River Crossings

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National Fisheries Habitat Initiative

On Tuesday, December 9th the *Sport Fishing and Boating Partnership Council* (SFBPC), the U.S. Fish and Wildlife Service, the *Mississippi Interstate Cooperative Resource Association* (MICRA), and the *International Association of Fish and Wildlife Agencies* kicked off a major national fisheries habitat restoration initiative at a meeting held in Kansas City, MO. The meeting, attended by more than 50 resource professionals and stakeholders, was held at the *Westin Crown Center* in conjunction with the Midwest Fish and Wildlife Conference. It marked the first in a series of 6-8 such meetings to be completed by next Spring.

The purpose of these meetings is to form the necessary partnerships to begin what will become known as the *National Fisheries Habitat Initiative.* The concept of a *National Fisheries Habitat Initiative* being explored by the SFBPC, an advisory group to the U.S. Department of the Interior, and its partners is a new approach for aquatic habitat restoration. If successful it will ultimately involve federal, state, local and private partners in joint ventures all across the Nation which address fisheries habitat needs ranging from small streams and lakes to large rivers and reservoirs, including the Great Lakes.

Serving on the SFBPC are State wildlife and natural resource directors and leaders in conservation, tourism, academia, fishing and boating industries, and recreational groups. These leaders care about the unrelenting decline in aquatic habitats and are looking for a large-scale, long-term, solution that is locally driven and regionally responsive and that has tangible benefits for fisheries and aquatic resources.

Lisbon Bottoms side channel, a Missouri River habitat restoration project created with the help of the 1993 flood and enhanced through joint interagency cooperation.

Through the planned meetings the SFBPC and its partners such as MICRA will gather additional input from resource professionals and stakeholders and use this input to articulate the value of a *National Fisheries Habitat Initiative,* describe how new or existing partnerships can address habitat issues at both the national and local levels, and chart the future of fisheries habitat restoration and enhancement efforts in the U.S.

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Biologists Replaced — The Missouri River Saga Continues

Four national conservation groups (*American Rivers, Environmental Defense, Izaak Walton League of America, National Wildlife Federation*) and six state conservation groups (*Montana Wildlife Federation, North Dakota Wildlife Federation, South Dakota Wildlife Federation, Nebraska Wildlife Federation, Iowa Wildlife Federation and Kansas Wildlife Federation*) warned the Bush

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Administration on November 5th that it is preparing to sacrifice scientific integrity for political expediency in the management of Missouri River flows.

The groups were responding to an October 29 memo from Assistant Interior Secretary Craig Manson to the U.S. Fish and Wildlife Service (FWS), removing the agency's Missouri River experts from the job of producing a new "biological opinion" being developed on measures needed to prevent the extinction of three Missouri River species, one fish (pallid sturgeon) and two birds (piping plover and least tern).

The new group of biologists assigned to take over was described by Jeff Fleming, Interior Department spokesman, as a "SWAT team", a group of scientists experienced in making high-profile decisions. The former team of biologists (mostly stationed on the Missouri River in Bismarck, ND and Columbia, MO) had many years of Missouri River experience and was within weeks of producing what could have been its final report.

Environmental advocates and a former FWS official charged that removing them from the project was a thinly veiled political effort by the White House to silence elements in the government demanding environmentally friendly changes in the management of river flows. "It stinks," said Allyn Sapa, who retired in 2001 as supervisor of the FWS's Bismarck office. "Everything points to the need to make changes or we're going to run this river into the ground. But politically, that doesn't fit the way this administration wants to go."

The new "SWAT team" will be led by Dale Hall, who runs the FWS southwest regional office in Albuquerque, NM and Robyn Thorson, who runs the FWS Great Lakes office in the Twin Cities, MN. Hall, a biologist, has worked on some of the nation's most contentious endangered species cases, including the northern spotted owl, fish in the Klamath River basin in Oregon and California, and the silvery minnow in the Rio Grande River. Thorson is a lawyer and formerly worked on public and congressional affairs for the FWS. Fleming said the new team would be capable and would base its decision on science, not politics.

"There is no justifiable reason for replacing a dozen experts with a decade of experience with a completely new bunch, particularly when distinguished outside scientists have repeatedly said the existing team is getting it right," said Tim Searchinger, attorney for *Environmental Defense*. Chad Smith, Director of the Midwestern field office of the advocacy group *American Rivers*, said conservationists were shocked that biologists who have studied the river for as long as 15 years were being removed at a critical stage in the process. "Suddenly, at the last minute, they're bringing in people who know nothing about the Missouri to write a biological opinion in 45 days about one of the most complex river systems in the nation. Give me a break. It will be nothing but a purely political document," he said.

Conservation groups said further that the move was made to protect business interests at the expense of the Endangered Species Act (ESA). "It appears to us that political appointees at the Interior Department are putting tremendous pressure on federal scientists to reach politically expedient conclusions, regardless of their scientific validity," Smith said. "The subtext of this order is 'since you won't give us the answer we want, we'll ask someone else.'"

"This action signals that the Bush Administration intends to base management of the Missouri on politics rather than on sound science," said John Kostyack, senior species conservation counsel for the *National Wildlife Federation*. "If politics do win out over science, we stand ready to defend the health of the Missouri River in court", he said. The conservation groups further pointed out that:

- senior Bush Administration officials have stated over the last couple of months that they vehemently oppose any (Missouri River) flow changes, and
- the administration has prohibited FWS scientists from obtaining an independent peer review prior to releasing a new opinion.

Conservationists therefore expect that the forthcoming new opinion will omit any call

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for restoring the Missouri River ecosystem with reforms in dam operations and will instead endorse the use of various mechanical and technical "band aids" that have been discredited in reputable scientific circles.

The FWS said, however, that critics are jumping to conclusions. "Obviously, that's prejudging what's going to happen here, and there has been no prejudgment of what's going to happen here," said Hugh Vickery, spokesman for the Interior Department, which includes the FWS. "The bottom line is, this will go where the science leads. There is no predetermination." "We don't think there's anything wrong with the timing at all." "This is a management decision about how to deal with this particular expedited time frame on a highly complex issue", Vickery said.

Another government official who requested anonymity said the Interior Department also was concerned about ill will built up between the FWS and the Corps of Engineers (Corps). "I think they really believed that somebody needed to come in and take a fresh look at this and set aside the history of animosity between the two agencies. There's just a lot of bad feelings," the official said.

Another factor apparently involved in the decision is that the biologists being replaced had aggravated Sen. Christopher "Kit" Bond, R/MO, and other Missourians by insisting that flow changes were needed to rescue the species. "This administration is obviously trying to protect the sturgeon without flooding communities, reducing electric power production or reducing transportation opportunities for our citizens," Bond said. "We should all be hopeful that the agencies can meet that mandate." Chris Brescia, president of *MARC 2000*, a river industry trade association in St. Louis, argued that the biologists hadn't proved that the flow changes were needed. "I don't know who they're being replaced with, but I do know that their intransigence has been a stumbling block to finding solutions," he said. Corps spokesman Paul Johnston said, "I can't imagine that the FWS would put together a new team that wouldn't live up to its regulatory responsibilities."

Meanwhile, Democratic lawmakers from three upper Missouri River states (Sens. Tom Daschle and Tim Johnson of South Dakota; Sens. Kent Conrad and Byron Dorgan of North Dakota; Sen. Max Baucus of Montana; and Rep. Earl Pomeroy of North Dakota) have called on the Interior Department inspector general to investigate the decision to replace the biologists. "That decision does not make very much sense on its face," said Daschle spokesman Dan Pfeiffer. "It seems, on the surface, to be motivated more by politics."

The FWS and the Corps have been in formal talks under the ESA since 1989 seeking ways to avoid operating the Missouri River without further harming the three endangered species. Twice, the FWS has concluded that the Corps is violating the law by the way in which the Missouri River dams are operated. In 2000, the FWS issued the current biological opinion, requiring modest efforts to restore some of the river's natural flow patterns. That opinion was reviewed and endorsed by the *National Academy of Sciences*, and a federal judge ruled this summer that it was legally binding. So for three days last August, the Corps lowered flows on portions of the Missouri from 25,000 cubic feet per second (cfs) to 21,000 cfs in order to allow the two endangered birds to nest on exposed sand bars.

But now the Corps' has prepared a new biological assessment (released in mid November) claiming that the government is unsure how hydrodam operations, including artificially high flows in the summer, affect the three endangered species. This new Assessment marks the first step in yet another round of consultation between the Corps and the FWS. Once the new FWS SWAT team reviews the Corps' assessment, it will issue yet another biological opinion either supporting or refuting the Corps' findings.

Although the Corps' biological assessment cites a number of fish studies, it claims a number of uncertainties including the unknown relationship "of water temperature and flow to pallid sturgeon spawning." The assessment also calls for a "robust research, monitoring and evaluation program that examines the multiple factors that may be limiting pallid sturgeon spawning." Consequently, the Corps claims that the alternative flow levels in the 2000 FWS biological opinion "are not reasonable and prudent."

The Corps new assessment also concludes that more than 98% of the least tern and piping plover habitat is located at two lakes in the upper reaches of the river basin — Lake Sakakawea in North Dakota and Lake Oahe in South Dakota. The Corps' proposed solution to protect these birds is to ensure that its lake habitat includes sparsely vegetated sandbars and shorelines, peninsulas and islands composed of sand, gravel or shale.

"Assuming receipt of a favorable biological opinion from the FWS, the Corps will be able to proceed with development of a final environmental impact statement and a new master manual to govern operation of the river system," said Brig. Gen. William Grisoli, the chief of the Corps' Northwest district office. However, Chad Smith, *American Rivers*, blasted the Corps' assessment calling it "...old news and... dead on arrival. It contradicts basic river science, fails to include the biological steps necessary to improve the river's health and is simply a business-as-usual poke in the eye from the Corps". Restoring the habitat without changing the river's flow regime will be wasted work because sand bars and manmade islands will be washed away, Smith said. If the FWS agrees with the Corps' latest biological assessment, *American Rivers* will take the administration back to court to enforce the 2000 document, he said.

Meanwhile, at a September 24 meeting with officials from seven Missouri River states the Corps informed stakeholders that it does not intend to lower river flows next year to accommodate the three endangered species. This decision appears to violate the July 2003 U.S. District Court decision which ordered lower flows for one month during the summer, and *American Rivers'* Smith, who attended the meeting, told the Corps "he'd see them in court." "The Corps is trying to pretend that the patient can recover even though her heart has stopped beating," Smith said, "The science is clear: this river needs CPR."

It would appear that the Interior Department has placed their new SWAT team in the unenviable "no win situation" of either

committing political suicide with the Bush Administration and their friends, or professional suicide with their own peers and constituents!

"This is a water war," said Lynn Muench of *American Waterways Operators*, a barge industry trade group. "Missouri wants every drop of water to go by St. Louis when they want it to," said Chad Smith of the environmental group *American Rivers*. "They need to understand it's the 'Missouri River,' not 'Missouri's River.'"

A half century ago, there were hopes that the Missouri River could become a vital link in the inland water system. The Corps built six major dams to provide the consistent water levels needed to float barges, but the river has never lived up to expectations. Commercial tonnage, once projected to reach 8 million a year, topped out at 3 million tons in 1977. Today, it's less than 1.5 million tons, most moving between St. Louis and Kansas City by only one or two towing companies. With stronger currents and a shallow draft that allows only six to eight barges per tow compared to 25 barges per tow on the Mississippi, the Missouri isn't as economical to run. Most of the grain exported from Nebraska and western Iowa now travels by train to ports in the Pacific, with ever-increasing amounts consumed locally by ethanol plants and cattle.

Additionally, the Corps expects that unless runoff from snow and rain is above normal next year, the eight-month barge season will be shortened by more than a month and only minimum navigation flows will be provided. But unless drought conditions are exceptionally bad next year, water levels on the upstream reservoirs will be kept steady or allowed to rise during the spring fish spawning season. That would help production of sport fish and the bait fish that they depend on for food, Corps officials said.

Perhaps the biggest card Missouri holds is that the Corps' Missouri River operating plan gives that State virtually everything it wants. So gridlock in the river debate is Missouri's friend. "There is nothing in this process that benefits Missouri," said Randy Asbury, director of the Missouri coalition fighting Missouri River change. "We're just trying to cut our losses."

And so, the beat goes on.....

