

River Crossings

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VHS Outbreak and APHIS Controls

The U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) issued an emergency order on October 24 prohibiting the importation of certain species of live fish from two Canadian provinces (Ontario and Quebec) into the U.S. and the interstate movement of the same species from the eight states (New York, Pennsylvania, Ohio, Michigan, Indiana, Illinois, Minnesota and Wisconsin) bordering the Great Lakes due to outbreaks of viral hemorrhagic septicemia (VHS). Portions of all eight of these states also lie within the boundaries of the Mississippi River Basin.

This action is in response to the rapid spread of VHS in the Great Lakes region and the potential impact on a growing number of fish species. VHS is a destructive pathogen that produces clinical signs in fish including internal hemorrhaging and death. The disease does not pose a risk to people, but it has been found to affect a number of fish species previously not known to be susceptible.

The order is one that state officials don't want, that they say no one can enforce, and if businesses comply, will force many to shut down. "We're stuck with this order and can't do anything about it," said Ray Petering, fisheries supervisor of the Ohio Division of Wildlife. "How can you fight this by banning shipments of Lake Erie minnows from New York to

Ohio, but not dealing with ballast water?", Petering said. "An ore boat sitting high in the water in Cleveland, will take on ballast water and head to Lake Superior. That is how this virus will spread."



A strain of VHS was confirmed as the cause of a large die-off of freshwater drum or "sheepshead" (shown above) last spring in Lake Erie. VHS also likely played a roll in a die-off of yellow perch according to Ohio fisheries biologists.

The *Cleveland Plain Dealer* agrees, "The shipping industry's battles to escape ballast water restrictions have been successful, despite the billions being

spent to combat the invasive species ocean freighters have brought to the Great Lakes. Joining the parade of zebra mussels, round gobies and other invasive species now is viral hemorrhagic septicemia (VHS), a saltwater virus that has plagued European waters." As with the other invasives, VHS is expected to have entered the Great Lakes via ballast water.

The *Plain Dealer* went on to say that, "A \$100 million per year international shipping industry has put a billion-dollar sport fishing industry in peril and changed the ecology of the Great Lakes, and beyond, as invasive species spread to America's waterways". VHS is blamed for killing sheepshead in Lake Erie, round gobies in Lake Ontario and muskies in Lake St. Clair. An outbreak was also reported this fall in fish from New York's Conesus Lake, a body of water in the Great Lakes watershed but without direct connection to the lower Great Lakes.

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APHIS said they will continue to monitor the situation and take whatever actions are necessary to control its spread. They did, however, agree in mid November to amend the order to allow shipments of fish which have been certified as disease-free, mostly trout and salmon. They also lifted a ban on fish being shipped to processors or research facilities. However, the ban on emerald shiner minnows, a popular baitfish for sport anglers, will stand. Private fish producers reportedly told APHIS that without a workable plan, they would simply cheat and continue shipping fish. If they comply, they will be out of business, they said.

A complete list of live fish currently included in the emergency order are shown in the table on page 3. The text of the emergency order can be found at <http://www.aphis.usda.gov/vs/aqua/>. An interim rule detailing the new requirements is anticipated to be enacted early in 2007.

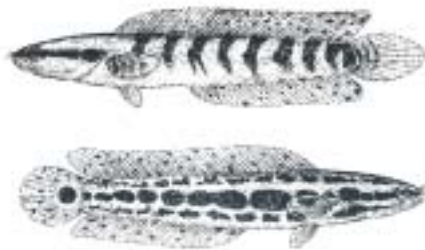
Sources: D'Arcy Egan, *Cleveland Plain Dealer*, 11/17/06; and *USDA/APHIS News Release*, 10/24/06; At APHIS Contact: Jim Rogers (202) 690-4755 or Jerry Redding (202) 720-4623

Snakeheads Appear at Home in the Potomac

The northern snakehead seems to be expanding its territory in the Potomac River, government researchers say. Over the past year, the snakeheads have spread out and become endemic in about 15 miles of the Potomac and some of its tributaries south of Washington, D.C. from a home base of two creeks in Virginia, Steve Minkinen, U.S. Fish and Wildlife Service said. That fact has switched scientists' focus from eradication to coexistence. "As much as we can, we're just trying to collect information," Minkinen said.

The story of the Potomac snakeheads may have begun as early as 1998 or perhaps as late as 2002. The key event, scientists believe, was when a male and female were dumped into the water and found each other in Fairfax County's Dogue Creek. Since then, that stream, along with nearby Little Hunting Creek, has become the epicenter of the Potomac's snakehead population, scientists say. They used to catch only one snakehead for every five hours of electroshocking in these creeks.

But this year, they collected 6.9 fish/hr., nearly 35 times more. But the snakeheads don't yet appear to have had a serious impact on the river's largemouth or smallmouth bass, which are also top predators in the river. Scientists say they believe this might be because the snakeheads prefer shallower water or different prey.



Snakeheads

But scientists say they still have a lot to learn. In their native habitats, snakeheads are said to clear out a "doughnut hole" in a thicket of underwater vegetation and lay their eggs there. But this year, a Virginia

biologist spotted a cloud of 500-plus snakehead fingerlings — orange and black, with a minuscule version of the distinctive snakehead mouth — swirling in Little Hunting Creek. It was a nest, but there was no doughnut hole. "The fish aren't behaving here the way they might be expected to behave in Asia," said John Odenkirk, a snakehead expert and biologist with the Virginia Department of Game and Inland Fisheries.

Researchers are similarly confused about whether the river's snakeheads migrate. One Sunday last fall, Dogue Creek was suddenly full of hundreds of fish heading upstream, so thick that fishermen were able to catch at least 80. This may have been a freak event caused by a large rainfall — or it may have been the first running of an annual ritual. Researchers are keeping watch to see what happens this year.

What little scientists do know about the snakehead's habits was gathered this spring, when Odenkirk inserted small

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River Crossings is a mechanism for communication, information transfer, and coordination between agencies, groups and persons responsible for and/or interested in preserving and protecting the aquatic resources of the Mississippi River Drainage Basin through improved communication and management. Information provided by the newsletter, or opinions expressed in it by contributing authors are provided in the spirit of "open communication", and do not necessarily reflect the position of MICRA or any of its member States or Entities. Any comments related to "River Crossings" should be directed to the MICRA Chairman.

**Fish Species Affected
by USDA/APHIS Emergency Order**

- Atlantic cod *Gadus morhua*
- Black crappie *Pomoxis nigromaculatus*
- Bluegill *Lepomis macrochirus*
- Bluntnose minnow *Pimephales notatus*
- Brown bullhead *Ictalurus nebulosus*
- Brown trout *Salmo trutta*
- Burbot *Lota lota*
- Channel catfish *Ictalurus punctatus*
- Chinook salmon *Oncorhynchus tshawytscha*
- Coho salmon *Oncorhynchus kisutch*
- Chum salmon *Oncorhynchus keta*
- Emerald shiner *Notropis atherinoides*
- Freshwater drum *Aplodinotus grunniens*
- Gizzard shad *Dorosoma cepedianum*
- Grayling *Thymallus thymallus*
- Haddock *Gadus aeglefinus*
- Herring *Clupea spp*
- Japanese flounder *Paralichthys olivaceus*
- Largemouth bass *Micropterus salmoides*
- Muskellunge *Esox masquinongy*
- Pacific cod *Gadus macrocephalus*
- Pike *Esox lucius*
- Pink salmon *Onchorhynchus gorbuscha*
- Pumpkinseed *Lepomis gibbosus*
- Rainbow trout *Oncorhynchus mykiss*
- Redhorse sucker *Moxostoma spp*
- Rock bass *Ambloplites rupestris*
- Rockling *Onos mustelus*
- Round goby *Neogobius melanostomus*
- Smallmouth bass *Micropterus dolomieu*
- Sprat *Sprattus spp*
- Turbot *Scophthalmus maximus*
- Walleye *Sander vitreus*
- White bass *Morone chrysops*
- White perch *Morone Americana*
- Whitefish *Coregonus spp*
- Yellow perch *Perca flavescens*

snakeheads have moved north from their epicenter to a creek near Belle Haven Marina in the Alexandria section of Fairfax. To the south, Odenkirk said, their numbers have increased substantially in the Occoquan River basin, on the border between Prince William and Fairfax counties.

They've also appeared in another place puzzlingly far afield: Kenilworth Park and Aquatic Gardens in the District of Columbia (D.C.). In the late spring, more than 500 baby snakeheads and a handful of larger adults were found in ponds there, having eaten almost every other fish in the water. D.C. officials think that this may be a separate population of snakeheads, descended from fish dumped directly into the aquatic gardens. But because the ponds share connections with the Anacostia River, there's some chance the D.C. snakeheads might be adventurous specimens from the Potomac.

Source: David A. Fahrenthold, *Washington Post*, 10/2/06

Carpbusters.Com

The *Native Fish Conservancy* (NFC) has initiated a group known as *Carpbusters*: the nation's largest catch'n keep fishing/bowfishing series to focus public attention on the removal of exotic invasive carps. *Carpbusters* promotes a simple idea:

"Make the permanent removal of carp science-based, fun, good for our native fish and people will flock to it". To that end, they network, they partner, they educate, they work with State and Federal agencies and biologists to promote a good conservation model, and most of all, they have fun!



Their exotic carp removal tournaments have grown and in 2006 they have had some of the largest carp only tournaments in the U.S. Robert Rice, NFC president says "We are proud to further bring the sporting

community into the conservation game. By concentrating on the invasive exotic carps, sportsman can enjoy their hobby and help the environment at the same time. Each tourney offers harvested carps to local zoos, animal parks, and any interested 'Food-for-the-hungry programs'."



One day's bowfishing for carp on the Des Moines River in Iowa by members of the Iowa Bowfishing Association.

With a multi state approach, *Carpbusters* Tournaments have been exciting events and have garnered corporate sponsors, extensive media coverage and some of the best bowfishers in the U.S. as participants compete for fun and the large prize purse. Bowfishing is one of the best mechanical means of selective harvest.

Carpbusters point out that state and federal agencies pay large sums of money to remove the carp that *Carpbusters* as an organization can do for a much lower cost in their tourney format. *Carpbusters'* tourneys last year removed on average tons of carp per event. The combination of recreational opportunity for sportsmen and helping the environment is a win-win situation.

For details on *Carpbusters* tourneys visit their website at www.carpbusters.com. To become a sponsor of the *Carpbusters* or to receive a DVD highlighting *Carpbusters* events contact: president@nativefish.org or call at 417-624-6535

Hatchery vs Wild Fish

Hatchery-bred fish have long been stocked in Northwest rivers to supplement wild salmon populations reduced in size because of the construction of dams on their spawning streams, raising the question: What's the difference? Now an intensive study of

tracking devices into the body cavities of 20 fish. He found them to be mainly homebodies, lurking in the same weedy and shallow spots week after week. But some strayed farther afield. One crossed the deep midsection of the Potomac to visit Maryland's Piscataway Creek and another disappeared completely, meaning that it was perhaps speared by a heron, caught by an angler or just moved so far away that Odenkirk couldn't get the signal. "It tells me that some obviously are bucking the trend and being a little more adventurous..." Odenkirk said.

This year's catch of snakeheads has made it clear how widespread the fish have become. In Maryland, the fish have been found across an unprecedented swath of creeks in Prince George's and Charles counties. On the Virginia side,

steelhead in the Hood River has verified that difference — Fish bred for generations in hatcheries do little besides fill fishing nets, because they have slim hope of producing young that reach adulthood.

The finding, by Oregon State University (OSU) and federal researchers, stands out because the difference between hatchery and wild fish lies at the center of debates over salmon in the Northwest, where more than a half-billion dollars annually goes to efforts for the recovery of the fish. While many scientists contend wild fish are vital to the future of their species, other groups argue that wild fish do not need protection if hatchery fish are plentiful.

