native communities in the two polar regions. This is the fourth IPY project. It is modeled on previous efforts in 1882-1883, 1932-1933 and 1957-1958. Like the earlier programs, the current IPY will actually run for two years, ending in March 2009, to allow scientists to monitor complete weather cycles in the Arctic and Antarctica.

Sources: Andrea Welsh, *Reuters*, 2/27/07; Bappa Majumdar, *Reuters*, 2/27/07; Daniel Trotta, *Reuters/PlanetArk*, 2/19/07; Keay Davidson, *San Francisco Chronicle*, 3/6/07; Robert Lee Hotz, *Los Angeles Times*, 3/2 and 3/6/07; Alok Jha, London *Guardian*, 3/6/07; Eric Berger, *Houston Chronicle*, 3/6/07; David Adam, London *Guardian*, 2/19/07; *BBC News online*, 3/8/07; Alan Zarembo, *Los Angeles Times*, 3/16/07; Jim Erickson, *Denver Rocky Mountain News*, 3/16/07; *Reuters*, 2/7 and 3/16/07; *E&E Publishing*, 3/16/07; Rob Woollard, *Agence France-Presse*, 2/15/07; Mark Henderson, *The Australian*, 2/16/07; Richard Spencer, London *Telegraph*, 2/15/07; Emma O'Brien, *Bloomberg*, 2/15/07; Bettina Boxall, *Los Angeles Times*, 2/22/07; Cornelia Dean, *New York Times*, 2/22/07; Shaun McKinnon, *Arizona Republic*, 2/22/07; Doug Struck, *Washington Post*, 2/22/07; James Randerson, London *Guardian*, 3/10/07; Jeremy Lovell, *Reuters/PlanetArk*, 3/14/07; Ian Sample, London *Guardian*, 2/2/07; Kristen Hays, *Houston Chronicle*, 2/9/07; *E&ENews PM*, 1/22/07; Darren Samuelsohn, *E&E Daily*, 2/27/07; Colum Lynch, *Washington Post*, 3/2/07; Michael Rispoli, Cherry Hill [N.J.] *Courier-Post*, 2/14/07; *AP/Chicago Daily Herald*, 2/14/07; Laurie Goodstein, *New York Times*, 3/3/07; Amy Iggulden, London *Telegraph*, 2/9/07; Robin Millard, *Agence France-Presse*, 2/9/07; *Agence France-Presse*, 2/7/07; Neil Sands, *Agence France-Presse*, 2/20/07; Tim Johnston, *International Herald Tribune*, 2/20/07; Michael Burnham, *Greenwire*, 2/1/07; Ben Geman, *Greenwire*, 2/14/07; Lauren Morello, *Greenwire*, 2/26, 2/27, 3/1 and 3/14/07; Darren Samuelsohn, *Greenwire*, 2/26/07; Darren Samuelsohn and Dan Berman, *Greenwire*, 2/1/07; Lauren Morello, Dan Berman, and Darren Samuelsohn, *Greenwire*, 2/2, 2/27 and 3/14/07; and *Greenwire*, 2/2, 2/7, 2/8, 2/9, 2/14, 2/16, 2/19, 2/20, 2/22, 3/1, 3/2, 3/5, 3/6, 3/9/07


## Meetings of Interest

**May 14-16:** New Strategies for Urban Natural Resources: Integrating Wildlife, Fisheries, Forestry, and Planning Conference, Lombard, IL. See www.informalearning.com/Wildlife.

**May 20-23:** Tenth National Watershed Conference: Total Watershed Awareness - Extending the Legacy, Radisson Hotel and La Crosse Center, La Crosse, WI. Contact: Tammy Sawatzky, NWC07@sbcglobal.net or Dan Sebert, nwchdqtrs@sbcglobal.net

**May 20-25:** International Conference on Ecology and Transportation 2007, Little Rock, AR. See: www.icoet.net.

**May 21-24:** Interagency River Manager's Workshop, River Management Society, Holiday Inn Parkside, Missoula, MT. See: www.river-management.org

**May 21-24:** Fifth International Conference on Marine Bioinvasions, Massachusetts Institute of Technology, Cambridge, MA. Contact: Judith Pederson, MIT Sea Grant College Program, (617) 252-1741.

**May 22-25:** 29th OWP Annual Meeting and Conference: Developing the Next Generation of Fish and Wildlife Agencies, Blacksburg, VA. See www.owpweb.org/Annual Conf/next_conference.php.

**May 24-27:** Aquarama 2007: Tenth International Aquarium Fish and Accessories Exhibition and Conference, Singapore. See: www.aquarama.com.sg.

**Jun. 3-8:** Charting the Course: New Perspectives in Floodplain Management, Norfolk, VA. See: www.floods.org/norfolk.

**Jun 6-9:** Fourth International Reservoir Symposium: Balancing Fisheries Management and Water Uses for Impounded River Systems, Atlanta, GA. See www.sdafs.org. Contact: Mike.Colvin@mdc.co.gov.