Sources: *American Rivers, Environmental Defense, Izaak Walton League of America, National Wildlife Federation, Montana Wildlife Federation, North Dakota Wildlife Federation, South Dakota Wildlife Federation, Nebraska Wildlife Federation, Iowa Wildlife Federation and Kansas Wildlife Federation News Release*, 11/5/03 and 11/17/03; Libby Quaid, *Associated Press* and *The Billings Gazette*, 11/6 and 11/9/03; Bill Lambrecht, *St. Louis Post-Dispatch*, 11/05/03; *The Bismarck Tribune*, 11/12/03; Kelly Wiese, *Associated Press* and *Yankton Daily Press and Dakotan*, 11/12/03; *Greenwire*, 11/12 and 11/18/03, Marty Coyne**,** *Greenwire*, 10/3/03; Henry J. Cordes, *Omaha World-Herald*, 9/28/03

Tribal Water Claims Complicate Missouri River Issues

Tribal officials, along with senators Tom Daschle (D/SD) and Kent Conrad (D/ND), at a recent Indian Affairs Committee hearing, lectured U.S. Army Corps of Engineers (Corps) officials over mismanagement of the Missouri River with relation to tribal claims. They reminded Corps officials that American Indians have a stake in the way the Missouri River is managed, and the revision of the Master Manual that controls management, does not place enough emphasis on how the tribes will be involved or how the treaties will work.

"It is fair to say that no group of people in the Missouri River Basin have suffered more than the American Indian tribes," said Conrad, a committee member. The senators described reservoir water levels that have left

- boat marinas one-half mile from the water's edge,
- corn and grain fields burned by drought because there was no access to river water for irrigation, and
- cultural and historic sites that have been destroyed by erosion or exposed to looters.

Lake Oahe, the reservoir created from Oahe dam, one of the seven Missouri River dams that were created by the Pick-Sloan Act of the 1950s used to be located in both North and South Dakota. But because of water drawdown to support downstream barge traffic, "Lake Oahe is no longer in North Dakota," Sen. Conrad said. Also, "Lake Sakakawea is now 19 feet below normal and is on track to surpass its all-time low. I have just been notified that water storage in the reservoirs has reached the lowest levels since they were built," Conrad said. The town of Parshall, on the Fort Berthold Reservation in North Dakota is forced to seek a new water source. The intake piping set in Lake Sakakawea is no longer underwater.

"Corps management is nothing short of abysmal. I don't know that anyone has felt the brunt of that mismanagement more dramatically than the reservations that border the river," said Daschle, Senate Minority Leader and witness at the hearing. "I would argue that no one within the country has sacrificed more on the Missouri River than the Indian tribes. Sacrificed in terms of sacred sites, sacrificed in terms of the economic loss, and sacrificed in terms of cultural repercussions when we built the dams. And, the acknowledgment of that sacrifice has yet to be made in full," Daschle said.

The draft version of the revised Master Manual (the document governing river operations) includes only a half page devoted to tribal issues. However, Brig. Gen. William Grisoli, Commander of the Corps' Northwestern Division said there is more information relating to Indian treaties and issues located in the Master Manual Appendix. But a sticking point with the senators and tribal leaders who testified is the fact that quantification of water rights is extremely important to the Master Manual, and yet only three tribes have quantified those rights. Many are withholding their quantification until the Corps recognizes treaty obligations within the Master Manual.

"We have a legacy with our treaties. We claim water rights to the river," said John Yellow Bird Steele, president of the Oglala Sioux Tribe on the Pine Ridge Reservation. "We have had the water rights since time immemorial." The Pine Ridge Reservation does not have shoreline on the Missouri, but treaties locate Indian land on the river. Steele told Corps officials and committee members that he would be willing to sit down with the Corps and discuss water

quantification if the Corps would recognize the treaty trust obligation within the Master Manual. He said:

- "Indian claims may exceed more than half the flow (of the river)";
- "Quantified water rights may adversely impact the tribes"; and
- "Forty to 52 million acre feet for navigation could come from the tribes."

Tribal water rights were confirmed in 1908 by the U.S. Supreme Court in what is now referred to as the *Winter's Doctrine*. Quantification of water was written in the court case *Arizona vs. California*, where it was determined that irrigable land acreage would determine the amount of water a tribe should be awarded. Deputy Secretary of the Army for civil works, George Dunlop said the Corps has an obligation to execute all laws, such as the treaties, wildlife and endangered species acts and other congressional mandates, which creates "an impossible task."

Gen. Grisoli said that treaties did not define water rights, they were only implied and that the nature of water rights varies with each reservation. "We have a trust responsibility to the tribes and we take it seriously," he said. Twenty-five million acre feet on average flow through the upper basin of the Missouri River. The tribes, should they all quantify their water rights could take nearly half of that flow. Grisoli and Dunlop said that water flow is determined on a yearly basis. "If the water is quantified to depletion it will drain the reservoirs. We have to look at how much water we have in the system. We have to because we have to comply with all federal laws and regulations", Grizoli said. If the tribes laid claim to half the water, the Corps would have to change the way it managed the river, Gen. Grizoli said.

"The way the (Master) Manual is being written, to look at lower river users, it would render us secondary and by law we are senior and superior," Steele said. "The Corps is directly responsible for the destruction of cultural sites, which is a heartfelt issue. There is no greater injury to our people than the destruction of human remains," Steele said, "and there is no more immediate threat to the water rights and treaty rights of the Oglala Sioux than the Army Corps of Engineers."

At issue are the Oglala and 29 other tribes in the Missouri River Basin — including 13 tribes that depend directly on the river's water and resources. However, the plan includes congressional guarantees of river resources for only four tribes, leaving 26 established Indian communities at the whims of Corps decisions on water flows. Failure of the Corps to recognize water rights of all of the tribes reflects a belief by some that the manual "has become a tool to lock in existing non-Indian water uses, such as downstream navigation and fish and wildlife, to the detriment of water uses on the Pine Ridge and other Sioux reservations," according to Steele.

In defending the Corps manual, Dunlop said the Corps is not required to "define [or] regulate water rights or other rights the tribes are entitled to by law or treaty," adding that in the future the Corps plans to recognize water supply claims only from tribes located on the river's mainstream reservoir system. Moreover, tribal water rights may be quantified in only three ways: "through adjudication, a congressionally ratified state compact, or by direct congressional action."

After the hearing, Peter Caposella, a lawyer representing Missouri River tribes, likened the Corps position to the government telling a homeowner he has no rights to his house even though he holds the deed and has been "living there for 20 years." While Steele called on lawmakers to force the Corps to change its draft manual to account for all Missouri River tribal water rights, it is unclear whether the panel will do so.

David Melmer, *Indian Country Today*, 10/28/03 and 10/29/03; and Marty Coyne, *Greenwire*, 10/17/03

Political Meddling in Fish and Wildlife Matters

Environmental groups are concerned that the White House is on a mission to gradually dismantle the U.S. Fish and Wildlife Service's (FWS) role as the federal government's chief designator, manager and protector of imperiled plants and animals. They say that this is being done through (1) administrative decisions, (2) the budget process, and (3) the courts.

The most recent example of such an administrative action occurred in November on the Missouri River when the Interior Department replaced a team of experienced Missouri River biologists with a new team of biologists to complete a controversial report on Missouri River management. The newly assigned biologists were put under pressure or intimidation to modify or change the recommendations of their more experienced peers in order for the government to produce a more politically acceptable document (See previous story).

Another example occurred in September when the Portland *Oregonian* reported that the FWS will hire for the first time a private firm to complete a status review for the threatened northern spotted owl and marbled murrelet to determine whether the animals still warrant protection under the Endangered Species Act (ESA). Traditionally that responsibility would have fallen to internal FWS biologists. Environmentalists also have expressed concern over whether timber interests will help FWS choose the firm, since a timber industry lawsuit against the FWS is what spurred the status reviews in the first place.

That decision followed a controversial proposal last July to remove FWS biologists from environmental reviews of forest thinning projects on public lands, instead passing along that authority to land management agencies like the Forest Service, Bureau of Land Management and National Park Service, agencies, environmentalists say, that are less mindful of species protection. And last January, the administration suggested giving the USEPA the same kind of decision-making authority over whether certain pesticides pose threats to wildlife or endangered species.

Environmentalists say that each decision represents an emasculation of the FWS and its biologists. "It's the Texas Chainsaw Massacre all over again," said Kieran Suckling, executive director of the *Center for Biological Diversity*. "The Bush Administration is lopping off the Fish and Wildlife Service's arms and legs, reducing it to a powerless heap."

But Joan Jewett, a spokeswoman for the FWS, disagreed. Regarding the owl and murrelet in the Pacific Northwest, Jewett said the private contractors will actually help FWS biologists by reducing the agency's workload. The Northwest regional office would need to devote 12 biologists to work on the reviews full time to get them done by the December deadline, Jewett said. Furthermore, the private firm, which has yet to be chosen, will not make decisions about owl or murrelet protection, Jewett said. The firm will gather, review, analyze and summarize the information in a report to FWS. Then agency biologists will review the report and decide whether to delist or

upgrade either species from threatened to endangered, Jewett said. "I don't think it undermines either our biologists' or our agency's ability to do its work and carry out its mission," Jewett said. "If anything, I think it improves it."

However, environmentalists counter that the need for such consultants wouldn't exist if the agency were properly funded. Congress and the White House have consistently underfunded the agency's endangered species program, whose work backlog is estimated at more than $100 million. The program's 2003 budget is roughly $12 million — just enough to cover myriad court orders forcing the agency to list new species or designate critical habitat, according to the 2003 budget request documents

With regard to court actions, attorneys with the Justice Department recently argued in a case pitting FWS against the U.S. Army Corps of Engineers (Corps) that FWS cannot force another federal agency into consultation over a federal action that may affect an endangered or threatened species. That case stems from a Corps project in Arizona that would allow several developments in designated habitat for the endangered pygmy owl. FWS had requested a consultation, but plaintiffs say the Corps refused, a move the Justice Department defended, saying it is up to the Corps — not FWS — to decide whether ESA consultation is necessary.

John Kober of the *National Wildlife Federation* drew another parallel, saying the administration's push to delist Oregon coastal coho salmon and pass management and protection responsibilities to the state basically trades federal authority for state-level protection. "It's abrogating the responsibility of the agency mandated to do that task and shifting it to a different entity," Kober said. Also the administration's move to ask a private firm to review owl and murrelet status in the Northwest, "fits the pattern" of the administration's chipping away at the ESA, agreed Doug Heiken of the *Oregon National Resources Council.*

Robert Dewey of *Defenders of Wildlife* said passing FWS responsibility on to other federal agencies or outside contractors is not the intent of the ESA. "This ... seems to be part and parcel of a trend by the administration to reduce the traditional role of the Fish and Wildlife Service."

Natalie M. Henry**,** *Greenwire*, 9/15/03

Barge Traffic Down Again in 2003

Barge tonnage hauled on America's waterways continued a decade-long period of decline and stagnation, according to the latest U.S. Army Corps of Engineers (Corps) figures released by Public Employees for Environmental Responsibility (PEER). Monthly tonnage indicators began the current downward trend in the summer of 2000. This trend comes on the heels of a leveling off of the demand for barge transportation throughout the decade of the 1990s.

Additionally, the nation's largest barge company, *Ingram Marine Group* (IMG):

- predicts continued slow growth,
- sees room for major industry efficiencies derived from scheduling barges and
- admits that the river infrastructure now in place generally exceeds traffic needs.

Craig E. Philip, IMG President and CEO, laid out that less than expansive future for his industry in a presentation to other transportation industry professionals at a meeting in late September. He pointed out that bankruptcies and mergers have transformed the barge industry in the past year. Philip remarked further that additional consolidation and efficiencies are needed to preserve industry profitability due to:

- *Stagnating Demand* - "Tonnage increased 10% over the last decade; slow growth is forecast to continue."
- *Excess Capacity* - "…generally capacity exceeds demand"; and
- *Inefficiency* - better "logistics management" through scheduling of barges and better use of existing communications to achieve "real time tracking" can yield significant industry cost savings.

IMG's largest competitor, *American Commercial Lines*, (ACL) echoed these views in a presentation to *Marine Money Week*, stating, "industry fleet level has peaked and is projected to decline." ACL is now attempting to reorganize out of a bankruptcy caused by "a decline in barging rates, reduced shipping volumes and excess barging capacity" according to a recent filing with the Securities and Exchange Commission.

These latest Corps figures, combined with the barge industry's bankruptcies and consolidations, undercut the need to undertake the Corps' proposed massive new expansion of the Upper Mississippi River and Illinois Waterway lock system, where traffic is also well below Corps' forecasts. Top Bush Administration officials are now reviewing that controversial multi-billion dollar plan, with a decision expected in the next few weeks.