Hatchery fish abound in the Columbia River system, and the research confirms that captive fish lose the instincts and other traits that let wild fish thrive. Typical hatchery steelhead produced 60 to 90% fewer offspring that last long enough to become adults than do wild steelheads, according to the OSU study just published in *The Journal Conservation Biology*. By breeding fish over and over in hatcheries, “we’ve essentially created a fish version of white lab mice,” said Michael Blouin, an associate professor of zoology at OSU. “They are well adapted to life in the hatchery but do not perpetuate themselves in a wild environment as successfully as native-born fish.” The study shows that the longer fish spend in hatcheries, the poorer they will do in the wild, Blouin said.

The good news is that the study also found that much better results come from the newer strategy of taking eggs from local wild fish, hatching and raising the young in captivity, and then turning them loose. The strategy attempts to protect the fish during their most vulnerable age stage, but sets them free before they morph into creatures of captivity. The study found that these fish do about as well, or possibly better, than wild fish when it comes to producing offspring. It means the few hatcheries that have adopted the “supplementation” approach can boost wild fish populations without diluting their fitness.

The OSU study looked only at steelhead that in the past 15 years have returned from the ocean to the Hood River. The river was long stocked with domesticated hatchery fish from other parts of Oregon and Washington. In the 1990s, state biologists phased out that stocking

program and instead switched to the new supplementation approach that hatches wild fish in captivity and then releases them. State biologists collected and saved scales from fish swimming up the river since 1991, and OSU scientists obtained DNA from the scales, which allowed them to trace the history of each fish and determine whether it was wild or came from a hatchery. The results showed that domesticated hatchery fish in 1991 fared very poorly compared to wild fish, but the fish kept only briefly in the Parkdale fish hatchery did about as well as wild fish.

It makes clear that traditional hatchery fish will not rebuild wild populations, said Mark Chilcote, a conservation biologist with the Oregon Department of Fish and Wildlife. But the fish held briefly in hatcheries can help. However, biologists caution that it is not clear whether they can hold successive generations of fish in hatcheries the same way without altering their character. Other studies suggest that hatchery fish lose about 20% of their fitness each generation they spend in a hatchery compared to wild fish.

Nine of every 10 hatchery programs in the Northwest turn out captive-bred fish that threaten to mix with wild fish, spreading their inferior traits. “They certainly don’t do well in the wild and can have significant detrimental effects on wild fish,” said Rod French, a district fish biologist with the Oregon Department of Fish and Wildlife who is familiar with the study. Biologists said the results may bear out with other species, among them coho salmon.

Jim Lichatowich, a fisheries biologist and critic of hatcheries, said the findings are good news because they suggests a method of boosting wild populations, at least briefly. But he cautioned against viewing it as a cure-all because salmon also need healthy habitat.

But Bill Bakke of the *Native Fish Society* said other studies have shown that even hatchery fish bred from wild eggs are inferior to wild fish in behavior, body size and other characteristics that determine their survival. He said he expected state and federal agencies that operate salmon hatcheries to use the study to justify expanding programs based on wild broodstock, despite the study’s cautionary note that they were likely to

fail in the long run. This is the end of wild steelhead in the Northwest,” he said.

Sources: Michael Milstein, *The Oregonian*, 10/11/06; Jeff Barnard, *San Francisco Chronicle*, 10/10/06; and *Greenwire*, 10/11/06

New Orleans Wetland Restoration Projects Partially Approved

A \$19.6 million proposal to rebuild wetlands along a 7-mile stretch of eastern New Orleans that helps to keep hurricane storm surges out of Lake Pontchartrain was approved in mid October by the federal-state Breaux Act Task Force. But the task force refused a request by the state and the U.S. EPA (EPA) to spend about \$200,000 to complete an environmental impact statement on a proposal to divert 1,000 cubic feet per second of Mississippi River water down Bayou Lafourche, a decision sternly criticized by the director of the state’s coastal restoration program.

Rebuilding the Alligator Bend land bridge sandwiched between Lake Pontchartrain and Lake Borgne will require placing 3 million cubic yards of sediment from Lake Borgne in 410 acres that are now open water, and planting erosion-fighting vegetation along 7.25 miles of the Lake Borgne shoreline. The task force authorized spending \$1.7 million for engineering and design of the project immediately, and once that work is finished state and federal planners will ask the task force to approve the rest of the money for construction.

Protecting the Gulf of Mexico shoreline along the Rockefeller Refuge in Cameron and Vermilion parishes, just south of Pecan Island was approved at \$1.3 million. The full cost of the project is estimated to be \$37 million.

Creating new marsh, in part by building dirt terraces and planting wetland grasses on them, in Madison Bay on the east side of Bayou Terrebonne in Terrebonne Parish was approved at \$3 million. The full cost of this project is estimated at \$32.3 million.

Restoring the barrier shoreline west of Belle Pass, along the Gulf of Mexico in Lafourche Parish was approved at \$2.7 million with the full cost of the project estimated to be \$32.6 million.

And a \$919,000 demonstration project to test various methods of planting vegetation on barrier islands to hold their sand and dirt in place was also approved.

But, as noted earlier, the task force, which includes representatives of the Army Corps of Engineers (Corps), the EPA and the federal Commerce, Interior and Agriculture departments, refused to consider spending more money on the Bayou Lafourche diversion project, despite the project's support by the EPA and the state. The state of Louisiana is a member of the task force but is not allowed to vote on financial issues.

The diversion project, first approved by the task force in 1996, was originally touted as a way of increasing the flow of fresh water and sediment into wetlands along Bayou Lafourche. If successful, the project could be expanded to increase that flow of water. But the project has been plagued by doubts.

The connection between the bayou and river at Donaldsonville was dammed in the early 1900s, and since then, numerous communities have sprung up or expanded along the bayou leading to the Gulf of Mexico. Some of those communities use fresh water from the bayou as their drinking water supply, and the project would reduce the periodic saltwater intrusion from the Gulf into the bayou, which increases the amount of salt in

drinking water. But some residents and businesses along the bayou are concerned that the additional fresh water could make flooding more likely.

Also, several months ago, Corps officials recommended reconsidering the use of federal Breaux Act dollars for the project in light of new evidence questioning the amount of new wetlands that might be created, and because the proposal might be financed under the larger Louisiana Coastal Area Ecosystem Restoration program, which is still awaiting congressional approval.

State officials then announced that the state would pay for all costs of the diversion except about \$200,000 needed for the EPA to complete an environmental impact statement. Sidney Coffee, director of the state's *Coastal Protection and Restoration Authority*, and a non-voting member of the task force, insisted that the project would provide benefits by freshening water running through wetlands, in addition to improving local water supplies. "We urge our federal partners to just honor the commitments they've already made," she said. "Let's finish this piece and you're done with it."

But Col. Rich Wagenaar, commander of the Corps' New Orleans District office and chairman of the task force remained skeptical. "The challenge in my eyes is at what point can we decide that it's proper to obligate federal dollars to a project that's potentially not feasible," he said.

But William Honker, an official with EPA's Atlanta regional office, warned task force members that the company hired to conduct the environmental study had a contract requiring payment of its entire \$500,000 cost. "The contractor has already been paid about half of the contract cost and would have to be paid a good deal of the remainder if we terminated the work at this point," he said.

But when Honker moved that the task force pay for completing the study, no one would second his motion. Then when Coffee attempted to second it, Wagenaar ruled that she couldn't because the state is a non-voting member under the task force rules.

After the meeting, Coffee said the state would use its limited coastal restoration dollars to pay for the environmental study, as it still planned on building the diversion. "This is just a tiny example of what we're dealing with from the federal government every day," Coffee said of the task force failure to vote. "If we don't get federal revenue sharing (a share of offshore oil revenue that would be used for the state's costs for wetlands restoration and levee construction) so we can start dealing with these kinds of projects on our own in a timely way, and quit having our fate tied up by this federal bureaucracy, we're doomed," she said. "They're hanging on with a death grip to business as usual," Coffee said.

Contacts: Mark Schleifstein, *New Orleans Times-Picayune*, 10/19/06; and *Greenwire*, 10/19/06

Truckee River (NV) Restoration Project Boosts Fish Population

Fish populations are flourishing in a stretch of the Truckee River east of Reno, NV where crews have been restoring the river banks and bottoms to a more natural setting, biologists say. Trout are now plentiful where carp and suckers dominated in the past, said Kim Tisdale, a fisheries biologist with the Nevada Department of Wildlife. "There's some really good water in there now, and we picked up a lot more trout," Tisdale told the *Reno Gazette-Journal*. "The population is extensive down there."

Key to the change is the construction of a series of riffles, which are shallow areas of rapidly moving, rock-strewn whitewater that spills into deeper pools. The natural variation of riffles and pools is beneficial to fish, insects and other wildlife. As part of its \$8 million project to restore the river at McCarran Ranch (15 miles east of Sparks, NV), *The Nature Conservancy* (TNC) installed several riffles in 2003. Crews finished installing more riffles — using rock removed for construction of Reno's train trench — late in October.



Satellite view of the Mississippi River Delta showing how barge canals and flood control projects have isolated the river from its floodplain wetlands and distributaries. (NASA Photo)

In July and August, state and federal biologists surveyed the river where the initial riffles were built in 2003. While few trout were found there during previous counts, things had changed. There were brown trout and lots of rainbows. Biologists found some hatchery-raised Lahontan cutthroats, a threatened species, as well as some mountain whitefish that normally are only found upstream of Reno, Tisdale said.

“Pretty much every place they put in new or enhanced existing riffles, the fish responded,” Tisdale said. “They were out there, and there were lots of them.” Bringing the riffles back is just part of an overall effort to restore the river at McCarran and other areas downstream of Sparks.

In the 1960s the river channel was straightened and many river rocks removed as part of a flood control project constructed by the Army Corps of Engineers. “They came here and just bulldozed out all the rocks that were here naturally,” said Michael Cameron, TNC’s desert rivers program manager. “We’re putting them back. We’re creating complexity in the habitat that’s necessary for a healthy fish population.”

Others have noticed the changes, including anglers allowed access to the McCarran Ranch by TNC. They found plenty of rainbows and browns in the area. “It’s definitely, markedly better than it is upstream or downstream from that area,” said Andy Burk, manager of the *Reno Fly Shop*. “It’s pretty spectacular fishing down there.” And, while it might be several years away, that improved fishing will someday be enjoyed by the public. Once TNC finishes its restoration project, it plans to allow public access to the McCarran Ranch.

Source: *AP/Las Vegas Review-Journal*, 11/14/06

NE/CO/WY Governors Sign Platte River Deal

Nebraska Gov. Dave Heineman, Colorado Gov. Bill Owens and Wyoming Gov. Dave Freudenthal have signed a three-state plan to protect the habitats of endangered species along the Platte River while at the same time sheltering farm growers from federal action. “We have a rare opportunity to work with water users and

the environmental community to achieve federal objectives for the Endangered Species Act (ESA) while respecting the need to preserve each of our states’ agricultural economies,” Heineman wrote in a letter to the two other governors and the U.S. Department of the Interior.

The plan is designed to help guide Platte River Basin entities including farmers and ranchers to comply with the ESA while retaining their access to federal water, land and funding. The plan would protect the habitats along the river for the whooping crane, piping plover, interior least tern and pallid sturgeon but also give farmers some protection from federal action.

The plan called for in the agreement includes acquiring land for wildlife habitat in Nebraska and increasing river flows at key times. Some groundwater irrigators see the plan as a government attack on their livelihoods and on rural communities because it could take thousands of irrigated acres out of production. However, the *Central Platte Natural Resources District*, a public body that manages the irrigation-heavy area and strongly opposes the deal, does not plan on challenging the agreement, said manager Ron Bishop.



A view of the Platte River in central NE.

The plan will cost about \$317 million, with \$157 million coming from the Interior Department and the rest from the three states in cash, land and water. But federal dollars have not yet received final approval. Colorado would pitch in \$24 million in cash and Wyoming \$6 million in cash, while Nebraska would contribute no cash. The remaining \$130 million for the plan is being contributed with water and land credits: The three states must together contribute 80,000 acre-feet of water, an estimated \$120 million value, and Wyoming and Nebraska will contribute about 26,500 acres of land, a \$10 million value.