**Jun. 10-15:** Society of Wetland Scientists International Conference: Water, Wetlands, and Wildlife—Resolving Conflicts and Restoring Habitat, Sacramento, CA. See: www.sws.org/sacramento2007.

**Jun 17-21:** 13th International Symposium on Society and Resource Management, Park City, UT. See: www.issrm2007.org.

**Jun 23-27:** Fourth Biennial Conference of the United States Society for Ecological Economics—Creating Sustainability within Our Midst: Challenge for the 21st Century, New York, NY. See www.ussee.org/conference.htm. Contact conference@ussee.org.

**Jul 11-16:** American Society of Ichthyologists and Herpetologists Annual Conference, St. Louis, MO. . See: www.dce.ksu.edu/jointmeeting/.

**Aug. 7-9:** Managing Vertebrate Invasive Species. Hilton Hotel, Fort Collins, CO. Hosted by the USDA/APHIS/Wildlife Services/National Wildlife Research Center. Contact: Dr. Kathleen A. Fagerstone, kathleen.a.fagerstone@aphis.usda.gov

**Sep 2-6:** American Fisheries Society, 137th Annual Meeting, San Francisco, CA. See: www.fisheries.org/sf/.

**Oct 9-12:** International Symposium: Wild Trout IX, West Yellowstone, MT. www.wildtroutsymposium.com/. Contact Dirk Miller, Dirk. Miller@wgf.state.wy.us , 307/777-4556.

**Oct 21-24**: Southeastern Association of Fish and Wildlife Agencies Annual Meeting, Charleston, WV. See www.seafwa2007.org.

**Aug. 17-21, 2008:** American Fisheries Society 138th Annual Meeting, Ottawa, Ontario. Contact: Betsy Fritz, bfritz @fisheries.org, (301) 897-8616, ext. 212.

**Oct 5-9, 2008:** Pathways to Success 2008 Conference: Integrating Human Dimensions into Fisheries and Wildlife, Estes Park, Park, CO. See www.warnercnr.colostate.edu/nrrt/hdfw/partners.html.

## Congressional Action Pertinent to the Mississippi River Basin

**Climate Change**

**S. 280.** Lieberman (ID/CT) and 6 Co-Sponsors. Provides for a program to accelerate the reduction of GHG emissions in the U.S. by establishing a market-driven system of GHG tradeable allowances, to support the deployment of new climate change-related technologies, and to ensure benefits to consumers from the trading in such allowances, and for other purposes.

**S. 309.** Sanders (I/VT) and 10 Co-Sponsors. Amends the Clean Air Act to reduce emissions of $CO_2$, and for other purposes.

**S. 317.** Feinstein (D/CA) and Carper (D/DE). Amends the Clean Air Act to establish a program to regulate the emission of GHGs from electric utilities.

**S. 485.** Kerry (D/MA) and Snowe (R/ME). Amends the Clean Air Act to establish an economy-wide global warming pollution emission cap-and-trade program to assist the economy in transitioning to new clean energy technologies, to protect employees and affected communities, to protect companies and consumers from significant increases in energy costs, and for other purposes.

**H. R. 620.** Olver (D/MA) and 17 Co-Sponsors. Accelerates the reduction of GHG emissions in the U.S. by establishing a market-driven system of GHG tradeable allowances that will limit GHG emissions in the U.S., reduce dependence upon foreign oil, and ensure benefits to consumers from the trading in such allowances, and for other purposes.

**H. R. 906.** Udall (/CO) and Inglis (R/SC). Promotes and coordinates global change research, and for other purposes.

**Conservation**

**S. 50.** Isakson (R/GA). Amends the Internal Revenue Code of 1986 to provide economic incentives for the preservation of open space and conservation of natural resources, and for other purposes.

**S. 241.** Wyden (D/OR) and Akaka (D/HI). Authorizes the Secretary of the Interior to enter into coop agreements to protect natural resources of units of the National Park System through collaborative efforts on land inside and outside of units of the National Park System.

**S. 272.** Coleman (R/MN). Amends P.L. 87-383 to reauthorize appropriations to promote the conservation of migratory waterfowl and to offset or prevent the serious loss of important wetland and other waterfowl habitat essential to the preservation of migratory waterfowl, and for other purposes.

**Endangered Species**

**S. 658.** Thomas (R/WY) and 4 Co-Sponsors. Amends the ESA to improve the processes for listing, recovery planning, and delisting, and for other purposes.