"The only way the Corps can justify this boondoggle is by deliberately ignoring economic realities," stated PEER Executive Director Jeff Ruch. PEER represents the Corps economists who revealed that the agency had "cooked the books" in a previous study, and PEER has filed a challenge against the current Corps study for relying on bad economic models. "We schedule planes, trains and buses but not barges because the Corps has no fiscal incentive to promote efficient transportation but has every fiscal incentive to pour tons more concrete into our rivers."

These new Corps and industry figures also undercut the need to sacrifice Missouri River endangered species at the expense of a Missouri River navigation project that only supports a "handfull" of barge activity under the best of conditions.

Source: *Public Employees for Environmental Responsibility Press Release*, 11/26/03

Senate Blasts Corps' Spending on Water Projects

The Senate's 2004 energy and water spending bill passed in September requires the U.S. Army Corps of Engineers (Corps) to report to Congress on how it intends to reign in spending on water construction projects. At issue in the legislation is the Corps' "reprogramming" of money from water construction projects. The term means that the agency shifts money from projects that are behind schedule to projects that are on time or ahead of schedule.

The leadership of the Senate Energy and Water Development Appropriations Subcommittee is concerned that this practice is taking place without required input from Congress. Consequently, report language accompanying the bill, which passed 92-0, gives the Corps three months to develop a plan to address the problem and submit a report to Congress. "The committee is very concerned that this practice has led to a situation where the Corps, despite congressional intent expressed in the appropriations act, makes the decision on where to put its scarce resources to the best use," the report language reads. "Though the

committee understands that the [practice] yields project benefits and cost savings when a project is completed ahead of schedule or on time ... the committee is not in favor of projects proceeding at a faster rate than Congress intended without its concurrence."

Should the Corps not reign in its expenditures to reflect the congressional intent, the committee will seek to retract the Corps reprogramming authority," report language said. Such reprogramming is common for most federal agencies, and makes sense if the bureaucrats in charge use professional integrity and honesty in doing so. Sometimes, however, certain "pet" projects (e.g. navigation) receive reprogrammed funds at the expense of less favorable projects (e.g. environmental management), and that is undoubtedly what is, in part, at the bottom of this issue.

Source: Marty Coyne, *Environment & Energy Daily*, 9/18/03

Restoring the Mississippi River Delta

In late October the dredge *California* slashed through the west bank of the Mississippi River south of Venice (Louisiana) into West Bay creating the largest diversion of river water to date. The West Bay diversion is designed to grow almost 10,000 acres of new wetlands in the bay over the next 20 years. That area has been starved of sediment because most of the river's sediment-laden, nutrient rich water travels directly down the Southwest Pass shipping channel into the deep Gulf of Mexico.

The West Bay diversion is part of a major effort to restore Louisiana's coastal wetlands and in the process address the problem of hypoxia in the Gulf of Mexico. Nutrient laden Mississippi River waters reaching the Gulf stimulate large algal growths which create hypoxic (oxygen deprived) conditions in the Gulf when algal dieoffs occur. Water diverted into the newly created marshes will be stabilized and have the nutrients removed before they can reach the Gulf.

The new channel will allow 20,000 cubic feet per second (cfs) of water to pour into West Bay. At that rate, the water would fill the Superdome every 107 minutes. The plan is to increase the volume to 50,000 cfs, which would ultimately build 10,000 acres. The giant dredge was being used to cut a 25-foot-deep channel through the river bank and then a smaller dredge was used to extend the channel about 100 feet into the bay, which is now 2-3 feet deep.

The entire Louisiana Coastal Area Restoration Plan (LACARP) is projected to cost between $4.7 and $11.4 billion. As the first large-scale sediment diversion, the West Bay project is a learning experience on a grand scale. Major Jason Kirk, acting deputy chief of the New Orleans District of the U.S. Army, Corps of Engineers (Corps), said it's an opportunity for the Corps to learn more about the environment and the project's impact.

West Bay also will be closely monitored by the Louisiana Department of Natural Resources LADNR, which will measure the amount of land built, changes in the channel and vegetation that takes root. Not only will the information be useful in deciding the details of the second phase of the project, it will also be helpful with other diversion projects, Kirk said. "It's one of the few projects where we have an opportunity to really see how a sediment diversion will work over a long period of time," said Randy Hanchey, assistant secretary of the LADNR. Federal, state and local officials have created a number of smaller breeches in the banks of the Mississippi near its mouth in attempts to allow sediment out of the river to build land in shallow bays, Hanchey said But, after a few years, the man-made crevasses heal themselves and have to be reopened, or new ones built in different locations, Hanchey said.

The West Bay diversion, however, will use about 10% of the river's flow, so much water that officials hope it will keep the channel open for years. The size of the release was also one of the issues that has delayed construction of the project for about 10 years. Shipping interests insisted that the $22.3 million project include plans for an emergency closure in case the Mississippi decides to abandon Southwest Pass in favor of West Bay. There's also enough money in the plan's budget to dredge three boat anchorage areas in the river near Pilottown, in case the lower water level caused by the diversion promotes silting.

The West Bay project is an example of the limitations of the federal *Coastal Wetlands Planning, Preservation and Restoration Act*, also known as the Breaux Act, said Mark Davis, executive director of the *Coalition to Restore Coastal Louisiana*. "We're not going to be able to get projects much bigger than this from the Breaux Act," which provides only $50 million a year in federal and state matching funds, Davis said. And yet, this project has the potential of building more new land than all other Breaux Act projects combined, Davis said. By showing the "limits of the current toolbox," he said, West Bay also can be used as a tool to convince the public and Congress of the benefits of approving larger projects. Congress will be asked to approve the LACARP, which includes several sediment diversions of the same size or larger, sometime next summer.

The West Bay diversion differs from the Caernarvon and Davis Pond freshwater diversion projects upriver, both because the cut in the bank of the Mississippi River will be deep enough to capture greater amounts of sediment carried lower in the water, and because the diversion is not mechanically controlled. The Caernarvon and Davis Pond diversions, planned in the 1970s and 1980s before the federal-state effort was under way to rebuild the state's coast, were designed to deliver fresh water on the east and west sides of the river to increase harvests of oysters by moving the area of brackish water in which oysters live farther away from sources of pollution. There are no oyster leases in the West Bay area, one of the conditions that made it a prime location for a diversion, Corps project manager Gregory Miller said. Oyster leaseholders affected by Caernarvon's flow have successfully sued the state for damages totaling more than $2 billion, and the state had to sign financial agreements with leaseholders in the path of Davis Pond to avoid similar lawsuits. Because West Bay is so close to the mouth of the Mississippi, the water is not suitable for oysters.

Officials hope that at least some of the sediment moved into West Bay will continue westward and end up nourishing the beaches of Grand Terre island and Grand Isle, said Marnie Winter, director of the Jefferson Parish Environmental & Development Control Department. The project is designed to mimic the river's natural land-building processes by allowing water and sediment to flow uncontrolled into the shallow bay area, Miller said. Using a principal discovered by the ancient Egyptians on the Nile, however, scientists designed the channel to flow northwest at a 120-degree angle from the river. Based on its depth and design, the channel will actually suction water and heavy sediment from the river, Miller said. A computer model verified the technique and

anticipated results. "It's going to be real nice to see what the river can do rebuilding land," he said. "It is as natural as you can get."

One of the most powerful hydraulic dredges in the country is being used, officials said. The *California* has a 6-foot-wide cutter head that weighs 325 tons. It has excavated a daily average of 33,000 cubic yards of material since the work began, Miller said. When finished, the channel will measure 195 feet wide across the bottom and 440 feet wide across the top. If successful, officials plan a second phase that calls for deepening the channel to 45 feet after two years, to allowing entry of 50,000 cubic feet of sediment-rich water into the bay.

Sources: Sandra Barbier and Mark Schleifstein, *New Orleans Times Picayune*, 10/21/03

Asian Carp Impact Accidents – Signs of Things to Come

Midwestern rivers have been invaded by Asian carp that can reach up to 90 lbs. in weight and jump up to 10 feet out of the water (See past issues of *River Crossings* for details). Currently, it is not uncommon to encounter Asian carp in the 20-40 lb. range in the St. Louis area, and it was just a matter of time until serious human impact injuries began to occur.

People now have to:

- think twice about taking a spin in their personal watercraft;
- avoid fishing by themselves at night;
- watch their speed as they head along the river; and
- construct barriers, or carp guards, on their boats, all to avoid injury from silver carp.

"I've had at least 50 of 'em land in my boat," said Gary Hoskins of rural Nelson, MO. Hoskins had a 30-pound silver carp shoot out of the river and strike him on the right side of his face, before it fell to the boat floor. The blow knocked a molar from his mouth and the fish's fin sliced his arm. Vivian Nichols from Hartburg, MO had a similar encounter. She and her husband, Edwin, were circling their boat through the quiet waters behind a wing dike, when a silver carp leaped from the river and whacked her on the nose, breaking it.

Mike Rea, of O'Fallon, MO was struck in the chest and knocked in the river by a silver carp while using a canoe to get to a hunting spot. "Somebody is going to probably die from being hit by these things," Rea said. "I'm almost positive."

Then in October on the Illinois River a Peoria, IL woman riding on a personal watercraft nearly became the first Asian carp related death. Marcy Poplett, 35, was hit in the face by a soaring carp that broke her bones and left her floundering bloody and unconscious in the river. "I was fish-faced," says Poplett, whose good fortune in the mishap allows her an occasional nervous titter. "... Thank God I had a life vest on."

Until recently around Peoria, the carp had been a nuisance but not a threat. They often dive into pontoon boats, their thin skin exploding and blood splattering. Local anglers in flat bottomed boats have even taken to arming themselves with garbage-can lids to slam the sailing carp back into the water.

Actual photo of jumping silver carp nearly hitting a boat operator. Photo courtesy of St. Louis District, Corps of Engineers.

Marcy Poplett had her first carp encounter in September as her family water-skied. Husband Joe saw a carp zoom right past his eyeballs. "Get me the hell out of here!" he yelled, abandoning his skis and heading for the safety of their boat.

Then on an early October afternoon Poplett had gone to the riverside home of her mother to help pull in a retractable dock for the winter. But she decided to take advantage of the nice weather and take her mother's personal watercraft for a final spin. About 1 p.m., she slipped on a wet suit and life jacket, fired up the watercraft and zipped downriver to observe the leaves. She saw no other craft on the water except for one passing boat with which she exchanged waves as she neared a spot with a breathtaking cluster of trees. She let the motor idle, floating at perhaps 3 mph.

Then she heard a splash and saw a flash. SLAP! — carp right between the eyes. "All of a sudden, it flew up and smacked me in the face," Poplett says. "Then I saw black." Knocked out, she fell into the water and awoke face-down, gurgling in the brown water. She was not in the channel, so she could touch her feet to the bottom. Straining to stay conscious, she saw her watercraft floating away in the current. She tried to move toward the craft, which carried a cell phone. But her feet sank into the mud and she could hardly move, in part because her left leg felt pained and numb.

She passed out again, falling backward. When she came to, she couldn't see — blood had pooled in her eyes. She heard an approaching barge blast five bells, the warning to move out of the way. With her hands, Poplett tried to wipe the blood from her eyes. Spotting the boat that had passed by earlier, she waved her arms but fell unconscious again.

Luckily, the boaters she had waved to earlier had spied the unoccupied watercraft and veered over to look for the rider. They glimpsed the bobbing Poplett, motored over to pull her out and called 911. The East Peoria Fire Department sent out its rescue boat and transported her to the shore, where an ambulance took her to a local hospital.

Poplett had suffered a concussion, black eye, broken nose, cracked vertebrae and severely bruised left leg, likely from bouncing off the side of her watercraft. She wonders uncomfortably about what might've happened without the help of the passing boaters.

Poplett's mother, Val Perdue, says that in light of the carp population explosion, she might keep her personal watercraft off the river next summer. "Maybe we'll just go to lakes," she says. Poplett laughs off that notion, making a chuckling vow to return to the river: "We'll take it out." Her mother shakes her head, envisioning a dangerous swarm of Asian carp leaping above the Illinois River next summer. "It's scary," she says. "Wait 'til next year."