WY Gov. Freudenthal said he was not positive about the agreement, noting that Wyoming could withdraw from the agreement if the other states or the federal government fail to follow through on their commitments. “I’ve signed the agreement reluctantly,” Freudenthal said in a statement. “There are no good choices in this area, but it seems to me that the only hope rests in the Platte River recovery program”

Sources: Nate Jenkins, *AP/Lincoln Journal Star*, 10/31/06; *Atlanta Journal Constitution*, 11/1/06; *AP/Billings Gazette*, 11/28/06; and *Greenwire*, 11/1 and 11/28/06

Clearinghouse for Dam Removal Established

The *Clearinghouse for Dam Removal Information* is an unbiased living receptacle of information about technical, fiscal and social aspects (pro and con) of dam removal, including cases where a decision is made to retain the dam. The purpose of the Clearinghouse is to allow all parties involved in dam removal decisions to share experiences, learn successful techniques and avoid repeating mistakes. In particular, it is trying to capture the “gray literature” that is transiently available when a dam removal is taking place or being considered.

The Clearinghouse allows users to find and submit summaries/case studies of completed or proposed projects, lessons learned, engineering design plans, dam removal estimates and final costs, permitting documents/applications, monitoring plans and results, modeling data and analyses, scientific studies, project reports, images, conference/symposium/workshop announcements and proceedings, presentations, papers, and more.

The Clearinghouse is the result of a 5 year joint effort by the *Aspen Institutes Dialogue on Dams and Rivers - Clearinghouse Task Committee* and the University of California - Berkeley’s *Water Resources Center Archives* (WRCA). The creation of a neutral clearinghouse to centralize and improve access to information on dam removal was recommended as part of two years of dialogue on dams and rivers that resulted in the publication of the *Aspen Institute* report, *Dam Removal: A New Option for a New Century*.

The Clearinghouse is designed to eventually serve as a platform for posting events and become a forum for carrying on discussions for those interested in dam removal issues. But the Clearinghouse is merely a repository, so it needs help from you to become the largest source of published and “gray” literature on dam removal in the world.



The Franklin Dam on the Sheboygan River, WI before (top) and after (bottom) dam removal. (WIDNR Photos)

The Clearinghouse is housed at the University of California - Berkeley's WRCA and can be found on line at: <http://www.lib.berkeley.edu/WRCA/damremoval/>. You can also go to the Clearinghouse Web Site and download a free copy of the NOAA Restoration Center's video "Relics and Rivers: Dismantling Dams in New England".

Hydropower and Global Warming

A bitter debate has broken out in the scientific community over hydropower's contribution to global warming. A leading Brazil-based climate scientist calculates that startlingly high levels of greenhouse gases (GHGs) are emitted when water is released from the turbines and spillways of tropical dams. But hydro industry-backed researchers have fiercely attacked his work. In an effort to settle the debate, *International Rivers Network* (IRN) released a report calling on a UN science panel to determine hydropower's culpability in global warming.

"It may seem counterintuitive, but tropical hydropower reservoirs can have a far greater impact on global warming than even their dirtiest fossil fuel plant rivals,"

says Patrick McCully, IRN Executive Director and author of the report. "The big-hydro lobby has consistently underplayed the scale of hydropower emissions and sought to discredit and silence independent scientists researching dams and global warming."

Philip Fearnside, one of the world's most frequently cited scientists on global warming, estimates that in 1990 hydropower dams in the Amazon caused between 3 and 54 times more global warming than modern natural gas plants generating the same amount of energy.

The debate between Fearnside and the hydro industry-backed researchers pivots on what happens to methane dissolved in reservoir water when it is released at a dam. Imagine a reservoir as a vast bottle of *Coke*. Everyone knows what happens when you shake a *Coke* bottle and open it. The same thing happens as water jets out of dam turbines and spillways — as with opening a *Coke* there is a sudden release of gas bubbles.

The surfaces of reservoirs also emit GHGs. Emissions of carbon dioxide and methane have been measured from the surfaces of over 100 reservoirs around the world. These gases come from the rotting of flooded vegetation and from organic matter that flows into reservoirs over time. The scientists researching this issue — most of the relevant work is sponsored by Brazilian and Canadian hydropower utilities — agree that reservoir surfaces emit GHGs. But the hydro-backed scientists downplay the significance of "degassing" releases and assert that the overall impact of tropical hydropower on global warming is not significant compared to fossil fuel power plants.

"It is as if *Phillip Morris* were in control of all lung cancer research, or *Exxon Mobil* controlled climate research," declared McCully. "There is far too much at stake in this debate to allow Big Hydro to control the research agenda. Hundreds of millions of dollars in climate subsidies and carbon credits could be spent on projects which would both worsen global warming and destroy valuable ecosystems."

A copy of the full report, *Fizzy Science - Loosening the Hydro Industry's Grip on Reservoir Greenhouse Gas Emissions Research*, can be downloaded at: <http://www.irn.org/pdf/greenhouse/FizzyScience2006.pdf>.

For further information contact: Patrick McCully, *International Rivers Network*, patrick@irn.org, (510) 848-1155

Source: *International Rivers Network News Release*, 11/1/06

MO Company to pay \$15M for Dam-breach Settlement

AmerenUE, a subsidiary of *Ameren Corp.*, will pay a \$10 million civil penalty and fund \$5 million in improvements to settle the December 2005 breach of the upper reservoir of the Taum Sauk hydroelectric project in Reynolds County, MO, federal regulators announced in early October. The \$15 million payments are over and above the costs *AmerenUE* will incur in remediating the environmental and property damage caused by the breach.

Taum Sauk is a pumped-storage hydroelectric facility, in which water is pumped to a mountaintop reservoir and later released to generate power. The northwest corner of the Taum Sauk project's upper reservoir breached after the reservoir was overfilled. The breach released 1.4 billion gallons of water, which flowed through the *Johnson's Shut-ins State Park* and into the East Fork of the Black River, upstream from the project's lower reservoir. The flood injured nine people and caused extensive environmental and property damage.

A Federal Energy Regulatory Commission (FERC) investigation found the immediate cause of the breach was that water overtopped the dam. Transducers that measured the height of water pumped into the upper reservoir had become loose from their anchors and gave inaccurate readings, indicating reservoir levels were lower than actual levels. *AmerenUE* was aware of the transducer problem and made several adjustments to its instrumentation but had not repaired them at the time of the breach. The company did not notify FERC of these developments.

Commission staff alleged that the company committed 15 violations of various regulations and license conditions, including failure to notify the commission of conditions affecting the safety of the project and failure to use sound and prudent engineering practices. In entering into the settlement, *AmerenUE* neither admitted nor denied the alleged violations.

AmerenUE will pay the \$10 million civil penalty immediately and place \$5 million in escrow for improvements at or near the Taum Sauk project, including implementation of an enhanced emergency management system for the area. AmerenUE must consult with and obtain FERC staff approval for all improvements.

The company also has agreed to adopt a comprehensive dam safety program and will create a new position of chief dam safety engineer for both of its FERC-licensed projects. The position will serve as the central contact with FERC for all safety and regulatory matters and will have authority to shut the plant down if necessary.

Source: Mary O'Driscoll, *Greenwire*, 10/3/06

WY/CO Water Pipeline Proposed

A plan to build a 400-mile-long pipeline through Wyoming to pump water from the Green River's Flaming Gorge Reservoir to the Front Range of the Rockies in both Wyoming and Colorado is moving forward. The Green River is a tributary to the Colorado River, so this would be a diversion over the Continental Divide and into the Mississippi River Basin.

Businessman Aaron Million plans to file for permits by year's end to start the approval process. Million envisions building the \$4 billion pipeline from the reservoir on the Wyoming-Utah border to the Front Range, following Interstate 80 to Laramie then heading south along U.S. 287 into Colorado. He said it would deliver 250,000 to 450,000 acre-feet of water to points as far south as Pueblo. An acre-foot of water is enough for one or two urban families for a year.

"You would have been run out of town as a crazy man 25 years ago for reaching that far," said Jeff Fassett, a former Wyoming state engineer who is part of Million's team. Drawing water from the Flaming Gorge, which can hold up to 3.8 million acre-feet of water, and the Green River impacts few irrigators or other water users, Fassett said. "You don't decimate the Green by taking out what Aaron's taking out," Fassett said.

The tug of war for scarce water between Colorado farmers and cities came to a head in May when the state's engineer told farmers along the South Platte to turn off 440 wells after forecasting lower-than-average flows in the river and well owners failed to come up with plans to replace the water they were using. These disputes reached new heights when cities with higher-priority rights to the river, communities including Boulder and Highlands Ranch, hired investigators to monitor 50 plots of land and their water use.

Investigators compiled a database of observations like "puddles around sprinkler perimeter," "lush corn" and other potential evidence of illegal water use. The communities then paid engineers to verify their information, and gave it to the state water engineer, who is investigating the claims.

Boulder water resources coordinator Carol Ellinghouse said she and others hired the investigators based on a tip from a farm worker who said his neighbors were operating their wells. "They went out and some farms showed signs of being recently irrigated," she said. "Others were pretty lush, a condition that couldn't happen if they weren't watering." One farmer who was investigated, John Moser, said his 290 acres of allegedly "green and vigorous alfalfa" was irrigated from a small lake on his property, not from a well. "It does upset me, for in fact they don't know the details," he said. "It's gotten out of hand. People are yelling and screaming at each other".

Exact details of the spying program, including how many acres were studied and how much was spent to gather the information, was not disclosed. But word of the investigation stunned farmers who say they are struggling because the state shut down their wells this spring after complaints from those holding more senior rights to the water. "I wish I could have caught them on my property. We shoot every other trespasser and he'd be the second one," said David Knieval, whose name was in the database obtained by the *Associated Press*.

As a result of the shortage, millions of dollars worth of wheat, corn, sugar beets and melons were left in the fields to die. "The irrigated ag base is getting decimated on the Front Range," Million said. With regard to his proposed Green

River pipeline, Million said that he has already done much of the heavy lifting, including lining up financing. If all goes well, the pipeline would be built and delivering water in 5-7 years, he said. "If he can do it in five years, he'll set a record," said Eric Wilkinson, general manager of the Berthoud-based *Northern Colorado Water Conservancy District* (NCWCD). The NCWCD manages the *Colorado-Big Thompson Project*, which also pipes water from Colorado's Western Slope to the state's Front Range, including Fort Collins.

Sources: *AP/Billings Gazette*, 10/17/06; Steven K. Paulson, *AP/San Francisco Chronicle*, 10/19/06 and *Greenwire*, 10/19/06

Nine States Not Sure of Pipeline Locations

Neither federal nor state records can reveal the exact locations of more than 100,000 miles of pipelines carrying fuel, oil, natural gas and chemicals in at least nine states, according to a review by the *Houston Chronicle*. The review showed that the problem is especially prevalent in Louisiana and Texas and is caused by lost records and decades-old pipeline systems.

"A map of pipelines in Louisiana looks like a web made by a spider on LSD," said John Snead, a mapmaker with the Louisiana Geological Survey. The problem extends even to maps mandated by the federally run National Pipeline Mapping System, which is supposed to have the location of all 182,833 miles of hazardous-liquid interstate pipes within a 500 foot margin of error.

Pipeline experts and state officials claim there are significant errors that make it impossible for emergency workers to respond to a leak or urban planners to account for pipelines. "The information is not nearly as accurate as they claim it to be," said Snead, who served on a technical team that helped design the federal mapping program in the late 1990s. "We have found pipelines a half-mile out of position, being run by the wrong company and filled with the wrong product".

Sources: Dina Cappiello, *Houston Chronicle*, 11/12/06; and *Greenwire*, 11/13/06

EPA Promotes Water Efficiency

Looking to expand the water efficiency market, the U.S. Environmental Protection Agency (EPA) has issued its first set of specifications to certify professionals in this field. Under the agency's *WaterSense* program, the specifications set technical requirements for certifying landscape irrigation professionals. Certification programs that meet the EPA's requirements will earn the *WaterSense* label. "Wasting water through poor irrigation design is like watching your dollars go down the drain," said EPA Administrator Stephen L. Johnson.

"*WaterSense* irrigation provides smart water solutions that are a win-win for our wallets, and our environment", he said. *WaterSense* is a voluntary public-private partnership that identifies and promotes high-performance products and programs that help preserve the nation's water supply. The *WaterSense* program seeks to generate support for: consumer use of water-efficient products such as water-saving faucets; certification activities for water industry professionals; and innovation in water-efficient product manufacturing.



