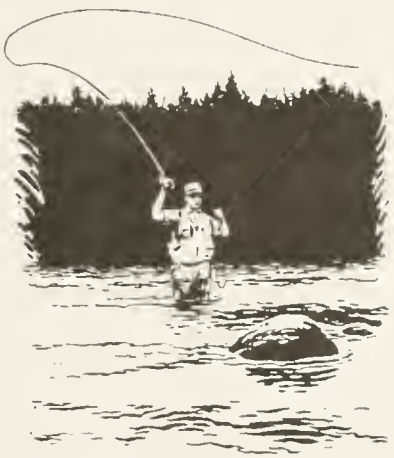
River Crossings

Volume 7 September/October 1998 Number 5

Fishable Waters Act

Twenty-six years after passage of the Clean Water Act (CWA) some 40% of America's waters remain unfishable and/or unswimmable, according to EPA reports. In response, a group organizations that often differ on conservation issues stood side by side at a rally in Greensboro, NC on 8/6 to unveil the *Fishable Waters Act (FWA)* – legislation aimed at restoring America's waters to fishable and swimmable conditions. United as the *Fishable Waters Coalition*, the group developed landmark legislation which deploys voluntary, incentive-driven problem solving through watershed councils rather than through enforcement.

Members of the Coalition, chaired by the *American Sportfishing Association*, include the *American Fisheries Society, Izaak Walton League, Trout Unlimited, Pacific Rivers Council, International Association of Fish and Wildlife Agencies, Congressional Sportsmen Foundation, National Corn Growers Association* and, the host for the event, *B.A.S.S. Inc.* "We have a lot of faith in the American people – and especially in America's largest land stewards -- farmers, ranchers and the forest products industry," said *B.A.S.S., Inc.*, Chairman and CEO Helen Sevier. "Hard-nosed regulations may work, but they can cause resentment and polarization. A lot can be accomplished by working with people to prevent problems." The CWA, which revived the historic Potomac and Hudson rivers, and many other waters from coast to coast, did so by effectively attacking "point source" pollution.



Non-point source pollutants, not addressed by the CWA, are much harder to trace and they impact entire watersheds. The problems which remain include:

- low stream flows,
- rivers disconnected from flood plains,
- degraded urban waters,
- sediment-choked streams and lakes, and
- erosion and runoff including mud, fertilizers, oil and pesticides carried into creeks, rivers and streams.

On hand to support unveiling of the *FWA* were Mike Dombeck and Pearlie

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S. Reed, chiefs of the Forest Service and Natural Resource Conservation Service, respectively. Also on hand were senior staff persons from the offices of Senator Christopher "Kit" Bond (R/MO) and Rep. John Tanner (D/TN). The two Congressmen themselves addressed the group via satellite.

The proposed *FWA* amendments to the CWA would include ten basic concepts:

- Incentives and resources for habitat improvement rather than writing and enforcing more stringent regulations;
- Consensus solutions designed by local, balanced watershed councils rather than by bureaucrats in Washington, D.C.;
- The best, or potentially best, fisheries would be addressed first rather than the "worst first" approach inherent in the CWA's pollution control strategies;
- A portion of existing federal expenditures for non-point source control programs under the CWA would be coupled with new funding and placed in the hands of states and Indian tribes to address fisheries needs on a watershed basis;
- Private resources would be tapped for the benefit of fisheries by providing opportunities to make explicit tradeoffs, called "innovative solutions," subject to appropriate constraints and the control of local, state and tribal decision makers;
- Protection, restoration and enhancement projects and measures would be implemented only with the consent of willing, affected landowners;
- Federal land managers, as well as others who undertake significant, federally funded planning and activities in floodplains, would consider the recommendations of watershed councils, and of state and tribal decision makers. If they disagree with those recommendations, they would be required to explain why;
- States and Indian tribes would have the option to assume the lead role in facilitating watershed planning and allocating resources to the most important projects and measures. If some states and tribes chose not to participate, available resources would be allocated elsewhere.
- The U.S. Department of Agriculture would be the lead federal agency because its field resources are closest to the arena for action; the Department of the Interior and EPA would play supporting roles;
- Separate, targeted approaches would be used to address the special needs of urban fisheries, major waterways, and instream flows

Building on these concepts for a viable, effective approach to achieving fishable waters, the proposed amendment would add a new section to the CWA focusing on community-based action to address fisheries habitat needs. States and Indian tribes, working through or with state fish and wildlife agencies, would be encouraged to implement programs that support the development of comprehensive plans and recommendations by watershed councils. Habitat improvement projects and activities could take many forms, depending on local watershed needs and stakeholder priorities, including innovative solutions that create opportunities for the allocation of private resources to achieve fishable waters.

Once approved by a state or Indian tribe, recommendations put forward in watershed council plans would become the catalysts for positive action eligible for direct financial support. Funds could be provided to any person, through binding agreements with the state or tribe, either directly for project implementation or to supplement and complement funding available through many other existing federal conservation programs.

Funding for the FWA would be provided through several avenues. For federal, state, tribal and watershed council program administration and planning, new funding would be au-

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thorized. For implementation of watershed council recommendations, a combination of new and existing CWA funding authorization would be provided. The proposal recommends that 50% of existing funds under the non-point source program be set aside for fisheries habitat accounts – broadening the purposes and appropriately targeting the expenditure of federal resources to achieve fishable waters through place-based strategies designed by watershed councils.

Discrete program components are proposed for implementation by the Secretary of the Interior to deal with three special needs:

- funding and assistance would be provided to states for direct implementation of projects to improve urban fisheries;
- funds would be provided for planning and development of recommendations for habitat improvement in major waterways for which watershed councils do not exist; and
- funds would be provided to states that choose to designate instream flow levels necessary to support fisheries in order that participating states might acquire water rights in order to secure water flows in perpetuity.

According to the *Fishable Water Coalition* "...incentive-based action, offers our best opportunity for making meaningful progress toward sustaining healthy fisheries. For millions of Americans who care about our Nation's fisheries, the need to undertake this challenge is abundantly clear. If Congress will allocate the resources, and States and tribes will lead the way, the CWA can begin to deliver on its dormant promise of fishable waters."

Source: Ann Lewis, Director Office of Publicity & Information, *B.A.S.S. Inc.*, P.O. Box 1790C Montgomery, AL 36141, (334) 272-9538, FAX (334) 279-7148

American Heritage River Update

In a press briefing on the American Heritage River (AHR) program, Elliot Diringer, Assistant Director of Communications for the *President's Council on Environmental Quality* and Dayton Duncan, Chairman of the *American Heritage Rivers Initiative Advisory Committee* made the following points:

- There's been no decision yet as to whether there will be another round of AHR designations. The program and its success will be monitored and there will be a determination at a later date as to whether more nominations will be invited.
- There will be a symposium held in Atlanta in October, where all the communities that submitted nominations can come together, share their experiences and their lessons and hopefully learn things that they can then go back and use in their own communities.
- Information will be made available to all interested communities to assist in their efforts -- information specific to their regions and their rivers.
- Primarily what the designated rivers will get is a river navigator, who will be a federal employee who will serve as a liaison with the community and serve in that role for up to 5 years. This person will serve as an ombudsman who can help the community refine their plans and strategies and then help identify existing federal resources and programs that they can then take advantage of in carrying out their plans.
- No new money and no new regulation is involved, but the navigator we will be able to refocus existing programs to assist the communities in carrying out their plans.
- There will not be any land takings.
- The AHR will listen to the local communities and the local organizations who are struggling to try to reinvigorate their relationships with rivers. AHR will be there to help them tap into programs that already exist.
- One of the more important parts of AHR is just the simple fact of designation. It is a big deal to many people.
- AHR is entirely community-driven. If for some reason a community along a designated river chooses not to participate, they can withdraw at any time.

According to Duncan what really impressed AHR "...committee members -- and made our job that much harder -- was the enthusiasm that so many groups had as they put their proposals together. There were some proposals where communities representing parts of rivers had never talked to those representing other parts of rivers, and the fact of putting the proposal together brought them together to think in terms of a whole watershed. Or certain places already had some programs going, and they were talking to others that didn't.

Diringer said "the number of rivers that were actually removed from consideration was rather limited...roughly a dozen of the 126 nominations drew objections and another dozen portions of the nominations drew objections. So I think it's important to bear in mind that the number of nominations was 126 and the level of support that we heard from Congress actually far outweighed the opposition. We had more than 200 members of Congress writing in support of this initiative, outnumbering the letters of opposition by more than four to one. We also had more than 500 mayors across the country, and 21 governors, all expressing support for this initiative. And I think it's also important to recognize the bipartisan nature of that support."

He said further that "There's nothing about this that is being foisted upon them, this is strictly upon their initiative...We're talking about loans and grants for economic development or for small businesses; pollution clean-up funds. It could be help for mapping their rivers from USGS. There's just...dozens and dozens of programs that really can be of value to these communities."

Source: The White House, *Office of the Press Secretary*, 7/30/98

Ohio River Coalition Formed

Representatives from the U.S. Fish and Wildlife Service (USFWS), U.S. Army Corps of Engineers (USACE), and the states of Indiana, Illinois, Kentucky, Ohio, and West Virginia met recently to forge a more effective working relationship to achieve fishery and related environmental improvements on the Ohio River and adjacent lands.

The coalition's long-range goal will be

to develop and implement a coordinated plan for improving the quality of life along the Ohio River. The plan will balance environmental conservation, public use of the river, and responsible economic growth. The full capabilities of the states, federal agencies and others will be used to implement the plan. The coalition's immediate goal is to introduce fishery, wildlife and habitat improvements using the expertise, current resources and authorities of various agencies. For example, enhanced fishing for bank and boat anglers is under consideration.

Other organizations that will be invited to participate in the coalition include the USEPA, the U.S. Natural Resources Conservation Service, the Ohio River Valley Water Sanitation Commission (ORSANCO), waterborne industry leaders, and 11 others interested in improving the Ohio River.

"In these times of limited budgets, it's essential that federal, state and other government agencies work together toward common objectives that represent the public interest. This is simply good business, " said USFWS Regional Director Bill Hartwig. Dan Steiner, USACE Chief of Planning said, "The Service and the Corps of Engineers applaud the Ohio River Fisheries Management Team (ORFMT) for being a leader in interagency cooperation, facilitating the exchange of technical information, coordinating regulatory responsibilities, and developing a long-term shared management approach." The ORFMT was formed by state fishery agencies in 1990 to address Ohio River sport fishery issues.

In the past, agencies have focused on accomplishing individual Ohio River fishery and environmental improvements, rather than pursuing a cooperative interagency effort. Although previous efforts were coordinated extensively with all agencies involved, they did not take advantage of the potential of a cooperative interagency management approach.

For more information about the activities and programs of the U.S. Fish and Wildlife Service, Great Lake-Big Rivers Region, visit their web site at: http://www.fws.gov/r3pao/.

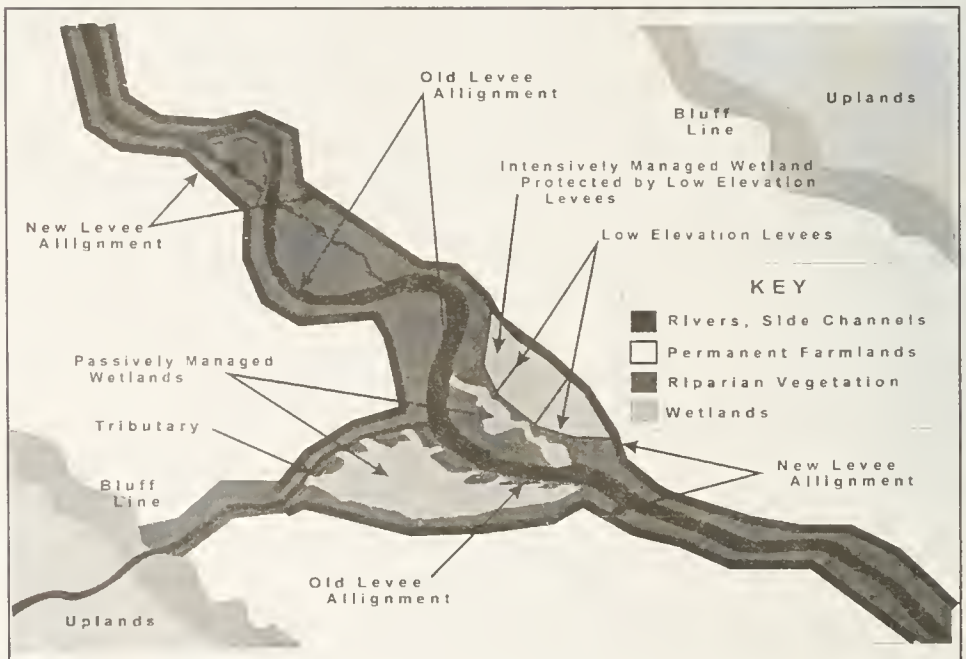
Maximizing Fish and Wildlife Benefits on Floodplains

A recent *BioScience* article recommends integrating controlled and uncontrolled flooding of habitats along the lower Missouri River to maximize benefits for fish and wildlife species - in other words combining traditional low elevation waterfowl management levees with the passive open flow concepts proposed in *River Crossings* and elsewhere for fisheries restoration. An excerpt from the *BioScience* article follows:

"...The presence or absence of a surface connection between wetland basins and the river greatly influences species assemblages. Factors such as the frequency, timing, magnitude, and duration of connectivity and floodplain habitat structure determine the magnitude of biotic responses. The occurrence of unique species in each wetland type...and their differential use depending on location, water level, season, and habitat structure indicate that a mosaic of wetland types and successional stages is necessary to restore and maximize floodplain biodiversity.

'Controlled, temporary flooding of wetlands protected by levees is a successful management strategy within the disrupted lower Missouri River floodplain to benefit mobile species, especially waterbirds. By contrast, fishes and turtles that require direct access to the floodplain to complete life-cycle events are at a great disadvantage within the fragmented and disconnected lower Missouri River floodplain. The 1990s floods have enhanced habitat for these groups in particular.

'Unfortunately, some of the most imperiled Missouri River vertebrates did not benefit directly from the 1990s floods because a wide, braided channel interlaced with channels and islands is no longer a feature of the lower Missouri River landscape. The lack of this channel-island complex has contributed to federal listing, or petitioning for listing, of birds that nest on exposed sand islands, such as the least tern (*Sterna antillarum*) and piping plover (*Charadrius melodus*), and obligate large-river fishes, such as the pallid sturgeon (*Scaphirhynchus albus*), sicklefin chub (*Macrhybopsis* meeki), and sturgeon chub (*M. gelida*). Restoring the biological integrity of the lower Missouri River necessitates a natural flow regime (Poff et al. 1997) and segments of unconstrained channels and floodplains to enable high and low flows to create, modify, and connect in- and off-channel habitats...



Restored floodplain wetlands featuring both intensively and passively managed wetlands (i.e. with and without low elevation levees, respectively) in order to maximize fish and wildlife benefits within a single "habitat bead".

'Recurrent floods of the 1990s demonstrated that the lower Missouri river-floodplain complex can be a self-renewing system. Flood-scoured river bottoms are the archetypal "beads" or "patches" of prime riverine wetland habitat envisioned in the "string of beads" restoration concept (Rasmussen 1994, Church et al. 1995). The essence of this concept is that not all of a large river's floodplain needs to be reopened to riverine flooding to revitalize ecosystem integrity. Rather, rehabilitation of essential components of river-floodplain structure and function can be achieved through the acquisition of a series of key floodplain habitat patches. These "beads" include low-lying lands that are vulnerable to periodic flooding, flood-prone areas adjacent to tributary confluences, remnant oxbows and backwaters, and flood-scoured agricultural lands. Once acquired, such sites are amenable to restoration and passive maintenance by natural or reregulated hydraulic forces. One meander bend in central Missouri, Lisbon Bottom, sustained floodbreached levees 12 times between 1943 and 1986 (SAST 1994) before the flood of 1993 damaged its infrastructure beyond repair... It was eventually purchased by the U.S. Fish and Wildlife Service as part of the Big Muddy National Fish and Wildlife Refuge and will provide an experiment in passive floodplain wetland restoration along the lower Missouri River.

'Our early postflood experience has demonstrated the resiliency of floodplain communities, given diverse habitats and recurrent flooding. However, flood scours may be shortlived features within the leveed lower Missouri River landscape because of sedimentation...Wetland dynamics are unbalanced unless erosion through periodic overbank flooding creates new basins as existing ones fill. Continued public acquisition of areas with a history of flood damage and high potential flood risk provides the most cost effective solution to reducing future flood destruction while maximizing ecological benefits.