Sources: Phil Luciano, *Peoria Journal Star*, 10/21/03; and Dennis Lien, *Pioneer Press* (Boonville, MO), 11/23/03

Record Shovelnose Sturgeon Taken in the Rock River

Ben Schurlock, Davenport, IA caught not only one, but three record breaking shovelnose sturgeon (*Scaphirhynchus platorynchus*) in the Rock River near Erie, IL on November 4. The largest of the three sturgeon weighed in at 8.36 lbs., breaking the Illinois State record (5 lbs. 2 oz.) by more than 3 lbs. and a world record (7 lbs. 5 oz.) by nearly a pound! Schurlock was fishing for channel catfish at the time. "Earlier this year I know we caught and ate, sturgeon bigger than these", said Dan Franz, an Erie fisherman. Dan Sallee, Illinois Department of Natural Resources Regional Supervisor, oversaw the weighins. Sallee said that world record keeping is a bit confusing because they are kept by two different groups, but these fish broke one of those records.

Record shovelnose sturgeon

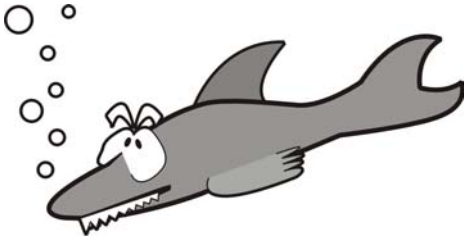
Sallee said further that, "We had two sturgeon fish kills in the Rock River over the last two years and those that are left are going crazy." "My theory", he said, "is that there is little competition for the food that they eat, so the few fish left are growing at an incredible rate."

Source: Bob Groene, *The Dispatch and The Rock Island Argus*, 11/5/03

Texas Fish "Chilling Out" on *Prozac*

Researchers at Baylor University have found traces of an antidepressant in the livers, muscles and brains of bluegills in a Denton County (TX) creek, raising concerns about the welfare of the fish and the people who eat them. The chemical, fluoxetine hydrochloride, is the active ingredient in *Prozac*. It likely came from a city of Denton wastewater treatment plant, which discharges into Pecan Creek and flows into Lewisville Lake.

Traces of the drug that are not absorbed into the body can flow down the toilet and through wastewater treatment plants, which are not designed to filter out pharmaceuticals. Fluoxetine and other antidepressants affect fish in roughly the same ways they affect people, said Bryan Brooks, a Baylor toxicologist who led the study. It



relaxes them. "Maybe it makes you a happy fish and you're kind of hanging out," Brooks said. "But how does that influence your ability to capture prey? Do you instantly become candy for largemouth bass because you're accumulating large amounts of *Prozac* in your system? These are areas where more research is needed."

Brooks presented the results of his study in Austin at the annual meeting of the *Society of Environmental Toxicology and Chemistry*. It's believed to be the first study to determine that antidepressants in the water can accumulate in biological tissue, raising the possibility of long-term health and behavioral problems in fish, said Marsha Black, an aquatic toxicologist at the University of Georgia at Athens. "That's really a significant finding," said Black, who's using a federal grant to study the health effects of fluoxetine and other antidepressants in fish. "This opens up the door and says these things are important."

Eli Lilly and Co., which manufactures *Prozac*, has a material safety data sheet for fluoxetine hydrochloride on the company Web site. Under environmental information, the data sheet states that the chemical is "moderately toxic to fish and highly toxic to invertebrates and green algae" and can be considered persistent in the environment because of its low rate of biodegradation. The data sheet also states that the chemical has low potential to accumulate in aquatic organisms.

Brooks' latest research comes on the heels of recent studies he helped conduct while a graduate student at the University of North Texas. That research indicated that some male fish in Denton County are developing female characteristics because estrogen from prescription drugs is winding up in the water. The estrogen — from birth control pills, hormone replacement therapy and other sources — could reduce the fish population by rendering some males unable to breed. The issue has garnered national attention in the last few years.

In a USGS study last year, 80% of the 139 streams sampled in 30 states, including Texas, contained small amounts of pharmaceutical drugs, hormones, steroids and personal-care products like perfumes. "It's very common," said Herbert Buxton, coordinator of the USGS's Toxic Substances Hydrology Program. "What this tells us is that these wastewater pathways are worthy of a lot more study." Questions raised by Brooks' study included the following:

- Can these pharmaceuticals pollute drinking water supplies?
- What are the health effects of eating fish contaminated with pharmaceuticals?
- If fluoxetine is in the bluegills in Pecan Creek, might it also be in the tissues of other species in other waterways?

Brooks said he has expanded the research to include catfish and black crappie. He said Pecan Creek was chosen as the site of his study because it receives as much as 13 million gallons a day of treated wastewater from Denton's Pecan Creek Water Reclamation Plant. During the dry summer months, the wastewater from the plant comprises all of the creek's water flow, said Kenneth Banks, Denton's water resources programs manager. Brooks said the pharmaceuticals in the creek are coming from the wastewater plant. "I think it's got to be," he said. Pecan Creek drains into Lewisville Lake, which supplies drinking water to the cities of Dallas, Denton and Lewisville. But researchers say it is extremely unlikely that the antidepressant could get into the drinking water supply, in part because the wastewater plant is several miles away from the lake. "After that distance, it's virtually impossible that it would show up in potable water supplies," Banks said.

Federal and state environmental regulators do not regulate pharmaceuticals in water supplies because they have not been proven to harm fish and other aquatic life. But the findings of Brooks and other scientists could change that policy. The USEPA is evaluating the need for formal recommendations for disposing of old drugs to keep them out of the water supply. The Food and Drug Administration is studying similar action. If it can be confirmed that pharmaceuticals are moving untreated through wastewater plants, sewer plant operators could be required to begin

controlling these discharges. That could necessitate the addition of new technology costing millions of dollars and could have a tremendous impact on municipal waste treatment facilities nationwide.

Source: Scott Streater, *Fort Worth Star-Telegram*, 10/17/03

Transgenic Aquarium Fish Hit Markets

Biotech entrepreneurs in late November unveiled plans to market the nation's first genetically engineered pet — a tropical zebra fish, called *Glofish,* that is infused with the gene of a sea anemone which makes it glow fluorescent red — touching off a debate over who should control the release of transgenic animals.

California has already taken a stand on this issue outlawing the import or sale of any genetically altered freshwater fish making sure that such fish don't pose a threat to the environment. Promoters of *GloFish* , however, have urged California to exempt the fluorescent zebra fish and supplied letters from prominent scientists attesting to low risk. But Ed Pert, a California Department of Fish and Game official, said he doesn't see how a transgenic fish aimed at the home aquarium market could meet environmental safeguards. "People get tired of their pets," Pert said, "and when they want to get rid of them, they often don't want to kill them, so they let them go in a local stream or lake."

A consortium of conservation and food-safety groups has sent a letter to the Food and Drug Administration (FDA) , urging immediate intervention. "If FDA somehow fails to regulate the proposal of *Yorktown Technologies* … it will set a precedent for all other [genetically engineered] fish producers and the floodgates will almost literally be opened," wrote Andrew Kimbrell, executive director of the *Center for Food Safety*. Other groups signing the letter included the *Sierra Club*, *Greenpeace* and the *National Environmental Trust*. "It's biological pollution," Kimbrell said, "Even if the *GloFish* was not dangerous, failure to regulate it would set a precedent allowing many other ornamental fish to enter the market unimpeded". "We could see hundreds or thousands of new varieties with a variety of novel genes released into the environment with no regulation at all," he said. "FDA is considering the matter, but right now we don't think we have legal jurisdiction here," a senior agency official said.

Promoters of the trademarked *GloFish* said that zebra fish, with or without the fluorescent gene, are perfectly safe and have been test subjects for decades in biological research labs throughout the U.S. They point out that despite innumerable escapes from breeding pens and labs over the years, zebra fish, accustomed to the balmy waters of their native India and Bangladesh, have never established a wild colony in the nontropical waters of the U.S. And if they glow fluorescent red, escapees would be easier targets for predators and thus even

Glofish™

less likely to survive.
Alan Blake, chief executive officer of *Yorktown Technologies* in Austin, TX. said his company, working with a pair of ornamental fish farms in Florida, holds exclusive U.S. rights to the patented technology developed at the National University of Singapore. They plan to release the pet fish on the market on January 5. Blake, 26, started *Yorktown* with a partner about two and a half years ago, and before that he had started an Internet business that failed.

Zebra fish, which are 1 1/2 inches long and normally light gray with black stripes, are widely used in biomedical laboratories for research in genetics, molecular biology and vertebrate development. Geneticists began splicing the fluorescent genes of jellyfish into zebra fish eggs as genetic markers or to "light up" in the presence of toxins. "These fish were created to help fight environmental pollution," Blake said. "We are simply breeding existing fish." Similar glow-in-the-dark fish, though using a different gene that makes them green instead of red, were developed in Taiwan and have been sold for several months there and in some other Asian countries. Initially, researchers used the green fluorescent protein isolated from a jellyfish to produce green fish, and then altered the proteins to create yellow fish. More recently, they cloned the red fluorescent protein from a sea anemone to create red fish. The idea was to make fish that glow when they encounter certain pollutants, the marine equivalent of a canary in a coal mine. But on the way to creating such bio-sentinels, the Singapore scientists first created fish that glowed all the time, which *Yorktown* licensed.

Fluorescent fish are now sold in Taiwan, Malaysia and Hong Kong, but criticism has arisen in Taiwan, with Singapore, for example, confiscating attempted imports of the fish. The fish were also rejected by the aquarium industry in England over concerns about genetically modified organisms. In the U.S., the *National Academies of Science* raised concerns over the potential of ecological havoc should a highly mobile, fast-breeding transgenic species escape into the wild.

Yorktown Technologies, along with *Segrest Farms* (Gibsonton, FL) and *5-D Tropical* (Plant City, FL), announced that their first release in the U.S. will be the red zebra fish. Other colors will follow. These genetically enhanced fish do not generate their own light, but simply reflect it. Under daylight, they radiate red. Under ultraviolet or black lights, they seem to glow red in the dark. The fish farms are cultivating the fluorescent fish by the thousands, Blake said, and the partners are expecting demand for them to climb into the millions. In talking to FDA officials, Blake said, they "did not say they had any regulations for ornamental fluorescent fish....We also checked with the USEPA, the U.S. Department of Agriculture and U.S. Fish and Wildlife Service. None of them has any regulatory concerns with an ornamental fluorescent zebra fish."

Jack Bramlett, vice president of *Segrest*, said there would be hundreds of thousands of the fish ready to sell and that he expected demand to be strong from tropical fish hobbyists, who are always looking for new varieties. "I'm sure it's going to be a tremendous rollout from what I'm hearing," he said. The aquarium industry anticipates a big splash, with a boost in Christmas sales of fish tanks in anticipation of the novelty. This is the first genetically altered pet being produced for market, but researchers are working on others, including an allergen-free cat.

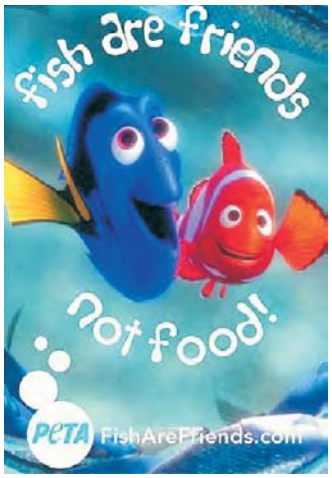
However, Jennifer Pflugfelder, a spokeswoman for *Petsmar*t, the largest pet supply

chain, said the chain would not carry the Glofish. She said this was not because the fish were transgenic. Rather, she said, although there have been news reports about glowing fish, "We just haven't had any demand from our customers at all." The *GloFish* will probably cost about $5 each, four or five times the cost of a conventional zebra fish, Blake said.

Sources: Andrew Pollack, *New York Times*, 11/22/03; and Kenneth R. Weiss, *Los Angeles Times*, 11/22/03

PETA Has Found NEMO

The Nemo cartoon character from *Walt Disney Corporation's* recent movie *"Finding Nemo"* has found its way into the anti-fishing campaign of PETA (*People for the Ethical Treatment of Animals*). PETA says it is using the cartoon character on leaflets, along with a two-meter tall fish, to persuade children not to eat fish.



The film *Finding Nemo* features a shark who attends a support group for vegetarians which uses the PETA slogan prominently. A spokesman for PETA said: "We were delighted to see our tag-line 'Fish are friends not food' in the *Finding Nemo* movie. The slogan is even being used on *Finding Nemo* pajamas." "We hope that after seeing *Finding Nemo*, children will agree that fish belong in the ocean, not on dinner plates."

PETA's website, located at: http://www.peta.org/feat/nemo/, includes a printable card for kids prominently featuring Nemo and friends along with the slogan. Part of the card's message to kids is: "..fish are a lot like us. They make friends with other fish and talk to one another through gurgles squeaks, squeals and other underwater sounds."