The programs will test for the ability to design, install, maintain and audit water-efficient landscape irrigation systems, including:

- tailoring systems to the surrounding landscape and local climate conditions;
- selecting equipment, laying out irrigation systems, and setting up proper scheduling; and
- auditing systems that deliver water unequally or inefficiently and recognizing how to improve performance.

The specifications announced in late October will allow professionals to become *WaterSense* partners. They also may use the *WaterSense* logo to promote their water-efficient landscape and irrigation services to consumers. EPA is also inviting organizations that share a commitment to water efficiency to become *WaterSense* partners. Partnership is open to organizations that certify

irrigation professionals and those interested in promoting the *WaterSense* program, such as water utilities and trade associations.

In the future, a broad spectrum of water-efficient products will carry the *WaterSense* label, from lawn irrigation products to bathroom faucets. The companies that manufacture, distribute, or sell these products will also soon be eligible for partnership.

For more information go to www.epa.gov/watersense or contact: Cindy Simbanin, 202-564-3837, simbanin.cynthia@epa.gov

Source: *EPA Press Release*, 10/27/2006

EPA Tells Missouri to Clean Rivers

The U.S. Environmental Protection Agency (EPA) said in early November that Missouri regulators failed to justify their decision to exempt 99 rivers and streams from Clean Water Act protections for recreational use. Benjamin H. Grumbles, assistant EPA administrator for water, told Missouri Department of Natural Resources Director Doyle Childers in a letter that those waterways should be protected for recreation. The streams in question represent a fraction of Missouri's 4,000 rivers and lakes that have been classified for such sports as swimming, boating and fishing, said John DeLashmit, chief of the water quality management branch at the EPA's regional office in Kansas City, KS.

Last fall, Missouri's Clean Water Commission designated 3,600 stream segments and 400 lakes for recreational use but also approved exemptions for 142 streams. The designations took effect earlier this year. The EPA upheld 42 of those designations and will spend the next year further studying why a separate exemption was granted for a 195.5-mile stretch of the Mississippi River. "What happens after this is the state will have some time to address the issue," DeLashmit said. Missouri officials "may be able to provide us with more information to change our minds."

The remaining 99 streams should have to meet water quality standards for recreation, the EPA found. The agency found that data supporting the exemptions were gathered in drought conditions, were

insufficient or were inconclusive. For instance, the EPA found that stream depths in 73 of those segments were deep enough for full-body contact. In a few instances, the EPA found, state field workers analyzed the wrong stream segments.

"We are disappointed by EPA's decision," said Ed Galbraith, director of the water protection program at the Missouri Department of Natural Resources. He said he thinks the state's Clean Water Commission "followed a sound scientific process, that they considered public comment, (and) that they did their best to apply the whole-body contact rule where it is truly attainable." Galbraith said the state hasn't reviewed the EPA request in depth, but based on what his agency has seen so far, "we feel the commission's original determination was the correct one."

The *Missouri Coalition for the Environment*, which successfully sued the EPA to force tougher scrutiny of the state's clean water efforts, applauded the federal government's findings. "I think it is a wake-up call that (Missouri regulators) need to be more careful in how they apply their own protocol and the kinds of information they take into account," said Dan Sherburne, the coalition's research director.

Source: Ken Leiser, *St. Louis Post-Dispatch*, 11/02/2006

EPA and USDA Join Forces in Water Quality Credit Trading

U.S. Environmental Protection Agency (EPA) and the Agriculture Department (USDA) will jointly promote a market-based, voluntary scheme aimed at controlling water pollution on farms and ranches under an agreement signed in mid October by both agencies. Agriculture Undersecretary Mark Rey and EPA Assistant Administrator Ben Grumbles signed the agreement at a Maryland farm — selected to highlight the extension of the effort to the Chesapeake Bay watershed.

Rey issued a statement calling the policy "a flexible, cost-effective approach for implementing conservation practices that reduce runoff, help producers meet water quality standards, and pursue water quality improvement goals in

watersheds.” “We believe,” he added, “that voluntary, incentive-based approaches are the most effective way to achieve sound resource management and conservation on private lands.”

EPA launched its trading scheme for water pollution in 2002. It allows companies, municipal agencies, farmers and ranchers to trade water pollution credits within their watersheds. The agreement signed in October marks the first formal effort by USDA and EPA to coordinate efforts on the policy. Under the agreement wastewater dischargers earn credits by reducing pollution. They can then sell credits to facilities required by the Clean Water Act and other laws to reduce pollution in their wastewater.

EPA said the effort can yield water quality improvements at lower costs. Doug McKalip, a spokesman for USDA’s Natural Resources Conservation Service, said the interagency agreement will make it easier for states and potential participants to establish water quality credit trading. “The customers and clients that we work with us on conservation practices are very likely the folks that are going to be producing the ecosystem services that are going to weigh into any kind of trading process,” McKalip said. “If we have more formal relationship on this, I think we can set up things, have common terminology and make it more simple for potential ranchers and farmers to participate.”

EPA spokesman Dale Kemery said only Connecticut, Pennsylvania and Virginia have statewide water quality trading policies, but that there is a push to get Maryland and West Virginia involved in statewide efforts as well. The agreement could also help farmers implement EPA’s total maximum daily load (TMDL) rule, which targets nonpoint pollution, Kemery said. A farmer could generate credits by changing cropping practices or planting trees near a stream, then sell them to another landowner. “Trading for upgrading water quality is the wave of the future,” Grumbles said in a statement. “We are committed to giving good stewards credit and partnering with agriculture to accelerate restoration and protection. This agreement is a big step forward.

For a listing of areas where water trading policies have been implemented go to the

following Web Site: <http://www.epa.gov/owow/watershed/tradelinks.html>.

Source: Lucy Kafanov, *Greenwire*, 10/13/06

Ivory-billed Woodpecker in NW Florida?

The ivory-billed woodpecker has re-emerged, scientists say, this time in a northwest Florida swamp where the bird once flourished before taking a sharp turn toward extinction. A small research team led by ornithologists from Auburn University in Alabama and the University of Windsor in Ontario say they have accumulated some of the strongest evidence to date that the ivory-billed remains in Florida, including extensive audio recordings of the bird’s signature “kent calls” and “double knocks” on trees.



*Ivory-billed Woodpecker
(Auburn University Sketch)*

Outside experts agree and say the Choctawhatchee River Basin represents an important new front in the campaign to prove the continued existence of the ivory-billed, whose last undisputed sighting was in 1944 in a cutover Louisiana forest known as the Singer tract. Initial reaction from environmental groups, many of which learned of the research in late September, was cautiously optimistic. “It would be wonderful to confirm that a viable population of Ivory-billed Woodpeckers exists, and we hope the search by the Auburn research team will lead to that,” said Greg Butcher, director of bird conservation for the *National Audubon Society*.

Among the evidence, on the September 26th edition of the online journal *Avian Conservation and Ecology* and on an Auburn University Web site, are more than 200 clear recordings of sounds strongly associated with ivory-billeds, often from within a few hundred feet. But as yet, the team has not produced irrefutable evidence in the form of a clear picture or videotape of an ivory-billed

woodpecker. But Geoffrey Hill, a seasoned ornithologist and professor of biological sciences at Auburn who led the research team, said he remains optimistic such evidence will be produced in upcoming searches. He said the team documented 14 ivory-billed sightings over a five-month foray into the swamp, including several conclusive identifications.

The team’s recordings include 210 kent calls and 99 double knocks. The team also has extensive photographic evidence of tree cavities that are appropriately sized for ivory-billeds as well as numerous instances of bark-scaling, where tree bark is stripped away by woodpeckers to expose insects for feeding. Hill said there could be as many as four ivory-billed woodpeckers along the river corridor south of Interstate 10. The two-square-mile research area is in one of Florida’s most remote corners — tucked between Eglin Air Force Base to the west and large swaths of industrial forest to the east. The research tract is part of a 50,000-acre parcel owned by the Northwest Florida Water Management District, which manages the area for water quality.

More than 11,000 hours of audio recordings were analyzed by University of Windsor ornithologist Dan Mennill, who has done extensive research on another large woodpecker species, the pale-billed, in Costa Rica. In an interview, Mennill said his student staff pored through the audio recordings containing many hundreds of suspected kent calls and double knocks, then transferred the recordings into a computer program to isolate the clearest sounds.

“I have a lot of confidence in our recordings,” said Mennill, whose research specialization is bird vocalization. He said that while the audio evidence remains very strong, it is the overlay of other evidence — including 20 tree cavities, bark-scaling and multiple sightings of birds — that makes the findings so compelling. “Any one of those lines of evidence you could dismiss as a coincidence or mistake,” Mennill said. “But all of these lines of corroborative evidence together are a very strong case.”

The group also has several videos of birds, but Hill said they are inconclusive and will not be entered as evidence of their findings. “Bad images will only get you in trouble,” he said, adding that

grainy video “is like a fleeting glimpse, and we have plenty of those already.” Instead, the group decided to rely on its audio evidence, which is extensive and will be made available online for other experts and amateur birders to evaluate and debate.

The research team expects to return to the Choctawhatchee late this year with a more robust budget and more coordination with other experts, including the Cornell Laboratory of Ornithology in New York, whose scientists published a paper in 2005 confirming the rediscovery of the ivory-billed woodpecker in northeast Arkansas. The Cornell discovery, in a vast tract of Mississippi River bottomland forest known as the Big Woods, set off a flurry of public attention and garnered new public and private funding for ivory-billed search-and-recovery efforts. But since the initial sighting, no additional birds have turned up in Arkansas, leading some to doubt the Cornell findings.

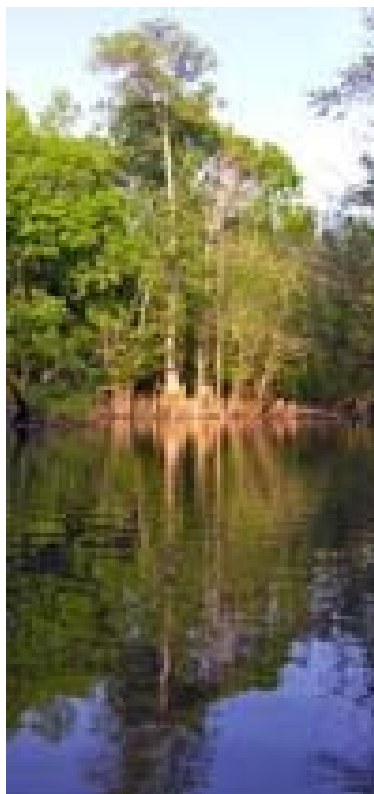
Mindful of the heightened skepticism, Hill said his team remained quiet about their findings until late last spring, when they submitted the research to several high-profile journals, including *Nature* and *Science*, where the Cornell findings were published in April 2005. Rebuffed, the scientists took the paper to the new and little-known Canadian journal *Avian Conservation and Ecology* (ACE-ECO), which agreed to publish it. In an editorial published alongside the research, the journal’s editors acknowledged the research will fuel ongoing controversy over whether the ivory-billed woodpecker remains a viable species.

“Indeed, it is legitimate to ask whether the scientific bar has been adjusted for publicity, and whether it is productive — from a scientific perspective — to publish further papers claiming to have rediscovered ivory-billed woodpeckers without direct, physical evidence, such as clear photographs, videos, or feathers,” the editors wrote. Ultimately, the editors concluded that, “to deny publication of a controversial paper simply because it did not present a definitive conclusion to an ongoing debate with political consequences would only mean that we abrogated our responsibility. The subject matter is first and foremost consistent with our vision for ACE-ECO.”

Other independent ivory-billed experts, such as Jerry Jackson of Florida Gulf Coast University, said the Auburn team

has amassed a highly compelling body of evidence that deserves more attention. “Their evidence, including sound recordings, fleeting observations, feeding sign and cavity excavations, is as strong, and in some cases way stronger, than that presented for Arkansas,” Jackson said in a recent e-mail. “What is needed now is definitive proof such as quality photos or a bird or birds that return with some regulatory to a roost or nest cavity,” Jackson continued. “Expanded searches of this river system and other coastal rivers of north Florida are an essential beginning.”