'Controlled flooding needs to remain a component of natural resource management within the regulated lower Missouri River. We estimate that less than 20% of the river's vast floodplain in Missouri is amenable to restoration and passive management, given the existing infrastructure and importance of agriculture. Consequently, to propose natural flooding on the scale experienced by early explorers would be irresponsible. Controlled flooding and intensive management across large areas of newly acquired floodplain are also impractical. These practices are expensive and currently have limited benefits for many species. High development and operational costs restrict intensive management to a few high-visibility locations.

'Instead, wetland managers need to adopt a broader ecosystem perspective and provide more flexible manipulation of habitats at some intensively managed areas or selected basins within them. This approach will enhance floodplain biodiversity and make a wider variety of natural resource recreation opportunities reliably available to the public. In the string of beads analogy, intensively managed lower Missouri River wetlands can be the "gems" to complement the many dynamic, but comparatively lowcost, passively managed beads. Knowledge developed from controlled flooding on intensively managed sites can be integrated with emerging knowledge...to amend river – floodplain restoration and management. Coupling complementary practices from contemporary and controlled flooding is essential to assure the long-term viability of regulated, large-river floodplains in the US Midwest."

Source: David L Galat; Leigh H Fredrickson; Dale D Humburg; Karen J Bataille; et al., *Flooding to restore connectivity of regulated, large-river wetlands, BioScience*, Vol. 48, No. 9, 9/98

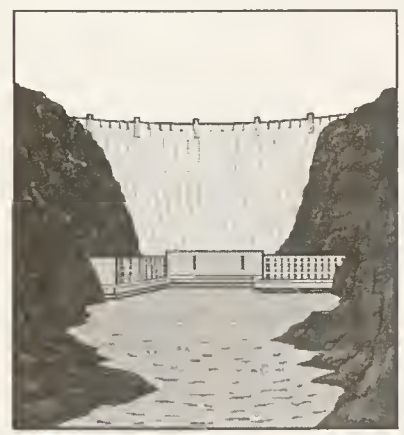
Babbitt Urges Dam Debate

At the *Ecological Society of America* meeting in Baltimore, MD on 8/4/98 Secretary of the Interior Bruce Babbitt urged some 3,200 attending ecologists to "inform debate" over the future of dams. Babbitt reminisced about his recent sledgehammer wielding trips to the:

- Menominee River (WI and MN) 6/17;
- Elwha River (WA) 9/23;
- Neuse River (NC) 12/17
- Kennebec River (ME) 5/26;
- Butte Creek (CA) 7/14; and
- Bear Creek (OR) 7/15.

He said every stop on this dam-busting tour attracted enormous local, regional and national attention. He said that this huge public interest reflects a deep, widespread understanding that America overshot the mark in our dam building frenzy. "In the Nineteenth Century, construction of the Erie Canal triggered a spasm of canal building that went on and on, beyond any realistic expectation of economic return. Having a canal became the symbol of a progressive community. Everyone just had to have one, irrespective of its utility."

"In this century", he said "dam building moved on a similar trajectory -- dams that were clearly justified for their economic value gradually gave way to projects built with excessive taxpayer subsidies, then justified by dubious cost/benefit projections. The public is now learning that we have



paid a steadily accumulating price for these projects in the form of:

- fish spawning runs destroyed,
- downstream rivers altered by changes in temperature,
- unnatural nutrient load and seasonal flows,
- wedges of sediment piling up behind structures, and
- delta wetlands degraded by lack of fresh water and saltwater intrusion.

"Rivers are always on the move, he said, and their inhabitants know no boundaries; salmon and shad do not read maps, only streams."

"The clang of the sledge hammer is one of the oldest sounds known to man", he said. "Yet now, at the end of the twentieth century, we are using it to ring in an entirely new era of conservation history, moving beyond preservation or protection towards a deeper, more complex movement, the affirmative act of restoration." "Restoration", he said, "grows out of the same stewardship impulse as preservation, but pushes beyond. The coming age of restoration requires the active involvement of the citizens who live on the entire watershed. Most of all it requires a creative act; we must see not only what is, but envision what can be. It requires us to reach back into our history in order to grasp the future in which we might live."

"Restoration invites us to understand how the natural world -- with its complex storms, fires, forests, watersheds and wildlife -- functions as a whole. And the best unit to measure that whole, how it is more than the sum of its parts, is the river that runs through us. For that river reflects the condition of every single acre of the whole, integrated watershed."

"Nowhere has the impact of dams been more visible than on aquatic life. We once believed that freshwater flowing to the sea was 'wasted.' By trying to hold it back as long as possible, we blocked out anadromous fisheries from their ancient spawning grounds. In the 19th century, from Maine to the Chesapeake on down to Florida, in the course of damming rivers, we virtually destroyed the rich Atlantic salmon, shad, striped bass, herring and sturgeon as they made their way inland from the Atlantic."

"And in this century, with our massive projects up and down the Pacific-bound rivers, we have repeated this process of destruction, virtually decimating the great salmon and steelhead runs of the northwest, by continuing to build dams clear up into the 1970s. This year, we learn that roughly one third of all fish, two thirds of all crayfish, and three quarters of the bivalve freshwater mussels in America are rare or threatened with extinction."

"Let's give the economists their due: We seem to value something only when it becomes rare. The loss of fisheries that we once took for granted has led to a new urgency demanding ways we can replenish them. Every single dam to which I brought my sledgehammer was removed for the benefit of one or more endangered aquatic species. Yet despite this progress there are still -- if we use established figures -- 74,993 dams in America, blocking 600,000 miles of what had once been free flowing rivers. That's about 17 percent of all rivers in the nation. If one wanted to unleash every one of those rivers -- something I clearly don't advocate as policy -- and restore those watersheds, it would take a lot more than one person swinging a sledgehammer every few months."

"But as we contemplate future ceremonies involving dams, here are some considerations:

- Dams are not America's answer to the pyramids of Egypt. We did not build them for religious purposes and they do not consecrate our values (even if some are named after Presidents). **Dams do, in fact, outlive their function.** When they do, some should go. There is a dam in Pawtucket, RI, spanning the Blackstone River. It powered the first mechanical mill in America, birthplace of our Industrial Revolution. Today, even as we move centuries beyond the water powered mills, we have chosen to preserve that dam as a historic marker of where we once were as a nation. As such, it is the exception that proves this rule.
- **There also comes a point in the life of a dam where we can get the same benefits in other ways.** On Butte Creek, the Sacramento River tributary, irrigation farmers could replace McPherrin Dam and three others with an irrigation pump and siphon. Quaker Neck Dam, which stored water for power generators, could be replaced with a different cooling system.
- **Moreover, in some cases the price for the benefits is simply too high; the dam has grown too expensive relative to the loss of fish.** On the Kennebec River, the age, location (close to the river's mouth), huge environmental costs and low generation at Edwards made it a relatively easy call, for removal. Owners of dams coming out on the Menominee found that taking a holistic approach to the entire watershed would save them time, money and energy. Some could be phased out, while others reoperated with screens, fish passage and drawdowns."

"But all these conditions rest on the values and the scientific understanding of the larger community. Who, besides nature, decides whether a dam stands or falls?" Babbitt said that many of the consensus based decisions to remove dams are brought about by democratic, voluntary watershed councils that are cropping up all over the country. Larger dams pose more complex issues, for there are more, and bigger, economic stakeholders. Entire industries, the price of electricity for millions of people, water storage for cities are involved.

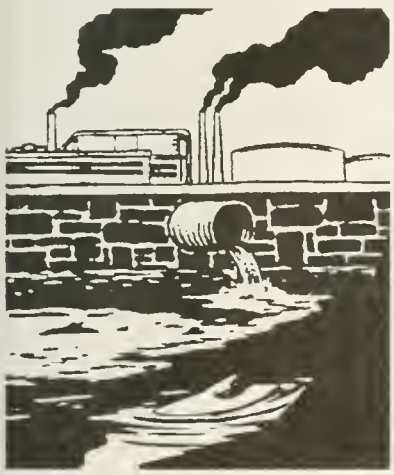
He said, "As citizens and scientists, ecologists can help to shape the restoration movement by examining and documenting the benefits that might be accrued by restoration of the aquatic ecosystem by removal or reoperation of a given dam in the watershed you may be involved in." He said, "We have plenty of powerful stakeholders willing to reassert the known, traditional benefits of dams -- irrigation, hydropower, urban water authorities, engineers. But the process of putting a value on the native life intrinsic to watersheds and ecosystems is something new, and the degree to which you can do so goes a long way."

In closing he said there is another way of expressing this: "My parents generation gloried in the construction of dams across America's rivers. My generation saw how those rivers were changed, deformed, killed by dams. Your generation must help decide if, how and where those dams stand or fall. I am reminded of Ecclesiastes: 'One generation passeth away, and another generation cometh: but the earth abideth always....All the rivers runneth to the sea, yet the sea is not full; to the place where the rivers flow, there they flow again...' A beautiful passage, but now haunting, for it is no longer true due to changes in my lifetime. I think back to my beloved Colorado River, which I hiked and rafted and saw change before my eyes. Once one of the mightiest rivers in America, it no longer makes it to the sea. That is a shame. As our genera-

tion passes, the toughest decisions rest firmly in your hands."
Source: News Release, Office of the Secretary of the Interior, 8/4/98, Contact: James Workman, (202) 208-6416

Mississippi River Crackdown

The Clinton Administration on 9/9 "disclosed one of its most far-flung environmental initiatives – 142 cases have been made against various types of alleged polluters located along the Mississippi River system." At a news conference in St. Louis, Attorney General Janet Reno and EPA Administrator Carol Browner described their joint *"Mississippi River Initiative,"* which over the last year has netted 54 criminal convictions and nearly $29 million in civil and criminal fines across the Mississippi River Basin. Justice officials have filed criminal charges in 31 cases, 13 of them in Missouri.



In two new developments, the feds announced *Shell Oil Co.* will pay a $1.5 million fine and contribute $10 million to environmental projects to settle "hundreds of violations" at its Wood River refinery in Roxana, IL, near St. Louis. The government also filed charges against *Clark Refining and Marketing Inc.* for "dozens" of violations at its refinery in Blue Island, IL, which is miles from the Mississippi River on a tributary near Chicago. *Clark* VP John Bernbom said the problems referred to in the feds' complaint were "history. This refinery today is operating in full and complete compliance with all rules and regulations".

The violations prosecuted since the *Mississippi River Initiative* was launched last year have included illegal dumping, illegal emissions, falsifying environmental reports, wetlands destruction, sewage overflows, chemical discharges and oil spills. The violators have included both companies and local governments, including the city of New Orleans, which paid $200 million to settle a sewage case.

The Mississippi "one of the busiest commercial waterways in the world, provides drinking water for about 18 million people, and serves as a swimway for more than 240 fish species". The river drains one-fifth of all the water running off North America, "collecting pollutants with each cascading drop." Yet, "large portions" of the river are "unsafe for whole-body-contact recreation," and "most fish species" can be eaten only occasionally or not at all. Jessica Landman of the *Natural Resources Defense Council* noted that one of the river's biggest pollutants is runoff from farms, which is not covered by "traditional" enforcement measures.

Sources: John Fialka, *Wall Street Journal*, 9/10/98; Libby Quaid, *AP/New Orleans Times-Picayune* online, 9/9/98; Paul Hampel, *St. Louis Post-Dispatch*, 9/10/98; Peter Kendall, *Chicago Tribune, 9/10/98;* Michael Grunwald, *Washington Post, 9/10/98;* Gary Fields, *USA Today,* 9/10/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/10/98

Pfiesteria Infection Causes Mental/Visual Impairment

People exposed to the water-borne microbe *Pfiesteria piscicida* can develop reversible but "severe" difficulties in learning and concentrating, according to a new study by *University of Maryland* researchers that was published in the British medical journal, *The Lancet*. The study of 19 Maryland residents who reported a range of neurological symptoms after being exposed during outbreaks of *Pfiesteria* last year supports earlier concerns that the single-cell organism can pose health hazards to people. It is the first study to confirm the link and appear in a peer-reviewed journal. Researchers found that most of the eight most heavily exposed fishers scored worse in a memory recall test than 95% of the general population. Cognitive ability returned to normal after a few months from the time of exposure, but some symptoms lasted as long as six months.

Another USEPA study released on 9/17 found that fishers exposed to *Pfiesteria* may also develop chronic visual impairment. EPA neuro-toxicologist Kenneth Hudnell said tests conducted on North Carolina fishers found that those who worked in rivers where *Pfiesteria* had caused fish kills "had a reduced ability to detect visual patterns compared with other anglers plying uninfested areas". Visual sensitivity problems can cause people to perform tasks more slowly and can cause increased risk due to accidents, and it is too soon to say whether the visual impairment is reversible, Hudnell said. "Further research is needed before definitive conclusions can be made as to whether *Pfiesteria* may adversely affect vision or pose other human health risks". Researchers don't know yet the means by which *Pfiesteria* affects the nervous system. Maryland researchers plan to use advanced brain scans to determine toxic affects on the brain and assess whether last year's victims are more susceptible to the microbe or whether they've built up an immunity.

The presence of *Pfiesteria* in East Coast waterways has also stirred policy debate in Congress and among state officials. The USEPA, *Centers for Disease Control* and several states are studying outbreaks of the microbe, which is thought to become toxic, in part, because of nutrient-rich pollution from farms and waste-treatment plants. In North Carolina researchers are producing the toxin so they "will not run out of material to study,"

In early August the Clinton Administration authorized $221 million over the next 10-15 years to help North Carolina fight runoff pollution that in late July led to the first major *Pfiesteria* outbreak of the season. An estimated one half million fish were reported killed. The $221 million, which is subject to congressional approval, would help farmers develop long-term strategies to reduce runoff

pollution, and to create up to 100,000 acres in buffer strips along state waterways and other projects.

A $1 million monitoring system implemented after last summer's fish kills alerted Maryland officials to a small fish kill in early August, but the kill was not attributed to *Pfiesteria*. On 8/8, *North Carolina State University* opened a $650,000 lab to serve as a multi-state clearinghouse for testing water samples for *Pfiesteria*. Meanwhile, scientists meeting on 9/22 in Washington, DC, warned that despite the absence of *Pfiesteria* outbreaks this summer, the toxic microbe could "easily come back next summer." Experts gathering at the *National Sea Grant College Program* could not say why the microbe failed to reappear this year theorized that stormy weather may have "flushed out" concentrations of the microbe. Some scientists say *Pfiesteria* has been building up in numbers for years, aided by nutrient pollution running off the land.

Scientists have also highlighted new faster and cheaper techniques to detect the toxic microbe. Parke Rublee, a professor at the *University of North Carolina* at Greensboro, said the new methods could cut costs from $1,500 to $15 per test and reduce the turnaround time from three weeks to a day or two. Two of these tests use DNA analysis to match known segments of *Pfiesteria's* genetic code with those of unknown cells. A third test uses a fluorescent biochemical marker that attaches itself only to the microbe, making it easy to detect using a special microscope. JoAnn Burkholder, an aquatic botanist at *North Carolina State University*, "said she is confident" new research will lead to the discovery of what impact *Pfiesteria* has on health.

A new Duke University study said that an "unprecedented surge of silt, fertilizers and pollutants" in two North Carolina rivers has "decimat[ed]" the one-celled plants that help maintain a waterway's ecological balance. The crash in one-celled plants, or diatoms, over the last 50 years in the Neuse and Pamlico rivers may have given *Pfiesteria piscicida* and other harmful algae the opportunity to flourish, researcher Sherri Cooper said. The increase in urban and farm pollution allowed some microscopic organisms to do well in the new environment, while others were ravaged, and the beneficial diatoms were among the losers. Cooper said diatoms, which keep harmful organisms in check, are "very good indicators of what's going on in a watershed".

Sources: David Brown, *Washington Post*, 8/14/98; David Morgan, *Reuters/New York Times*, 8/14/98; A.J. Hostetler, *Richmond Times-Dispatch*, 8/14/98; Douglas Birch, *Baltimore Sun,* 8/14/98; Hopkinson/Williams, *Wall Street Journal, 8/7/98;* Geoffrey Upton, *Baltimore Sun*, 8/7/98; White House release, 8/6/98;Todd Shields, *Washington Post*, 8/15; *AP/Richmond Times-Dispatch*, 8/8/98; Timothy Wheeler, *Baltimore Sun,* 9/18/98; John Wheelan, *AP/San Francisco Chronicle/Examiner* online, 9/18/98; Peter Goodman, *Washington Post*, 9/23/98; Margie Hyslop, *Washington Times*, 9/23/98; Heather Dewar, *Baltimore Sun*, 9/23/98; *Washington Post*, 9/14/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/7, 8/10, 8/14, 8/17, 9/14, 9/18 and 9/23/98

Federal Ag Waste Strategy

Agriculture Secretary Dan Glickman and USEPA Administrator Carol Browner announced on 9/16 a draft plan to improve water quality and reduce health risks associated with runoff from animal feeding operations. In a letter to Vice President Al Gore, Browner and Glickman said "dramatic changes in the animal feeding industry in the last 20 years" prompted the search for a new, unified regulatory approach to containing wastes and ensuring the long-term health of the livestock industry. "Only about one-fourth of all animal feedlots are [currently] regulated by states".