Upon request the card notes that PETA will provide a supply of "Fish are Friends, Not Food" stickers for kids to share the fish-friendly message with friends. The card also includes the following message from Dr. Sylvia Earle, former chief scientist of the U.S. National Oceanic and Atmospheric Administration (NOAA): "I would never eat anyone I know personally. I wouldn't deliberately eat a grouper any more than I would eat a cocker spaniel. They're so good-natured, so curious. You know, fish are sensitive, they have personalities, they hurt when they're wounded."

Hunting and fishing advocates are disturbed, pointing out that they are and have been the backbone of wildlife conservation and conservation funding for a 100 years. Through license fees and taxes sportsmen contribute $1.5 billion to wildlife conservation annually, and about half of that funding comes from fishermen. Also, millions of kids and their families enjoy fishing and the outdoor experience.

Sportsmen say that PETA, *Disney*, and every other animal rights organization is working to end hunting and fishing. They say that by allowing PETA to use their trademarked and copyrighted animated characters or facsimiles, *Disney* is furthering PETA's attempts to influence the dietary choices of children far too young to make intelligent choices for themselves.

Sources: *Annova*, 10/9/03 and the *PETA Web Site*

Wild and Scenic Rivers – Economic Assets

Boaters and other recreational users of the Wild and Scenic reach of the Chattooga River generated more than $2.6 million in economic activity in 2001 despite a drought that reduced overall visitation, according to a report released in November by North Carolina State University. Fifty-seven miles of the Chattooga River, flowing through northwestern South Carolina, northeastern Georgia and southwestern North Carolina, were added to the National Wild and Scenic River System in 1974. This reach is managed by the U.S. Forest Service and is a popular destination for kayaking, rafting, and other outdoor activities.

After surveying almost 850 river users, the authors of *Use and Economic Importance of the Wild and Scenic Chatooga River* also conclude that the vast majority of visitors were aware that this reach was protected as part of the National Wild and Scenic River System and felt that this designation was important. Other key study finding include:

- 43,000 visits were made to the river in 2001, a below average number due to drought
- Most visitors prioritize enjoying the view, experiencing the river, and being close to nature
- Boaters are particularly sensitive to water levels
- Visitors spent $1.8 million in the six county area, resulting in a $2.7 million overall economic contribution, after applying appropriate multipliers
- The total economic benefit to recreation boaters, expressed in terms of "willingness to pay," is $5.79 million
- Most users traveled less than 150 miles to reach the river, stayed overnight, and were repeat visitors

The research was conducted by Drs. Roger Moore and Christos Siderelis, professors in the Department of Parks, Recreation and Tourism Management at North Carolina State University. The study was jointly sponsored by *American Rivers* and the Park Planning and Special Studies and Rivers, Trails and Conservation Assistance Programs of the National Park Service. "People visiting the Chattooga River generally rate their experiences very highly, but some express concerns about how much water there is in the river and how clean it is," said Professor Moore. "Our research suggests that the most important priorities for the Forest Service should be to protect the river's natural values for the future."

Congress passed the national Wild and Scenic Rivers Act in 1968. Although the law prevents federal agencies from issuing licenses or permits to water resource development projects that will damage designated reaches, protection of the lands along wild and scenic rivers largely depends on public support from communities near those rivers.

"The Chattooga study, along with another recent study of the Farmington River in Connecticut, provides proof of something the National Park Service has long felt to be the case — conserving river resources has significant economic value to communities. River conserva-

tion isn't simply a "feel good" activity," said John Haubert with the National Park Service. "Wild and scenic rivers tend to be much loved but little studied," said Jack Hannon, *American Rivers* Wild and Scenic Rivers Program Coordinator. "This report provides valuable information to communities near the Chattooga that are wondering just how important the river is to their regional economic prospects."

Contacts: Jack Hannon, *American Rivers*, (571) 212-6624; Eric Eckl, *American Rivers*, (202) 347-7550 ext. 3023; Roger Moore, *North Carolina State University*, (919) 515-3698

Concerns Over Coal Bed Methane Discharges

Increased coalbed methane discharges could eliminate up to 30 aquatic species within 20 years, according to a study of Montana and Wyoming rivers by James Gore, an environmental science professor at Columbus State University in Georgia. He also found that the long-term threat of increased flows would affect up to 80% of the fish and other organisms that use affected shallow water habitats for feeding and cover. Gore, who serves on a U.N. scientific advisory panel on water resources, presented his research in November during a session on coalbed methane at the *10th International Petroleum Environmental Conference* in Houston.

Drilling for coalbed methane, a form of natural gas found in coal seams, has attracted a lot of interest and industry leaders want to know the environmental price to be paid, Gore said. Drilling for coalbed methane requires discharging large volumes of ground water, which holds the gas in coal seams through pressure. The ground water is often salty, which can damage plants and soils. The main methods for disposing of coalbed methane water are dumping it into rivers and streams and storing it in reservoirs or ponds.

Gore's projections are based on computer models of river systems in Montana and Wyoming where an increasing number of coalbed methane wells each discharge as much as 17,000 gallons of salt water daily. About 60 to 80% of the discharged water finds it way back in to nearby rivers and streams, he said. The resulting periodic overflow is affecting species such as the endangered Western silvery minnow, which is found in the Powder and Belle Fourche rivers in Wyoming, he said.

Gore and other scientists have raised concerns about how coalbed methane development could affect water systems, including groundwater aquifers and rivers and streams. Other concerns involve the potential long-term consequences of aquifer depletion, soil degradation and land erosion. Gore's study looks at the elimination of river habitat caused by overflows of coalbed methane water. The increased volumes of water disrupt shallow water habitats that are vital to the river's food chain, such as snails, shrimp, worms and insect larvae and ultimately the newly hatched fish that feed on those organisms, he said.

"Based on the increase in flow volume alone, we're looking at the elimination of 20 to 30 species over the course of 20 years where the process is applied," he said. People immediately think of fish, Gore said, but there are as many as 50 to 60 species of invertebrates in the water. Gore's analysis looked at water quantity and assumed the quality was "perfect." If the salinity of coalbed methane water is considered, "you accelerate the loss of species further," he said. The problem comes when water levels increase to constantly higher flows and alter the habitat over the long term. If organisms are forced to live outside their range, they can get "blown out of the system," Gore said. For example, faster water can damage an organism's filtering nets that strain food particles from the water and thereby cause the organism to starve.

Meanwhile, Ken McDonald, Montana Fish, Wildlife and Parks Department, and a team of technicians spent the summer surveying some of that state's potential impacted prairie streams. Fish and aquatic life were inspected at 305 random stretches of 240 streams. The creeks stretched from the Rocky Mountain Front to North Dakota, but most of them were in Eastern Montana. What they found surprised them. Not only did the streams have plenty of fish, but many boasted a biological diversity unheard of in Montana's famous cold water trout fisheries.

"In Western Montana, if you have 10 species of fish in a stream, that's really diverse," McDonald said. Many prairie streams had more than 30 species. Most of the fish the investigators found were small, topping out at two or three inches long when fully grown, including such fish as the fathead minnow, the longnose dace and sand shiner. But they even found rainbow trout.

McDonald said "They'd see a stretch that didn't look like much and they'd find a 1,000 fish". Prairie streams are not like their cold-water cousins. They are warmer, siltier, saltier and known to completely dry up on occasion, McDonald said. He describes them as "boom and bust" rivers — running high and cold in the spring time, dwindling to puddles in early fall. Also, nobody fishes in the streams, which is why state scientists and most members of the general public had passed them over, McDonald said.

The study turned up other finds, suggesting that even intermittent creeks play an important role in the grander prairie ecosystem. Larger fish in the area's major rivers — the Missouri and the Yellowstone — swim up the swollen tributaries in the spring to spawn, McDonald said. Then, as the streams start drying up, the young fish return to the larger river where they grow into larger fish.

McDonald said the complete findings of the stream surveyors won't be published until later this year. He also is working to get money to repeat and expand the survey next summer. "A lot of people ask, 'These little fish, what good are they?' " he said. "Well, they feed the big fish."

Professor Gore said the potential consequences of increased flows (from coalbed methane operations) in these streams range from harming recreational fishing to the continued deterioration of the ecological integrity of the planet. "The question industry and government officials have to consider is: Is this degree of ecological destabilization a worthwhile trade-off?," he said. Gore is well acquainted with Montana and Wyoming river systems, having conducted studies in the Powder River Basin as a University of Montana graduate student and doctoral candidate in the 1970s.

Source: Clair Johnson, *Billings Gazette*, 10/31/03 and *The Billings Gazette*, 10/20/03

Lawsuit Filed Over Valley Fills

Three environmental groups have filed a Clean Water Act (CWA) lawsuit seeking tighter federal restrictions on the controversial practice of mountaintop mining, in which companies strip off the tops of mountains to expose coal seams and deposit the waste rock and other debris in stream

valleys. Studies have shown that the practice has filled in 1,200 miles of streams in Appalachian states, according to a *Natural Resource Defense Council* (NRDC) official.

The NRDC, the *Appalachian Center for the Economy and the Environment* (ACEE), and the *Ohio Valley Environmental Coalition* (OVEC) filed suit in October in U.S. District Court in Huntington, WV. The lawsuit challenges a U.S. Army Corps of Engineers (Corps) rule requiring coal companies to obtain general wetlands permits for mountaintop mining since the practice results in the filling of streams and adjacent wet areas.

At issue is the Corps general wetlands permitting program, known as Nationwide Permit 21, which does not normally require an extensive review of environmental impacts to wetlands. Rather, companies applying for such permits simply have to notify the Corps of their activities. These general permits, which the Corps issues under section 404 of the CWA, are designed for activities deemed to have minimal environmental impacts.

But environmentalists claim that allowing mountaintop mining under the nationwide permitting program "doesn't pass the laugh test" for environmental protection". It is unfortunate that citizens are forced to resort to litigation to force the Bush Administration to enforce environmental protection laws passed by Congress more than 25 years ago," said Joe Lovett, executive director of the ACEE and one of the plaintiffs' attorneys.

Water quality impacts are only one of the problems with mountaintop mining, according to Vivian Stockman, an OVEC organizer. "Hundreds of thousands of acres of the most productive and diverse temperate hardwood forests in the world have been permitted to be destroyed since 1977," Stockman said.

In addition to claiming that general permits are inadequate to address the negative effects of mountaintop mining, environmentalists allege that the Corps failed to require adequate mitigation for the practice. The Corps permit for mountaintop mining "impermissibly allows in-lieu fee arrangements as compensatory mitigation," the groups' legal complaint states. "This type of mitigation does not minimize or mitigate the damage from surface mines. It does nothing to replace the stream miles lost to mining," the complaint says.

National Mining Association spokeswoman Carol Raulston said her organization had not reviewed the complaint. But she added that the Corps has informed industry officials that general permit notices would be reviewed in some cases. Corps officials said, "…we view it (the lawsuit) as just part of the process. You issue the rules, and you go to court."

An earlier CWA lawsuit on mountaintop mining was filed in 1998 by *Trial Lawyers for Public Justice* on behalf of 10 West Virginia citizens and the *West Virginia Highlands Conservancy*. The plaintiffs claimed that the waste rock and other material dumped into adjacent stream valleys should be a prohibited discharge. Daniel Rosenberg, the NRDC attorney participating in the litigation, noted that the 1998 complaint also pointed out that mountaintop mining exceeded the minimal impacts standard set under the wetlands provisions of the CWA.

But the district court decision in 1999 did not address those claims, according to Rosenberg. It said that buffers are required along streams, which would prohibit the current dispersal methods for mountaintop remains. The 4th U.S. Circuit Court of Appeals, however, overturned that ruling in 2001 and said that because the buffer rule is a state regulation, the case should be heard in state courts.

Rosenberg said he is optimistic that the argument opposing the use of general permits for mountaintop mining will persuade the court to rule in favor of the environmental groups. "The previous cases focused on things like buffers and the definition of fill, and it's going to be hard for the Bush Administration to tweak a rule to get out of this one," he said.

Source: Marty Coyne, *Greenwire*, 10/24/03

Water Plant Director Sentenced in Fish Kill

A Warsaw, IN, man who oversaw the dumping of tons of sludge and diesel fuel by the city's wastewater treatment plant, killing thousands of fish in a river, will spend nearly four years in prison. A federal judge in mid November sentenced David Van Dyke, 53, to 46 months in prison for sewage discharges and a subsequent cover-up last year while he was the Warsaw plant's director. Van Dyke, who must pay a $39,370 fine, will begin his prison term on December 30.