Ken Rosenberg, the Cornell lab’s conservation director, characterized the Auburn team’s findings as “definitely encouraging and definitely noteworthy.” He said the lab will provide logistical support, sophisticated camera equipment and, if asked, experienced bird identifiers for the next search season to begin late this year. Regarding the Florida panhandle region, Rosenberg said, “We know from historic records that that’s where the ivory-billed was most abundant, in those river corridors running down to the Gulf of Mexico.” He added, however, the Choctawhatchee had not been extensively searched prior to the Auburn team’s investigation. “It’s a slightly smaller river, but the stretch



View of Choctawhatchee River Habitat. (Auburn University Photo)

where their study area is located is great habitat,” he said. “We congratulate them for taking that river on a whim and searching it.” Rosenberg said he plans to visit the Choctawhatchee basin himself within the year. “I can’t wait to get down there,” he said.

A spokesman for the U.S. Fish and Wildlife Service’s Southeast regional office said the agency “is interested in the research, and we’re going to offer some kind of financial support” to upcoming search efforts. Other agencies expected to participate in future studies and searches are the Florida Fish and Wildlife Conservation Commission and the Northwest Florida Water Management District.

Butcher of the *Audubon Society* said that the Auburn announcement “is a reminder of why it is so essential that we protect bottomland forests, wetlands and coastal habitats across the Southeast, adding that “these new sightings should reinvigorate efforts to find the bird in other portions of its historic range.”

The paper by Hill and his colleagues published in the journal *Avian Conservation and Ecology* can be found online at: <http://www.ace-eco.org/vol1/iss3/art2/>. The Auburn University site dedicated to the Choctawhatchee Basin ivory-billed research can be found at: http://www.auburn.edu/academic/science_math/cosam/departments/biology/faculty/webpages/hill/ivorybill/

Source: Daniel Cusick, *Greenwire*, 9/26/06

Judge Declares Recreational Boating and Fishing Illegal on Navigable Waters

On August 29, 2006, District Judge Robert G. James, U.S. District Court, in Monroe, LA declared it criminal trespassing for the public to boat, fish or hunt on the Mississippi River and other navigable waters of the U.S., affirming the arrest of fishermen and boaters utilizing the waters of the Mississippi River.

In the case *Normal Parm, et al v. Sheriff Mark Shumate, of East Carroll Parish, (Civil No.3:01-CV2624; United States District Court; Western District of Louisiana, Monroe Division*, Judge James declared recreational boating, fishing tournaments, waterfowl hunting, and

pleasure boating illegal on navigable rivers, unless conducted within the main channel of the river, or with the permission of all riparian landowners along the navigable river.

Under his decision (and now federal law) riparian landowners are thus granted the exclusive and private control over waters of the Mississippi River (and other navigable waters of the U.S.), outside of the main channel. Fishermen and hunters can thus no longer legally use the ever changing shallow waters of navigable rivers for their outdoor activities. Judge James also affirmed that the public is subject to criminal arrest for trespassing on the riparian landowner's privately owned and controlled water if they venture outside the main channel of a navigable waterway.

Judge James' decision overturned an April 30, 2006, ruling by Magistrate Judge James D. Kirk (Document 80) who found that the American public had the right under federal law and Louisiana law, to navigate, boat, fish and hunt on the waters of the Mississippi River, across the entire surface of the Mississippi River, up to the normal high water mark. Judge Kirk relied on the long established federal principles of navigation that recognized that the public's federal navigational rights ". . . entitles the public generally to the reasonable use of navigable waters for all legitimate purposes of travel or transportation, for boating or sailing for pleasure, as well as for carrying persons or property for hire, and in any kind of water craft the use of which is consistent with others also enjoying the right possessed in common." This decision was made in the case of *Silver Springs Paradise Co. v. Ray*, 50 F.2d 356 (5th Cir., 1931).

Magistrate Kirk also affirmed the public's fundamental right to boat and fish on the navigable waters of Louisiana for both recreational and commercial purposes affirming Louisiana Civil Code's declaration that "Everyone has the right to fish in the rivers, ports, roadsteads, and harbors, . . ." (*Louisiana Civil Code, Article 452*), and the Louisiana Constitution declaration that "[t]he freedom to hunt, fish, and trap wildlife, including all aquatic life, traditionally taken by hunters, trappers and anglers, is a valued natural heritage that shall be forever preserved for the people."

(*Louisiana Constitution, Article 1, Section 27*).

But Judge James' August decision rejected these findings, and declared that the American public has no federal or state right to fish or hunt on the Mississippi River, or any other navigable waterway in America (*Document 139*). He also specifically declared that neither century old statutes enacted as each State joined the Union, nor federal common law of public use, create a right of the public to use the navigable waters of America for recreation, fishing or boating, unless the activity is done as a commercial enterprise, and limited to the main channel of the river. Judge James also rejected the argument made by the Plaintiffs that the multi-billion dollar commercial activities that support the manufacturing and sale of personal and recreational water craft and related equipment, and the public recreational uses of the navigable waters, were sufficiently "commercial" to be allowed on America's navigable waters.

If Judge James' decision is affirmed, the exclusion of the recreational boater, fisherman and hunter threatens the financial viability of the entire segment of the American economy that supports recreational use of public waters. His decision is so bizarre that it almost seems comical. But recreational interests are and need to take it very seriously.

Source: *Law Offices of Paul Hurd Press Release*, <http://acan.gohotsprings.com/index.php?name=News&file=article&sid=203>

Groups Give Poor Grades to Key Conservation Programs

Congress and the Bush administration have largely failed to implement key agriculture conservation programs and should revamp the farm bill to boost incentives for environmental improvements, a coalition of advocacy groups said in early October. The farm bill report card by the *Sustainable Agriculture Coalition* and the *Midwest Sustainable Agriculture Working Group* gives an overall "D+" to Congress and a "C-" to the Agriculture Department for the implementation of conservation programs, labeling rules, organic research and farmers market promotion. The groups said there is a "huge opportunity for improvement" in the 2007 farm bill.

The coalition of advocacy groups is comprised of nearly 40 different farm and conservation groups including state farmers unions and conservation districts, the *Izaak Walton League of America*, *National Catholic Rural Life Conference*, *Sierra Club Agriculture Committee* and *American Natural Heritage Foundation*. "The next farm bill must restore funding for innovative programs and make a substantial down payment on a new generation of food and farm policies," said Margaret Huelsman, the coalition's national coordinator. The groups are urging Congress to move forward with a new bill, rather than extend the current law. Several large farm and commodity groups have asked Congress to approve a two-year extension of the law.

The scorecard also doled out an "F" to Congress and a "D" to the administration for their handling of the Conservation Security Program (CSP), the "green payments" program created in the 2002 farm bill that pays farmers to make environmental improvements on their land. Sen. Tom Harkin (D/IA) and others who fought for its inclusion in the 2002 bill envisioned it as a new environmental entitlement, but Congress has limited its funding and the administration's rules limit its implementation to several watersheds per year.

The report calls for Congress to:

- restore CSP to full funding in the next farm bill;
- focus the Conservation Reserve Program, which pays farmers to idle land, on high impact buffer zones and wildlife habitat; and
- overhaul the farm subsidy program to place a cap on how much each farm can receive.

Source: Allison A. Freeman, *Greenwire*, 10/11/06

Scientists Form Coalition to Support Pro-science Candidates

A group of scientists announced in late September that they have formed a coalition, *Scientists and Engineers for America* (SEA) to campaign for politicians "who respect evidence and understand the importance of using scientific and engineering advice in making public policy." SEA said it would be nonpartisan but also said the Bush administration's

policies on such issues as climate change and stem cell research prompted the group's formation.

In recent months several federal scientists have been accusing their agencies, including the National Oceanic and Atmospheric Administration (NOAA) and NASA, of stifling their opinions on greenhouse gas emissions and climate change, among other topics.

On the group's Web Site (<http://www.sefora.org/>), SEA says scientists and engineers have an obligation "to enter the political debate when the nation's leaders systematically ignore scientific evidence and analysis, put ideological interest ahead of scientific truths, suppress valid scientific evidence and harass and threaten scientists for speaking honestly about their research."

Executive Director Mike Brown said the organization would become involved in electoral politics, and that it would spend its money on Internet ads, speakers and other events to affect races in which science plays a role. Group members include Clinton advisers John H. Gibbons and Neal Lane; Nobel laureates Peter Agre and Alfred Gilman; and former Food and Drug Administration assistant commissioner Susan F. Wood, who resigned from the agency last year to protest delays in approval of over-the-counter emergency contraception sales.

In a post election message Brown said, "The election results showed both the resonance of our message and the work that lies ahead for SEA. In state after state, the voters supported pro-science candidates and demonstrated that they want a government that respects scientific integrity and scientific truth." Further he said, "Our mission has always been to raise the public's awareness of the importance of good science and to build a constituency that understands how important scientific integrity is to the future of the country. While we are heartened by the election results and the differences the new Congress will bring to the debate on science issues, much work remains to be done. Support for SEA has been overwhelming and we greatly appreciate the reception we have received from our members and the

community at large. In the coming weeks, we will outline our program for how we intend to build on this year's successes. We look forward to working closely with you as we move forward."

SEA invites other scientists and engineers to join this effort by signing on to the following *Bill of Rights for Scientists and Engineers*:

"Effective government depends on accurate, honest and timely advice from scientists and engineers. Science demands an open, transparent process of review and access to the best scholars from around the nation and the world. Mistakes dangerous to the nation's welfare and security have been made when governments prevent scientists from presenting the best evidence and analysis. Americans should demand that all candidates support the following Bill of Rights:

1. Federal policy shall be made using the best available science and analysis both from within the government and from the rest of society.
2. The federal government shall never intentionally publish false or misleading scientific information nor post such material on federal websites.
3. Scientists conducting research or analysis with federal funding shall be free to discuss and publish the results of unclassified research after a reasonable period of review without fear of intimidation or adverse personnel action.
4. Federal employees reporting what they believe to be manipulation of federal research and analysis for political or ideological reasons should be free to bring this information to the attention of the public and shall be protected from intimidation, retribution or adverse personnel action by effective enforcement of Whistle Blower laws.
5. No scientists should fear reprisals or intimidation because of the results of their research.
6. Appointments to federal scientific advisory committees shall be based on the candidate's scientific qualifications, not political affiliation or ideology.
7. The federal government shall not support any science education program that includes instruction in concepts that are derived from ideology and not science.
8. While scientists may elect to withhold methods or studies that might be misused there shall be no federal prohibition on publication of basic research results.

Decisions made about blocking the release of information about specific applied research and technologies for reasons of national security shall be the result of a transparent process. Classification decisions shall be made by trained professionals using a clear set of published criteria and there shall be a clear process for challenging decisions and a process for remedying mistakes and abuses of the classification system."

Sources: Cornelia Dean, *New York Times*, 9/28/06; <http://www.sefora.org/>; and *Greenwire*, 9/28/06

American Public Divergent and Polarized on Environment Issues

The *American Environmental Values Survey* released in early October found that Americans value the outdoors and have some worries about the health of the environment, but the survey found that the public's environmental concerns are "divergent and polarized." "We don't see a broad consensus on solving environmental problems in the near future," said Lee Bodner, executive director of *ecoAmerica*, an environmental research firm. Although membership and funding for environmental groups have grown over the last couple of decades, polls show environmentalism has faded as a concern for most Americans.

The research firm said that environmental groups reach out to roughly the same 3 million people, which represent about 1% of the population, and surveys repeatedly show the environment is a top priority for roughly the same small percentage. The survey — conducted for the *Sierra Club*, *Earthjustice* and *ecoAmerica* — used both traditional polling survey methods and "VALS psychographic" testing. VALS research is used in marketing to determine consumer motivations. The research was conducted by California-based *SRI Consulting Business Intelligence*. It was based on 1,506 completed 240-item surveys.