Part of the Clinton Administration's Clean Water Action Plan's draft strategy seeks to stem agricultural runoff by requiring farms to obtain operating permits premised on waste management strategies. Specifically, the plan calls for farms to:

- modify animal diets to limit the amount of nutrients animals produce in their excrement;
- properly manage waste,
- change the way animal waste is applied to fields as fertilizer,
- keep records on manure applications, and
- employ conservation methods.

Browner called the plan "the most aggressive strategy ever proposed" to address agricultural wastes. Glickman assured farmers that the plan would be "customer-driven," because "we want to hear from owners and operators of animal feeding operations" on how to refine the proposal

The *National Cattlemen's Beef Assn.* said that it would welcome national standards, but that the USEPA had relied on "faulty data" in reaching conclusions about the scope of the ag waste problem. The agency says about 35,000 river miles in the U.S. are adversely affected by livestock operations. *National Broiler Council* spokesperson Richard Lobb questioned whether the agencies have the legal authority to issue such regulations, suggesting that Congress would either need to order a rulemaking or amend the Clean Water Act.

The *Natural Resources Defense Council* (NRDC) called the strategy a "helpful step forward." But NRDC analyst Robbin Marks said the feds should have called for a national moratorium on new and expanding farms while their operations are reviewed. And Marks complained that the plan would not require the corporate owners of the animals to share responsibility with the farmers who raise them under contract.

A final strategy will be developed after a four-month public comment period. The draft strategy can be found on the Internet at http://www.nhq.nrcs.usda.gov/cleanwater/afo.

Sources: Brad Knickerbocker, *Christian Science Monitor,* 9/17/98; Janelle Carter, *AP/San Francisco Chronicle/Examiner* online, 9/17/98; *NRDC* release, 9/16/98; *Washington Times*, 9/17/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/17/98

State Ag Waste Update

Discussions among poultry groups to determine how to improve operations and protect water and soil quality are exposing regional differences, reports the AP. The *National Broiler Council*, the *National Turkey Federation* and the *U.S. Poultry and Egg Assn.* this year have been meeting with USEPA and Agriculture Dept. officials to discuss uses for chicken manure, such as burning it for energy. But the groups are "still grappling" with questions about who will pay for new technology research, educational programs and nutrient-management plans to control phosphorous runoff.

Farmers in Delaware, Maryland and Virginia are "particularly sensitive" to runoff issues because of outbreaks of *Pfiesteria piscicida*, a toxic microbe that some scientists have linked to farm nutrients. Steve Corazza, a farmer in Delaware, said EPA officials "have made it clear they are not interested in harsh regulations or a mandatory program," but they are opting instead for voluntary compliance programs. Environmentalists complain they have been kept out of the process.

Recent developments in the various states are summarized below:

Alabama - The state Dept. of Environmental Management has finished drafting rules for concentrated animal feeding operations (CAFOs) that address construction, operations, training and inspection requirements.

Arkansas - Voluntary efforts to reduce phosphorus levels in the Illinois River basin of northwest Arkansas and northeast Oklahoma "are paying off," according to a new report by the Engineering Committee of the *Arkansas River Compact Commission*. The commission said the amount of phosphorus detected at four Arkansas sites has dropped by an average of 25% over the past five years. The data for Oklahoma were mixed, with four sites showing varying degrees of improvement and decline. Chuck Bennett, chief of the Water Division of the Arkansas Dept. of Pollution Control and Ecology, attributed the improvements to efforts by municipalities, farmers and poultry producers to reduce polluted runoff.

Colorado - Gov. Roy Romer (D) announced in late September his support of a ballot initiative that would require the state to regulate corporate hog farms. Romer hosted an electronic "town hall" meeting in support of the initiative, linked by satellite conference to legislators and residents of North Carolina, Oklahoma, Iowa and Illinois. They "denounced" a competing amendment that would constitutionally bar new regulations. Dave Carter, president of the *Rocky Mountain Farmers Union*, said there are about 17 major hog farming operations in Colorado, with more on the way. Carter said the industry would be able to survive with regulation. But some hog producers say jobs would be lost if the regulations were adopted. The companies "also deny that they wreck the environment and argue that all livestock should face the same laws".

Idaho - *Sawtooth Farms* has proposed a $1 billion project to raise 250,000 hogs on state land in southwestern Idaho's high desert. Supporters took "pains" to emphasize the environmental aspects of their plan that differ from other "huge" hog farms.

Illinois - During the first three months of 1998, the Illinois EPA found that 15 of 22 farms inspected were polluting nearby streams. The findings came as Fulton County lawmakers approved a resolution banning the construction of large-scale hog farms.

Iowa - During a July livestock production conference, Sen. Tom Harkin (D/IA) told leaders of the industry that regulation is inevitable and "not that far away." Harkin, who has proposed national standards, said the move is likely to prompt the development of new farming techniques such as "manure banks" that can store excess waste until it is transported to areas where it can safely be applied to land. The USEPA and the Dept. of Agriculture are looking to broaden existing regulations.

Kansas - The environmental consulting firm, *Spectrum Technologies,* in August criticized a *Kansas State University* study "hailed by the hog industry" that found seepage from large hog-farm waste lagoons is "well within state standards." *Spectrum* Pres. Craig Volland said poor weather conditions caused a "large range of error" in three of the four lagoons tested and charged that the university is withholding parts of the study. Meanwhile, Kansas gubernatorial candidate David Miller, who is challenging Gov. Bill Graves for the Republican nomination, on 7/7 kicked off a two-day campaign trip by focusing attention on corporate hog farms. Miller said residents should have control over whether such operations are allowed in their communities.

Kentucky - State officials are developing new regulations for large hog farm operations and confined chicken-feeding operations. A *Lexington [KY] Herald-Leader* editorial said the recent study linking nervous system problems to *Pfiesteria* "strengthens the case for requiring stringent controls of runoff from large hog-and chicken-raising operations".

Mississippi - North Carolina-based pork producer *Prestage Farms Inc.* is suing six northeast Mississippi counties for enacting hog-farm restrictions. The company alleges the ordinances violate the equal-protection clause because they are "aimed directly at hog farms" and not at other livestock operations.

North Carolina - Waste lagoons at concentrated hog farms in a North Carolina county have led to a 100% increase in the amount of ammonia rain falling in the area in the past decade, according to a study by *North Carolina State University*. The study in Sampson County, the "heart of the hog belt," shows that the increase began in about

1985, correlating with the growth of the hog industry, according to researcher Viney Aneja. By 1996 the ammonia levels had more than doubled. The North Carolina Division of Air Quality reports that hog farms collectively discharge at least 186 tons of ammonia into the air every day, and that ammonia triggers algae blooms and fish kills. U.S. Agriculture Dept. research indicates that much of the ammonia wafting from farms is used by plant and forest systems. But the *Environmental Defense Fund* has urged state regulators to limit ammonia gases from hog farms. A *Raleigh News & Observer* (7/8) editorial said the *North Carolina State University* research "strengthens the case for proceeding cautiously with hog farm expansion, guided by an interest in safeguarding human and environmental health -- not just profit". The GOP controlled state House has approved a plan to study new technology to phase out the waste lagoons, while voting 83 to 17 to extend the moratorium on new hog farms by six months to 9/99. The bill now moves to the Senate. The state has also imposed several new restrictions on the *Carolina Food Processors* pork-processing facility in Tar Heel. The Division of Water Quality froze the amount of wastewater the plant can discharge into the Cape Fear River and barred the facility from accepting hogs from farms that have violated environmental regulations. The company had sought to expand its production and waste discharges, but regulators "balked" because the plant has been cited for "dozens" of environmental violations since it opened in 1993.

Ohio - Country music singer Willie Nelson, president of the non-profit advocacy group *Farm Aid*, sang "the praises of megafarm moratoriums" at an Ohio State Fair appearance. At a press conference before his concert, Nelson said his group will continue to give money to organizations opposed to large-scale livestock farms. However, *Ohio Farm Bureau* media director Joe Cornely, alluding to Nelson's tax problems in recent years said, "I have no doubt Mr. Nelson's heart is in the right place, but I'm afraid he's getting his farm policy advice from the same people who gave him his tax advice". Meanwhile, *Ohio State University* is planning to team up with a pair of Ohio farmers to study two barn designs that could keep hog manure dry and serve as alternatives to storing liquid waste in lagoons. The "high-rise hog barns" and "deep-bedded hoop structures," would let hog waste dry as a solid in straw, cornstalks or other absorbent materials and make the waste easier to apply as fertilizer. Meanwhile, the Ohio Environmental Protection Agency has told the *Buckeye Egg Farm* to "temporarily shelve" plans to raise 18 million chickens at several facilities near Marion, but it gave the state's largest egg producer permission to expand other facilities and build two new ones. The decision "appears to represent a shift in policy by Gov. George Voinovich's (R) Administration. Environmentalists "said the decision may signal a more responsive environmental approach to granting large-scale farming permits".

Oklahoma - The state Agriculture Board in late July approved emergency rules for hog farming in order to implement new restrictions on the industry, including groundwater monitoring. The *Oklahoma Sierra Club* and residents "applauded" the proposed changes. Meanwhile, at an August USEPA hearing, state Environmental Secretary Brian Griffin "ripped" proposed federal regulations that would require new permits for large, confined animal operations near lakes and rivers.

Virginia - A Virginia circuit court judge said in July that the state can proceed with its suit against *Smithfield Foods Inc.* over pollution violations even though Virginia dropped the suit in mid-trial last year. State officials are seeking millions of dollars in civil fines from the pork producer for damages stemming from 22,520 alleged pollution violations between 1983 and 1994. *Smithfield* attorneys have argued that giving the state a second chance at the suit would constitute "double jeopardy." But Judge Westbrook Parker ruled that the case is a civil one and therefore double jeopardy does not apply. The judge also ruled that a separate lawsuit filed against *Smithfield* by the USEPA does not preclude the state from also suing the company. No trial date has been set in the state's case. *Smithfield* attorney Anthony Troy says the company is considering filing an appeal in the state's Supreme Court.

Sources: Todd Spangler, *AP/Birmingham News*, 8/10/98; Mike Salinero, *Huntsville [AL] Times*, 7/13/98; Katherine Vogt, *Denver Post*, 9/24/98; Judith Crosson, *Reuters/ lanetArk*, 9/25/98; Nicole Ziegler, *AP/Springfield [IL] State Journal- register*, 7/15/98; Nicole Ziegler, *AP/Springfield [IL] State Journal- register*, 7/15/98; *AP/Omaha World- Herald*, 7/21/98;Scott Rothschild, *Wichita Eagle*, 8/11/98; *AP/Baton Rouge Advocate*, 7/14/98; Brian Williams, *Columbus [OH] Dispatch*, 7/12 and 8/13/98;Mick Hinton, *Oklahoma City Daily Oklahoman*, 8/14/98; Paul English, *Oklahoma City Daily Oklahoman*, 7/23/98; Bill Geroux, *Richmond Times-Dispatch*, 7/30/98; *Charlotte Observer*, 7/6 and 7/9/98; *Idaho Falls Post Register*, 7/8/98; Roxanna Hegeman, *Wichita Eagle*, 7/8/98; Vindu Goel, *Cleveland Plain Dealer*, 7/8/98; Glenn/Williams, *Columbus Dispatch*, 7/7/98; DOJ release, 9/24/98; and Shiffer/Williams, *Raleigh News & Observer*, 9/24/98; Dave Hughes, *Little Rock Arkansas Democrat-Gazette*, 9/24/98; and National Journal's GREENWIRE, *The Environmental News Daily* 7/30, 7/28, 8/19, 9/28 and 9/29/98

State Runoff Laws Irrelevant on Federal Lands

In a major blow to environmentalists working on the agricultural waste issue, a federal court recently ruled that states cannot regulate water pollution from cattle grazing on federal land. The 9th U.S. Circuit Court of Appeals, which holds jurisdiction over nine western states, on 7/22 overturned a 1996 federal judge's ruling. The earlier decision required an Oregon ranching couple, who wanted to graze 50 head of cattle in the Malheur National Forest, to meet state conditions for reducing pollution of nearby salmon streams.

The *Oregon Natural Desert Association, Pacific Rivers Council* (PRC) and seven other environmental groups argued that federal regulation was too lax and that state laws should apply. They hoped the ruling would lead to a reduction in grazing on the vast federal

tracts in the West and its effects on water quality. While the short-lived decision applied only to grazing in Oregon, legal experts surmised it could have been extended to other polluting activities on federal lands, such as logging and mining.

However, the appeals court held that only the federal Clean Water Act applies to federal lands, and that the act authorizes states to require permits only for "point sources" of water pollution. Point sources are distinct and concentrated such as pipes and much different from general runoff like that from cattle grazing and other agricultural operations, the court noted. Moreover, states can regulate nonpoint source pollution only indirectly, through plans that are federally funded and approved by the Environmental Protection Agency, the court said.

While the environmental groups failed to persuade the court that state programs should apply in the absence of national ones, the Clinton Administration's Clean Water Action Plan calls for a unified policy regarding water pollution on lands managed by the various federal agencies. In its FY99 budget proposal, the White House requested $69 million more than in FY98 for U.S. Forest Service water quality improvement efforts and $24 million more for such programs at the Bureau of Land Management.

In the meantime, "States are still on the hook to ensure that federal land managers protect and restore water quality on federal land," said PRC official Mary Scurlock. "Fifty percent or more of [western] federal lands are not meeting water quality standards, many in significant part due to grazing." Lawyers for Grant County, OR, site of the grazing land in the case, said they were relieved by the ruling since the county depends on revenue from cattle grazing. Had the original ruling stood and been interpreted broadly, the county might have been required to seek state permits for some of its operations, they added.

Source: Tim Breen, *EESI Publishing* , 122 C Street NW, Suite 700, Washington, DC 20001, (202) 628-6500

Coast Guard Battery Pollution

In early September, an Alabama sportsman, the Alabama chapter of *Bass Angler Sportsmen Society (BASS)*, and approximately 25 other national environmental groups announced their intention to sue the U.S. Coast Guard in federal court for its failure to clean up hundreds of thousands of mercury-containing batteries that lie leaking under U.S. lakes and rivers, dumped there since the 1950s by the Coast Guard.

Under the Resource Conservation and Recovery Act, 60 days notice must be given to polluters allegedly endangering the environment or humans. The Coast Guard for decades has maintained marker buoys that light ships' passage along interstate freshwater rivers and lakes, as well as, saltwater bays and sounds. In the past, when the 6 volt or 12 volt mercury and zinc batteries died atop blinking signal buoys, Coast Guard maintenance crews simply dumped the spent batteries into the water as they were replaced.

For those decades of careless pollution, U.S. Coast Guard Administrator Robert Kramek has apologized and says the Guard was "like many others, not environmentally conscious in the 1970s." He says the practice stopped in 1973 when rechargeable lead batteries were employed. But Ray Scott, founder of *B. A. S. S.* , said the practice of battery dumping continued well into the 1980s. "We have recovered batteries with manufacturing dates up to 1988," Scott said as he exhibited encrusted, leaking *Edison Carbonaire* batteries pulled by divers from Guntersville Lake.

In the shadow of the Bellefonte Nuclear Power Plant, divers at mile marker 392 emerged from 23 ft. of cold water with spent, broken batteries to prove Scott's point. In less than two hours, they retrieved 22 batteries, which Scott and Alabama *B. A. S. S Federation* president Al Redding then delivered to the Coast Guard Station in Chattanooga. There, guardsmen in rubber gloves accepted the batteries and packaged them for disposal.

"The Coast Guard has told the Congress it will need $50 million dollars just to clean around fixed light stands -- never mind floating buoys -- and to date, on two trips to retrieve batteries out of Guntersville Lake, it didn't even finish the job. These batteries we brought up today are proof of that," Redding said.