The sentence, by U.S. District Judge Robert L. Miller Jr., was one of the harshest for an environmental violation in state history. Usually such crimes bring probation, home detention or a few months in prison. "This was a significant sentence for an extremely serious environmental crime," Assistant U.S. Attorney Donald Schmid said. "It polluted what was otherwise a pristine creek."

Van Dyke pleaded guilty to three of 37 charges in August. Normally a plea bargain would result in a more lenient sentence, Schmid said, but Van Dyke waited until one week into his trial, after 26 witnesses had testified. The investigation began in July 2002 after thousands of dead fish were found in the Tippecanoe River. Investigators from the Indiana Department of Environmental Management (INDEM), Indiana Department of Natural Resources (INDNR) and USEPA traced the contamination upriver and along Walnut Creek to the Warsaw facility. In a search of the plant, they found that sewage was not being treated sufficiently, said Lt. Col. Jeff Wells of INDNR's law enforcement division. Microorganisms that were supposed to clean the water had died because of the conditions.

Schmid said Van Dyke dumped diesel fuel into foamy, contaminated water to make it appear less tainted. Van Dyke's approach was novel, he said — and illegal. "It involved hundreds of gallons of diesel fuel over a period of time, " Schmid said. Van Dyke also violated the Clean Water Act by ordering the falsification of records that would have revealed high toxin levels, Schmid said.

Dan Hottle, a spokesman for the INDEM, said that even though the discharge didn't affect drinking water, it still posed a threat to residents. After the agencies discovered the mismanagement, the city hired a private contractor last December to operate the facility. Wells said some contamination remains in the creek and river.

Source: Jon Murray, *Indianapolis Star*, 11/19/03

More Floodplain Management Madness

The *Sierra Club* has been forced to sue the U.S. Army Corps of Engineers (Corps) in federal court to stop construction of a 1000 year Missouri River levee. The California-based environmental organization said the proposed levee at Jefferson City, MO would eliminate wildlife habitat, ruin wetlands and encourage construction in what is now undeveloped floodplain. The suit said further that the proposed levee would lead to higher flood levels in the St. Louis area and at other points along the 735 miles of the lower Missouri River.

The suit said that the Corps violated the National Environmental Policy Act (NEPA) by failing to study and measure potential damages in an environmental impact statement. Instead the Corps released a less-detailed environmental assessment in April, 2001 with findings that the project would create "no significant impact." Tom O'Hara, a spokesman for the Corps, said that officials are studying the suit. "The key Corps message now is that the Corps takes the environment seriously and looks carefully at the effect of any project, including this levee project," he said. A lengthy environmental impact study process is not necessary for all projects, including this one, O'Hara said.

The $24.5 million L142 levee project, denoted by river mile marker 142, would be constructed on the northern bank of the Missouri River. It would be 4.7 miles long, 150 feet wide and as high as 22.5 feet. The levee is designed to withstand a flood with a one in one thousand chance of occurring in any given year, commonly called a 1,000-year flood. That would represent double the protection of the 500-year Mississippi River floodwall in downtown St. Louis and the 500-year Missouri River levees in St. Louis County.

The L142 levee would protect about 1,500 acres, about 30 of which the federal government bought from willing sellers after the 1993 flooding to prevent further development. Structures to be protected by the levee would include the Jefferson City Airport, an Army National Guard aviation facility, a waste water treatment plant and two businesses. The KATY trail state park runs through part of the area included in the project.

The suit noted that the U.S. Fish and Wildlife Service has estimated that the levee would harm more than 38 acres of wetlands. "The wetlands in the project area are an important remnant of what was once a vast aquatic ecosystem," the suit said. "The natural wetlands in the project area constitute a productive and valuable public resource. Primarily because of their seasonal inundation by flooding river waters, they fulfill significant biological functions such as providing feeding, nesting, spawning, rearing and resting sites for aquatic and land species, along with a hospitable environment for many aquatic plants.

"The anticipated flood protection provided by the project is likely to give rise to pressures for the development of this land, a phenomenon which has been observed in many other river bank areas following levee construction," the suit said. It asked the federal court to halt the project until proper environmental assessments take place.

If constructed, the levee will block off 1,500 acres of floodplain that was available for storage and conveyance of floodwaters during the 1993 and 1995 floods. In the event of another such flood (which will certainly occur), that water which cannot pass through the now significantly restricted floodplain (or river channel) fast enough, will be "backed up" by the levee and flood some other locations upstream. In a funnel-like fashion, the narrower floodplain (or river channel) will temporarily act much like a dam, impounding waters upstream on the floodplain to a depth of 22.5 feet above the existing floodplain — the vertical height of the new 1000 year levee. Unsuspecting people living upstream in the area flooded by the new "temporary impoundment", and in nearby tributaries, who have never before been flooded, will wonder why their homes are now under water and will call for government assistance in paying for the damages.

Development behind the new 1000 year levee will also almost certainly occur. If and when the levee breaks — and it will eventually — a 22.5 foot wall of water will come crashing in on those unsuspecting persons who are unfortunate enough to believe that they and their investments are protected against flooding. The flood damaged people will suffer tremendous losses of possessions and temporary displacement of their lives.

But the taxpayer will, in the end, once again foot the bill for all of this madness — construction of the levee and payment of the damages that it ultimately creates.

So the levee wars continue. When will the madness end?

Sources: Terry Ganey, *St. Louis Post-Dispatch*, 11/21/2003; and *Aberdeen News*, 11/23/03

Global Warming Update

There can be no doubt that global warming is real and is being caused by people, two top U.S. government climate experts said in an early December issue of the journal *Science*. Industrial emissions are a leading cause, they say. "There is no doubt that the composition of the atmosphere is changing because of human activities, and today greenhouse gases (GHGs) are the largest human influence on global climate," wrote Thomas Karl, director of the National Oceanic and Atmospheric Administration's (NOAA) National Climatic Data Center, and Kevin Trenberth, head of the Climate Analysis Section at the National Center for Atmospheric Research.

Karl and Trenberth estimate that between 1990 and 2100 there is a 90% probability that average global temperatures will rise by between 3.1 and 8.9 °F because of human influences on climate. They further noted that carbon dioxide levels in the atmosphere have risen by 31% since preindustrial times. Carbon dioxide is the No. 1 GHG, causing warming temperatures by trapping the sun's energy in the atmosphere. Emissions of sulfate and soot particles have significant effects, too, but are more localized, they said. "Given what has happened to date and is projected in the future, significant further climate change is guaranteed," they wrote. "The likely result is more frequent heat waves, droughts, extreme precipitation events, and related impacts, e.g., wildfires, heat stress, vegetation changes, and sea-level rise," they added.

NASA scientists have also released new evidence that the Arctic region is warming up and its sea ice cover is diminishing, with implications for further climate change worldwide. Satellite data show that compared with the 1980s, surface temperatures across most of the Arctic warmed significantly in the last decade, with the biggest temperature increases occurring over North America.

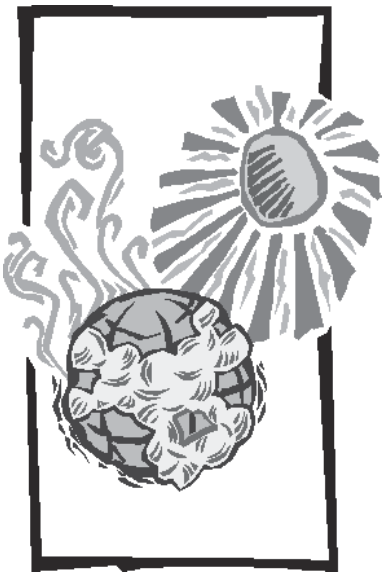
When compared with ground-based surface temperatures, the rate of warming in the Arctic between 1981 and 2001 was eight times the rate of warming over the last 100 years, said Josefino Comiso, a senior research scientist at NASA's *Goddard Space Flight Center* who compiled the data published in the November issue of the *Journal of Climate.* "The Arctic is in the process of being transformed," he said. Springtime arrived earlier and was warmer, while warmer autumns lasted longer over most of the Arctic. Temperatures increased by an average of just over 2 °F per decade over sea ice during Arctic summers. The data came from thermal infrared images taken by polar-orbiting satellites run by the NASA.

Another NASA-funded researcher, Mark Serreze of the University of Colorado-Boulder, has reported that the extent of Arctic summer sea ice in 2002 reached the lowest level ever recorded by satellites. "It appears that the summer of 2003, if it does not set a new record, will be very close to the levels of last year," Serreze said. "How much of this warming is due to natural fluctuations and how much is caused by human activity, we don't really know. But the fact is, the climate is changing, and in the Arctic it is changing rapidly."

In September U.S. and Canadian researchers reported the Arctic's largest ice shelf, the 270-square mile Ward Hunt Ice Shelf along the north shore of Ellesmere Island, had fractured for the first time in several thousand years, draining a freshwater lake that it had contained and raising the prospect that it could break into large icebergs like those seen from disintegrating Antarctic ice shelves. And a team of Chinese scientists who completed a 74-day Arctic expedition in September found that the thickness of the sea ice now averages 8.8 feet, down from an average of more than 15 feet in the 1980s.

The important point, researchers noted, is that change is occurring. It's not theoretical. Temperatures in the late 20th century are the warmest they've been in the last 400 years, Serreze said. Beyond having more open water and accelerating local changes, such as erosion, in the Arctic, warming trends and changes in ice cover could greatly affect ocean climate processes, said Michael Steele, an oceanographer at the University of Washington. Liquid water absorbs more of the sun's energy than ice. That means the Arctic could get even warmer, and even more ice could melt. As the ice cover, which reflects most incoming solar radiation, shrinks, the areas of open water absorb more heat. And as the water warms, it helps to melt even more ice.

"It is feeding on itself now, and this feedback mechanism is actually accelerating the decrease in sea ice," said Serreze. The effect has been compounded by an unusually persistent pattern of atmospheric circulation that has been funneling warmth from lower latitudes into the Arctic for the past 20 years. If the warming continues, the scientists say, the thawing of Arctic soils could accelerate global warming by releasing huge quantities of trapped carbon dioxide and other GHGs — from natural and man-made sources.



Despite the remoteness of the Arctic, scientists say, warmer temperatures there will have serious consequences throughout the Northern Hemisphere. "It will definitely impact our weather in the United States," said David Rind, of NASA's *Goddard Institute for Space Studies* in New York. "Those outbreaks of Arctic cold we get each winter might seem like something we could do without, but if we don't have them, we're going to receive a lot less winter precipitation," he said. "Computer models show that Kansas would be 10 degrees warmer during the winter — and get 40% less snow, which could make it very difficult to grow winter wheat there."

Other potential effects of Arctic warming include:

- Changes in ocean circulation that could, in the extreme, alter the course of the Gulf Stream, with dramatic effects on the climate of coastal regions from Florida to the British Isles.
- The opening of ice-free summer sea lanes between Canada and Asia — the long-sought Northwest Passage — that could reshape not only commerce, but the strategic position of countries rimming the Arctic Ocean. Russia, Canada and the Scandinavian navies, for instance, would have improved access to a now largely ice-bound ocean.
- Unpredictable shifts in fisheries, already stressed by overuse and environmental problems, as changing ocean currents alter the transport of nutrient-rich water from the ocean depths.
- Increased melting of the Greenland ice cap, which, if left unchecked, could increase sea level by several feet and inundate low-lying coastal areas throughout the world.

But the poles aren't the only places ice is melting. Glaciers are also now in rapid retreat on every continent except Australia, which has no glaciers. From the Alps to the Himalayas, from the Andes to the Rockies, thousands of mountain glaciers are melting faster than winter snows can replenish them. Although they have been retreating slowly for most of the past century, the melting has accelerated dramatically since 1980.

Glacier National Park, which once boasted 150 glaciers, now has only 26 — and they, too, are shrinking. The "perpetual" snows atop Africa's Mount Kilimanjaro are expected to disappear by 2020. In Nepal, the glacier where Edmund Hillary and Tenzing Norgay started up Mount Everest has retreated three miles up the valley since their historic climb in 1953. NASA scientists reported in October that the Patagonian ice fields of Chile and Argentina are thinning so swiftly that the 6,500-square-mile region of South America now exhibits the fastest pace of glacial retreat on the planet. More than 90% of Alaska's glaciers are retreating as well.