Officials from the environmental groups said they believe the survey results will help them more effectively tailor messages to specific portions of the public, such as corporations target consumers. "As the public has become more segmented and sophisticated, the corporate world has adapted to that by using more sophisticated communications and



marketing tools,” said Carl Pope, executive director of the *Sierra Club*. “This research arms the environmental community with an equally sophisticated understanding of the many different constituencies that we are trying to reach and how we can best reach them.”

Besides finding that American environmental interests are diffuse, the survey also found that men and women have significantly different concerns. Women are more receptive to traditional environmental appeals while men are more concerned about the potential economic trade-offs. Additionally, the research found that environmentalism has been hampered by a general public skepticism toward “intellectuals” and science in general.

More broadly, the survey found, environmentalism has an image problem, with only 44% of people willing to label themselves “environmentalists.” The survey also showed that only 48% of respondents found environmentalists to be “practical” and 44% described them as “self-righteous.” Differences were especially stark between Democrats and Republicans. The survey found that Republicans generally place more value on economic concerns and have less trust for environmentalists than do Democrats.

The survey found that the most effective way to reach the public through consumer-based appeals would be to point out the financial savings of some environment-friendly actions. “While many Americans are unresponsive to direct environmental appeals, most are immediately concerned about pocketbook issues,” the research report says.

Source: Alex Kaplun, *Greenwire*, 10/4/06

Climate Change Update

Worldwide carbon dioxide (CO₂) levels are increasing by larger amounts every year, according to an air sample library that predicts CO₂ may be increasing by 2 parts per million annually by the end of the year. Australia’s *Commonwealth Scientific and Research Organization* (CSIRO) Marine and Atmospheric research center, which maintains the library and has been collecting air samples since 1978, measured CO₂ concentrations rising from 340 ppm to 380 ppm in the past 30 years, which it attributed to fossil fuel burning.

Scientists generally agree that CO₂ levels have to stabilize at around 450 ppm by 2050 to avoid catastrophic climate change.

According to the International Energy Agency’s (IEA) *World Energy Outlook* report, released in early November, China will pass the U.S. as the world’s leading producer of greenhouse gas (GHG) emissions in 2009, nearly 10 years ahead of previous predictions.

The IEA report said further that if no steps are taken to reduce energy demand, global energy needs will grow 53% by 2030 and oil consumption will jump to 116 million barrels per day (bpd), compared to 85 million bpd now. Demand for coal will rise by 59% and, as a result, GHG emissions will increase by 55% to 44.1 billion tons by 2030. To prevent this growth in demand, an estimated \$20 trillion is needed in alternative and renewable energy investment, the report said. Aggressive energy conservation policies could limit the increased oil demand to 103 million bpd by 2030. If that was done, GHG emissions would be 16% lower. IEA Executive Director Claude Mandil said, “Nuclear power offers considerable advantages in terms of avoiding [GHG] emissions and of energy security. We don’t see how we can avoid [nuclear] if we want a sustainable long-term future.”

Presently, the global mean temperature is only 1.8 °F below the maximum mean temperature of the past million years, and could reach the high point within 50 years, NASA scientist James Hansen and others warned in a study published in late September in the *Proceedings of the National Academy of Sciences*. Since 1975, the world has been warming more rapidly, at a rate of about 0.36 °F per decade. If that rate remains constant, researchers said, temperatures will increase 1.8 degrees to the highest levels seen since the end of the last ice age about 12,000 years ago.

Hansen, lead author and head of NASA’s *Goddard Institute for Space Studies*, warned a 1.8-degree rise could result in higher sea levels, species extinction and other irreversible consequences. “The last time it was that warm was in the middle Pliocene, about three million years ago, when sea levels were estimated to have been 25 meters (80 feet) higher than today”, he said. Other changes could include more El Niño episodes, due to particularly warm temperatures in the

influential Indian and western Pacific oceans.

Rising temperatures in Canada could put that country’s hydroelectric power and oil sands industries in jeopardy, according to a *World Wildlife Fund* (WWF) study released in mid October. The report, done in partnership with the *Sage Center*, said the gradual rise in temperatures in Canada could also lead to a change in rainfall patterns, less glacial flow and more lake evaporation. “Canada’s fastest growing source of global warming pollution — the Alberta tar sands — is boiling off the very water supplies it needs, and in Ontario, burning coal for electricity is undermining access to clean hydro power,” said WWF’s Julia Langer. A six-degree Celsius rise in temperatures projected for Canada over the next several decades could force hydropower to fall by up to 17%. Oil sands production would have to be tapered as well because production requires up to four barrels of water for every barrel of oil produced.

Meanwhile, in the Arctic Circle the ice traditionally opens up to allow ships through once per year, around September when the last winter’s ice melts and before new ice forms, but warming is precluding the formation of new ice, experts say. Satellite imagery of the Arctic Circle shows the total ice surface shrinking by 30% over the last 25 years. Once a treacherous route that precluded the possibility of regular shipping, global warming is melting away the Northwest Passage’s icy barriers and seven ships made it through the Passage last year.

The melting ice is also threatening the traditional lifestyle of native people in the Arctic Circle. In the island village of Shishmaref, Alaska, residents live a traditional lifestyle that depends on local animals for food and clothing. But disappearing ice has driven away traditional animals like caribou and seals and with it the livelihood of the village. In place of the animals, warming has brought with it fierce storms and eroding shorelines. “Every year ... we agonize that the next storm will be the one that wipes us out,” said Luci Eningowuk, chairwoman of the *Shishmaref Erosion and Relocation Coalition*. The island’s eroding shoreline has forced the 600 residents of the village to vote to transplant the entire village onto the continent. Estimates show it will cost between \$160 million and \$200 million to

transplant the village. In his “*Arctic Climate Impact Assessment*” study, Robert Corell said “Climate change in the Arctic is a human and cultural, as well as an environmental issue.”

Also in Alaska, global warming is melting permafrost and in turn allowing thousands of ponds to shrink, according to a University of Alaska-Fairbanks study published in the *Journal of Geophysical Research*. Researchers compared aerial and satellite photographs of more than 10,000 closed-basin ponds taken over the past 50 years and found that half of the ponds studied in the state’s subarctic boreal regions have disappeared, and the other half have all shrunk. The ponds typically form when depressions in the ground are filled with water that cannot drain, usually because of permafrost blocking the ground. With longer, warmer growing seasons, permafrost is melting, removing the plug that keeps water in the ponds. Implications include reduced water for migratory birds and possibly increased levels of CO₂ that is released by organic matter in the soil as it dries.

On the other side of the planet it has now been documented that human activity contributed to the collapse of the Larsen B ice shelf in Antarctica in 2002, according to a study published a mid October issue of the *Journal of Climate*. The study concludes that shifts in southern oceanic winds that are tied to human emissions of GHGs warmed the Antarctic peninsula jutting up toward South America and contributed to the breakup of the Larsen B shelf. “This is the first time that anyone has been able to demonstrate a physical process directly linking the break up of the Larsen ice shelf to human activity,” *British Antarctic Survey* researcher and study lead author Gareth Marshall said. When the ice shelf collapsed into the Weddell Sea four years ago, it was 3,250 square kilometers in size. Normally the Antarctic peninsula’s chain of mountains, which are 2,000 meters high, shield the Larsen shelf on its eastern side from strong westerly winds, according to the study. But as more CO₂ enters the atmosphere, the winds get stronger, *British Antarctic Survey* and study co-author John King said. “If the westerlies strengthen, the number of times that the warm air gets over the mountain barrier increases quite dramatically,” he said.

In Scotland the Scottish Environment Protection Agency is predicting frequent

and severe river flooding, species loss, increased smog and “extreme” weather events stemming from climate change. The agency also noted in a report that a 1% increase in temperatures since 1961 has produced a 60% increase in winter rain in the north and west and a sea temperature increase of 1 degree Celsius within the past 20 years. It warned that higher temperatures could kill numerous species, including island-breeding seabirds, through food chain disruption. And current emission rates indicate a “great risk” of reaching a point of no return. The agency concluded that Scotland would continue to get warmer and wetter and that stopping endangered species loss by 2010 would be “challenging.” In addition to seabirds, threatened species include the hooded crow, meadow pipit, kestrel, lapwing and curlew.

In the U.S., long-term drought in the Midwest could continue for several more years because of global warming, according to speakers at the *Oklahoma Governor’s Water Conference* in mid November. *Western Governors’ Association* water policy manager Shaun McGrath predicted that Oklahoma would warm by 3 to 6 °F by the middle of the century, causing water to evaporate faster and reducing supplies by as much as 30%. Oklahoma Climatological Survey Director Ken Crawford said increased temperatures could throw the state into a “vicious cycle” of plant die-off and water shortages. Six Oklahoma counties currently undergoing drought might not experience significant relief for another decade, he said. “My belief is there’s no doubt that the globe is warming,” he said. “Do I think humans are causing global warming? With some hesitation in my voice, I would say yes.”

In New England global warming could raise the region’s temperatures by more than 10 degrees by the end of the century, according to a *Union of Concerned Scientists* (UCS) study released in early October. The study concludes that if the world curbs its current CO₂ emissions by about 75% by the year 2050, average annual temperatures could rise 3.5 to 6.5 °F by the end of the century. If the world does nothing, temperatures could rise between 6.5-12.5 degrees. It projects average temperatures in New England states like New York and Vermont to rise by as much as 12.5 °F with the number of 90-degree days in the summer quadrupling

to 60 or more per year. The report is the product of the *Northeast Climate Impact Assessment*, a collaboration between the UCS and a team of 14 scientists. It said that warming that has already been observed in places like Pennsylvania and New Jersey over the last 30 years would continue to expand further north through the century. The study, which took two years to complete, also predicted more severe rainstorms and a 50% decrease in the number of days with snow on the ground.

The western U.S. will experience more droughts, widespread wildfires and large die-offs of regional plant and animal species as global warming continues, according to a *National Wildlife Federation* report released in early October. The report cited evidence that the West’s most precious commodity, water, is disappearing in 11 Western states. The winter snowpack, which is the source of 75% of the West’s water, has declined by up to a third in the northern Rocky Mountain region and by more than 50% in parts of the Cascades since 1950. Rising temperatures have taken what water is left in the winter snowpack and melted it earlier, causing winter flooding and withering summer water supplies that create prolonged droughts and increase the likelihood of wildfires. The report advocates national limits on GHGs and a control on oil and gas exploration in the West, claiming the operations destroy natural habitats and add to regional CO₂ levels.

The Pacific Northwest will experience rainier and cloudier weather during the winter over the next 50 to 100 years, a University of Washington climate researcher predicted. Researcher Eric Slathe said that a low-pressure system near the Aleutian Islands will affect rain patterns in Oregon, Washington, British Columbia and Alaska. He predicted a 5 to 15% increase in Washington and Oregon rain and a 10 to 20% increase in Alaska rain due to a jet stream moving north. “The whole storm system in the North Pacific is tracking northward,” but that’s just half of the story, Slathe said. “Even though the storms are moving northward, they are becoming more intense”.

Higher temperatures worldwide could also cause insect populations to multiply faster, according to a study published in the October edition of *American Naturalist*. A study of 65 insect species

showed that with a hotter climate, some populations grew larger and faster than in a colder environment, which could become a serious problem with regards to pest insects. In addition to altering food chains and species diversity in an ecosystem, an explosion in an insect species could mean greater transference of disease-causing microbes carried by mosquitoes, a primary carrier of malaria. The next step for researchers will be to determine what species' populations would grow and shrink due to warming.

Meanwhile, a recent National Oceanic and Atmospheric Administration (NOAA) report linking global warming to the strength of hurricanes was never published because senior officials within the agency did not want its conclusions disclosed, according to the journal *Nature*. The report was set to be released in May as part of a press kit for the media before the start of this year's hurricane season. According to the article, seven NOAA weather experts held a panel discussion in February to prepare a consensus report on the views of the agency's scientists about global warming and hurricanes, and the suggestion that increasing global warming is linked to hurricane strength was agreed to be part of the current state of hurricane science. The article added that the discussion did not contain any policy or position statements.