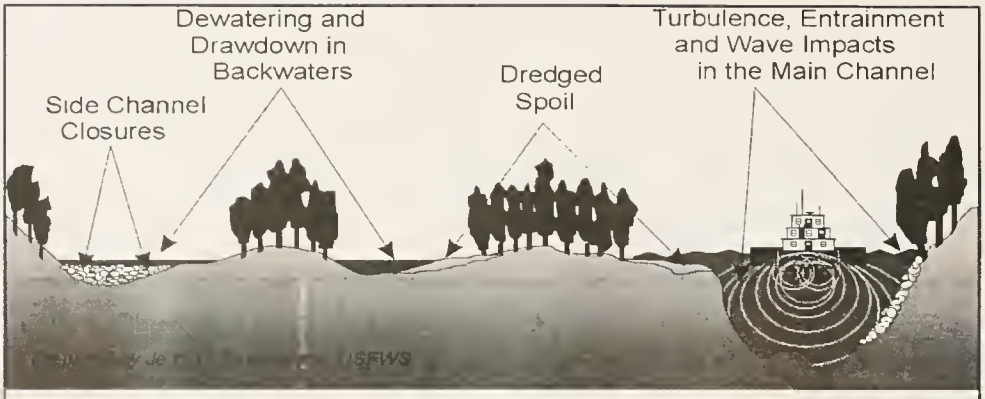
The Coast Guard and environmentalists do agree on one thing: The magnitude of the battery debris is enormous and affects every state. In Georgia, as of Jan. 1, officials had removed 2,400 batteries from 307 aquatic and land sites, including 163,000 pounds of battery parts. In Mobile Bay and Alabama's rivers, Navy Reserve divers have recovered 1,058 batteries. In Florida, more than 13 years after the initial discovery of batteries in Tampa Bay, most of the estimated 800 batteries remain submerged.

For John Cronin, attorney with *Pace University Environmental Litigation Clinic* in White Plains, NY, the lawsuit's impact will go beyond battery retrieval. It will strike at the way government agencies act when found guilty of environmental regulations in the future.

Sources: Gita M. Smith, *Atlanta Journal-Constitution,* 9/3/98; and Dr. Bob Williams, *Rivers Project*, Box 2222, Southern Illinois University , Edwardsville, IL 62026, (618) 650-3788

Barge Caused Fish Mortality

"Large North American rivers, including the Arkansas, Columbia, Cumberland, Illinois, Mississippi, Missouri, Ohio, and Tennessee, are used as transportation corridors for barges and other large commercial vessels. For example, in the Mississippi River above St. Louis, approximately 4.8 million barge-km of commercial navigation was logged during 1992. The towboats that push barges disturb much or all of the water column over



Large commercial vessels displace or disturb most of the water in the water column over their sailing line, entraining both adult and larval fishes. This displacement also drains many nearby channels and backwaters. Many fish, both larval and adult, displaced and entrained in turbulent propwash currents, are severely injured or destroyed in the process .

their sailing lines and have the poten tial to entrain and kill fish. Expansion of the navigation capacity of the Upper Mississippi River is being considered, and therefore resource managers in the U.S. Fish and Wildlife Service, the U.S. Army Corps of Engineers and in the adjoining states needed estimates of the magnitude of entrainment mortality. This study is the first to measure this source of mortality of adult fish. We developed a method to estimate entrainment mortality of large riverine fishes and used it in Pool 26 of the Mississippi River and the lower 32 km of the Illinois River. Our approach relied on the combination of acoustically monitored bottom trawling behind towboats and fish detected in this entrainment sampling. Our estimate of entrainment mortality of gizzard shad is 9.5 fish per km of towboat travel, with an 80% confidence interval of 3.8-22.8 fish/km. Additionally, we conducted ambient bottom trawling in the navigation channels to estimate abundance of live fish. We observed additional recently killed gizzard shad, shovelnose sturgeon *Scaphyrhynchus platorhynchus*, and smallmouth buffalo *Ictiobus bubalus* in these ambient samples. Documentation of a propeller-killed shovelnose sturgeon was particularly problematic because it is similar to the sympatric federally endangered pallid sturgeon *Scaphyrhynchus albus*. To estimate the entrainment mortality of shovelnose sturgeon and smallmouth buffalo, we developed an ancillary estimator based on entrainment mortality of gizzard shad obtained from the entrainment samples and on the marginal distribution of numbers of propeller-killed fish of each species in the combined ambient and entrainment samples. Our ancillary estimates of entrainment mortality of shovelnose sturgeon and smallmouth buffalo are both 2.4 fish/km of towboat travel with 80% confidence intervals of 0-6 fish/km. Because total annual tow distances are so large, our results suggest large system-wide annual losses. However there is considerable residual uncertainty because of the short duration and small geographic range of this study. Our methods are applicable to commercially navigated rivers generally, and perhaps also to the intracoastal waterways along the Gulf of Mexico and elsewhere."

Source: *Estimation of Mortality of Adult Fish Caused by Commercial Navigation in Large Rivers.* 1998. Steve Gutreuter, USGS, Upper Mississippi Science Center, 2630 Fanta Reed Road, La Crosse, WI 54602; John M. Dettmers, Illinois Natural History Survey, Lake Michigan Biological Station, 400 17th Street, Zion, IL 60099; and David H. Wahl, Illinois Natural History Survey, Kaskaskia Biological Station, R.R. 1, Box 157, Sullivan, IL 61951. Poster presented at USGS/BRD, Fisheries and Aquatic Resources Review, Madison, WI, August.

Money Down the Drain

"Growmark ships chemicals on the Illinois River, *Cargill* moves barge-loads of grain and the Army Corps of Engineers constantly dredges and rebuilds the locks and dams of the state's largest river.

'In this age of federal budget cutting, the dole for waterway shippers in the Midwest is enormous. The Army Corps of Engineers spent about $1.3 billion in the 1980's to replace a single lock and dam on the Mississippi River. Only a trickle of this money comes back to the U.S. Treasury via a tax on barge fuel, and even this drop in the bucket is stored in a trust fund for more waterways construction. Most of the Corps money is simply a giveaway to a few large corporations and shipping firms.

'A *University of Illinois* paper recently considered how much the federal government would receive if it were to auction off the entire Illinois River navigation system to the private sector. The answer $50 million. Now consider that the plan by the Corps (is) to replace two of the river's locks for $800 million. That's like deciding to spend $800,000 to remodel your kitchen when the bank just told you that your whole house is worth only $50,000.

'The Illinois River ceased to be an economic factor in Chicago years ago. Very little traffic flows anymore through the Chicago Ship and Sanitary Canal linking Lake Michigan and the Illinois River. So the chief question is, will downstate farmers benefit from the Corps' expensive lock replacement plan? Even with the enormous federal dole, only farmers within 50 to 75 miles of the river find it cheaper to ship by water than by rail. Waterway shippers now charge those farmers prices just low enough to keep them from shipping by rail. If the present locks are replaced by larger ones, there is little incentive to charge the farmer less, even though shipping costs would have declined. All the shipper has to do is to keep the farmers from turning to the competition. Shippers claim that barges wait long times to get through the existing locks at certain times of the year. It costs commercial shippers $300 to $600 for every hour they wait to pass through

a lock. This product has a ready made solution: the Corps could charge more for lock users at peak times and less for those using the system at low use times. Airlines charge more for peak time use. Such pricing on the waterways would put the costs where they belong, on the river freight shippers.

'To justify the proposed lock replacements in Illinois, the Corps fantasizes a tremendous growth of river traffic. They have performed similar feats of "induced traffic" on the White River in Arkansas, the Tombigbee in Mississippi and the Chattahoochee in Georgia. All of these projects though' have been economic flops.

'Can the railroads handle the anticipated increase in grain and coal production that the Corps believes will occur over the next 50 years? Of course they can. The railroads saved farmers and others when they picked up the freight for several months during the 1993 floods. They did it before during the 1988 drought.

'Railroads can be run around the year, through the winter ice that often strand barges, and they serve consumers that live beyond river valleys. Overall, they carry 41 percent of the nation's freight ton-miles compared to only 7 percent by river barge. If the federal government bowed out of subsidizing waterways, the railroads have the infrastructure to expand, apparently very quickly, and carry much more grain and other bulk commodities.

'Another justification for waterway spending is that America's canals are an important link in our national defense transport system. Surely they jest. What shall we do when we want to move some huge missile from say Arizona to Georgia, build a National Defense Barge Canal? The Corps' locks and dams cannot correct one overpowering "defect" of nature – America's rivers don't flow east-west like our commerce does.

'Finally, it is argued that Midwest grain has to be cheap to compete with foreign sources. That is true. But when grain prices go down, the economic justification for new and bigger locks becomes even shakier. It seems that large shippers like *Growmark* and *Cargill* want it both ways. They want high-priced grain to justify expensive navigation construction and low-priced grain for competition abroad.

'Environmentalists see the existing locks and barge traffic as damaging to a precious river ecosystem – stifling river flows, cutting off wetlands, churning up sediments and increasing the damage from pollutants flowing down the Illinois River chiefly from the Chicago suburbs. While federal and state officials should be thinking about closing some of these waterway antiquities, we can at least stop adding to the problem by following pork barrel logic."

Source: Bruce Hannon, *University of Illinois*, Champaign

Missouri River Navigation Benefits Farmers Little

Missouri River barges have little or no impact on rates charged by railroads to move goods anywhere near the river, according to a study released in August by the *Environmental Defense Fund*. The report contradicts a study prepared by the U.S. Army Corps of Engineers that claimed railroads lower their rates due to competition form shipping on the Missouri River.

The report's author, Dr. Phillip Baumel, Professor in Agriculture at *Iowa State University*, also found that the region's farmers would probably benefit more if water used for occasional barges on the Missouri River were instead saved and used to float barges on the Mississippi River below St. Louis during droughts. Mississippi River barging does result in significant transportation benefits to farmers.

Missouri River barges carried an annual average of only about 1.5 million tons of commercial traffic, compared to almost 100 million tons carried on the Mississippi River below St. Louis. According to an earlier study by Dr. Baumel, the Missouri River carries less than 2% of the grain exported from any of the states it serves (Iowa, Nebraska, Kansas and Missouri). According to the U.S. Army Corps of Engineers, the Missouri River provides annual economic benefits of less than $10 million per year. By contrast, other uses of the Missouri produce $1.3 billion in annual economic benefits.

Navigation advocates have claimed that the potential competition of river barges forces railroads to lower their rates in ways that benefit farmers along the Missouri River. The report prepared for the U.S. Army Corps of Engineers estimated that railroads lowered rail rates roughly $200 million per year.

Dr. Baumel's review of this report concluded that it was fundamentally flawed: "The report is sufficiently flawed that it provides no evidence to refute the common sense notion that barge traffic on the Missouri 'River is so small that railroads almost certainly ignore it." "Rail rates are based almost entirely on competition with other railroads, and, in recent years, on the ability of farmers to truck their corn and soybeans directly to the Mississippi River or to local corn milling plants and feedlots."

"The flaws with the report to the Army Corps start with the basic data," he said. "The study used deliberately coded reports of rail rates that cannot be used without a key to the code, which the authors simply did not have. They then arbitrarily rejected more than two thirds of the data. There is good reason to believe that much of the remaining data are equally unreliable."

Dr. Baumel's report also found that the conclusions of the report conflict with the conclusion of another Corps report, backed by Corps of Engineers traffic data, which found that the amount of grain taken by barge down the Missouri River is fixed by the

amount of fertilizer brought up the river. This means barges provide no meaningful competition to railroads for grain, in contrast to the finding of the report that grain shipments provided two thirds of the alleged benefits. "Use of the Missouri River is only likely to decline in the future because of the rapid growth of direct railing of grain to the west coast, to local feedlots and to other destinations that could not use the river," Baumel said.

By contrast, Dr. Baumel's review summarizes some of the critical problems faced by farmers when the Mississippi River below St. Louis runs shallow, which can bottle up three times as much commerce in a month as the Missouri River carries in a year and more than double barge rates.

"The Army Corps of Engineers has indicated that water from the Missouri River could be used to help keep barges moving on the Mississippi River at critical times if it were not used up to support barges on the Missouri River," said Dr. Baumel. "The region and the Army Corps should take a hard look at the tradeoff because it would probably be of real benefit to farmers."

Source: *Missouri Monitor, Vol. 1, No. 4, September 1998*

Hormone Disrupters and Fish

Scientists have found that "everyday" concentrations of sewage effluent in rivers seem to contain estrogen-like chemicals that cause fish to be hatched as half-male, half-female, "a surprising discovery that suggests pollution is feminizing animals throughout the wild." The study by researchers from *Brunel University* and the UK government in the 9/98 issue of the journal *Environmental Science and Technology* provides new evidence that hormone-disrupting pollution "could be a global ecological threat." The research suggests that such problems are more widespread than previously believed.

The fish were studied in eight rivers throughout the UK that are downstream from sewage treatment plants and that are considered "typical" in terms of pollution -- leading the researchers to suspect damage to sex hormones "could be happening in many rivers around the world." In two of the eight rivers, 100% of the male fish sampled had feminized reproductive tracts. The other six rivers had rates of 20-80%. The prevalence and severity of the defects was highest in the areas where the effluent discharge was most concentrated.

Hundreds of widely used chemicals, found in products including pesticides, cosmetics and plastics, are thought to mimic estrogen or block testosterone and disrupt the endocrine system that is the key to sexual development. The British team could not pinpoint the culprit chemicals, because sewage is a mix of everything that is washed down drains. The researchers say their findings mark the first documented example of "widespread sexual disruption in wild populations of any vertebrate." Most disturbing, they said, is the fact that discharges from sewage treatment plants are "an inevitable consequence of human existence."

But chemical industry officials doubt that hormone problems occur at the low levels of pollution that animals and people typically encounter. And they say that if hormone disruption is occurring, it is found in animals living in "hot spots," such as Great Lakes harbors, that were created before certain chemicals like DDT were banned.

Sources: Marla Cone, *Los Angeles Times*, 9/22/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 9/22/98

Lake Erie Too Clean??

The *Ontario Federation of Anglers and Hunters* is pushing for weaker pollution controls along Lake Erie, making the controversial claim "that cleaner waters are harming an ecosystem that has grown accustomed to pollution." Largely due to stricter limits on discharges from sewage treatment plants, phosphorus loadings in the lake have dropped from a peak of 28,000 tons in 1968 to nearly 11,000 tons in recent years. But the drop has coincided with "major" population declines in walleye, yellow perch and other fish species.

The federation says levels of phosphorus, small concentrations of which are critical to plant growth, may have fallen below the level necessary to foster plant growth and sustain fish, and could indicate that some fish "are better adapted to the murky water." Despite the federation's plea, the Lake Erie committee of the *Great Lakes Fishery Commission* has recommended maintaining discharge standards pending more study.

Meanwhile, some researchers have expressed concern about the push to boost phosphorus levels in the lake. *Ohio State University* zoology professor David Culver said, "If you change phosphorus dynamics, you influence everything." Culver added that increasing phosphorus levels could boost populations of the non-native zebra mussel without aiding fish.

Sources: Martin Mittelstaedt, *Toronto Globe & Mail*, 3/4/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 3/6/98

Lake Pontchartrain Spillway Studies

Seasonal marine life has returned and salt levels are back to normal in Lake Pontchartrain a year after the Bonnet Carre Spillway was opened, according to Corps of Engineers data presented at a *University of New Orleans* symposium. The studies were taken after the spillway's eighth opening. But by day's end, the only consensus among meeting attendees was that after more than $1.5 million of studies, more in-depth looks at freshwater effects on the brackish 626 mi.^{2} lake are needed.

Samples show that last year's opening was not the worst case scenario many feared, the Corps said. Widespread oyster deaths did not occur. Although last spring's brown shrimp season was devastated, the white shrimp crop was the same as the previous year. The lake had a bumper crop of blue crabs last year, said Corps biologist Bruce Baird.

"In my opinion, the lake is fully recov-

ered except for two areas: we still have problems with turbidity and we're not sure how the lake is doing after the tremendous load of spillway nutrients," said Carlton Dufrechou, executive director of the *Lake Pontchartrain Basin Foundation*. But some fishermen disagree, saying the price for crabs has spiked to more than twice last year's cost because of their scarcity in the lake.

The opening of the spillway unleashed a nutrient overload on Lake Pontchartrain, which took months to recover, a marine biologist said. Water from the Mississippi River travels through 5.7 miles of land before reaching the lake, and that isn't nearly enough land to soak up the nutrients that have been blamed for causing an algae bloom of historic proportions, *Louisiana State University* biologist Gene Turner said.

Turner used last year's spillway opening to study how the lake would fare with a permanent Bonnet Carre freshwater diversion. Bowing to environmentalists who decry the plan, Gov. Mike Foster killed the $85 million diversion by withdrawing state money. But the Corps and environmentalists said they are studying a smaller plan that would use nearby wetlands to filter river water to the lake. Turner said the surrounding swamp still would not soak up enough nutrients to prevent damage. The nutrients, nitrates and phosphates, are from agricultural runoff carried down from the upper river basin.