Compared with the huge ice sheets that cover Greenland and Antarctica, the mountain glaciers constitute a small fraction of the planet's ice. But if all of the Earth's 67,000 mountain glaciers melted completely, the resulting runoff would raise sea level throughout the world by about a foot. If the polar ice sheets disappeared sea level would rise more than 200 feet — more than enough to inundate most coastal cities! Such a catastrophic meltdown would not happen overnight, and perhaps never. But scientists take little comfort in the

knowledge that the current situation reflects a rise in average global temperatures of about a degree and a half over the past century. Computer models predict an increase of as much as 10 degrees in the next 100 years.

Melting ice may also create problems far from the coast. In many regions, glaciers serve as nature's water towers by storing winter snows for release during the dry months of summer. A study by a Lake Tahoe-based environmental group, the *Sierra Nevada Alliance*, warns that global warming could raise the average snow line in the mountains along the entire California-Nevada border by 500 feet in the next few decades — adding to the woes of cities that depend on melting snow and ice for their water supply.

These trends will have major implications to agriculture. While farmers who grow warm-weather crops could see short-term benefits from higher temperatures and more rain, the broader agricultural sector will be saddled, with problems ranging from what crops to plant and when, to crop loss from insect infestation. "U.S. farmers, in general, face a future of warming temperatures and weather extremes, a future that is more unstable and unpredictable," said Eric Chivian, director of Harvard Medical School's *Center for Health and the Global Environment*. But farmers can mitigate the negative effects of climate change, experts say, through a number of techniques, including

- carbon sequestration in soils,
- biofuel production and
- harnessing wind energy on farms.

Carbon sequestration is the process by which carbon dioxide is absorbed by plants through photosynthesis and incorporated into living plant matter. As the plants die, the carbon-based roots, leaves and stems decay in the soil and become organic matter. "One of the reasons to look at soil is because there's twice the amount of carbon in soil than in plants," said Charles Rice, professor of soil microbiology at Kansas State University and a leading expert in soil sequestration.

"Conservation tillage is one of our biggest opportunities," Rice added. "Keeping those soil particles intact stores carbon inside those particles." Conservation tillage — a process whereby farmers reduce soil exposure by not turning the soil surface with a plow — has been shown to reduce soil erosion and increase soil carbon by 0.1-0.2 metric tons per acre annually. Likewise, replanting tilled soil with grasses can sequester atmospheric carbon in the ground. Current estimates show that grass planting and other carbon sequestration methods could reduce total U.S. carbon emissions by 200 million metric tons, or 15% of total carbon emissions, per year.

Another way to reduce GHG emissions, according to Dr. Chivian's Harvard report, is through use of alternative energy sources like wind turbines and alternative fuels like ethanol-blended gasoline and biodiesel. According to Energy Department estimates, wind power can displace 35 million tons of atmospheric carbon by 2020.

In another study, private researchers have released the results of a 23-year effort showing that organic farming practices scrub the atmosphere of GHGs by capturing carbon dioxide and converting it into organic soil matter. Academic scientists and government officials, alike, laud the study as a promising blueprint for cutting back on GHGs. "There's been problems understanding what tools we could approach global warming with," said Paul Hepperly, research manager at the *Rodale Institute*, the nonprofit organization that conducted the study. "This study is one of the glimmers of hope in this equation."

Since 1981, the institute has been monitoring carbon and nitrogen levels in three test sites, using both organic and traditional farming methods. Comparing the three methods, researchers found that the organic cropping models increased soil carbon by 15-28%, and accumulated about 1,000 pounds of carbon per acre foot of soil each year. This is equivalent to about 3,500 pounds of carbon dioxide per acre taken from the air and sequestered into soil organic matter.

The first model represented conventional cropping methods typical of a cash grain farm. It used a five-year crop rotation or corn and soybeans, with chemical fertilizer and pesticide applications. The second model, which was manure-based, represented a farm/livestock operation that used a five-year crop rotation. The third model was organic and legume-based, and represented a cash grain operation without livestock. It utilized a crop rotation of corn, soybeans and small grains and relied on nitrogen-fixing green manure cover crops as the primary nitrogen source.

By rotating crops and feeding the soil with manure and decaying winter crops, organic farmers are able to keep the GHGs in the ground, Rice said. In addition to emitting about a third less GHGs, the crops grown under the organic models had higher yields and demonstrated better resistance to drought conditions than crops of the conventional model. For example, after a transition period of four years, the organic corn and soybean yields were comparable to the conventionally grown grains. Moreover, in drought years corn yields in the legume-based model were 22% higher than yields in the conventional system.

In an effort to put GHG conservation to work in a market situation, the *Chicago Climate Exchange* on October 31 began continuous Internet-based trading of emissions credits for GHGs, including carbon dioxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. *Climate Exchange* members are companies and municipalities, such as *Motorola Inc*., *Ford Motor Co.* and the city of Chicago, which emit GHGs and voluntarily commit to reducing emissions between 2003 and 2006. The emissions baseline for each member is its average emissions between 1998 and 2001, with a target reduction of 4% below baseline by 2006.

Members must reduce their emissions or mitigate them by purchasing credits, according to the exchange. Emissions are reported quarterly and are subject to external audits. Trading between the *Climate Exchange's* 23 members is regulated by the NASD, formerly known as the *National Association of Securities Dealers*. On September 29, the *Climate Exchange* held its first auction of emissions credits, where 100,000 metric tons of carbon dioxide was traded. The market price for one metric ton of carbon dioxide emissions is worth an average of 98 cents in 2003, dropping to an average of 84 cents in 2005, according to the exchange.

Meanwhile, others in the investment community have taken action to reduce global warming. Responsible for trillions of investor dollars, pension fund managers met in late November at the U.N. to rally world business leaders and pressure Wall Street to adopt more environmentally conscious policies on GHG emissions. The nearly 300 participants included U.N. Secretary General Kofi Annan, former Vice President Al Gore, state treasurers and comptrollers, along with representatives from some of the nation's leading invest-

ment firms, insurance and reinsurance companies, and labor unions.

They discussed how global warming affects key economic sectors and brainstormed on ways to use investors' deep pockets to prod corporations into reducing carbon dioxide and improving energy efficiency. Participants also stressed the need for business executives to fully disclose to shareholders corporations' climate change liabilities and mitigation plans.

Mindy Lubber, executive director of the *Coalition for Environmentally Responsible Economies* (CERES), a coalition of environmental, investor and advocacy organizations that organized the meeting, said investment managers need to be able to factor companies' climate change risks into investment decisions just as they consider economic indicators such as profit margins. "The financial aspects of climate change affect every portfolio," Lubber said.

The meeting also served as a launching pad for a new "*Investor Network on Climate Risk*," (INCR) launched by managers of 10 major pension funds, including the state treasurers of California, Connecticut and New York, and heads of several major labor union funds. The group released an action plan asking the Securities and Exchange Commission and corporate boards of directors to be responsive to climate change risks in their evaluations of stock values.

Together, the funds participating in the network oversee more than $1 trillion in long-term investments, coordinators said. "We believe that climate change may emerge as one of the most important financial risks of our time, with consequences that could affect us and our beneficiaries long into the future," a statement from the group's leaders said.

INCR priorities include:

- pressing the SEC to enforce corporate disclosure requirements on environmental liabilities; and
- calling for major GHG emitters, such as coal-fired power plants, to prepare reports detailing how the shareholder value may be affected by climate change and the costs of failing to respond to these threats.

Members said they are asking companies to get ahead of possible government regulation of GHG emissions in the interest of healthy corporate governance. "It would send a message that corporate performance will be measured in both financial and environmental terms," Annan said. "This would be a real step forward."

The increased attention by major investors comes after resolutions urging companies to address the challenges of global warming garnered significant support among shareholders of major oil and gas companies during the past year. Connecticut State Treasurer Denise Nappier said companies that fail to factor climate change into their business plans could face lawsuits similar to those brought against the tobacco companies who knew their products were harmful yet withheld that information from shareholders and consumers. "[It is] a class action lawsuit waiting to be had for some of these companies," Nappier said.
For now, however, leaders say the outright divestment from such companies is not an option. "Divesting is the last thing you want to do," noted New York Comptroller Alan Hevesi. "When you divest you no longer have influence over the company."

"Climate change is truly a global issue, one that may prove to be humanity's greatest challenge," Karl and Trenberth wrote. "It is very unlikely to be adequately addressed without greatly improved international cooperation and action." Although Karl and Trenberth said global cooperation is key to reducing global warming, the U.S. has balked at signing international treaties to reduce climate-changing emissions.

Sources: *Reuters*, 12/4/03; Andrew C. Revkin, *New York Times*, 11/18/03**;** Michael Burnham, *Greenwire*, 9/30 and 10/14/03; Lee Bowman, *Scripps Howard News Service* and *Seattle Post-Intelligencer*, 10/24/03; Chris Kridler, *Florida Today*, 10/23/03; Mike Toner, *The Atlanta Journal-Constitution*, 10/24/03; Usha Lee McFarling, *Los Angeles Times*, 10/24/03, Frank D. Roylance, *Baltimore Sun*, 10/24/03; and Andrew Freedman, Greenwire*,* 11/24/03

New Online Business Resource on Climate Management

Two leading organizations have launched *ClimateBiz.com*, a free Web site to help companies address climate change in a way that aligns environmental responsibility with business success. *ClimateBiz.com*, a partnership between *Business for Social Responsibility* (BSR) and *Green Business Network* (GBN), is designed to help companies understand the underlying issues behind climate change, assess their climate footprint, and devise and implement a plan to reduce their climate impacts throughout their operations and supply chains.

The site is organized into eight topics, reflecting the process most companies go through in addressing climate — from making the business case to measuring, reducing, and offsetting climate impacts to receiving recognition. Each topic contains backgrounders, listings of helpful organizations and government programs, tools and resources, leadership practices, and related news stories. *ClimateBiz.com* is funded by grants from the USEPA, *Climate Leaders* and *RR Donnelley & Sons*. "Climate change is one of the most important environmental and financial issues facing companies worldwide," said Bob Dunn, CEO & President, BSR. "This convenient Web site was designed to help busy business managers tackle the corporate responsibility of managing climate protection."

"*ClimateBiz.com* will bring companies the same sharp tools and quick information access that has made our *GreenBiz.com* such a success," said Kevin J. Coyle, president of the *National Environmental Education & Training Foundation*, which houses GBN. "We know it will be a major resource for business and other leaders seeking to responsibly address climate impacts." The site will be updated regularly, with news and new resources added on a weekly basis. Users can keep up to date through a free electronic newsletter, *ClimateBiz News*.

Founded in 1992, BSR is a global nonprofit organization that helps member companies achieve success in ways that respect ethical values, people, communities, and the environment. BSR provides information, tools, training, and advisory services and promotes cross-sector collaboration to make social responsibility an integral part of business operations and strategies. For more information, visit www.bsr.org.

GBN provides information and training to companies of all sizes and sectors. It harnesses the Internet to bring authoritative, accurate, and balanced information and resources to the private sector. Its flagship site, *GreenBiz.com*, is visited by more than 1.5 million visitors a year and has been acclaimed as a leading resource on business environmental practices.

Source: *GreenBiz.com*, 11/24/03

Meetings of Interest

Jan. 29-30: Fourth National Conference on Science, Policy, and the Environment: Water for a Sustainable and Secure Future. Wash., D.C., See: www.ncseonline.org/NCSEconference/2004conference/. Contact: Fred Stoss, fstoss@buffalo.edu

Feb. 4-6: Fourth Annual Social Aspects and Recreational Research Conference. San Francisco, CA. See: http://online.sfsu.edu/~rosegard. Contact: Erick Rosegard, rosegard@sfsu.edu

Mar. 1-5: Aquaculture America 2004: Triennial meeting of the World Aquaculture Society, National Shellfisheries Association, and AFS Fish Culture Section, Honolulu, HI. See: www.was.org. Contact: worldaqua@aol.com

Mar. 3-5: 7th National Mitigation and Conservation Banking Conference, New Orleans, LA. See: www.mitigationbankingconference.com. Contact: Carline Bahler, cbahler@erols.com, (800) 726-4853

May 2-6: AFS, 4th World Fisheries Congress - Reconciling Fisheries with Conservation: The Challenge of Managing Aquatic Ecosystems. Vancouver, BC. See www.worldfisheries2004org. Contact fish2004@advance-group.com, (800) 555-1099.