But despite that fact, NOAA Geophysical Fluid Dynamics Laboratory head and panel member Ants Leetma received an e-mail from a Commerce Department official overseeing NOAA activities in May saying the panel's report of the meeting needed to be made less technical and could not be released, according to the *Nature* article. *Nature* quoted NOAA Administrator Conrad Lautenbacher as saying the report was merely an internal document and could not be released because the agency could not take an official position on the issue.

But now the inspectors general at NASA and the NOAA are investigating whether the Bush administration has suppressed scientists' global warming research, per a September request to both agencies from 14 senators — Senate Minority Leader Harry Reid (D/NV); Independent Sens. Jim Jeffords (VT) and Joe Lieberman (CT); and Democratic Sens. Frank Lautenberg (NJ), Tom Carper (DE), John F. Kerry (MA),

Maria Cantwell (WA), Robert Menendez (NJ), Barbara Boxer (CA), Jeff Bingaman (NM), Hillary Rodham Clinton (NY), Dick Durbin (IL), Dianne Feinstein (CA) and Barbara Mikulski (MD). The letter asked for an investigation of reports of officials blocking publication of research supporting the theory of human-caused global warming. Allegations included that NOAA officials blocked publication of the report (noted above) and that NASA blocked scientist James Hansen from speaking publicly after he advocated cuts in GHG emissions. The results of the investigation will likely be published early next year.



Edge of the Greenland ice sheet where breakup occurs and ice bergs are formed.

Meanwhile in Maine, the general manager of two television stations sent an e-mail to nine staffers this summer telling them that when "Bar Harbor is underwater, then we can do global warming stories." Mike Palmer — the general manager of ABC affiliate *WVII* and Fox affiliate *WFVX* in Bangor, ME — wrote: "Until then, no more." He added that "...the issue evolved from hard science into hard politics and ...despite what you may have heard from the mainstream media, this science is far from conclusive." A former staff member of one of the stations said that Palmer sent the e-mail after the two stations broadcast a live report from a movie theater in Maine where former Vice President Al Gore's movie "*An Inconvenient Truth*" was playing. NASA's James Hansen said the station policy is irresponsible. "If you wait until Bar Harbor is underwater, it's too late," he said. "It won't be just Bar Harbor that is underwater, but many places around the globe including parts of Florida, Bangladesh and the Nile Delta".

Media mogul Rupert Murdoch has apparently changed his mind on global warming, but he still thinks the Kyoto Protocol is not the most effective tool for combating it. "I have to admit that, until recently, I was somewhat wary of the warming debate," the *News Corp.* chairman said at a conference in Tokyo. "I believe it is now our responsibility to take the lead on this issue. Some of the presumptions about extreme weather, whether it be hurricanes or drought, may seem far-fetched. What is certain is that temperatures have been rising and that we are not entirely sure of the consequences. This planet deserves the benefit of the doubt."

On the legal front, the advocacy groups, *Center for Biological Diversity* (CBD), *Greenpeace* and *Friends of the Earth* filed a lawsuit in the U.S. District Court for the Northern District of California in mid November aimed at forcing the Bush administration to produce an assessment of the effects of global warming and the state of climate science. The *Global Change Research Act of 1990*, the three groups said in their complaint, requires the government to prepare a scientific assessment every four years of current climate change research and effects.

The groups are asking the court to force the government — through its Climate Change Science Program (CCSP) and the Office of Science and Technology Policy — to produce a second national climate assessment. The first assessment report, completed in 2000, predicted dire consequences: a doubling or tripling of heat-related deaths, increased floods and droughts, and the swamping of coastlines by rising seas and more intense storms. "The Bush administration was so threatened by the profound revelations of the 2000 assessment that it killed the 2004 update," said the CBD's Julie Teel in a statement.

To speed up local action on the global warming issue, Robert Redford hosted his second annual conference on the subject in November at Sundance, UT with more than 30 U.S. mayors in attendance. Conference spokeswoman Kate Potterfield said the three-day meeting's goal was to help the mayors communicate with their constituents on global warming. The session was also geared toward enhancing local climate policies at a time when federal and state plans are still in

development. The *International Council for Local Environmental Initiatives* (ICLEI), co-host of the conference has signed up 160 U.S. cities in its voluntary *Cities for Climate Protection Campaign* which claims 23 million metric tons of reduced GHG emissions.

In Boulder, CO 59% of voters approved a ballot initiative in November to tax businesses and homes based on energy use to help combat climate change. The proposed tax, to be collected by *Xcel Energy*, will raise home energy bills by about \$2 per month and business' by \$5 to \$35. The funds will go toward public education, easing access to energy-efficient products and providing energy audits for businesses and homes. Boulder has already pledged under the Kyoto Protocol to reduce emissions 7% below 1990 levels by 2012. The environmentally-centric community also has a Climate Action Plan that calls for lowering emissions by about a quarter.

In Aspen, Colorado, all 266 full-time city employees earned a \$100 bonus for helping the city reach its goal to reduce the city's GHG emissions by 1%. About 200 employees from 22 of the city's 24 departments received additional \$100 bonuses for helping their departments reach their goal. The police and recreation departments were the only ones to miss their reduction goals.

Also hoping to lead by example, Illinois Gov. Rod Blagojevich (D) ordered state government to reduce its air emissions by the end of the decade or be forced to buy carbon credits. The plan will require more fuel-efficient vehicles and buildings to be more energy efficient. Should the state fail to reduce its emissions by 6% by 2010, taxpayers will have to make up the difference with the purchase of emissions credits from the Chicago Climate Exchange (CCX). Blagojevich aides said the move would encourage emissions reductions across the state in both the public and private sector. "We realize this is not a substitute for a broader policy," said Steve Frenkel, Blagojevich's director of policy development. "But absent any federal leadership on this issue, states are taking the initiative." While modeled after California's recent emissions control scheme, the plan does not apply to private vehicles or coal-fired power plants. State vehicles and buildings account for about 1 million tons of GHGs every year.

The CCX could also get an influx of farmers that find it more profitable to grow trees than crops, after the *National Farmers Union* launched a program this fall encouraging farmers to enroll. Sen. Richard Lugar (R/IN) enrolled his 604-acre farm two years ago and is waiting until at least 2010 to harvest his 10,000 black walnut trees, in exchange for about \$2,400 worth of carbon credits. "My hope is that other farmers might see a model and be interested in signing up," Lugar said. "And my guess is that they probably will because it's a good idea." About 1,700 farms have signed up so far, many through groups like the *Iowa Farm Bureau* and *North Dakota Farmers Union*, which pool members' credits and sell them to firms looking to reduce their emissions.

But *Environmental Defense*, which along with 18 other groups released an open letter in August urging entities not to enroll in CCX because it prefers federal, mandatory emissions caps, said it would not discourage farmers from signing up, but that the system still falls short of environmentalists' vision. The letter expressed concern about the prospect of states selling offsets through CCX that the agencies have created with tax dollars, such as energy efficiency investments supported by ratepayer-funded system benefit charges.

Iowa farmers are also adopting new technologies and methods to prepare for the possibility that global warming will cause drought as well as increased storms. Farmers are using no-till farming, which reduces the need for carbon-emitting machines that turn over soil. They are also examining water rights in advance of shortages and figuring out how to capture precipitation runoff. Other improvements include capturing methane gas from livestock and using more wind power. New technologies include crops that use moisture more efficiently or are pest-resistant. *DuPont Crop Genetics Research and Development*, which is profiting from such crops, maintains that global warming is evidenced by corn production thriving 100 miles further north than it did three decades ago.

Also, at least 46 U.S. ski resorts are offsetting their operations' emissions with energy from renewable sources, particularly wind, with 19 resorts offsetting 100% of their emissions with wind-power

credits. Experts warn that the ski industry could become one of the first real casualties of climate change if steps are not taken to offset the effects of global warming. Some climate predictions show the Colorado ski town of Aspen having the same climate as Los Alamos, NM, by 2100. In August, *Vail Resorts* announced it would purchase 152,000-megawatt hours of wind energy per year to offset the emissions from its five mountain resorts, which include several logging facilities and 125 retail shops.

The annual purchase from Boulder, CO-based *Renewable Choice Energy* (RCE), which will offset 211 million pounds of CO₂ emissions produced every year by Vail resorts, makes the company the second-largest cooperate buyer of wind power in the country. Vail is also offering employees and guests a free one-day ski lift ticket to anyone who purchases wind power for their residence for one year from RCE. Altogether, 19 ski resorts in seven states are offsetting 100% of their emissions with wind-power credits like those from RCE according to the *National Ski Areas Association*.

Wachovia Corp. announced an energy policy in late October that includes reducing CO₂ emissions from its buildings by 10% by 2010 and encouraging its clients to make their GHG emission data public. The company already gets 10% of its electricity for its Texas operations from wind farms. Under its new policy, it will release annual reports detailing its progress toward environmental goals, and will refuse to lend money to companies that log trees in rainforests and instead will seek companies that "have a positive impact on climate change." The policy includes an endorsement of the theory of human-caused global warming and a pledge to work with clients to reduce their emissions.

Wachovia's Pat Mumford said "significant acquisitions" would be exempted from the bank's 10% emissions-reduction goal and given other targets." This new strategy integrates our environmental principles and commitments in the way we do business, so *Wachovia* can make a positive and measurable impact on the environment," said *Wachovia* CEO Ken Thompson. But the *Rainforest Action Network* said it was disappointed that the policy did not go further in imposing requirements on clients.

A new study from *Pricewaterhouse Coopers* (PwC) has found that sequestering CO₂ emissions from oil sands operations underground could reduce global emissions by 17%. Under a “*Green Growth Plan*” devised by PwC, the *Group of Seven* industrialized countries would reduce their overall emissions by 51% between 2004 and 2050, which would allow for a 3% GDP increase and also allow emerging economies like Brazil, China, India and Russia to increase their emissions by 29%. The largest reductions would come chiefly from storing gas in Western Canada’s geological formations.

Meanwhile, Norway and *Statoil* announced in early October that they would build the world’s largest CO₂ sequestration facility, to hold 1.3 million metric tons of CO₂ by 2014. Petroleum and Energy Minister Odd Roger Enoksen said Norway would spend \$594 million and own an 80% stake in a technology company that would build the facility. “We see this as primarily a technology development project, which could lead to cost cuts that allow companies to do similar projects without public support,” Enoksen said “.

In France a domestic coal tax will be created by Jan. 1, and France will push the European Union to create a carbon tax on industrial goods from countries that ignore the Kyoto Protocol early next year, Prime Minister Dominique de Villepin said in mid November. Coal would become subject to a levy of €1.19 per megawatt hour of energy produced under France’s domestic tax, raising around €50 million to be spent on actions against global warming such as fiscal incentives in favor of renewable heating sources, according to government predictions.

In Australia almost two-thirds of the population is prepared to pay higher taxes and more for essentials to reduce GHG emissions, according to a new poll. Nine out of 10 people believe global warming is a problem and 62% are unhappy with the government’s response, an *A.C. Nielsen* poll published in Fairfax newspapers has found. Almost half of those questioned cited solar power as the best way to tackle climate change, while 19% supported a carbon tax on fossil fuels and 17% backed nuclear power. The poll was carried out in early November following a fierce political debate about how Australia should react to global warming.

In the U.S. an overwhelming majority is concerned about long-term issues such as energy and global warming, but few believe that Congress knows enough to act on the items, according to a poll released in late September. Eighty-one percent of those surveyed were “very or somewhat worried” about energy, and 70% were worried about global warming, and levels of concern differed depending on party affiliation. On energy, 88% of Democrats described themselves as very or somewhat worried compared to 77% for Republicans. And the split was significantly greater on global warming — 52% of Republicans said they were worried compared to 81% for Democrats. Most of those polled expressed little confidence that Congress will deal effectively with either issue. Only 46% said Congress has the necessary knowledge to act on energy, with 11% rating congressional performance as “good or very good.” On global warming, only 36% said Congress has the necessary expertise and only 7% had a positive view of lawmakers’ work on the issue so far. New York University’s *Brademas Center for the Study of Congress* conducted the July telephone survey of 1,000 people. It had an error margin of 4%.