Source: *Mississippi Monitor*, June 1998

National Logging Ban Lawsuit

A coalition of environmental groups on 9/9 filed suit in U.S. District Court in San Francisco seeking to halt logging in all 151 national forests. Twenty groups, led by the Tucson-based *Southwest Center for Biological Diversity*, want all logging stopped until the U.S. Forest Service (USFS) issues a national forest management plan and outlines the plan's environmental impacts. The 1974 Renewable Resources Planning Act requires the agency to develop 5-year plans analyzing the impacts of activities in national forests such as logging, mining and grazing.

Several years ago, the agency issued a never-finalized draft plan for 1995-2000 that showed recreational activities were expected to contribute 32 times more income and employment than the timber industry. Last year the USFS reported that nationwide, it was spending $15 million more/year on logging programs than private companies were paying for the wood. The coalition says the USFS should be forced to admit that logging is a "money loser" and jeopardizes recreational activities by disrupting "environmentally sound land."

Critics of the agency's draft plan said it "overestimated recreational values." House Agriculture Committee Chair Bob Smith (R/OR) last year "demanded" that the Clinton Administration "rework the analysis". But last year, a rider to the Interior Dept. spending bill specifically prohibited the USFS from completing the plan, and a similar rider is included in this year's pending budget bill. Logging on public lands provides about 4% of the nation's wood. The *Southwest Center* said its intent was to restart the planning process for the forests.

Sources: Rhonda Bodfield, *Tucson Arizona Daily Star*, 9/10/98; Alex Barnum, *AP/San Francisco Chronicle/Examiner online*, 9/11/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/11/98

Miscellaneous River Issues

Atchafalaya Basin Protection Plan - Louisiana and Army Corps of Engineers officials in late August unveiled a broad plan to protect the Atchafalaya River Basin, especially its cypress and tupelo swamp areas. Sediment from spring floods threatens to fill in much of the basin over time, destroying "major stretches of cypress forest." To avert such destruction, the $338 million plan would direct Mississippi River flood water through the 838,000 acre basin via a Corps flood-control structure. The Corps also proposes to buy 20,000 acres of old-growth cypress trees and tupelo swamps from willing landowners and easements of over 338,000 acres of private land "that will severely restrict its use." The plan also calls for the Corps to build water-management projects to preserve wetlands in the basin. The Louisiana Legislature will consider the proposal next year. More information can be obtained on the Atchafalaya project by contacting the following web site: www.dnr.state.la. us/sec/atchafalaya/index.ssi. Sources: Mark Schleifstein, *New Orleans Times-Picayune*, 8/26/98; Bobby Reed, Louisiana Dept. of Wildlife and Fisheries; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/1/98

CA Sewage to Drinking Water Plan - The city of San Diego is hoping a "sober presentation of scientific evidence" and a $2 million public relations campaign will "persuade the public to swallow" its plan to use repurified sewage for drinking water. City officials stand behind the purity and safety of drinking water derived from the "multiple-barrier method" to treat sewage and reuse it. The method first filters out impurities, then treats and disinfects water with softeners and ozone and mixes it with "raw water" from runoff and imported sources in an open reservoir where it sits a year before being used. San Diego imports 90% of its water from the Colorado River and other sources, and although San Diego's population has leveled off at 1.2 million, its average daily consumption of water has increased. A poll taken for the city indicated that 60% of 500 respondents approved of the plan. Other California communities are employing similar plans to treat sewage for drinking water and the San Diego program has been looked at as a model to other "dehydrated" cities like Hong Kong and other municipalities in Australia and Japan. Source: Stacy Kravetz, *Wall Street Journal*, 9/10/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/10/98

Chippewa River Floodplain Restoration - The Wisconsin Dept. of Natural Resources is proposing a plan to preserve prairie along the Chippewa River that provides habitat for several birds on the state endangered species list. The lower Chippewa River also provides habitat for the endangered paddlefish and the crystal darter. Officials hope

to encourage land preservation in a 250,000-acre area by giving financial aid to landowners. Officials say the lower Chippewa Valley "can expect urban sprawl eventually" from neighboring St. Paul, MN, and Eau Claire, WI. Sources: *AP/St. Paul Pioneer Press*, 7/14/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 7/17/98

Clark Fork Headwaters Cleanup - Cleanup of the "largest Superfund complex in the country" has turned Butte, MT, into a "giant test laboratory for cleanup technologies". More than a century of copper mining in Butte and the surrounding area left the headwaters of the Clark Fork tainted with heavy metals, scarred mountains, and an open pit of toxic water in the middle of the town. The *Atlantic Richfield Co.*, abandoned the mine in 1979 and stopped pumping water out of the pit in 1981. The open water pit is now a 30 billion gallon toxic lake that grows by 7.5 million gallons/day and threatens to contaminate wells, creeks and wildlife. It is expected to pollute the surrounding aquifer by 2022 if cleanup attempts fail. *ARCO* plans to spend $48 million to build two plants to treat the water indefinitely at a cost of $14 million/yr. Cleanup strategies include adding lime to the water to neutralize the sulfuric acid and adding cow manure, also called a "submerged bioreactor," to the acid mine drainage to raise alkalinity levels and neutralize the water. Source: Jim Robbins, *New York Times*, 7/21/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 7/21/98

EPA to Set LA Pollution Limits - A U.S. District Court judge on 9/22 said the USEPA must step in to determine maximum allowable discharges into 255 water bodies in Louisiana that do not meet EPA water-quality standards. Under the Clean Water Act, states are to set a "total maximum daily load" (TMDL) for certain pollutants in waters not meeting EPA standards. The *Louisiana Environmental Action Network* and the *Sierra Club* sued the EPA in this case because the state has set TMDLs for only 17 of its 255 substandard waters. Judge Mary Ann Lemmon ordered the EPA, within 90 days, to file "a reasonable schedule" for setting the TMDLs. However, parties to the suit disagreed on whether an existing agreement between the EPA and the state Dept. of Environmental Quality will be adequate to conform with the order. The 6/97 agreement called on the federal and state agencies to work together to set the TMDLs over 12 years. EPA Region VI spokesperson Dave Bary said, "We are not aware of the judge indicating the 12 years is not satisfactory." But plaintiffs' attorney Eric Huber of *Earthjustice Legal Defense Fund* said that by ordering a "reasonable schedule," the judge meant that 12 years was too long. The EPA has not yet decided whether it will appeal the decision. Sources: Kevin McGill, *AP/Biloxi Sun Herald*, 9/24/98; Mike Dunne, *Baton Rouge Advocate*, 9/24/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/25/98

EPA Transfers State NPDES Program To TX - Responsibility for the nation's second-largest clean water program will shift from the feds to the state of Texas, the USEPA announced in September. After submitting a satisfactory state program that meets all federal Clean Water Act requirements, the EPA approved the Texas Natural Resource Conservation Commission to operate the federal National Pollutant Discharge Elimination System (NPDES). The move makes Texas's program the second-largest after California. Until now, Texas companies needed to obtain wastewater permits to discharge into the state's 15 major river basins and 8 coastal basins from both state and federal agencies. The state takeover of the permit program will end duplication and therefore reduce companies' paperwork. EPA will continue to oversee the program "via permit reviews, audits and inspections." EPA Region VI official Gregg Cooke said, "EPA, through its strong oversight program, will ensure that the transfer of this program to Texas continues to advance the clean water goals of our state". Sources: EPA Region VI release, 9/14/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 9/11/98

Fish Passage at Wildlife Refuges - Stocks of many anadromous fish species are in steep decline all along the east coast. One cause of this decline is the construction of barriers that prevent upstream migration to spawning grounds. On some coastal wildlife refuges, streams have been dammed to create water impoundments for migratory birds. The U.S. Fish and Wildlife Service's Delaware River/Delmarva Coastal Ecoteam and Gloucester Office of Fishery Assistance (GOFA) conducted a study to determine if vertical slot fishways would pass anadromous fish into these refuge impoundments. Testing was conducted at Prime Hook National Wildlife Refuge. Participants in this project in addition to GOFA and Prime Hook were the Delaware River Coordinator, Chesapeake Bay Field Office, and the South Zone Biologist. Sampling was conducted over five periods: 3/18-20, 3/27-29, 4/2-4, 5/23-25, and 6/16-18. Hoop nets 24" in diameter and 8' long were used. Netting material was 1.25" stretch nylon. Fourteen species of fish representing eight families plus blue crabs were documented to use the fishway. Families included *Anguillidae* (eel), *Centrarchidae* (sunfish), *Clupeidae* (herring), *Cyprinodontidae* (killifish), *Cyprinidae* (minnow), *Ictaluridae* (catfish), *Mugilidae* (mullet), and *Percichthyidae* (temperate bass). The vertical slot fishway was adequate to allow passage of any fish ranging in size from one inch to twenty-four inches in length. Source: U.S. Fish and Wildlife Service, Delaware River/Delmarva Coastal Ecosystem Team, FY97 Annual Report

Flood Insurance/Buyouts/Floodplain Management - The National Flood Insurance Program (NFIP), which provides flood insurance to homeowners, has paid more in claims than buildings are worth, according to a recent *National Wildlife Federation* (NWF) report that "calls into question the regulations governing" the program. The 30-year old program is supposed to be self-sufficient, but the Midwest floods of 1993 and 1995 have forced the program to borrow money, creating a $725 million debt, according to Mark Stevens of the Federal Emergency Management Agency (FEMA). The report, based on NFIP data, is the first comprehensive study of voluntary property buyouts and relocations as a new floodplain management option. The Vienna, VA-based group found that although repetitive-loss properties

represent only 2% of all properties insured by the program, they accounted for 40% of the NFIP payments between 1978 and 1995. Since the Midwest floods of 1993 the government has bought more than 17,000 properties in flood plains in 36 states and one territory. NWF called on federal agencies to expand new programs for buying houses in areas prone to flooding and letting low-lying land revert to a natural state. Congress is considering Clinton Administration requests to expand this approach instead of

building more dams and levees, and the Army Corps of Engineers and the FEMA are both seeking funds to buy more flood-prone homes. As the Congress works to complete its biannual reauthorization of the Water Resources Development Act, the Corps is asking for $325 million over six years to help relocate 15 to 20 riverside communities. Under the proposal, called *Challenge 21*, the Corps also would restore the flood plains to open space, which could be used for recreation. Assistant Secretary of the Army Joseph Westphal, in testimony to Congress in July said, "In some cases, ... we should focus less on trying to control flood waters and more on reducing the negative impacts of flood damages." The proposal is similar to the FEMA's Hazard Mitigation Grant Program, which helps to relocate flooded communities, except that *Challenge 21* would move people out of flood-prone areas before floods occur. Officials emphasize that both programs are "strictly voluntary" on the part of the communities. Sources: Michael Smith, *New Orleans Times-Picayune*, 7/26/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 7/29, and 8/20/98

Fox River Cleanup - The cost of cleaning an estimated 40 tons of PCB contaminated sediment from the Fox River could reach into the billions, according to the USEPA's James Hahnenberg. Even after cleanup, about 40% of the PCBs in the river, a potential Superfund site, would remain, Hahnenberg said. Source: Tom Vanden Brook, *Milwaukee Journal-Sentinel*, 9/3/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/9/98

IN Visa Card - A new Visa card for "nature lovers" being promoted in Indiana will give a "small portion" of each transaction to the *Indiana Natural Resources Foundation* to buy and protect public lands. Sources: Kyle Niederpruem, *Indianapolis Star-News*, 7/14/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 7/16/98

KY River Trash Gate - Ground was broken on 9/8 for a first-of-its-kind federal project designed to catch Cumberland River trash before it goes over a water fall and reaches Lake Cumberland in southeast Kentucky. The trash gate, being built by the Army Corps of Engineers for $3.25 million, will consist of a steel and concrete gate protruding about 200 ft into the river. The idea is that trash will hit the gate and be pushed to the side of the river where it can be retrieved and sorted into piles to be recycled, sent to a landfill, or ground into mulch. If successful, it "could become a model for cleaning other rivers." The gate is part of a $25 million program called *Personal Responsibility in a Desirable Environment*, launched last year by Rep. Hal Rogers (R/KY) and Kentucky Natural Resources Secretary James Bickford. Source: Andy Mead, *Lexington [KY] Herald-Leader*, 9/9/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/10/98

Lake Pontchartrain Oil/Gas Exploration - The Louisiana Mineral Board on 8/11 extended the moratorium on oil and gas leasing in Lake Pontchartrain for another two years to give an advisory committee time to study the effect of oil and gas exploration and production on the lake. Sources: Carl Redman, *Baton Rogue Advocate*, 8/13/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/18/98

Lake Michigan Water Sale - State Attorney General Frank Kelley on 9/17 sent a letter to the Canadian Environmental Appeal Board asking it to stop a permit that would let Ontario-based *Nova Group* sell water from Lake Superior to Asia. The company obtained a permit from the Ontario Ministry of the Environment to siphon up to 156 million gallons of water/year from the lake, but the permit was rescinded after protests from environmentalists and government officials in the U.S. and Canada. The Great Lakes Congressional delegation introduced a resolution in the House asking the president and the Senate to block the sale. Responding to the clamor, the Ontario minister of the environment canceled the deal. In his letter to the Appeal Board, Kelley said the issuance of the permit would set an "extraordinarily dangerous precedent". That episode was merely the latest in a series of efforts by "outsiders" to gain control over a portion of the Great Lakes' water, especially lakes Superior and Michigan. A 1986 federal law lets any of the region's governors veto another state's attempt to use water in areas that drain away from the Great Lakes. In 1996, officials in Akron, Ohio, 40 miles south of Lake Erie, wanted to divert 3.4-5 million gallons/day from the Great Lakes Basin. In 1992, Michigan Gov. John Engler vetoed a proposed diversion of Lake Michigan water planned by Lowell, Ind. And in 1988, several senators asked President Reagan to authorize an emergency diversion of water from the Great Lakes into the drought-plagued Mississippi River. Chicago and northern Illinois in the past have enviously eyed Lake Michigan, hoping to further tap into its richness and send it flowing through the Chicago Canal. Water is already diverted from Lake Michigan through the Chicago Canal and down the Illinois Waterway, providing an avenue for the introduction of aquatic nuisance species from Lake Michigan into the Mississippi River Basin. Among these species are the zebra mussel, round goby, and river ruffe. Sources: *Chicago Tribune*, 9/18/98; *The Associated Press Political Service, Associated Press*, 8/3/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 9/22/98

MI Water Quality Study - Mississippi officials are "plowing ahead" with a statewide water-quality study "despite mixed signals from the federal government on what ought to be done." The Dept. of Environmental Quality (DEQ) has launched a study to determine the amount of pollution, or total maximum daily loads, that each waterway can support. The *Earthjustice Legal Defense Fund* in 1/98 sued the USEPA, seeking to force the agency to do the study itself or force Mississippi to do so. DEQ Executive Director Jimmy Palmer said the agency has begun to assess Gulf Coast waterways, but "he said the work is complicated by the federal agency's failure to provide the states with a blueprint to follow" in determining the amount of pollution allowed in each stream. EPA regional offices "have taken some different, contradictory approaches toward states in their regions," he said. The DEQ plans to study 10 watersheds over a 12-13 year period. Sources: Jack Ellicott, *AP/Biloxi Sun-Herald*, 7/13/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 7/17/98

MT Cyanide Ban - A proposed initiative to ban future cyanide mining in Montana on 7/14 unofficially qualified for the 11/98 ballot. Opponents of the measure are "poring over the signatures" to look for flaws. Sources: Erin Billings, *Billings Gazette*, 7/15/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 7/16/98

MT Supreme Court Ruling - The Montana Supreme Court in September ruled that 1995 changes to state water-quality laws violate citizens' constitutional right to a clean and healthy environment because they exempt potentially harmful activities from adequate regulation. Three environmental groups filed the suit to stop operations at the proposed *Mcdonald Gold Mine* near Lincoln. Sources: Erin Billings, *Billings Gazette*, 9/11/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 9/11/98

NM Trout Recovery Sabotaged - "In an unusual case pitting fish against fish," saboteurs have dumped non-native fish in a western New Mexico stream, setting back an endangered Gila trout restoration program. The New Mexico Game and Fish Dept. and the U.S. Fish and Wildlife Service had planned to reintroduce the Gila trout to Black Canyon Creek in New Mexico's Aldo Leopold Wilderness in the Gila National Forest after building barriers on the stream to keep out non-native rainbow and brown trout, which prey upon and hybridize the Gilas. But wildlife officials found that someone purposely introduced rainbows and browns beyond the barriers. Federal and state biologists said the numbers of rainbows and browns in the closed-off area could not be explained by natural causes, given the ages of the fish and the numbers found. David Propst of New Mexico Game and Fish said, "There's no question in my mind now that it's been sabotaged." Opponents of the Black Canyon recovery program say it will restrict recreational fishing options. Mark Miller, a fishing guide in Mimbres said, "We don't have that much fishable water left, and now they want to take Black Canyon, too. ... You start messing with people's livelihoods and they're going to fight it." But Miller's argument "rang hollow" to Michael Norte, president of *New Mexico Trout* and a supporter of the recovery program. According to Norte, less than 15% of water in the Gila National Forest is closed because of Gila trout, and the Black Canyon area was so heavily grazed that it was no longer "much good" for cows or fish. Norte said, "We did not take an outstanding fishery. It was trashed, over-silted ... This proves this is not about resource use. This is about political and religious extremism. These (the saboteurs) are extremists of the worst kind". Sources: Mike Taugher, *Albuquerque Journal*, 9/20/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 9/23/98