**S. 700.** Crapo (R/ID) and 16 Co-Sponsors and **H. R. 1422.** Thompson (D/CA) and 3 Co-Sponsors. Amends 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**

**H. R. 6.** Rahall (D/WV) and 197 Co-Sponsors. Reduces the Nation's dependency on foreign oil by investing in clean, renewable, and alternative energy resources, promoting new emerging energy technologies, developing greater efficiency, and creating a Strategic Energy Efficiency and Renewables Reserve to invest in alternative energy, and for other purposes.

**H. R. 80.** Bartlett (R/MD). Provides for Federal research, development, demonstration, and commercial application activities to enable the development of farms that are net producers of both food and energy, and for other purposes.

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

**S. 134.** Allard (R/CO) and Salazar (D/CO), **H. R. 186.** Musgrave (R/CO) and **H.R. 317.** Salazar (D/CO). Authorizes the construction of the Arkansas Valley Conduit in the State of Colorado, and for other purposes.

**H. R. 110.** J. Davis (R/VA). Amends the FWPCA to impose limitations on wetlands mitigation activities carried out through the condemnation of private property.

**H. R. 720.** Oberstar (D/MN) and 3 Co-Sponsors. Amends the FWPCA to authorize appropriations for State water pollution control revolving funds, and for other purposes.

**Invasive Species**

**S. 336.** Durbin (D/IL) and 7 Co-Sponsors and **H. R. 553.** Biggert (R/IL) and 24 Co-Sponsors. Requires the Secretary of the Army to operate and maintain as a system the Chicago Sanitary and Ship Canal dispersal barriers.

**S. 725.** Levin (D/MI) and Collins (R/ME). Amends the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 to reauthorize and improve that Act.

**S. 726**. Levin (D/MI) and 7 Co-Sponsors. Amends section 42 of title 18, United States Code, to prohibit the importation and shipment of certain species of carp.

**S. 791.** Levin (D/MI) and 6 Co-Sponsors and **H.R. 1350**. Ehlers (R/MI) and 12 Co-Sponsors. Establishes a collaborative program to protect the Great Lakes, and for other purposes.

**H. R. 83.** Biggert (R/IL). Amends section 42 of title 18, U.S. Code, popularly known as the Lacey Act, to add certain species of carp (black, bighead, silver and largescale

silver) to the list of injurious species that are prohibited from being imported or shipped.

**H. R. 260.** Ehlers (R/MI). Establishes marine and freshwater research, development, and demonstration programs to support efforts to prevent, control, and eradicate invasive species, as well as to educate citizens and stakeholders and restore ecosystems.

**H. R. 767**. Kind (D/WI) and 12 Co-Sponsors. Protects, conserves, and restores native fish, wildlife, and their natural habitats at national wildlife refuges through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative species, and for other purposes.

**H. R. 801.** Kirk (R/IL) and 20 Co-Sponsors. Amends the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 to require application to all vessels equipped with ballast water tanks, including vessels that are not carrying ballast water, the requirement to carry out exchange of ballast water or alternative ballast water management methods prior to entry into any port within the Great Lakes, and for other purposes.

**H.R. 889.** Miller (R/MI). Amends the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 to establish vessel ballast water management requirements, and for other purposes.

**Public Lands**

**H. R. 1463.** Udall (D/CO) and Trancredo (R/CO). Provides a source of funds to carry out restoration activities on Federal lands under the jurisdiction of the Secretary of the Interior or the Secretary of Agriculture, and for other purposes.

**Water Resources**

**S. 752.** Nelson (D/NE) and 3 Co-Sponsors and **H. R. 1462.** Udall (D/CO) and 4 Co-Sponsors. Authorizes the Secretary of the Interior to participate in the implementation of the Platte River Recovery Implementation Program for Endangered Species in the Central and Lower Platte River Basin and to modify the Pathfinder Dam and Reservoir.

**H. R. 68.** McIntyre (D/NC). Amends the Water Resources Development Act of 1976 to allow the Secretary of the Army to extend the period during which beach nourishment for water resources development projects may be provided.

**H. R. 307.** Pearce (R/NM). Imposes limitations on the authority of the Secretary of the Interior to claim title or other rights to water absent specific direction of law or to abrogate, injure, or otherwise impair any right to the use of any quantity of water.

**H. R. 574.** Whitfield (R/KY). Ensures the safety of residents and visitors to Lake Barkley, KY, improves recreation, navigation, and the economic vitality of the lake's region, and establishes a pilot program to maintain the pool elevation of such lake at 359 feet until after the first Monday in September.

**H. R. 591**. Musgrave (R/CO). Amends the Cache La Poudre River Corridor Act to designate a new management entity, make certain technical and conforming amendments, enhance private property protections, and for other purposes.

**H. R. 1495.** Oberstar (D/MN) and Johnson (/TX). Provides for the conservation and development of water and related resources, to authorize the Secretary of the Army to construct various projects for improvements to rivers and harbors of the U.S., and for other purposes.

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

River Crossings

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