Meanwhile, churches in both Australia and the U.S. are pressing lawmakers to enact GHG emissions standards to fix what they see as a moral and humanitarian issue. The *Uniting Church in Australia* released a report in late September asking the federal government to cut emissions 20% by 2020 and 60% by 2050, as well as to ratify the Kyoto Protocol. “It has been something that church members have indicated they are concerned about,” church director of social justice Mark Zirnsak said. “And it is brought very strongly home to them through the partnerships we have with churches in the Pacific, where they are already reporting king tides, flooding over islands. “Tuvalu is the clearest example — there they are talking about what they are going to do when they go under water.” “Climate change is definitely being affected by human activity, the science points to that,” Zirnsak said at a church event in Melbourne. “It is really only in the opinion pages of newspapers that we see any dispute of this taking place”.

In the U.S., the *National Association of Evangelicals* (NAE) is lobbying Congress on a platform of creationism. “*Creation*

care,” the idea that the environment is divinely created and thus must be protected by humans, forms the basis for NAE’s campaign, including its “*What Would Jesus Drive?*” push for fuel-efficient vehicles. NAE’s vice president for governmental affairs, Rev. Richard Cizik, said some Christians disagree with the movement because they tend to vote Republican and environmental causes are more associated with Democrats. “There are people who disagree with what I’m doing ... within the evangelical community of America,” he said. “Simply for standing up and saying, ‘Climate change is real, the science is solid, we have to care about this issue because of the impact on the poor’ — why would that be controversial? Well, I’m sorry to say, it is controversial and there are people who want to take my head off.” Cizik said he had a “biblical concern” for endangered species and natural resources. “God made ‘em,” he said. “And He says we are to exercise a stewardship responsibility of this earth. ... We’re tenant-landlords and we will have to return it at some point, at the end of time, to God who made it. And are we going to return it in the condition it was made?”

At first glance, actor Keanu Reeves, *Christian Coalition* head Joel Hunter and climatologist James Hansen would not seem to have much in common. But the three are among more than 35 cultural, religious and environmental leaders taking part in a new campaign to urge action on climate change, framing what has traditionally been seen as a scientific issue as a moral imperative. “The world’s scientists are in agreement: Climate change is real, and we are largely responsible,” says a statement issued by the group, organized by producers of the climate change documentary, “*The Great Warming*”. “We call on our country to take immediate actions to address climate change.” Among other signers of the statement are Harvard professor E.O. Wilson, *Sierra Club* executive director Carl Pope, evangelical pastor and Eastern University professor Tony Campolo, Atlanta Mayor Shirley Franklin and actress Lucy Liu. The documentary is set to be shown in theatres, and an ad campaign will target Christian radio stations and religious publications ranging from national magazines to church newsletters. The documentary differs from other global warming films because it blends commentary from scientists such as Hansen with remarks by religious leaders.

“The faith orientation gives us hope, and a level of passion and commitment to do what is right,” said Paul DeVries, president of the New York Divinity School, who is featured in the film. “It’s something that we pray everyone will see.” Gerald Durley, pastor of Providence Missionary Baptist Church in Atlanta and a longtime civil rights leader, put it bluntly: “This is a moral issue, and a moral crisis.” Joel Hunter — pastor of the 12,000-member Northland Church in Longwood, FL, and newly installed president of the *Christian Coalition* — said that he is one of “a host of [Christian] leaders who are coming into much more of a consciousness about our [environmental] responsibility,” and broadening the traditional social agenda of the religious right. But Hunter was quick to emphasize that he spoke as an individual, and his comments were not official policies of the coalition or his church — a distinction that sheds light on what is still a delicate issue within the evangelical community.

According to a poll released in August by the *Pew Forum on Religion and Public Life*, 70% of all adults believe in global warming — including 79% of white mainline Protestants, 77% of Catholics and 70% of white evangelical Christians. But drilling deeper into the survey data shows that evangelicals are still far less likely to believe that human activities are a major factor in climate change — 37% of evangelicals, compared with 62% of those who say they are secular, 52% of Catholics and 48% of mainline Protestants. Leaders of the Interfaith *Stewardship Alliance* — which has aligned itself with prominent global warming skeptics, including University of Alabama professors John Christy and Roy Spencer, *Cato Institute* senior fellow Patrick Michaels, and MIT meteorologist Richard Lindzen — has launched a campaign to bring its views on global warming into churches through its nascent *Cornwall Network* of like-minded churches. It also briefed Hill staffers on its views this spring, at a gathering arranged by Senate Environment and Public Works Committee Chairman James Inhofe (R/OK) and Sens. Larry Craig (R/ID) and Jim DeMint (R/SC). Meanwhile, the *Evangelical Climate Initiative* — which issued a statement in February signed by 86 religious leaders urging the government to limit CO₂ emissions — have sponsored several screenings of “The Great Warming” on the Hill.

Pacific Gas & Electric (PG&E) CEO Peter Darbee said in early October that the U.S. should enact a cap on GHG emissions similar to California’s recently passed law. California’s law requires the state to cut its emissions to 1990 levels — about 25% — by 2020. Darbee said he thought similar legislation on the national level was probable. “The opportunity is there for the Bush administration to step up, just as Gov. [Arnold] Schwarzenegger (R) did. But if he doesn’t, I believe that the administration subsequent to him will put that legislation in place. “Our preference has always been that legislation would optimally be applied at the federal level,” he said. PG&E generates about 12% of its power from renewable sources and expects to achieve 14% by the end of the year, on track to meet California’s requirement of 20% by 2010.

Meanwhile, finance ministers from around the world who met in Melbourne, Australia, in late November at the *Group of 20* (G20) summit rejected pleas by activists to pledge action on climate change issues. The G20 meeting’s chairman, Australian Treasurer Peter Costello, stated his opposition to mandatory emissions controls, explaining that developing countries would reject them because industrialized countries had not been subjected to them while they were developing.

Although he had said climate change would be a major focus of the meeting, others said it was better left to environment ministers. “I know ahead of this meeting there was hope expressed that we could devote at least a day or so to issues of climate change,” said South African Finance Minister Trevor Manuel. “We don’t need to be convinced about the importance of the recent data [including Nicholas Stern’s recent report on the economic dangers of climate change] but we think that our colleagues dealing with environmental issues are probably better placed to advise us on our ongoing work”. In response to an International Energy Agency paper presented at the meeting that projected energy demand growth of 50% over the next 25 years, the participants pledged to revise energy subsidies to “ensure price signals work to expand supply and induce efficiency.”

And finally, according to the *PC Energy Report*, office workers in the United Kingdom who leave their computers on overnight are responsible for emitting

200,000 metric tons of CO₂ per year. The research showed that one in five white-collar workers leave their computers on overnight at least three times per week at a cost of more than £100 million worth of electricity per year. By turning off the computers, the report said it would prevent the equivalent of 120,000 cars’ exhaust every year!

Sources: *Agence France-Presse*, 11/7 and 11/13/06; Richard Valenty, *Colorado Daily*, 11/8/06; *Boulder Daily Camera*, 11/8/06; Keith Bradsher, 11/7/06, *New York Times*; Lawler/Boselli, *Reuters*, 11/7/06; *American Naturalist*, 11/3/06; Sandi Doughton, *Seattle Times*, 11/3/06; Doug Struck, *Washington Post*, 11/5/06; Shaun Tandon, *Agence France-Presse*, 11/6/06; *AP/Columbia [Mo.] Daily Tribune*, 11/2/06; Juliet Eilperin, *Washington Post*, 11/2/06; Joseph B. Treaster, *New York Times*, 10/30/06; George Raine, *San Francisco Chronicle*, 10/27/06; Amy Lorentzen, *AP/Atlanta Journal-Constitution*, 10/25/06; *AP/Anchorage Daily News*, 10/23/06; Julia Hayley, *Reuters/PlanetArk*, 10/19/06; *AP/Seattle Post-Intelligencer*, 10/19/06; Alister Doyle, *Reuters*, 10/16/06; Scott Malone, *Reuters*, 10/5/06; Lee Hotz, *Los Angeles Times*, 10/6/06; Martin Hickman, *London Independent*, 10/6/06; Michael Hawthorne, *Chicago Tribune*, 10/5/06; Anthony DePalma, *New York Times*, 10/5/06; David Funkhouser, *Hartford Courant*, 10/5/06; Beth Daley, *Boston Globe*, 10/5/06; Don Hunter, *Anchorage Daily News*, 10/4/06; Matthew Warren, *The Australian*, 10/3/06; *BBC News online*, 10/2/06; Randolph E. Schmid, *AP/Washington Post*, 9/27/06; *The Australian*, 9/25 and 11/7/06; Deborah Zabarenko, *Reuters/PlanetArk*, 9/26/06; *AP/New York Times*, 9/26/06; Gautam Naik, *Wall Street Journal* 10/26/06; *AP/Durant [Okla.] Daily Democrat*, 11/15/06; Neil Sands, *Agence France-Presse*, 11/19/06; Owen Brown, *Wall Street Journal* 11/20/06; Binyamin Appelbaum, *Charlotte Observer*, 10/27/06; Sherri C. Goodman, *Birmingham News*, 10/26/06; Mike De Souza, *CanWest News Service/Canada.com*, 10/13/06; Wojciech Moskwa, *Reuters/PlanetArk*, 10/13/06; Nadia Teskrat, *Agence France-Presse*, 10/10/06; Scott Condon, *Aspen Times*, 11/21/06; and Darren Samuelsohn, *Greenwire*, 11/13/06; Lauren Morello, *Greenwire*, 10/19 and 11/14/06; Alex Kaplun, *Greenwire*, 9/29/06; and *Greenwire*, 9/26, 9/27, 10/3, 10/4, 10/5, 10/6, 10/10, 10/16, 10/17, 10/19, 10/24, 10/25, 10/27, 10/30, 11/2, 11/3, 11/6, 11/7, 11/8, 11/13, 11/14, 11/17, 11/20 and 11/20/06

Meetings of Interest

Feb 7-12: Southern Division of the American Fisheries Society (AFS) and Tennessee Chapter of the AFS, Memphis, TN. See: www.sdafs.org/meetings/2006.

Feb 18-23: Sixth International Symposium on Ecohydraulics, Christchurch, New Zealand. See: www.conference.co.nz/echohydraulics2007. Contact: Rachel Cook, rachel@conference.co.nz.

Mar 9-11: 27th Annual Midwest Ecology and Evolution Conference, Kent State University, Kent, OH. See: www.midwesteec.org. Contact: Jennifer Clark, mec2007@hotmail.com.

Mar. 20: Special Workshop: Communicating Effectively About Aquatic Nuisance Species, 72nd North American Wildlife and Natural Resources Conference (Mar. 20-24), Pavilion East, Hilton Portland, Portland, OR

Apr. 22-27: 2nd National Conference on Ecosystem Restoration (NCER), Hyatt Regency Crown Center, Kansas City, MO. See: <http://conference.ifas.ufl.edu/NCER2007> or contact: David A. Vigh,

Conference Chair, (601) 634-5854, David.A.Vigh@mvd02.usace.army.mil

May 15-16: New Strategies for Urban Natural Resources: Integrating Wildlife, Fisheries, Forestry, and Planning Conference, Lombard, IL. See www.informalearning.com/Wildlife.

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

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, Mike.Colvin@mdc.co.gov.

Jul 11-16: American Society of Ichthyologists and Herpetologists Annual Conference, St. Louis, MO.

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

Aug 22-27, 2007: 2nd National Conference on Ecosystem Restoration, Hyatt Regency Crown Center, Kansas City, MO. See: <http://conference.ifas.ufl.edu/NCER2007/>

Sep 2-6, 2007: American Fisheries Society, 137th Annual Meeting, San Francisco, CA. Contact: Betsy Fritz, bfritz@fisheries.org, (301) 897-8616, ext. 212

Sep 16-19, 2007: International Symposium: WILD TROUT IX, West Yellowstone, MT. See: www.wildtrout-symposium.com/. Contact: Dirk Miller, Dirk.Miller@wgf.state.wy.us, (307) 777-4556

Oct 5-9, 2008: Pathways to Success 2008 Conference: Integrating Human Dimensions into Fisheries and Wildlife, Estes Park, Park, CO. See www.warnercnr.

Congressional Action Pertinent to the Mississippi River Basin

See you next Congress.



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