NY Wetland Pollution - Inwood, NY-based *Oil Co. Inc.*, also known as *Eagle Oil*, has been ordered to shut down and pay $3.5 million in fines for releasing petroleum products into area wetlands. The company must also submit a wetlands restoration plan and restore the area once the plan is approved. Sources: Monte Young, *Newsday*, 7/30/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 8/6/98

Poplar Trees for Pollution Control - Genetically altered poplar trees that "act like 100-foot straws" by sucking contamination from soil and water might become a key tool in cleaning up polluted industrial sites. Through a process called phytoremediation, laboratory-designed poplars can safely store chemicals or metabolize them into "less volatile compounds," then release them into the atmosphere, according to a study by the *University of Georgia* published in the 10/98 issue of *Nature Biotechnology*. The poplar tree cleanup plan takes several years, but it is relatively inexpensive and is at least as effective as "high-tech soil roasting and groundwater filtering." Some scientists are concerned, however, because the process releases the "less volatile" byproducts into the atmosphere. David Salt, environmental chemist at *Northern Arizona University* said, "We may soon be using trees to heal the hurt inflicted on the Earth, but would we simply be exchanging soil pollution for air pollution?". Sources: Joseph Verrengia, *AP/Boston Globe*, 9/29/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/29/98

OH Mussel Rescue - A seven-year state and federal study is being launched to transform 10 ponds at *The Wilds*, a 10,000-acre wildlife refuge in eastern Ohio, into havens for the Midwest's native mussels. The project, similar to one conducted at the Genoa National Fish Hatchery in Wisconsin, will determine if researchers can transfer indigenous mussels into storage at donated lakes. Researchers are trying to determine which of the refuge's 150 lakes are suitable for the project, said Dr. Evan Blumer, a wildlife veterinarian at the facility. The study also could develop techniques for restocking rivers with native mussels, said Buddy Fazio, an endangered-species biologist with the U.S. Fish and Wildlife Service, which is splitting the study's $17,000 cost with the Department of Natural Resources. Divers will be hired this fall or next spring to remove four common mussel species and transplant a few hundred of them after a quarantine period to determine that they aren't carrying any zebra mussel larvae. Half the ponds will be stocked with mussels; the other half will have fish carrying mussel larvae. Almost all

indigenous mussels require a fish host to spread their larvae, Watters said. The controlled outdoor ponds might become temporary emergency homes for native mussels while the zebra mussel explosion plays out, Fazio said. "The hope is to one day...put them back in their original places...It all depends on what the zebra mussels do." Source: Bill Bush, *The Columbus Dispatch*, 8/9/98

ND Chemical Pick Up - North Dakota officials have kicked off their *"Project Safe Send"* campaign in which state workers will pick up unused and banned farm chemicals for free and ship them out of state. Source: *USA Today*, 7/15/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 7/16/98

Pigeon River Survey - Tests conducted in July by scientists monitoring the Pigeon River in Tennessee showed increases in the numbers of the river's aquatic species. The findings come seven months after the USEPA issued *Champion International* a new permit requiring the company's Canton, North Carolina paper mill to reduce its discharge into the river by 50% by 2001. Sources: *AP/Nashville Tennessean*, 7/10/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 7/16/98

Red River Ammonia Discharge - A *Tysons Food* pet food plant in Texarkana, which was shut down last month for discharging excessive amounts of ammonia into the Red River, has reopened. The company has installed a new waste-water treatment plant along the river that will operate "virtually chemical-free". Source: *Arkansas Democrat-Gazette*, 7/22/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 7/24/98.

Reservoir Recreational Use - A federal panel is considering a new national designation for reservoirs to encourage more recreational use of "*the fake lakes*." The *National Recreation Lakes Study Commission*, created by Congress in 1996, is also studying whether new federal policies could increase recreation at the 1,782 federal reservoirs while maintaining their flood-control and irrigation functions and not harming the environment. The panel expects to send a final report to Congress in 2/99. Sources: John Hughes, *AP/Portland Oregonian*, 9/7/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/9/98

St. Croix River Bridge - Minnesota Dept. of Transportation (MDOT) officials are seeking a stay of appeal of a judge's decision that blocked construction of a multi-lane highway over the St. Croix River, which is protected under the Wild and Scenic Rivers Act. The MDOT hopes to reach a compromise and eliminate the need for appeal. Source: Mary Devine, *St. Paul Pioneer Press*, 7/21/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 7/24/98

Strip Mine Wastes - The USEPA on 8/4 demanded that *Arch Coal Inc.* consider alternatives to filling in more than four miles of streams to dispose of waste from the largest strip mine ever proposed in West Virginia. Sources: Ken Ward, *Charleston [WV] Gazette*, 8/5/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 8/6/98

Telephone Book Fertilizer - Applying shredded paper from non-recyclable phone books to farm fields may be a way of disposing of them while increasing crop yields and preventing soil erosion, report Kansas agricultural extension agents. Sedgwick County plans to grind down and apply about 70,000 telephone books -- or 10 tons of paper -- to crop land next spring. Sources: *Billings Gazette*, 9/10/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 9/11/98

TN Water Plan: The state Dept. of Environment and Conservation and Cumberland County officials have unveiled a regional water plan to minimize dam building and protect free-flowing streams. Six utility districts plan to share water and infrastructure to address future water needs in the county with rapid growth and few reservoirs. Sources: Morgan Simmons, *Knoxville News-Sentinel*, 7/23/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 7/28/98

VA DNA Testing - Virginia scientists plan to use DNA fingerprinting to find the source of water pollution and develop cleanup plans for a creek and wells in Rockingham County. *A* report to the Virginia Dept. of Environmental Quality by *University of Virginia* environmental engineer Shaw L. Yu found that Muddy Creek and 60 wells have unsafe levels of nitrates. Drinking water polluted with nitrates could lead to "blue baby syndrome," which can lead to brain damage and death from a lack of oxygen. As part of a 12 year plan to clean up 14 polluted sections of streams across Virginia, state officials will take samples of water that will be analyzed by *University of Washington* experts to determine the genetic characteristics of the bacteria. The samples will then be matched to the DNA makeup of chickens, cattle or other animals to find out what is causing the problem. By identifying what is polluting the water, cleanup plans can focus on reducing that particular source. State experts will first develop a plan to "attack" the bacteria and then focus on reducing nitrates. Sources: (Rex Springston, *Richmond Times-Dispatch, 9/6)*. National Journal's GREENWIRE, *The Environmental News Daily*, 9/8/98

VA Trout/Acid Rain - One-third of all trout streams in Virginia are acidic at least part of the time, according to a study by *University of Virginia (UVA)* scientists. The study, funded by *Trout Unlimited* and several state agencies, also found that 6% of the contaminated streams are "chronically acidic," meaning they cannot support brook trout or other fish. If sulfur emissions from power plants are not reduced, the study predicts that by 2041 the number of impaired streams could rise to 35%. Art Bulgur, a senior research scientist at UVA and one of the study authors, said the impact on brook trout is particularly important because it is "one of the most acid-tolerant species." Bulgur said, "By the time the acids have had an effect on brook trout, it has already eliminated other species." The biggest component of acid rain in the state comes from sulfur deposits from power plants to the west of Virginia. Pollution from Ohio and West Virginia, which are ranked number one and six in terms of state sulfur dioxide emissions according to 1996 USEPA data, leaves sulfur deposits that cause aluminum to leach

into the streams and poison fish. The report said a 70% reduction in sulfur dioxide from 1990 emissions levels is required just to keep the rivers at their present condition. Sources: Ron Nixon, *Roanoke Times & World News*, 9/8/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/9/98

Water Craft Ban Stirs Controversy - The National Park Service (NPS) on 9/15 released newly proposed regulations that would ban personal watercraft (PWCs) in 62 of the 87 areas where motorized boating is currently allowed, but it refused to ban outright their use in 25 areas where they are "primarily" used. Under the proposed rules, PWCs would still be allowed at two national seashores and 11 national recreational areas, including Padre Island, TX, and Lake Mead, NV. PWC use would be reviewed over the next two years at 12 of the remaining 25 sites, including Cape Cod,

MA, and Fire Island, NY, with "an eye toward restricting -- or perhaps banning -- their use on a case-by-case basis" The NPS's proposal is "intensifying [the] aquatic culture clash between jet skiers, traditional boaters and shoreside spectators". Responding to complaints about pollution and noise from the PWCs, manufacturers are unveiling quieter, fuel-injected models. But at the same time, Jeff Hoedt of the *National Assn. of State Boating Law Administrators* predicts that states may begin to crack down on, or prohibit the PWCs in more areas. Washington state's ban on the watercraft in the San Juan Islands, which was upheld in July by the state Supreme Court, "could be the big opener for more local bans," he said. In Lake Tahoe, officials are "shifting direction" in their effort to limit pollution from PWCs. The Tahoe Regional Planning Agency intends to scrap its proposed ban on two-cycle engines and replace it in 12/98 with "tough" regulations similar to ones in California that are designed to limit emissions. An editorial in the 7/13 *Vancouver [WA] Columbian* said, "If personal watercraft were exclusively personal, they wouldn't pose such a problem. ... The personal watercraft has become the cigarette of aquatic sports, and a lot of people are tired of being subjected to the secondhand smoke, noise, environmental problems and, sometimes, reckless behavior". Sources: Laura Bly, *USA Today*, 7/16/98; *AP/Las Vegas Sun*, 7/12/98; H. Josef Hebert, *AP/San Francisco Chronicle/Examiner* online, 9/16/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 7/16 and 9/16/98

Watershed Quality Standards Lawsuit - Lawsuits "demanding" that federal and state governments enforce the Clean Water Act by setting quality standards for all watersheds, and not just concentrate on point-source discharges, have been brought by environmental groups in 26 states and the District of Columbia, reports the *Washington Post*. Environmentalists are seeking to "limit pollution from a range of activities, including crop farming and logging." They are demanding a comprehensive approach to set "binding pollution 'budgets' for whole stretches of rivers, lakes and wetlands." Meanwhile, the *National Governors' Association* has adopted a policy urging Congress to give States more control over the implementation of water-quality programs. Agricultural groups have criticized the idea of such a broad program. Don Parrish of the *American Farm Bureau Federation* said, "You start trading the growth of municipal waste-water plants and factories against non-point sources [such as farms], and the EPA will control more of the U.S. economy through this environmental statute than any other on the books". Sources: Spencer Hsu, *Washington Post*, 8/9/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/5 and 8/10/98

Waterway Discharges - Industrial facilities across the country reported discharging nearly 1 billion pounds of toxic chemicals into U.S. waterways between 1992 and 1996, according to a report released in mid September by the U.S. *Public Interest Research Group* (USPIRG). The group compiled the report using information submitted by companies to the USEPA under the agency's Toxics Release Inventory (TRI). The group, however, asserted that due to "loopholes" in the TRI program, the total amount of toxics discharged into rivers and streams "may be many times greater" than the TRI reports. The ten most polluted waterways were the Mississippi, Ohio, Brazos, Savannah, Tennessee, Rock and Delaware rivers, plus the Connoquenessing Creek in Pennsylvania, the Pacific Ocean, and the Houston Ship Channel. More toxic chemicals were dumped into the Mississippi River than all other U.S. waters combined. The top three states for toxic discharges to waterways were Louisiana, Texas and Pennsylvania. Source: *USPIRG* release, 9/10/98 and National Journal's GREENWIRE, *The Environmental News Daily*, 9/11/98

Yellowstone Cutthroat Listing - Three environmental groups and one private citizen have requested that the U.S. Fish and Wildlife Service (USFWS) list the Yellowstone cutthroat trout as "threatened" under the Endangered Species Act. The groups -- the Missoula-based *Alliance for the Wild Rockies*, the *Biodiversity Legal Foundation* of Boulder, CO, and the *Montana Ecosystems Defense Council* -- say such a listing is warranted, citing USFWS data that show the fish have disappeared from nearly half of the streams they once inhabited in Idaho, Montana and Wyoming. But Idaho Dept. of Fish and Game officials say federal intervention is unnecessary because "they are already trying to protect" the fish. The federal Bureau of Reclamation said such a listing could affect the operations of eastern Idaho dams. The USFWS has 90 days to review the petition. Source: *AP/Billings Gazette*, 9/8/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/10/98

Yellowstone Mine Update - The White House announced an agreement on 8/7 that will end any chance of the *New World Mine* being opened adja-

cent to Yellowstone National Park. The property once owned by *Crown Butte Mines* has been formally transferred to the U.S. Forest Service, completing an acquisition effort that began in 1996. The firm last year gave up efforts to open the controversial mine in Montana a few miles from the park. And Congress last year agreed to spend $65 million for the acquisition. But several issues, including an agreement to clean up pollution from past mining activities near Yellowstone, held up the transfer. Meanwhile, "constituencies that are not natural allies" are joining together to fight another proposed gold mine near the banks of the Blackfoot River near Lincoln, MT. Because of their "reverence" for the river, "writers and ranchers, conservationists and sportsmen and students and show-business types" are fighting the *McDonald Gold Project*, which they say could have "disastrous consequences" on the environment. Opponents fear the 8 $mi.^2$ gold mine, which would use cyanide to extract the gold, will "chew up the landscape" in "much the same way and nearly the same scale" as the *Berkeley Pit* in Butte, which is the result of more than a century of copper mining. John Maclean, whose father Norman wrote a *River Runs Through It*, said the mine could prove fatal to the Blackfoot's cutthroat, rainbow and brown trout that only recently have begun to flourish after years of conservation efforts. *Canyon Resources* denies the charges that leftover cyanide and other substances would leak from lined pools. And the company "boasts" that the mine will bring nearly 400 jobs to the area, with average salaries more than double the state's average; *AP/Salt Lake Tribune, 8/8/98;* Gwen Florio, *Philadelphia Inquirer*, 9/1/98 and National Journal's GREENWIRE, *The Environmental News Daily, 8/10/984*

Climate Change

Most Americans believe global climate change is real and damaging and that the federal government should take significant steps to avert it, according to a study released in July by *Resources for the Future*, a DC-based think tank. Although respondents generally expressed "widespread support" for federal efforts to curb air pollution, they indicated "less willingness" to pay higher utility bills. The study also shows that:

- about 33% of respondents considered global warming either an "extremely" or "very serious" problem;
- 75% of those surveyed before the International meeting in Kyoto who identified strongly with the Democratic party "thought that global warming could happen in the future" as compared to 67% of those who identified strongly with the Republican party.
- After the Kyoto meeting 77% of strong Democrats believed in global warming compared to 55% of Republicans.

The study was conducted on a representative random sample of 687 adults from 9/1 to 10/5/97 and 725 adults from 12/20/97 to 2/13/98 by researchers from *Ohio State University*. The study was funded by the *National Science Foundation*, the USEPA and the National Oceanic and Atmospheric Administration (NOAA).

Meanwhile, major religious groups in the U.S. are "mounting an unusually broad and active campaign to persuade the Senate to approve" the Kyoto Protocol reports the *New York Times*. In a letter to the Senate and Pres. Clinton, 22 member churches of the *National Council of Churches* "pledged to work for the approval of the Kyoto Protocol," calling it "an important move toward protecting God's children and God's creation." The campaign includes many Protestant, Jewish and Greek Orthodox groups, and some evangelicals. But some conservative Christian groups, like the *Southern Baptist Convention*, are not participating. Roman Catholic officials "said they viewed global warming as a moral issue with profound importance for the world's poor, who stand to suffer the most from disruptions to the climate. But they said it would take time for American bishops to consider where they stand on the treaty's specifics." The *National Association of Evangelicals*, which has "largely stayed away from environmental issues," is planning to discuss them at a conference in 3/99. The campaign "reflects a determination among churches in the past decade to involve the faithful more directly in matters like the disproportionate effect of pollution on poor people or the need to save endangered species."