May 3-7: River Voices, River Choices. River Management Society's 7th biennial symposium, Lake Tahoe, CA. Contact: rms@river-management.org. See: www.river-management.org

May 5-7: First Annual Southeastern Ecology and Evolution Conference. Atlanta, GA. See: www.biology.gatech.edu/SEEC/SEEC.html. Contact: Alan Wilson, alan.wilson@biology.gatech.edu, (404) 894-8293

Jul. 21-23: Climate Change and Aquatic Systems: Past, Present and Future. Plymouth, U.K. See: www.biology.plymouth.ac.uk/climate/climate.htm. Contact: Martin Attrill, matrill@plymouth.ac.uk

Aug 21-26: 134th Annual Meeting of the American Fisheries Society**.** Madison, WI. Contact: Betsy Fritz, bfritz@fisheries. org, (301) 897-8616

Sept. 12-17: 5th International Symposium, ECOHYDRAULICS, Madrid, Spain. The main focus will be restoration of aquatic habitats. Contact: Dr. Diego García de Jalón, ecohydraulics@montes. upm.es or Secretariat: ecohydraulics @tilesa.es. See: www.montes.upm.es/congresos/ecohydraulics, www.tilesa.es/ecohydraulics

Congressional Action Pertinent to the Mississippi River Basin

Endangered Species Act (ESA) of 1973

S. 369. Thomas (R/CA). Amends the ESA to improve the processes for listing, recovery planning, and delisting, and for other purposes.

S. 1178. Enzi (R/WY). Amends the ESA to require the Federal Government to assume all costs relating to implementation of and compliance with that Act.

H. R. 1194. Herger (R/CA). Amends the ESA to enable Federal agencies to rescue and relocate any endangered or threatened species that would be taken in the course of certain reconstruction, maintenance, or repair of manmade flood control levees.

H. R. 1235. Gallegley (R/CA) and Gibbons (R/NV). Provides for management of critical habitat of endangered and threatened species on military installations in a manner compatible with the demands of military readiness, and for other purposes.

H. R. 1662. Walden (R/OR) and 18 Co sponsors. Amends the ESA to require the Secretary of the Interior to give greater weight to scientific or commercial data that is empirical or has been field-tested or peer-reviewed, and for other purposes.

H. R. 1835. Gallegley (R/CA) and 3 Co sponsors. Amends the ESA to limit designation as critical habitat areas owned or controlled by the Department of Defense, and for other purposes.

H. R. 1965. Gibbons (R/NV). Limits the application of the ESA with respect to actions on military land or private land and to provide incentives for voluntary habitat maintenance, and for other purposes.

H. R. 2602. Otter (R/ID). Amends the ESA to make the authority of the Secretary to designate critical habitat discretionary instead of mandatory, and for other purposes.

H. R. 2933. Cardoza (D/CA) and 17 Co sponsors. Amends the ESA to reform the process for designating critical habitat under that Act.

Federal Water Pollution Control Act (FWPCA) Amendments:

S. 170. Clean Water Infrastructure Financing Act of 2003. Voinovich (R/OH) and **H.R. 20.** Kelly (R/NY) and Tauscher (D/CA). Amends the FWPCA to authorize appropriations for State water pollution control revolving funds, and for other purposes.

S. 473. Feingold (D/WI) and 3 Co sponsors and **H.R. 962.** Oberstar (D/MN) and 21 Co sponsors. Amends the FWPCA to clarify the jurisdiction of the U.S. over waters of the U.S.

H. R. 738. Pallone (D/NJ) and 16 Co sponsors. Amends the FWPCA to clarify that fill material cannot be comprised of waste.

H. R. 784. Camp (R/MI) and 17 Co sponsors. Amends the FWPCA to authorize appropriations for sewer overflow control grants

H. R. 1560. Duncan (R/TN) Amends the FWPCA to authorize appropriations for State water pollution control revolving funds, and for other purposes.

H. R. 1624. Pallone (NJ/D). Amends the FWPCA to improve enforcement and compliance programs.

Energy

H. R. 1013. Radanovich (R/CA), Hastings (R/WA), and Walden (R/OR). Amends the Federal Power Act to provide for alternative conditions and alternative fishways in hydroelectric dam licenses, and for other purposes.

Floodplain Management

H. R. 67. Flake (R/AZ) and Hayworth (R/AZ). Provides temporary legal exemptions for certain management activities of the Federal land management agencies undertaken in federally declared disaster areas.

H.R. 253. Two Floods and You Are Out of the Taxpayers' Pocket Act of 2003. Bereuter (R/NE) and Blumenauer (D/OR). Amends the National Flood Insurance Act of 1968 to reduce losses to properties for which repetitive flood insurance claim payments have been made.

Forestry

S. 32. Kyl (R/AZ) and 4 Co sponsors and **H.R. 460.** Hayworth (R/AZ) and 7 Co sponsors. Establishes Institutes for research on the prevention of, and restoration from, wildfires in forest and woodland ecosystems of the interior West.

S. 1208. Collins (R/ME) and Reed (D/RI). Amends the Cooperative Forestry Assistance Act of 1978 to provide assistance to States and nonprofit organizations to preserve suburban forest land and open space and contain suburban sprawl, and for other purposes.

S. 1453. Leahy (D/VT) and Boxer (D/CA) Expedites procedures for hazardous fuels reduction activities and restoration in wildland fire prone national forests and for other purposes.

H. R. 1042. Udall (D/CO) and Udall (D/NM). Authorizes collaborative forest restoration and wildland fire hazard mitigation projects on National Forest System lands and other public and private lands, to improve the implementation of the National Fire Plan, and for other purposes.

Global Warming

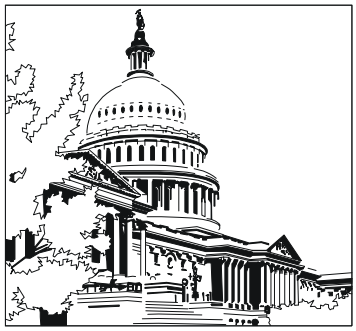
S. 17. Daschle (D/SD) and 15 Co sponsors. Initiates responsible federal actions that will reduce global warming and climate change risks to the economy, the environment, and the quality of life and for other purposes.

S. 139. Lieberman (D/CT) and McCain (R/AZ). Provides for scientific research to accelerate reduction of U.S. greenhouse gas (GHG) emissions by establishing a market-driven system of GHG tradeable allowances, limit U.S. GHG emissions, and reduce dependence on foreign oil, and ensure benefits to consumers from the trading in such allowances.

H. R. 1578. Udall (D/CO). Promotes and coordinates global change research, and for other purposes.

Invasive Species

S. 144. Craig (R/ID) and 9 Co sponsors and **H.R. 119.** Hefley (R/CO). Requires the Interior Secretary to establish a program to provide assistance through the States to eligible weed management entities to control or eradicate harmful, nonnative weeds on public and private land.



S. 525. Levin (D/MI) and 15 Co sponsors and **H. R. 1080.** Gilchrest (R/MD) and 67 Co sponsors. Amends the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 to reauthorize and improve it.

S. 536. DeWine (R/OH) and 5 Co sponsors and **H.R. 266.** Ehlers (R/MI) and Gilchrest (R/MD). Establishes the National Invasive Species Council, and for other purposes.

H.R. 273. Gilchrest (R/MD) and Tauzin (R/LA). Provides for the eradication and control of nutria in Maryland and Louisiana.

H. R. 989. Hoekstra (R/MI). Requires the issuance of regulations to assure, to the maximum extent practicable, that vessels entering the Great Lakes do not discharge ballast water that introduces or spreads nonindigenous aquatic species and treat such ballast water and its sediments through the most effective and efficient techniques available, and for other purposes.

H. R. 1081. Ehlers (R/MI) and 67 Co sponsors. Establishes marine and freshwater research, development, and demonstration programs to support efforts to prevent, control, and eradicate invasive species, as well as to educate citizens and stakeholders and restore ecosystems.

H. R. 2310. Rahall (D/WV) and 17 Co sponsors. Protects, conserves, and restores native fish, wildlife, and their natural habitats on Federal lands and non-Federal lands through cooperative, incentive-based grants to control, mitigate, and eradicate harmful nonnative species, and for other purposes.

Mining

H. R. 504. Udall (D/CO). Provides for the reclamation of abandoned hardrock mines, and for other purposes.

Public Service

S. 89. Hollings (D/SC) and **H.R. 163**. Rangel (D/NY) and 5 Co sponsors. Provides for the common defense by requiring that all young persons in the U.S., including women, perform a period of military service or civilian service in furtherance of the national defense and homeland security, and for other purposes.

H. R. 2566. Kind (R/WI) and 3 Co sponsors. Reforms the Army Corps of Engineers.

Public Lands

S. 124. Roberts (R/KS). Amends the Food Security Act of 1985 to suspend the requirement that rental payments under the conservation reserve program be reduced by users, through the establishment of a National Forest Ecosystem Protection Program.

S. 1449. Crapo (R/ID) and Lincoln (D/AR) Improves the capacity of the Agriculture and Interior secretaries to plan and conduct hazardous fuels reduction projects on National Forest System and Bureau of Land Management lands and for other purposes.

S. 1938. Corzine (D/NJ) and 3 Co sponsors. Amends the Forest and Rangeland Renewable Resources Planning Act of 1974 and related laws to strengthen the protection of native biodiversity and ban clearcutting on Federal land and for other purposes.

H. R. 380. Radanovich (R/CA). Provides full funding for the payment in lieu of taxes program for the next five fiscal years, to protect local jurisdictions against the loss of property tax revenues when private lands are acquired by a Federal land management agency, and for other purposes.

H. R. 652. Andrews (D/NJ). Assures that the American people have large areas of land in healthy natural condition throughout the country to maximize wildland recreational opportunities for people, maximize habitat protection for native wildlife and natural plant communities, and to contribute to the preservation of water for use by downstream metropolitan communities and other users, through the establishment of a National Forest Ecosystem Protection Program.

H. R. 749. Udall (D/CO). Directs the Secretary of the Interior to establish the Cooperative Landscape Conservation Program.

H. R. 2169. Leach (R/IA) and 89 Co sponsors. Saves taxpayers money, reduces the deficit, cuts corporate welfare, protects communities from wildfires, encourages Federal land management agency reform and accountability, and protects and restores America's natural heritage by eliminating the fiscally wasteful and ecologically destructive commercial logging program on Federal public lands, restoring native biodiversity in our Federal public forests, and facilitating the economic recovery and diversification of communities affected by the Federal logging program.

H. R. 3324. Shays (R/CT) and 7 Cosponsors. Provides compensation to livestock operators who voluntarily relinquish a grazing permit or lease on Federal lands, and for other purposes.

Water Resources

S. 323. Landrieu (D/LA) and Breaux (D/LA). Establishes the Atchafalaya National Heritage Area, Louisiana.

S. 531. Dorgan (D/ND) and Johnson (D/SD). Directs the Interior Secretary to establish the Missouri River Monitoring and Research Program, to authorize the establishment of the Missouri River Basin Stakeholder Committee, and for other purposes.

S. 561. Crapo (R/ID) and 5 Co sponsors. Preserves the authority of States over water within their boundaries, and delegates to States the authority of Congress to regulate water, and for other purposes.

S. 993. Smith (R/OR). Amends the Small Reclamation Projects Act of 1956, and for other purposes.

H.R. 30. Bereuter (R/NE). Amends the Water Resources Development Act of 1992 to authorize the Secretary of the Army to pay the non-Federal share for managing recreation facilities and natural resources to water resource development projects if the non-Federal interest has agreed to reimburse the Secretary, and for other purposes.

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

H. R. 961. Kind (D/WI) and 5 Co sponsors. Promotes a Department of the Interior effort to provide a scientific basis for the management of sediment and nutrient loss in the Upper Mississippi River Basin, and for other purposes.

H. R. 1517. Graves (R/MO) and 6 Co sponsors. Amends the Land and Water Conservation Fund to limit the use of funds available from the Land and Water Conservation Fund Act of 1965 to use for maintenance.

H. R. 2557. Young (R/AK) and 4 Co sponsors. Authorizes the Secretary of the Army to construct various projects for improvements to rivers and harbors of the U.S., and for other purposes.

H. R. 2890. Saxton (R/NJ). Protects the public's ability to fish for sport, and for other purposes.

Wild and Scenic Rivers

H. R. 987. Herger (R/CA) and Doolittle (R/CA). Amends the Wild and Scenic Rivers Act to ensure congressional involvement in the process by which a river that is designated as a wild, scenic, or recreational river by an act of the legislature of the State or States through which the river flows may be included in the National Wild and Scenic Rivers System, and for other purposes.

Source: *U.S.. Congress On Line; http://www.access.gpo.gov/congress/cong009.html*

River Crossings

Mississippi Interstate Cooperative Resource Association
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