Meanwhile, newly completed analyses by NOAA indicate that the average global temperature in July was 61.7 °F, about 1.26° above normal and nearly half a degree warmer than the previous all-time monthly record set in 7/97; and average global temperature for August was 61.4 °F, about1.3° above the long term mean of 60.1°. August also broke the previous record of 61.1° set in 1997 and marked the eighth month in a row to set such a record. For the year to date, from January through August, the average global temperature of 58.5 °F was 1.3° above the long term mean of 57.2. The long term mean is based on data from 1880 to 1997. January through August 1998 was also the fifth wettest and fourth warmest on record. For the year to date, the nation has had 22.77 in. of precipitation. The normal for the period is 20.05 in. The wettest January through August was in 1979, with 23.34 in. of precipitation. The year 1934 was the warmest January through August with a record 56.9 degrees

NOAA's figures are based on land and ocean temperature readings collected from monitoring stations around the world. The land-based data indicates a "sharp" increase in warming over the last 15 years, with "many" of the hottest years on record occurring in the 1990s. Scientists say that when data is measured against temperature readings obtained from tree rings and glaciers, the decade's weather appears even more remarkable.

Preliminary temperature and precipitation rankings are available from NOAA on the World Wide Web at: http://www.ncdc.noaa.gov/ol/documentlibrary/cvb.html. Historical precipi-

tation and temperature ranking maps are also available on the Internet at: http://www.nic.fb4.noaa.gov/products/analysis_monitoring/regional_monitoring/usa.html. Information for the year to date can be found at: httpp://www.ncdc,noaa.gov/ol/climate/research/1998/aug/aug98.html. The long lead climate outlooks are available on the Internet at: http://nic.fb4.noaa.gov.

On another front, a report in the 7/15 issue of *Geophysical Research Letters* suggests that past studies on global climate change "slightly" overstate the role of carbon dioxide (CO^2) while understating that of some other chemicals. The actual contribution of CO^2 to global warming is about 15% less than that estimated by the *Intergovernmental Panel on Climate Change*, according to the report. But the study, led by Gunnar Myhre of the *University of Oslo*, Norway, concluded that other chemicals, including methane and nitrous oxide, have been under estimated. Jerry Mahlman, director of the *Geophysical Fluid Dynamics Lab* at *Princeton University*, said the finding "isn't a stunner, but it's an important contribution if it's true." Mahlman said the study would not "substantially reduce" the range of projected global temperature increases. For example, instead of an average increase of 1.5-4.5°, it could mean a range of 1.35-4.3°, he said.

Another new study shows that global warming could cause drier conditions on the northern Great Plains. Botanists at *Duke University* said they could not make precise predictions, but they said grasslands would likely expand eastward into areas now dominated by forests, "with a corresponding increase in wildfires." The *Duke* study, presented at the *Ecological Society of America* meeting in Baltimore, examined peat sediments, fossil pollen and charcoal deposits from ancient wildfires in an area encompassing parts of eastern Montana, the Dakotas, Nebraska, Minnesota and Wisconsin. "The region has flip-flopped between grasslands and forests during the past 8,000 years," depending on climatic conditions. Duke botanist James Clark said that the past 2,000 years have been relatively cool and wet, but that "there is good reason to believe it won't continue." Clark said, "What's important is that the sensitivity is there to global warming. ... This system is really responsive." Other scientists said the plains' ecology is already quite different than it was in previous centuries in more ways than just temperature.

A study, published in the 9/1 edition of *Geophysical Research Letters*, observes increases in drought stricken parts of Africa and Asia, and an increase in both unusually wet and dry areas in Europe and the U.S., "though the overall trend was small." The analysis suggests the changes were due "largely" to the El Nino weather phenomenon, a periodic warming of the Pacific Ocean which alters weather around the globe. The report also says the trends "could all result partly from the greenhouse-gas induced climate changes." But "there's no overall strong trends that you would really want to put down as a climate change," said Kevin Trenberth of the *National Center for Atmospheric Research* in Boulder, CO, one of the report's authors.

Some scientists say a thawing trend in parts of Alaska, Canada and Russia "is one of the most telling signals that the planet's climate is changing," according to a feature in the 8/18 *New York Times*. Scientists "have confirmed" that many of Alaska's glaciers are retreating. The typically frozen ground in Alaska's interior is thawing, and parts of forests are "drowning" as the ground sinks beneath them, flooding them with "swamp water." Scientists are not certain about how much of the regional warming relates to the overall warming of the planet, with some saying the changes are "clearly the result of a change in prevailing patterns of atmospheric circulation" that began in the mid-1970s. Experts such as Gunter Weller of the *University of Alaska* at Fairbanks note that some areas in Russia that appeared unaffected by the circulation changes have warmed just as much as Alaska. Other experts say the circulation change itself could have been triggered by global warming. "A number of experts" believe the regional thaw has resulted from a combination of natural and human-induced climate changes. "Whatever the combination of causes of Alaska's warming, the catalogue of effects is substantial".

Another new study, published in early August in the journal *Science*, has found evidence of global warming "centuries before industries began releasing large quantities of greenhouse gases into the atmosphere." The study found that lake water in equatorial Africa warmed by about 8° F between 250 BC and 450 AD, "reflecting a warming of climate in the region." A warming period during the same era has also been recorded in Lapland and Alaska, but the latest study was "important because it was conducted around the equator, a region that plays a crucial role in determining the climate system throughout the planet." Lead researcher Aldo Shemesh of the *Weizmann Institute of Science* in Israel said, "Our findings show that the climate can warm up suddenly without any connection to human activity." The study "could allow scientists to distinguish between natural climate variability and warming due to man-made factors." But Shemesh said the factors that triggered the warming remain unknown

According to a study published in the 8/20 issue of the journal *Nature*, small historical temperature increases in Antarctica preceded larger increases in Greenland by at least a millennium. The study, based on an analysis of methane in ice cores from both locations, "contradicts the hypothesis that Antarctic warmings are responses to events in the Northern Hemisphere," said Homas Blunier of the *University of Bern* in Switzerland. The data sug-

gested that beginning about 47,000 years ago, temperature fluctuations in Antarctica started 1,000 to 2,500 years earlier than in Greenland. The researchers were not certain why the temperature swings were not more closely synchronized, but they "suspect the lag is linked to how the oceans slowly absorb and redistribute heat around the globe".

Meanwhile, a team of British scientists say the Earth's upper atmosphere has contracted or dropped by nearly 5 mi. in the past four decades, a decline they suggest is linked to human-induced, greenhouse-gas emissions. The findings of the *British Antarctic Survey*, published in the 9/98 issue of the *Journal of Geophysical Research* are based on 38 years of atmospheric measurements from research stations in the Falkland Islands and Antarctica. Although the scientists say the long-term atmospheric change is "apparently harmless," the shift "appears to be another signal that human activity is profoundly influencing the planet's climate."

Other evidence links global warming with an increase in illnesses worldwide. The *World Health Organization* reports that "quantitative leaps" in malaria outbreaks around the world and increases in cholera in Latin America and Africa have been the result of unusually heavy rains and flooding sparked by the weather phenomenon El Nino. In addition, the warm wet El Nino winter in the southern Rockies has produced abundant food and cover for deer mice, which transmit the deadly hantavirus to humans. However in a briefing to congressional staffers, Paul Reiter, chief of entomology at the *Centers for Disease Control and Prevention* called predictions of major outbreaks of diseases such as malaria and yellow fever misguided and alarmist. He said that "unless conditions deteriorate drastically," modern technologies such as insect screens, air conditioning and vaccinations would limit the spread of such illnesses.

On the economic front, climatologists have lately been meeting with bankers, traders and insurance managers concerned over record-breaking average high temperatures. Rising temperatures put more water into the atmosphere, which "means record rainfall and more violent storms." In turn, insurance rates increase and the definition of "flood-prone areas" expands. Robert Quayle, head of the *National Climatic Data Center* in North Carolina, said climate change influences issues ranging from mortgage approval to bridge specifications and buildings' heating and cooling standards. But "some see opportunity" in climatologists' reports. Companies such as *Aquila Energy*, a unit of Kansas City-based *UtiliCorp United Inc.*, and New York-based *Natsource Corp.* trade in "weather derivatives." The device allows utilities and other companies to hedge against the possibility of an abnormal winter. For a premium paid in advance, traders will pay out a specified amount for each degree above or below what the climate center determines is normal weather. Climate issues "have also kicked off a new political tempest" over 100-year flood maps made by the Federal Emergency Management Agency. Ben McNitt of the National Wildlife Federation asserts that FEMA's maps "are not accurate in a large number of cases" and the Army Corps of Engineers is using out-of-date information when developing dams and levees.

Sources: *Resources for the Future* release, 7/28/98; William Stevens, *New York Times*, 8/10/98; Ruth Larson, *Washington Times,* 7/29/98; John Fialka, *Wall Street Journal*, 8/12; *AP/San Francisco Chronicle/Examiner* online, 8/4/98; Randolph Schmid, *AP/San Francisco Chronicle/Examiner online/others*, 8/21/98; (William Stevens, *New York Times*, 8/18/98; *London Telegraph/Washington Times*, 8/15/98; AP/Boston Globe, 8/20/98; David Miller, NOAA Constituent Affairs, 9/15/98; Joby Warrick, *Washington Post*, 9/17/98; Randolph Schmid, *AP/Tulsa World*, 7/11/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 7/14, 7/29, 8/4, 8/5, 8/10, 8/12, 8/17, 8/18, 8/20/, 9/11 and 9/17/98

Another Mussel Sting

A multi-state poaching investigation that began in Ohio has led to a $1 million settlement from a Tennessee company that purchased thousands of pounds of illegally obtained freshwater mussels. The U.S. Attorney for the Western District of Tennessee, Veronica Coleman, said that Camden-based *Tennessee Shell Co.* had pleaded guilty to purchasing thousands of pounds of illegally obtained mussels. The firm, a subsidiary of *Kogen Trading Co.* of Japan, is the largest shell-buying company in the U.S.

The $1 million restitution payment from the firm will go to the *National Fish and Wildlife Foundation* to be used for mussel research. Of the 80 types of mussels once found in Ohio, five are extinct and 11 are no longer found in the state. With the invasion of foreign zebra mussels already threatening indigenous mussels, poaching has become a more serious crime, Randy Sanders, Ohio Dept. of Natural Resources said. As mussels have become more scarce in Tennessee and Alabama - states where harvesting is legal - poachers have headed into northern rivers. The price of shells in the Southern states had begun to rise, from $2/lb. to $3 and eventually to $13/lb. in the early 1990s, said Andrew Pierce, a special agent with the U.S. Fish and Wildlife Service.

The trail of the investigation began with Ohio Division of Wildlife officials on the Muskingum River, near Marietta, in 1993. Poachers were spotted and watched, and when they crossed into West Virginia, federal wildlife authorities were called in, said James Baker, an investigator with the division. After arrests were made, the poachers began cooperating with authorities, and the investigation spread into Michigan and eventually to Tennessee. The poachers are not just weekend novices trying to make an extra buck, Baker said. Many of the people arrested in the probe were licensed to harvest mussels in other states and used expensive scuba gear and special tools to get in and out of rivers quickly.

Several of the people arrested had several thousand dollars in cash on them, which Baker suspects was for bond money in the event they were caught. In Ohio, removing mussels is a misdemeanor, "but what we are really looking for is forfeiture of equipment," which can include vehicles, Baker said. However, the crime is a

felony under federal law, with fines up to $250,000, Pierce said. By going after the buyers, authorities are trying to cut off the poachers' market. "If they can't sell them, there's no reason for them to come up" to the northern states, Pierce said. The investigation resulted in 20 indictments and 20 guilty pleas, he said.

Source: Bill Bush, *The Columbus (Ohio) Dispatch*, 7/25/98

Missouri River Chub Survey Completed

The objectives of the Missouri River Chub Survey, funded through MICRA, were to compare the abundance of selected Missouri River chubs and minnows to historical data and to compare seining and bottom trawling efforts in the Lower Missouri River. Nine of thirteen historic collection sites and two new sites were seined and trawled during July and August 1997. Higher than average river levels prevented sampling three historic sites between Kansas City and the Iowa border. Sixty sicklefin chubs (*Macrhybopsis meeki*), 29 sturgeon chubs (*M. gelida*), and 676 plains minnows (*Hybognathus placitus*) were collected. No flathead

"flathead chub"

chubs (*Platygobio gracilis*) or Western silvery minnows (*Hybognathns argyritis*) were collected. Benthic trawling was more successful in capturing sicklefin chubs and sturgeon chubs, while seining was the more effective technique in catching plains minnows. The chub and minnow community of the Lower Missouri River may be more adequately sampled when using a combination of shallow water and benthic gears.

Analysis of sampling data from 1944 to 1997 indicated a decline in the presence of flathead chubs and Western silvery minnows and an increase in the presence of sicklefin chubs. The probability of collecting sturgeon chubs remained stable over time. Results of trend analysis in plains minnow data were less clear. Plains minnows declined from 57% of total catch in 1940-45 to 0.1% of total catch in 1994 but rebounded to 15% in 1997. Copies of the complete survey text are available from the authors.

Source: Grady, J.M. and J. Milligan. 1998. *Status of Selected Cyprinid Species at Historic Lower Missouri River Sampling Sites*. U.S. Fish & Wildlife Service, 608 East Cherry, Columbia, MO 65291. 47 pp. + Table.

Triploid Black Carp for Snail Control

At a recent Triploid Grass Carp meeting in Memphis it was learned that aquaculture promoters will soon be promoting triploid black carp for snail/yellow grub control in aquaculture ponds. It seems likely that requests for farm pond stocking will not be far behind. In the meantime, sources say that many states do not have the black carp on their list of "permit required" species, but should take efforts to include them as soon as possible.

The potential magnitude of the problem was characterized by an article in the May/June 1996 issue of *Aquaculture Magazine* : *"The Chinese Black Carp: A Potential Biological Control For Snails In Warmwater Fish Production Ponds"*. According to the article, the Chinese black carp or snail carp (*Mylopharyngodon piceus*) has been used for a number of years to control snails, mussels, and clams in a number of water habitats such as irrigation ditches, manmade reservoirs, and natural bodies of water. Aquaculturists hope to use the carp to reduce snail numbers, along with the parasites for which they serve as the intermediate host, in warmwater fish production ponds.

The black carp's native range includes the major Pacific drainage's of eastern Asia including the Amur, Yellow, Huai, Yangtze, and Pearl rivers in China, parts of eastern Russia, and possibly North Vietnam. The external appearance of the Chinese black carp closely resembles that of the grass carp (*Ctenopharyngodon idella*). The head is pointed, and scales are large and circular. The mouth is arc shaped in the front. The color of the body is dark brown. The mouth parts consist of pharyngeal teeth and a callous pad. This equips the fish to crush snails, mussels, and clams.

The diet of the black carp is varied depending on the size of the fish. Young fry primarily feed on zooplankton such as rotifers, copepod nauplii, and cladocerans. Older fry feed on ostracods and aquatic insects. The major food of young-of-the-year fish is Chironomid larvae (midges). After the fish reaches two years of age and (typically) weighs more than a pound, the diet includes mollusks, oligochaetes (worms), aquatic macrophytes, larval insects, and large zooplankton. After the black carp reaches an adult size in the wild, their diet is almost exclusively mollusks and snails because of the masticating (grinding/crushing) apparatus of the pharyngeal teeth. When available as in aquaculture, the fish readily eat pelleted fish feeds.

The spawning habits of the black carp are similar to the other common Chinese carps (grass, bighead, and silver). The spawning site is in large, fast flowing rivers. The eggs are deposited in open water and remain suspended in the flowing water until they hatch. The eggs will hatch in approximately 1.5 days at water temperatures of 70-75 °F. When fish are artificially spawned at an aquaculture facility, hormone stimulated females are manually stripped of their eggs, fertilized by the milt of a male, and the eggs are placed in hatching cones or hatching jars. In China, several pairs are hormone injected and placed in vats to spawn, after which the fertilized eggs are collected and placed in hatching devices. Black carp will reach sexual maturity in 6-11 years and will weigh 13-20 lbs. Fish producers have stocked 5-10 black carp/acre and have reported good snail control.

Biologists say there is absolutely no doubt that the black carp will escape and become another nuisance aquatic species if the aquaculture industry begins extensive propagation. For example, several hundred black carp, reportedly, escaped from *Osage Fisheries* in Missouri during the 1993

flood. There are no reports of recaptures to date, but this is not particularly surprising, since it often requires several generations for a new species introduced in small numbers to begin showing up in the fishery. The same was true for grass, bighead and silver carp. These species were present in the wild for 10-20 years after escapement before populations suddenly seemed to explode to current levels.

The Department of Agriculture and the Aquaculture Industry should be encouraged to investigate the use of some of our native warm water fishes such as freshwater drum and redear sunfish for snail control.

ANS Concerns/Symposium Web Site

Cornell University biologist David Pimentel calculates that alien species cost the U.S. $122 billion/yr. According to an article in *Newsweek* the White House has become concerned about ANS issues and is planning to issue an executive order this fall requiring federal agencies to assess the problems caused by invasive species and coordinate control measure reports.

Interior Secretary Bruce Babbitt has called for a national strategy to be led by Vice President Al Gore to address problems caused by non-native weeds. A study in the 8/98 issue of *BioScience* ranked invasive species as second only to habitat destruction as the most common reason for species loss nationwide. For example, more than 95% of the 282 imperiled plants and birds in Hawaii are threatened by aliens, which is "more than by hotels on the sand dunes." San Francisco Bay has 234 alien species, with one being added every 14 weeks, which constitute as much as 99% [by weight] of its marine life. Most of the species are introduced by the release of ballast water by ships at port.

A study by scientists at the *Smithsonian Institution, Nature Conservancy* and *Environmental Defense Fund* (EDF) examined threats to 1,880 rare plant and animal species and found that 49% were being "squeezed out" by non-native species. The study also found that many invasive species have been accidentally imported by "an increasingly mobile human population." It cited zebra mussels and fire ants, the former which arrived in the U.S. in ship ballasts, as two such examples. The EDF's David Wilcove says the study shows that "simply protecting habitats from further development won't do the trick for most of our endangered species".

A host of invasive species threatens to alter the ecosystem surrounding the Tennessee River, according to a plant ecologist at *Chattanooga State University*. Richard Clements says that the dogwood anthractnose fungus, which entered the U.S. via Asian dogwoods 30 years ago, is slowly killing native forest dogwood in the Chattanooga region. The demise means a loss of winter food for a host of birds and mammals, he says. Foreign plants such as Japanese honeysuckle, privet hedging plants and mustard garlic are also taking over in the region's forests, while hydrilla and zebra mussels are altering the Tennessee River ecosystem.

Government officials say the nation's public natural areas are being lost to invasive species at an estimated rate of 4,600 acres/day. Over one year, an area about the size of Delaware is lost. To combat invasive weed species in Teton County, WY, home to Grand Teton National Park, county officials have adopted 86 goats to dine on noxious weeds. *Ewe-4-ic Ecological Services* of Fort Collins, CO, raises the animals and provides them to officials as an alternative to chemical pesticides.

In New Mexico a company has developed a way to keep invasive zebra mussels from the hulls of boats and pipes by using a repellant made with a nontoxic chili additive. The *New Mexico Tech Research Foundation* mixes the additive into paints, glues and caulks. Chris Boes of the Coast Guard says that if the repellent passes USEPA testing this fall, "it's going to be a real hot item".

In California the state senate on 8/17 approved a bill that would increase the penalty for releasing non-native aquatic species or plants into state waters from $1,000 to $50,000. *Fordham University* paleoecologist David Burney says the "only real hope" to stave off aliens is through prevention measures like laws forbidding the import of exotic species, inspection programs, and to outlaw ballast water releases. Burney said, "Once you homogenize the biodiversity of the world, there's no turning back".

Meanwhile, the Ohio Department of Natural Resources and MICRA will be co-hosting an *Aquatic Nuisance Species Symposium* at the *60th Midwest Fish and Wildlife Conference* in Cincinnati in early December. As part of the symposium MICRA will provide a presentation on the present magnitude of aquatic nuisance species problems within the Mississippi River Basin. Jerry Rasmussen, MICRA's Coordinator/Executive Secretary will make the presentation based on input from MICRA's member states, providing insight into the potential for spread of aquatic nuisance species problems across the Basin. MICRA has also been asked by the *National Aquatic Nuisance Species (ANS) Task Force* to join the group as an exofficio member representing Mississippi River Basin concerns.

For additional information on aquatic nuisance species in the U.S. contact the ANS Task Force Web Site at: http:\\www.ANSTaskForce.gov.

Sources: Bob Peoples, *Aquatic Nuisance Species Task Force,* Washington, D.C.; *Washington Post,* 7/27/98; Sharon Begley, *Newsweek,* 8/10/98; A. J. Hostetler, *Richmond Times-Dispatch,* 8/6/98; Pam Sohn, *Chattanooga Times,* 8/17/98; *AP/Billings Gazette,* 8/16/98; Derrick Henry, *Austin American-Statesman,* 8/15/98; *AP/Contra Costa [CA] Times,* 8/18/98; and National Journal's GREENWIRE, *The Environmental News Daily,* 7/27, 8/6, and 8/20/98

Officials' Enviro Affiliations Probed by Congress

House Resources Committee Chair Don Young (R/AK) in July asked the Dept. of Justice and the U.S. Forest Service (USFS) to turn over information about its employees' affiliations with environmental groups as part of an investigation of lawsuits over en-

dangered species in the Southwest. Young was interested in learning whether or not any employees were members of or had given money to the Santa Fe-based *Forest Guardians* or the Tucson-based *Southwest Center for Biological Diversity*. Young also requested names of employees who are involved in endangered species litigation in the region who have "environmental ties."

Justice Dept. lawyers were involved in negotiating a settlement between environmental groups and the USFS limiting grazing in Arizona and New Mexico. The letter came after ranchers said they were shut out of the USFS decision to limit grazing.

In a 9/17 response to Young, USFS Southwest Regional Forester Eleanor Towns said, "it's nobody's business" if its employees are members of environmental groups. She said further, "The Forest Service does not track the membership of employees in organizations, and in fact the (federal) Privacy Act prohibits the agency from maintaining records of such First Amendment information".

The scope of Young's inquiry sparked agitation among environmentalists and at the Agriculture Dept., which oversees the USFS:

- *Wilderness Society* Pres. William Meadows said, "What's next, library records?".
- USDA spokesperson Tom Amontree, who said the USFS carries out policy "without regard to individual beliefs," asserted that First Amendment protections bars the department "from hauling in our employees and interrogating them about their personal interests".
- A *Lewiston [ID] Morning Tribune* (8/10) editorial said, "[I]t is mystifying how someone so unaware of Americans' basic constitutional rights could be entrusted with a chairmanship as important as Young's".
- The *Santa Fe New Mexican* (8/12) said, "As for forest rangers belonging to [environmental groups], that's their right as citizens of the nation Young represents in Congress."
- *Forest Guardians* President Sam Hitt said, "I think Don Young is the Joe McCarthy of the 1990s. Anyone who stands up for the environment, Don Young brings to his knees."
- A *Tucson Arizona Daily Star* editorial (8/8) said Young's inquest "represents one more disturbing, but routine, incident of congressional disrespect for environmental laws and their enforcers. In a word, Young finds worthy of a hostile investigation the fact that a federal agency moved to follow the law".

In the meantime, federal agents have "accused" another USFS official of accepting gifts and free trips from private interest groups that "pushed through millions of dollars worth of land swaps at a national forest in Nevada." A draft audit cites a "wide range of improper dealings" involving at least $27.9 million and 7,000 acres of land swaps at the Humboldt-Toiyabe National Forest, according to excerpts obtained from the *Association of Forest Service Employees for Environmental Ethics*, an employee watchdog group based in Eugene, OR.

"In response to the audit," USFS Chief Mike Dombeck suspended the local managers' authority to approve land exchanges at the Nevada forest and increased scrutiny of land exchange proposals nationwide, his spokesperson Chris Wood said. The official is not named in the draft audit, which was written by the Agriculture Dept.'s Office of Inspector General. The agency has referred part of the case to the Justice Dept. for "possible criminal prosecution".

Sources: Valerie Richardson, *Washington Times*, 8/14/98; Al Kamen, *Washington Post*, 8/14/98; *AP/Washington Post*, 8/2/98; Keith Easthouse, *Santa Fe New Mexican*, 9/22/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/3, 8/10, 8/14, 8/25 and 9/23/98

Environmental Pessimism

Although an "overwhelming majority" of Americans say they are concerned that environmental damage will have a "significant" impact on human well-being, less than 25% believe effective action will be taken to ensure a healthy environment in the future, according to a poll released by the *World Wildlife Fund*.

About 66% of respondents said they felt their communities were on the right track to ensuring a healthy environment, compared to 56% who thought the U.S. was on the right track. But only 35% said the world as a whole was headed in the right direction on environmental protection. Eighty percent of the respondents said they were aware that environmental issues like deforestation, global climate change and pollution affect human health, and 72% said they believe that if effective action is not taken, their own quality of life will deteriorate.

Americans tended to divide responsibility for addressing environmental problems equally among business (36%), government (33%), and individuals (31%). Seventy-nine percent said they believed small actions taken by individuals can make a difference. But 49% said their own actions would make a difference on such issues as global warming and deforestation. And 66% said few people are willing to change their behavior or pay for stronger environmental protection. The poll was based on a random telephone sampling of 1,017 American adults between 7/31 and 8/4. Its margin of error was +/-3%.

According to a *Wall Street Journal/NBC News* poll conducted in mid September, "Democrats have widened the already big gap with Republicans on the question of which party would do a better job ... protecting the environment,". The poll of 2,005 Americans shows that 45% of respondents said Democrats do a better job on protecting the environment, while 12% of respondents said Republicans do a better job. In a 10/93 *WSJ/NBC News* poll, 44% of respondents said Democrats do a

better job, while 15% said Republicans do.

Sources: *World Wildlife Fund* release, 8/21/98; Jackie Calmes, *Wall Street Journal*, 9/17/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 8/21 and 9/17/98

Natural Controls

Many countries that have been struggling with the environmental impacts of population growth such as deforestation, soil erosion and aquifer depletion "are showing signs of demographic fatigue," according to a report released on 9/26 by the *Worldwatch Institute*, a DC-based think tank. Recent U.N. projections indicate the global population will hit about 9.4 billion in 2050. But due to AIDS, "ecological collapse and social chaos" some African countries may begin experiencing zero population growth in just a few years "not because of falling birth rates, but because of rapidly rising death rates," says *Worldwatch*.

For example, "barring a miracle," some African countries will lose 20% or more of their adult population within the next decade from AIDS alone. *Worldwatch* Pres. Lester Brown said, "The question is ... whether [population growth] will slow because societies shift to smaller families or because ecological collapse and social disintegration cause death rates to rise".

Groups such as DC-based *Population Action International* "are concerned the new projections will be viewed as support for the cynical view that the world's problems will take care of themselves no matter what humans do".

Sources: *Worldwatch* release, 9/26/98; David Briscoe, *AP/Boston Globe*, 9/27/98; and National Journal's GREENWIRE, *The Environmental News Daily*, 9/28/98

Americans for the Environment Web Page

The following information is available from the group *Americans for the Environment* (AFE) Web Page (AforE.org):

- Legally Permissible Political Activities for 501(c) 3 tax-exempt groups;
- Ballot Measure Information and Resources with an environmental point of view;
- Online Seminar - A brief sample of an AFE Workshop, with morning and afternoon sessions;
- Resource Library;
- Conservation Ballot Measure Election Results 1990-1996;
- Conservation Ballot Measure Analysis and Expenditure Ratios;
- The $50,000 Club 1992 Corporate Opposition to Conservation Measures;
- Ballot Measure Case Studies;
- State Initiative & Referenda Map, Resource Groups and Bibliography;
- State Officials Contact List and State Election Division links;
- Sharpening Your Electoral Skills;
- Case Studies;
- Prop Watch '98 - A service provided by AFE for citizens who are interested in tracking selected ballot measures;
- AFE Publications - Training and public education publications for use in conjunction with AFE workshops and as resource material for individuals. Ordering and payment information is now available online;
- Political Skills Directory;
- Political Skills Web Sites - Includes a calendar of AFE workshops, events and related activities;
- Institutional Information - A brief history of AFE along with mission statement, vision statement, board of directors, and national advisory council;
- AFE's Long-Range Plan Financial Information.

Source: *Americans for the Environment*, 1400 16th Street, NW, Box 24, Washington, DC 20036, (202) 797-6665 , FAX: (202) 797-6563, afedc@igc. org, http:\\www.AforE.org

Meetings of Interest

November 16-18: Incentives for the Protection of Nature, Savannah, GA. Contact: Bill Coleman, Manager, Biodiversity Protection R&D, EPRI, 3412 Hillview Avenue, Palo Alto, CA 94304, (650) 855-1084.

December 6-9: 60th Midwest Fish & Wildlife Conference, Hyatt Regency Hotel, Cincinnati, OH. Conference includes symposia on Sediment Dynamics in Stream and River Ecosystems and Development of State Management Plans for Aquatic Nuisance Species. Contact: Gary Isbell, Ohio Division of Wildlife, 1840 Belcher Drive, Columbus, OH 43224, (614) 265-6345, FAX (614) 262-1143, gisbell@dnr.state.oh.us.

December 6-10: Hydrophobic Organic Compounds in Rivers, San Francisco, CA. Contact Valerie Kelly (vjkelly@usgs.gov) or Kathy McCarthy (mccarthy@usgs.gov), USGS, 10615 SE Cherry Blossom Drive, Portland, OR 97216, (503) 251-3244.

March 21-24: Sustaining the Missouri River for Future Generations, Ramkota Inn River Centre, Pierre, SD. The conference provides a forum for researchers, resource managers, and citizens from all river interests to discuss the future of this unique river system. Contact: Jeanne Heuser, USGS-BRD, Environmental and Contaminants Research Center, 4200 New Haven Road, Columbia, MO 65201, (573) 876-1876, FAX (573) 876-1896, jeanne_heuser@usgs.gov.

May 23-28: 10th International Soil Conservation Organization Conference – Sustaining the Global Farm, Local Action for Land Stewardship, Purdue University, West Lafayette, IN. Contact: Mark Nearing, Purdue University, 1196 SOIL Bldg., West Lafayette, IN 47907-1196, (765) 494-8673, FAX (765) 494-5948, isco99@ecn.purdue.edu.

May 16-19: National Watershed Coalition's Sixth National Watershed Conference, Austin, TX. Conference theme is "Getting the Job Done at the Ground Level". Contact: John W. Peterson, Executive Director, National Watershed Coalition, 9304 Lundy Court, Burke, VA 22015-3431, (703) 455-6886, FAX (703) 455-6888, jwpeterson@erols.com.

Endangered Species

Efforts to pursue **S. 1180, the Endangered Species Act (ESA) - S. Rpt. 105-128** continue. On 9/17, both the Republican and Democratic leaderships "hotlined" S. 1180, asking their members to report back with likely amendments. Sens. Dirk Kempthorne (R/ID), John Chafee (R/RI) and Max Baucus (D/MT), three of the original co-sponsors, have been working to bring the bill up, but so far have been unable to squeeze it in over the squabbles over other major policy initiatives. An effort to bring the ESA bill up as an amendment to the fiscal 1999 Interior appropriations bill (S. 2237, S. Rpt. 102-227) was close to success until a fight over unrelated legislation derailed that bill on 9/16.

Kempthorne, the chairman of the drinking water, fisheries and wildlife subcommittee of Senate Environment, has invested a good deal of his time in moving S. 1180, and is retiring at the end of this Congress to run for governor of Idaho. S. 1180 cleared Senate Environment a year ago on a vote of 15-3 with the endorsement of the Clinton Administration. Sources said that while Interior Secretary Bruce Babbitt continues to fight for the bill other senior administration officials are less enthusiastic, and were particularly unwilling to see it added to the Interior funding bill, which is under a veto threat partly because of other legislative language that the administration considers objectionable.

Kempthorne and his co-sponsors have spent much of the time since the Environment Committee approved the bill negotiating with Majority Leader Trent Lott (R/MS) over his concerns. These talks led Kempthorne to propose four amendments, mostly relating to private landowners' participation in species conservation and recovery efforts.

Environmental groups say S. 1180 would weaken the ESA and reduce protection for species on the brink of extinction. Private property rights groups, on the other hand, are distressed that it does not include a requirement for the government to compensate landowners for endangered species protection activities that diminish property values. That language was incorporated into a second bill (S. 1181) introduced by Kempthorne with no co-sponsors.

Numerous amendments relating to environmentalists' concerns about the bill's provisions on habitat conservation agreements, species recovery requirements, consultation between federal agencies and other issues are expected, as are efforts to add private property and water rights language.

Efforts to bring up S. 1180 as an amendment to the Interior bill also did not sit well with the *American Farm Bureau Federation*. In a 9/15 letter to senators, President Dean Klecker said the federation opposed that tactic and listed six changes - including compensating landowners for decreased property values, setting a trigger for delisting species, and more consideration of adverse economic and social impacts of recovery plans - that the group wants to see. The *Federation* also wants "normal agricultural activities" exempted from the provisions of the ESA requiring federal agencies to consult with the U.S. Fish and Wildlife Service for the National Marine Fisheries Service before allowing those activities. And the *Federation* wants farmers enrolled in conservation agreements for species habitat to be spared penalties if they accidently harm a listed species. "Unless the indicated changes are made to any amendments offered, we ask that you oppose" S. 1180, Klecker said.

Source: Leslie Ann Duncan, *Congressional Green Sheets, Environment and Energy, Weekly Bulletin*, 9/28/98

River Crossings

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